

**UTILIZATION OF MATERNAL HEALTH CARE SERVICES OFFERED AT
THE FACILITY IN NAIROBI COUNTY: A CASE STUDY OF PUBLIC
HEALTH FACILITIES PERFORMANCE**

BY

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DECLARATION

This research project work is my original, and has not been submitted for award of a degree in any other university.

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This research project work has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This Research Project work is dedicated to my loving wife Mary Nzioki, my children Jude and Judie and my parents for their financial and emotional support.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	- Acquired Immunodeficiency Syndrome
ANC	- Antenatal Care
APHRC	- African Population and Health Research Centre
CHWs	- Community Health Workers
DHIS	- District Health Information System
EDHS	- Ethiopia Demographic and Health Survey
FP	- Family Planning
HBC	- Home-Based Care
HIV	- Human Immunodeficiency Virus
IPTP	-Intermittent Preventive Therapy for Malaria In Pregnancy
KDHS	- Kenya Demographic and Health Survey
KEPH	- Kenya Essential Package for Health
MCH	- Mother Child Health Care
MDG	- Millennium Development Goal
MFL	- Master Facility List
MMR	-Maternal Mortality Ratio
MoH	- Ministry of Health
NGOs	- Non-Governmental Organizations
NHIS	- National Health Insurance Scheme
PSRI	- Population Studies and Research Institute
SDGs	- Sustainable Development Goals
SRH	- Sexual Reproductive Health
TFR	- Total Fertility Rate

UN	- United Nations
UNICEF	United Nations International Children's Emergency Fund
UNDP	- United Nations Development Programme
UNFPA	- United Nations Population Fund
WHO	- World Health Organization

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ABSTRACT

Approximately 585,000 women in their reproductive age encounter death every year due to pregnancy related causes all over the world according to the World Health Organization (WHO). According to the 2014 Kenya Demographic Health Survey, the MMR was 362 maternal deaths per every 100,000 live births and the infant mortality rate was 39 deaths per every 1,000 live births in 2014. The access to and availability of maternal health care services has been of great importance to achieving SDG 3 which aimed at reducing maternal deaths to below 70 per 100 000 births as well as ending deaths that can be prevented in newborns and children under the age of 5 years, where all countries aiming to reduce infant deaths to at least as low as 12 per 1000 births as well as deaths of children under the age of 5 to at least as low as 25 per 1000 births. (World Health statistics, 2017)

This remains a huge task and has not yet been achieved since the risk of maternal and infant death is still high (Girmaye et al, 2016). This study sought to establish the level of utilization of maternal health care services in Nairobi County after the launch of the free maternity policy and Beyond Zero clinics.

The study utilized data from the DHIS2 for the period 2012-2015 for pregnant women and deliveries conducted within the period, i.e. two years preceding the launch of free maternity services and two years after the launch of free maternity services. This data was supplemented with key informant interviews that targeted health facility in-charges.

The findings of the study show that there was an increase in women who sought ANC services however in the health facilities selected as high volume and offering all maternal health care services. Women attending at least four ANC visits also increased in the period of the year 2014 and 2015 owing to the launch of the free maternity services and Beyond Zero Campaign.

This study showed an existent of a relationship in pregnant women's awareness level and the ability to consider and take up maternal healthcare services. Their level of awareness was viewed significant factor that determined their resolve to go and deliver their babies in a health facilities.

There was an increase in uptake of facility deliveries with majority of the women in the selected health facilities choosing to deliver from level four facilities as compared to level 3 facilities.

Coming from the challenges the country has had in addressing both maternal and infant mortalities, more needs to be done in order to empower the public and the community at large with information on the importance of accessing maternal health care services from a qualified health care provider. Efforts should be channeled to encourage a health seeking behavior and enhance uptake of maternal health care services by pregnant women. Further research should be done focusing on the effectiveness of the two interventions (free maternity and beyond zero clinic) in the utilization of maternal health care services in Kenya.

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

A high number of maternal and infant deaths is one of the most common challenges in developing countries and the world as a whole. The biggest burden of this problem is hard on African nations accounting for 40 percent of the global total pregnancy related deaths (WHO & UNFPA, 2012).

Women living in developing countries tend to have more pregnancies than women in developed countries (Conde-Agudelo et al, 2004), their lifetime risk of dying as a result of pregnancy is also high. The probability that a 15 year old woman will eventually die as a result of maternal cause is one in 4900 in developed nations, compared to one in 180 in developing ones. Countries that are identified as unstable are regarded as high risk since one in every 54, shows the repercussions that come with a failed health care system as a result of the instability. (Conde-Agudelo et al, 2004)

Furthermore, it is estimated that almost 830 pregnant women encounter their death as a result of pregnancy as well as childbirth issues in the whole world every day. By end of the year 2015, it was found that almost 303,000 pregnant women encountered their death in the process of, and as a result of pregnancy and childbirth occurrences. All of the above reported deaths were found in places where their level of income was very low and further to this these deaths were preventable in effective intervention were offered or availed at the appropriate time. (Say et al, 2014).

At the start of the millennium year 2000, the UN Member States committed to ensure a series of Goals that comprised of a goal of a 3-quarter reduction in the year 1990 maternal mortality ratio (MMR; maternal deaths per every 100 000 births), be reached by the year 2015. This target (MDG 5A) together with the one that ensured overall access to maternal and health care services as well as improving the same for reproductive health services needs (MDG 5B) formed the two targets on improving child health MDG 4 and maternal mortality rate MDG 5. The five years count to the end of the MDGs period,

several interventions were put in place to put together with focus on reducing maternal deaths (WHO, UNICEF & UNFPA, 2015). These efforts included that of the UN Secretary-General's Global Strategy for Women's and Children's Health, which focused to see that the MDG 4 goal is achieved which looks in to the welfare of child health improvement as well as MDG 5, and the high-level Commission on Information and Accountability (COIA), which ensured "global reporting, oversight, and accountability on women's and children's health". The effort towards improving maternal health care services was one of the 8 Millennium Development Goals (MDGs) taken up by the international community in the year 2000. Under MDG 5, nations offered to reduce maternal deaths by 3 periods from the years of 1990 and 2015. Since the year 1990, the number of maternal deaths worldwide has significantly dropped by 43 percent (Say et al, 2014). In order to accelerate and sustain the decline, countries united and committed behind a whole fresh goal of reducing maternal deaths further under the initiative of the Sustainable Development Goal 3 that targets to reduce the global maternal mortality ratio to less than 70 per every 100 000 births, with no country having a maternal mortality rate of more than twice the global set average (Say L. et al, (2014).

While working on move that came as a result of MDG 5, the Sustainable Development Goals (SDGs) established a transformative fresh focus for maternal health care towards ending preventable maternal deaths. In the year 2015, the global maternal mortality ratio stood at 216 maternal deaths per 100,000 live births. In order to achieve the goal of below 70 maternal mortalities by 2030 it required a yearly reduction rate of at least 7.5 per cent, which was more than double the yearly rate of gains achieved from the year 2000 to 2015. Most maternal deaths are preventable but more needs to be done in developing countries with keen interest in tracking own progress of the SDG targets. In 2016, 78 per cent of live births worldwide were carried out under a skilled health care provider during delivery, compared to 61 per cent in 2000 a substantial improvement compared to the past. In sub-Saharan Africa, however, the rate in 2016 was only 53 per cent of live births. ("Progress towards the Sustainable Development Goals", [E/2017/66](#))

The death rate for children under the age of 5 years all over the world was 43 mortalities per every 1,000 live births in the year 2015. This death rate represented 44 per cent downward drop since the start of the year 2000. The rate of deaths among children under 5 years remained high in sub-Saharan Africa countries, showing a rate of 84 deaths per every 1,000 live births in the year 2015. ("Progress towards the Sustainable Development Goals", [E/2017/66](#))

Children are considered to be most delicate their first 28 days since their birth. In the year 2015, globally new born death rate was shown as 19 deaths per every 1,000 live births, this was a reduction from a rate of 31 deaths per every 1,000 live births in the year 2000. New born deaths were highest in the region of Central and Southern Asia and in sub-Saharan Africa it was 29 deaths per 1,000 live births in each of those regions in the year 2015. To accelerate and ensure a sustained decline, countries took a position to focus on the newly established and agreed up on target to reduce maternal deaths downwards under the Sustainable Development goal 3 that worked towards lowering the world's maternal deaths to below 70 per 100,000 births, where all countries making sure that their maternal death rate does not go above, more than the two times that of the whole world combined. (AbouZahr et al, 2000).

The high numbers of maternal mortalities in parts of the world shows inequalities in accessing health care services and shows the wide gap when you look at the rich and poor. With almost all maternal deaths in the whole world (99 percent) occurring in developing countries, more than half of the deaths are said to occur in sub-Saharan Africa region. The risk of maternal mortality is highest for adolescent girls and young women under the age of 15 years and issues associated with pregnancy and childbirth leads to death amongst these girls in developing countries (Patton et al, 2009).

On recognizing the potential challenge and the urgent need to intervene, improvement of maternal health care goal (Millennium Development Goal (MDG) five) was launched by the United Nations in the year 2000. Together all UN member countries including Kenya signed on to target a 3 quarter plan to reduce the number of maternal mortalities by the

year 2015 (Wilmoth et al, 2010). Two key indicators were set specifically to track the progress focusing on achieving MDG five. The first one was the maternal mortality ratio (MMR) and the second one was the proportion of births handled by a professional health care provider. WHO has defined a professional health care provider as one who is approved and authorized to carry out or offer maternal healthcare services. i.e. a midwife, doctor or a nurse, who has been educated, trained and equipped with skills necessary to manage normal pregnancies and childbirth (Harvey et al, 2004). Access to professional care at delivery is perceived as one single and mostly an significant aspect in the war against maternal deaths and morbidity.

The World Bank states that in countries where professional healthcare service delivery is higher than 80 percent such countries have Mortality rates that are below 200, and the WHO asserts that this is as a result of adopting professional midwifery during the 20th century as the cause for the reduction witnessed in maternal mortalities in developed nations (Van Lerberghe & De Brouwere, 2001). The sub-Saharan Africa region, a number of countries have reduced their MMRs by half since 1990. Between the years of 1990 and 2015, globally maternal death rates went down by only 2.3 percent per year in the years of 1990 and 2015. However, higher rates as a result of the speedy reduction in maternal deaths were realized from the year 2000 onwards. According to Say et al, (2014), some countries, annual declines in maternal mortality between 2000 and 2010 were above 5.5percent. Further to this decline, several sub Saharan African countries (Burundi, Zambia, Burkina Faso, Liberia, Niger, and Sudan) signed to focus on maternal health strategies that would render maternal healthcare services free (Witter et al 2009).

In Kenya, the 2003 KDHS report show that 414 maternal mortalities occur per 100,000 births and 77 neonatal deaths occur per 1,000 live births while the 2008 KDHS report show that 488 maternal deaths occur per 100,000 births and 52 infant deaths per 1,000 live births. The 2014 KDHS report further show that 362 maternal deaths occur per 100,000 births and infant mortality rate of 39 deaths per 1,000 live births. The Millennium Development Goal number 5 is to reduce the maternal death rates by 75 percent in the year 1990 and 2015. The 2003, 2008 and 2014 KDHS report indicate that

maternal death is still significantly high in Kenya. The essential strategy is to reduce the high cases of maternal death rates to ensure that all deliveries are conducted by professional health providers.

The 2014 KDHS report indicates that ANC uptake for at least 4 visits was at 58 percent and delivery by a skilled provider was at 62 percent. With these indicators, early and consistent ANC attendance could be significant in reducing maternal and child mortality. Despite these rates, most pregnant women initiate ANC services late in pregnancy and attend few visits than the recommended ones by WHO.

The government of Kenya continues to take measures to mitigate the maternal and infant mortality challenge. The government of Kenya on June 1st the year 2013 initiated a directive to offer free maternity services in government run health facilities. This initiative ensured that subsidized health insurance services are rendered to expectant women through access to a range of insurance cover benefits that include full maternity care with some exceptions such as ambulance service, family planning and counselling services (Nicole, 2013). With the free maternal health care programme, the country's goal of saving lives by encouraging more women to deliver their babies in health facilities was enhanced. But some women say they are not satisfied with the quality of care and they are returning to traditional birth attendants (<http://www.voanews.com/a/kemyan-women-returning-to-traditional-birth-attendants/3460297.html>).

In further attempts to remedy maternal and infant mortality, the Beyond Zero Foundation was set up in the year 2014 in the Leadership of Kenya's First Lady, Mrs. Margret Kenyatta, the foundation aimed to promote maternal, new born and child health in Kenya as a whole and also control HIV prevalence. For this to be ensured, 47 mobile clinics were distributed throughout the country (one for each county), specifically in areas that have challenges in accessing maternal healthcare services. The Beyond Zero campaign enables any will member of the society to participate in it. To do this, the campaign organizes annual marathons to raise money for the foundation.

Kenyan women continues to seek services rendered at home by traditional attendants (TBA). These midwives are prominent especially in the rural areas where they offer minimal health care services, where they offer some support and opinion during and after pregnancy process. They base their skills mainly on informal experience got from many deliveries they conduct in their time and locality. They play a big role in the rural areas where they provide the key link within the community at large and the established health care system. Sometime they go with expecting mothers to the healthcare facilities where delivery is conducted (WHO, 2010)

The public health policy on TBAs has changed overtime and Ministry of Health in Kenya view that there is very little evidence to show that their input in alleviating maternal mortality has born any fruit. Kenya Government over the years phased out training for TBAs instead they focused more on campaigning for delivering in the hands of a skilled healthcare provider and in a health facility. Studies on services offered by traditional attendants show that training of TBAs do little to reduce post-delivery infections (Goodburn et al, 2000; Eades, 1993), others argue that high knowledge and retention among them may lead to reduction in morbidity indicators to a certain extend (Ray & Salihu, 2004). Other schools of thought are of the view that the encouragement of health facility delivery is a reminder of British imperial rules and part of a wider effort to bring about modernity and civility in the process of childbirth (Weiss Thomas, 2003). With all the views about the work done by TBAs and whether their effort has any effect on the MMR, it is evident that they remain a highly recognized and utilized all over the world and the taking away the training of TBAs has not done much in preventing Kenyan women from seeking their services. (Weiss Thomas, 2003).

1.2 Problem Statement

Uptake of maternal health care services has an impact on maternal and infant mortality hence a key area of focus in the health sector. Low uptake of maternal health care services can lead to an increase in maternal and mortality deaths because more women will deliver at home where there is no skilled care. The evidence from available data show that use of maternal services and cases of maternal and infant mortalities is a

daunting task for the health sector. A study by PSRI & UNICEF, (1996) shows that at delivery, maternal deaths occur as a result of complications occurring during the labor process and within few hours after delivery. Access to and provision of quality maternal health care services is key to efforts that can reduce the burden of maternal and infant mortalities. This is further necessary when it comes to addressing obstetric complications that mostly occur during delivery and require urgent and skilled health care services to avert injuries and mortality (APHRC, 2006).

The access to and availability of maternal health care services has been of great importance to achieving SDG 3 target which required Kenya to reduce her MMR from 414 per 100,000 live births in the year 2003 to 147 per 100,000 live births by the year 2015 (Girmaye et al, 2016).

Data from the 2014 Kenya Demographic Health Survey show that maternal mortality ratio (MMR) was at 362 maternal deaths per 100,000 live births and that of infant mortality rate was at 39 deaths per 1,000 live births. This shows that the risk of maternal and infant death in Kenya is still high and has not changed significantly. According to UNFPA report 2016, Kenya has Mandera County as has the highest number of maternal mortalities. Nairobi County is also listed one of the counties with high maternal mortality burden hence the focus of this study. The County has a (MMR) of 212 as indicated in country's list of counties with the highest burden of maternal mortality (<http://kenya.unfpa.org/news/counties-highest-burden-maternalmortality#sthash.hJ9MiEih.dpuf> accessed 28.09.2016).

According to 2014 KDHS the highest neonatal and infant mortality is found in Nairobi 55 and 39 deaths per 1,000 live births. There is little information on utilization of maternal health care services for Nairobi County specifically after the launch of the two government's interventions to alleviate maternal and infant mortality (free maternity services and Beyond Zero Campaign). The available literature provides information on general utilization behavior and determinants of utilization of maternal health care services but none has studied the level of utilization of maternal healthcare services after

the interventions were launched two years ago. This study therefore will focus on utilization of maternal health care services before and after the launch of free maternity services and the Beyond Zero Clinics in Nairobi County.

1.3 Study questions

This study will seek to answer the following questions:

1. What is the level of utilization of ANC services before and after the launch of free maternity services and beyond zero clinics in Nairobi County?
2. What is the level of utilization of facility delivery services before and after the launch of free maternity services and influence by beyond zero clinics in Nairobi County?

1.4 Objectives of the Study

The general objective of the study is to assess the utilization of maternal health care services in Nairobi County before and after the launch of free maternity services and Beyond Zero clinics.

The following are the specific objectives;

- i. To establish the level of utilization of ANC services before and after the launch of free maternity services and beyond zero clinics in Nairobi county.
- ii. To establish the level of utilization of facility delivery services before and after the launch of free maternity services and beyond zero clinics in Nairobi County.

1.5 Justification of the Study

The free maternity services and Beyond Zero Campaign stand out as an approach of how leadership can boost and accelerate strategic momentum that can lead to arousal of responsive, systemic and structural awareness prompting actions in addressing problems that hinder provision of quality health care services to the people that need most. It is clear that continued deaths of expectant women from complications arising from pregnancy presents a major developmental milestone as a country. The study will contribute towards achievement of SDG 3 which has been domesticated by Kenya.

This study provides an indication as to whether the free maternity services and Beyond Zero Campaigns are having an effect on the utilization of maternal health care services in Nairobi County. Further to this, the study contributes information towards the realization of targets as set out in the National Reproductive Health Strategy.

The study focused on Nairobi due to its high volume health facilities and for being one of the counties that is implementing the Beyond Zero campaign strategy in the largest informal settlements (with eight operational clinics) in Kibra, Lang'ata Sub County.

1.6 Limitations and scope of the Study

This study was carried out in health facilities providing ANC and maternity services in Nairobi County. Expecting and breastfeeding mothers were not included in the study. Such mothers would have provided further insights on the quality and service satisfaction at the facility level.

The study anticipated to find out from DHIS2 the performance of women on timing of ANC visits, but this was not realized since the available data focused on number of New ANC visits and revisits. This was a limitation to the study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section reviews the available literature on utilization of maternal health care services. The review is carried out under the following subheadings: utilization of maternal health care services, ANC visits, timing of ANC visits and facility deliveries.

2.2 Utilization of maternal health care services

The process that women go through during child bearing is one of the most risky encounters they go through in trying to bring life to the world . this process is associated with emergence of possible complications that may arise during and after and which may lead to serious morbidities, disabilities and mortalities.

The World Health Organization (WHO) has provided an estimate showing that more than half a million pregnant women encounter death in the process of delivering worldwide every year; out of these, almost 99 percent are found in developing countries. At a glance the share of sub-Saharan Africa in the greater total deaths in developing nations is more than fifty percent and one's risk of losing life as a result of pregnancy is high; that is, for every 26 expecting mothers, one mother would die as a result of pregnancy complications in sub-Saharan Africa. The World Health Organization claimed that, by the end of the year 2015, roughly 303,000 expecting/ pregnant women died during and following pregnancy and childbirth processes mostly occurring in low income settings and which could have been prevented if interventions were made available on time. (WHO, 2015).

In addition to the risk of death occurring in the process of pregnancy and child birth many women continue to bear life time injuries, disabilities and other serious and life threatening illnesses. According to WHO (2001), for every maternal death, an estimated 30 to 50 expecting women suffer from pregnancy complications such as vesicovaginal fistulae, infertility and post partum depression that can be permanently debilitating and disabling (WHO, 2001).

In a report on the Millenium Development Goals for health 'rising to the challenges' it is said that an estimate of 74 percent of maternal mottalities are aviodable if pregant woemn get skilled deliver sevcies where complications can be detacted and adreesed especially the most urget care (Wagstaff & Claeson, 2014).

At the global level, the MMR went down by almost 44 percent over the last 25 years, to an estimated 216 maternal deaths per 100 000 live births in the year 2015, from an MMR of 385 in the year 1990 (WHO, 2015).

The yearly number of maternal mortalities went down by 43 percent from an approximate of 532 000 in 1990 to an estimate of 303 000 in 2015 with an a global lifetime risk of a maternal mortality reducing significantly from 1 in 73 to 1 in 180. The developing nations accounted for approximately 99 percent (302 000) of the global maternal deaths in the year 2015, with sub-Saharan Africa region representing almost 66 percent, followed behind by southern Asia region.

An estimated MMR also reduced across all regions between the year 1990 and the year 2015 (WHO, 2015). The noticeable reduction in the said time was shown to have occurred in Eastern Asia with (72 percent). As at the year 2013, the two regions with the highest MMR were sub-Saharan Africa and Oceania (WHO, 2013). At the individual nation level, Nigeria and India were shown to have an estimate of over one third of all maternal mortalities occurring globally in 2015, with approximately 58 000 maternal mortalities (19 percent) and 45 000 maternal mortalities (15 percent) respectively. Sierra Leone had an estimate of MMR at 1360. Eighteen nations, all of them in sub-Saharan Africa, were found to have an estimate of very high MMR in 2015, the estimates ranged from 999 falling to 500 mortalities per 100 000 live births (WHO, 2015).

The World Health Organization and United Nations grouped nations as per their achievement on the MDG 5 targets from the years of 1990 to 2010 (WHO, 2010). This grouping has shown improvement by offering the mean annual proportion change in maternal death rates within the years 1990 and 2010, the grouped countries were rated as

‘on right track’, ‘making significant progress’, ‘insufficient progress’ or ‘no progress’ made over the entire time.

The Sub-Saharan Africa region is reported to have the highest number of deaths in the whole world accounting for more than half of maternal deaths globally (Passaro et al, 2010). With this in mind, advancement towards reduction of maternal deaths over the last ten years it is highly widely unexpected that majority of the nation in the world over and those in Sub-Saharan Africa region, will manage to reach the Millennium Development Goal of 75 percent decrease in maternal mortality by the year 2015 (Lozano, 2011). Some countries in Sub Saharan Africa experience war and socio political disturbances that compromises development agenda and this destabilizes country hence loosing focus on key development issues. Other countries are relatively free from conflict, thought are way behind their expected achievement in terms of set health performance indicators (Lozano, 2011).

Lack of access to maternal health care services at the time of pregnancy and delivery period are among the major reasons for high maternal and neonatal deaths (Alvarez et al, 2009). ANC, delivery at health care facility with skilled provide, and post-delivery care reinforces the on the spot management and treatment of complications hence reducing maternal deaths. Even with importance of facility based delivery being emphasized as a measure in preventing maternal death, a large proportion of women all over the world go to deliver outside of health facilities without any skilled care (Tey, 2013). Antenatal care is a huge pillar in Safe Motherhood Initiative, it supports in offering solution focused ideas significant to a healthy pregnancy results. (Zere et al, 2012). Receiving ANC during at least four ANC visits as required, it raises the probability of getting efficient health interventions during ANC visits (Ahmed et al, 2012). Family planning is perceived as another health intervention and important indicator of the Safe Motherhood Initiative that reduced by a larger margin maternal death in developing countries (Ahmed et al, 2012). Basic reproductive health interventions such as comprehensive emergency obstetric services are required saving life actions for all expecting mothers (Fournier, 2009).

Ethiopia is one of the sub-Saharan African countries that experiences the highest maternal mortality ratios in the world; that is, 673 per 100,000 live births and more than fourteen thousand mothers die as a result of pregnancy and related causes each year (EDHS, 2005). In addition, more than 400,000 suffer long-term disabilities due to complications during pregnancy, delivery, or postpartum periods. The uptake of ANC, delivery, and post-delivery services by Ethiopian women is regarded as one of the lowest in the whole world. Almost all deliveries (94 percent) take place at home based settings in Ethiopia with only 6 percent of women delivering in health facility. Majority of deliveries are conducted by TBAs or other untrained persons. Those women that go for ANC care services in Ethiopia is very low with only 28 percent of all Ethiopians women receiving prenatal care from a trained health care provider. The quality and frequency this care is variable, many expecting mothers receive the care either too late in their pregnancy period or too few times. (EDHS, 2005).

In a study conducted in Ethiopia on utilization of maternal health care services revealed that the ANC services were not popular across women of reproductive age and this was highly influenced by the women's areas of residence their education level, marital status, religion, parity and number of children under the age of five years. There was however high utilization of maternal health care services in urban women compared to those residing in the rural areas (Mekonnen & Mekonnen, 2002). It was also revealed that married women were best users of antenatal care compared to the single ones. The utilization of delivery care services was observed to be lower for who had two or more than two children as compared to those who had one child (Mekonnen & Mekonnen, 2002).

In Burundi, for instance, expecting women were given services that were introduced in the year 2006, as a result access and utilization of the services went up. Community health volunteers (CHWs) programs enhanced maternal health care service uptake, and have reduced maternal deaths in countries like Ethiopia and Nepal. CHWs are key in providing healthcare to neglected people especially in the rural areas that have few functional healthcare facilities. CHWs improve maternal health care services uptake

without incurring huge expenditures and this tends to reach diverse populations if facilitated with proper tools for example cell phones, bikes and delivery package kits (Ministry of Health of Burundi, 2008).

In Zambia, maternity fee was stopped for all facilities in the rural areas in the year 2006. Progress was noted as being low in some of the regions as compared to others. While every North African countries there has been a reduction in maternal deaths by at least 5.5 per cent yearly since 1990, only a single sub-Saharan African country has managed to achieve an average yearly reduction of more than 4 per cent. In Burkina Faso, an 80% subsidy policy for deliveries was launched in 2006 (Witter et al, 2007).

In Rwanda an approach targeting the community with basic health care insurance and performance-based funding strategies have greatly brought about a significant reduction in pregnancy related deaths. Currently Rwanda is working on a target to meet MDG 5 and reduce its MMR from 952 to 383 per 100,000 live births within the years of 2000 and 2008 (Hogan et al, 2010). The Rwandan Government uses the approach of community-based health insurance (CBHI) and the coverage has improved access to care services for expecting mothers. Health care services are free and almost 91 percent of Rwandans currently are insured (Republic of Rwanda Ministry of Health, 2010). In the utilization of concept of health insurance services for the community, women have now access to family planning and antenatal care services in healthcare facilities for free (Rwanda Demographic and Health Survey, 2010).

The Government of Ghana started to offer free maternity services for all women in the year 2004. This free maternal initiative resulted to significant increase in deliveries in the hands of a skilled provider, this covered all costs for each service (Witter, 2009). The Funding for the free maternity services ended in 2007 the National Health Insurance Scheme which was launched in the year 2004. From the year 2007, women who had not enrolled in NHIS paid for delivery services. Further in ensuring that inexpensive access to maternal health care services, the Government of Ghana declared in the year 2008 that all expectant mothers were exempted from paying for any service hence encouraging

them to join the health insurance scheme and avoid paying for the mandatory user fees. The maternal health care services covered under the NHIS included ANC, births, surgery to deliver a baby, emergency obstetric issues, and post-delivery services (Witter et al, 2007).

A study done in Ethiopia focusing on the key aspects that influence use of maternal health care services, it showed that women education status determines use of ANC in that, use of the same went up with one's education status. On the other hand, religion also played a key role in uptake of antenatal care in the sense that those women who followed Orthodox, Muslims and Protestant religious beliefs had comparable and higher uptake of ANC as compared to those who followed traditional views. One's marriage status and religious belief also had a big impact in deciding on the use of antenatal care (Mekonnen & Mekonnen, 2002; Mekonnen & Mekonnen, 2003).

A qualitative study done in Gambia focusing on the rural areas to access to emergency obstetric care showed that systemic aspects in uptake of maternal health care provision discourages expecting women from going for care services. It further showed that where pre-natal care services were offered on specified times in every locality during day of the week, this prevented people from going for the service. Difficulties in access to proper transportation due to poor roads condition, lack of transport, poor providers attitude towards pregnant women, the fear of being punished by facility staff , all these led to unnecessary delays deciding whether one would visit (Cham et al, 2005).

In a study done on the utilization of ANC services in a Nigerian hospital it showed that 47 percent of pregnant women started going for antenatal clinic in their third trimester despite the that ANC services are in a state hospital the place for the study was offering services for free (Peltzer & Ajegbomogun, 2005)

2.3 Utilization of Maternal Health Care Services in Kenyan context

The 2003 Kenya Demographic Health Survey showed that nearly 90 percent of Kenyan women of reproductive age received ANC from a health care provider with 18 percent receiving services from a medical doctor, 70 percent by a nurse, 10 percent got no ANC at all (Central Bureau of Statistics, 2004).

A study done in Kenya by Fotso et al. (2009), it showed that expecting women's independence is no important in going for skilled services in health facilities. Furthermore, women who have attained some secondary education were more likely to seek to deliver in a health facility as compared to those that had no education. The study further showed that the chance of delivering in a health facility that is well equipped and staffed decreased as parity increased.

In a study done while using 2003 KDHS data showed that young women of reproductive age had access to and or preferred to deliver in the hands of a healthcare provider. Those women from rural Kenya were less to seek services from either a traditional birth attendant (TBA) or skilled healthcare provider. The study further showed that women from rich homes were more likely seek services from a TBA or skilled healthcare provider. Those that had education were more likely to seek services from a skilled healthcare provider as compared to the non-educated. Women who had more than two children were less likely to seek services from a TBA or skilled healthcare provider as compared to those who had only one child (Ochako et al, 2011).

Another study done in the Nyanza region of Kenya, it showed that the higher one experienced inequality in relation to income, the higher the chance that a mother will deliver at home. On the other hand, facility based deliveries were highest in deliveries from lower income women. An individual's level of education affected how a person sought services from a health facility. Those who resided in the rural areas were mostly users of home deliveries with 63 percent of births occurring at home. The ones who lived in urban set ups, the study showed mostly went for delivery yin a healthcare facility with 78 percent births delivered in the hands of a health care provider. The study further

showed that the place where one chooses to deliver from was affected by parity, level of one's education, residence, one's economy and age of the expecting mother (Owino, n.d.).

To improve on maternal health care services uptake in the country, the government of Kenya committed to offer free maternity services in all public health facilities. The initiative sought to encourage pregnant women to seek maternal health care services in the health facilities and therefore reduce maternal deaths. Further to this, First Lady Margaret Kenyatta initiated the 'Beyond Zero Campaign programme' in the beginning of the year 2014 in Nairobi. The campaign aimed to enhance and speed up the implementation of the national strategic plan targeting to eliminate new HIV infections among children. Donors as well as the private sector partners came together and gave their resources to buy movable clinics that continue to provide integrated HIV, maternal and child health outreach services in the country and especially those areas that are hard to reach zones. The government through the Ministry of Health in the year 2014 set aside an estimated amount of US\$ 400 million towards supporting initiatives to reduce HIV transmission cases, maternal and infant mortality, also to increase the number of staff in health facilities who can offer professional care services and ensure facilities have relevant equipments. (UNAIDS report on Beyond Zero campaign Kenya, 2014)

The Beyond Zero campaign further developed a strategic framework which focused on 5 key areas namely: (i) enhancing and accelerating HIV programmes, (ii) working to influence investment in high impact activities as well as promote maternal and child health and ensure HIV control, (iii) ensure men are mobilized as clients, partners and agents of change, (iv) ensure community involvement in addressing challenges and barriers to accessing HIV, maternal and child health services and (v) taking a lead role and providing strategic leadership, being accountable and ensuring there is recognition to accelerate the efforts to attainment of HIV, maternal and child health targets as stated in the Kenya National health strategic plan.

2.4 ANC Visits

Antenatal care services are helpful when it comes to identification and prevention of adverse pregnancy related outcomes especially if one goes for the service early. The World Health Organization has recommended that women should have at least four ANC during the entire pregnancy period. ANC from a skilled health care professional is deemed as key since it helps to track the process and reduce the risk of morbidity for the mother and the child during the pregnancy period and birth. The required quality of ANC services can be well tracked through the services offered and the kind key messages offered to mothers at the clinics when they visit. During these visits any problematic issues in pregnancy can be detected early and measures to address them initiated. In case of any serious complications, more than 4 ANC visits are required just to monitor the situation and admissions are considered to a health facility on a need basis assessment. (MOH, 2012).

The uptake of ANC services in Kenya is generally high at 90 percent although the proportion of women attending at least four ANC visits declined from 52.3 percent to 47.1 percent in the 2003 KDHS and 2008-09 KDHS. The antenatal care (ANC) during pregnancy period and the 4-visit focused antenatal model shows that quality ANC by far reduces the risk of preterm births as well as perinatal mortalities, and low-birth-weight new infants. In an effective ANC package it includes counseling for delivery preparedness/ complication readiness, disease detection and treatment, and general health promotion services / interventions. It further consists of noting down the medical history, necessary advice and guidance on pregnancy and delivery information, some screening tests, and education of own self-care, identification of underlying health conditions, first-line management and early referrals where necessary (WHO, 2006).

ANC is a good an avenue to provide expecting mothers with information necessary to address, existing social and medical conditions that predispose women as well as screening for any underlying risky conditions. It is however its never sufficient to receive ANC services because moslty the mot dangereous encounters come at birth or just after the delivery period. It is important that pregnant women have access to skilled

obstetric attendance during the time of delivery. In cognisance of that fact, it is clear that utilization of maternal healthcare services in most developing nations is seriously diminished due to some cultural, economic, and demographic aspects (Addai, 2000). Inequalities in advanced nations and advancing ones in terms of utilization of ANC, delivery, and postnatal care services is noticeably high. In the advanced nations, it is stated that 97 percent of expecting mothers tend to go for ANC services and 99 percent have access to professional obstetric service at delivery time, but in developing countries, only 65 percent of women use ANC and 53 percent have access to skilled obstetric care services. (Bhutta et al, 2013).

Free pregnancy supplements given in health facilities include folic acid and iron. The World Health Organization (WHO) recommends daily iron and folic acid supplementation for pregnant women. The recommended daily dose is 60mg of iron, and 0.4 mg of folic acid. Doing so reduces the risk of having birth defects; it also reduces the risk of having babies with low birth weight and iron defects. The supplements also reduce the risk of maternal anemia (WHO, 2014).

Carrying out physical examination as done in hospitals it offers towards prenatal care the following are regarded as mandatory checkups: a woman's weight, height and blood pressure. Vaginal and cervical examinations for any abnormalities and a pap-smear test requested to check for cervical cancer where need requires. Changes in the cervix size and uterus help to confirm the state of the pregnancy hence necessary action is taken if need be. (Ong'ech et al, 2013).

The focus and the desire to reduce maternal deaths has seen governments and international agencies boost health care services for expecting mothers. Mothers benefit from free ANC services as they are able to freely access reproductive health education, vaccinations, pregnancy supplements, physical exam and laboratory services at no cost from public hospitals (Barnet and Lesser, 2003). Free delivery care influences lives of mothers as it ensures all have access to theatre services, midwife services, and medication to enable them deliver successfully (Ortiz, 2008). Free emergency medical services

influence maternal mortality rate as the wellbeing of the newborn and the mother is ensured (Ong'ech et al, 2013).

2.5 Timing of ANC visits

The World Health Organization recommends at least 4 ANC visits during a woman's pregnancy period. Reproductive health education on mother's reproductive health during their pregnancy period is given so that they can make informed decisions when to seek these services. Health education programmes during antenatal clinic informs women on knowledge related to sexuality, nutrition, family planning, malaria and HIV/AIDS (Barnet and Lesser, 2003)

Studies from Kenya and a host of other developing countries indicate that a majority of women tend to seek antenatal services after the first trimester of the pregnancy (Mpembeni et al, 2007). The first visit should occur at 8-12 weeks where confirmation of pregnancy is done and the expected date of delivery determined. ANC mothers undergo sensitization on the four ANC visits required and are classified as either women for basic ANC (four visits) or in need for specialized care. At this stage a pregnancy test is done to confirm the pregnancy and upon confirmation, they are screened for any infection that could be of danger to the mother or the unborn child. In case of any infection, treatment and preventive measures are given before developing a birth and emergency plan.

The second visit should occur at 24-26 weeks where assessment of maternal and foetal well-being is done. At this stage, assessment for pregnancy induced hypertension and anaemia is carried out and preventive measures are given. The birth and emergency plan is reviewed and modified then advice and counsel is given. The third visit is expected at 32 weeks where assessment of maternal and foetal well-being is done and checking for multiple pregnancy as well as hypertension and anaemia (WHO, 2006).

The fourth visit should occur at 36-38 weeks where assessment of maternal and foetal well-being plus pregnancy induced hypertension, anaemia, multiple pregnancy and malpresentation. The birth emergency plan is reviewed and modified before giving advice and counsel (WHO, 2006).

According to the KDHS (2014), it shows that almost six in ten women received four ANC whereas 43 percent of women went for their first ANC visit between the fourth and fifth months of their pregnancy period, and with only 20 percent going for their first ANC visit by the fourth month. 58 percent of pregnant women made at least four ANC visits during their entire pregnancy time. This was recorded as an increase from 47 percent in the 2008 KDHS. The report further showed that women residing in urban areas are more likely to go for four ANC visits as compared to compared to women in rural areas .i.e. with 68 percent and 51 percent.

2.6 Facility Delivery

The Safe Motherhood is regarded as a global effort that targets to reduce the number of fatalities and ailments associated with giving births (Nakamara, 2010). Some of the ways important to achieving safe motherhood; use of free skilled birth attendance for all deliveries, access to quality and timely emergency obstetric care, access to quality reproductive health care, family planning, and safe post-abortion care services. Provision of free midwife services is of importance to reduce home deliveries (Nakamara, 2010).

According to Burns (2007), having a qualified personnel to observe labor in a facility has impact on reduction mothers deaths as result of child birth challenges. In Kenya, health workers are not well distributed with disparities mostly in the northern regions where access to health care services is hindered by other factors like distance and poor road network.

According to Ong'ech et, al. (2013) expecting mothers who go for professional delivery have gone through the pain of remaining in hospital for long because they are unable to pay for the bills especially those that come from informal low class settlements. Maternity services in Kenyan health facilities have increased and staff reported increased numbers in maternity wards admissions and nurses in these facilities high client flow as a result of the new policy.

Government's commitment to offer free maternal health care services is expected to encourage more women to deliver in hand of a skilled health care provider in health facilities and this would result in fewer maternal fatalities. With the new free maternity policy, the public health facilities all over the country are reimbursed by the government for every delivery they conduct at the rate of Kshs. 2, 500 per a delivery at health centers and dispensaries, and Sh.5000 for every delivery at district hospitals. This costs covers both normal deliveries, caesarean, and complicated deliveries (Nicole Bourbonnais, 2013). Further to this, no fees is charged for ANC and post-natal care services up to six weeks after delivery, or for any referrals made in the cases of complications related to pregnancies.

2.6.1 Trends in facility deliveries

The 2014 KDHS showed that, maternal health indicators have significantly improved in Kenya. This is to say, that delivery in a health care facility has improved significantly since the year 2003 from 40 percent to 43 percent in the years of 2008-09 and 61 percent of births in the year 2014. The proportion of deliveries in a health care facilities increased with the number of ANC visits made by the pregnant women.

There increased proportion of births conducted in in hospitals and is regarded as is key in reduction of fatalities associated with issues arising from the birth processes. The understanding is that if issues come in the birth process, while at hospital a skilled health care provider will handle and carry our referrals where necessary (MOH, 2009).

2.7 Conceptualization of the study

The Government of Kenya is committed to reduce maternal and infant mortality by the introduction of free maternity services, Beyond Zero clinics and expansion of facilities infrastructure. Devolving the health function is one of the efforts to try and bring health care services closer to the people hence bridging the gap between access and demand. To achieve this, deliberate efforts have to be put in place to ensure demand for the services is realized through the engagement of community health workers who educate the general public on improving their health seeking behavior. Improvement in the supply side is expected to increase demand hence enhancing level of access to maternity services, .i.e. with public sensitization, empowerment towards seeking maternal health care services and improvement of service delivery by providing adequate staffing and equipping facilities with the necessary equipment will improve public confidence in such facilities hence increase in uptake.

2.8 Operationalization of the study

Provision of free maternity services in public health facilities, availability of Beyond Zero clinics, and the devolved health function are presumed to provide a conducive environment that enhances demand for maternal health care services. To assess the level of utilization of maternity health care services, this study focused on three components: the uptake of ANC services by establishing the number of ANC visits by pregnant women, and determining the timing of the first ANC visits; and uptake of delivery services by establishing the trends in facility delivery before and after the launch of free maternity services and Beyond Zero clinics

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This section gives a description of the research site, study population, sampling procedure, data source, as well as data analysis.

3.2 Research Site

The study was carried out in Nairobi County. The county has one of its sub-counties (Lang'ata sub-county) which was provided with the Beyond Zero clinics due to its high population and with the largest informal settlements in the country, thus access and utilization of health care services is considered a challenge.

3.3 Data source

DHIS2 was the main source of data for the study and this was supplemented with data from key informant interviews. The DHIS2 is an open source software platform that enables governments and organizations to collect, manage and analyze data in the health domain and beyond. The DHIS-2 openly shares its password upon request. DHIS 2 is viewed as an effective reporting system for health commodities and is critical ensuring accountability, enabling informed decision making, and provide timely access to information. In order to enhance reporting, the Ministry of Health in the year 2010 approved the use of the District Health Information System (DHIS2). The DHIS2 is a free and open-source computer software typically used to monitor health indicators for a national health system. Collecting and analyzing data helps to improve health outcomes by enabling evidence-informed decision making, rather than basing decisions on intuition or broad estimates. DHIS2 supports different facets of the information cycle including data collection, quality assurance, dissemination, reporting, and analysis. However, there are cases of differences and gaps in reporting and completeness in the DHIS and this can be attributed to poor reporting by health facilities which leads to either under reporting or over reporting.

Table 3.1 DHIS reporting rate for Nairobi in (%)

DHIS 2012/13	DHIS 2013/14	DHIS 2014/15	DHIS 2015/16
61	68	71	75

The key informants were facility in-charges who provided information on implementation of the free maternity policy and Beyond Zero clinics.

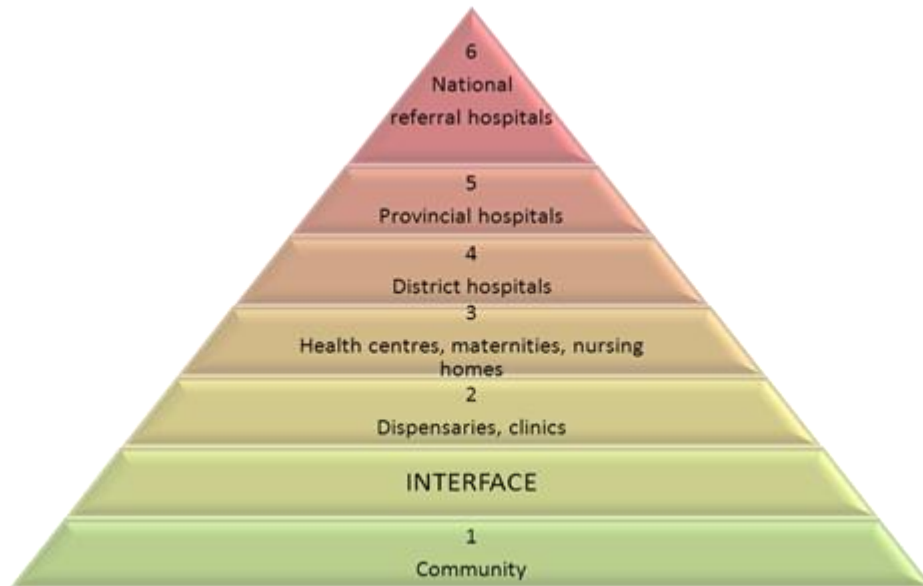
3.4 Study Population

The study focused on all clients for ANC and delivery services offered in public health facilities from the DHIS2. The facilities identified were grouped into three clusters from the master facility list (MFL), i.e. level two (health center), level three (sub-county hospitals) and level four (county hospital).

In Kenya, a comprehensive package of integrated and high-quality reproductive health services are available through an extensive network of government health facilities, nongovernmental organisations (NGOs), faith-based organisations (FBOs), communities and the private sector. The Division of Reproductive Health (DRH) of the Ministry of Public Health and Sanitation (MOPHS) supports the coordination and nationwide rollout of reproductive health services as laid out in the National Reproductive Health Policy (2007), the National Reproductive Health Strategy (2009–2015) and the Kenya Essential Package for Health (KEPH). KEPH defines a minimum package of health services and interventions to be delivered at the six different levels of Kenya’s health system.

Figure 3.1 Levels of health service delivery in Kenya

The following reproductive health services are expected to be provided at all health facilities, at all levels and equally to all Kenyans:



Level 1, Community: a minimum package of community-based family planning services and community home-based care (HBC) services

Level 2, Dispensaries, clinics: Maternal and neonatal child health (MNCH) and family planning (FP) services, sexually transmitted infection (STI) services, HIV counselling and testing services and HBC services

Level 3, Health centres, maternities, nursing homes: MNCH, family planning, healthy timing and spacing of pregnancies (HTSP) services, STI services, HIV counselling and testing services and HBC services

Level 4, District hospitals: MNCH/FP/HTSP services, STI services, HIV counselling and testing services, antiretroviral therapy (ART) and HBC services

Levels 5 and 6, Provincial and national referral hospitals: family planning and HTSP services, STI services, HIV counselling and testing services and antiretroviral therapy (ART)

The study also targeted the Beyond Zero clinics which report on DHIS2 as level two facilities but on the ground are referred as community clinics. The key informant interview was conducted in the sampled facilities with the facility in-charges being the respondents.

3.5 Sample Population and Sampling Procedure

Nairobi County has a total of 163 public health facilities including eight functional Beyond Zero clinics offering various maternal health care services. A total of 42 facilities offering ANC and maternity services were purposively sampled for the study. The sampling was done based on client flow, and in order to obtain a high number of clients, the study targeted facilities with high volumes of patients.

Table 3.2 shows the purposefully sampled public health facilities by level

Facility Level	Total	Sampled	Percentage
Level 2	118	8	19
Level 3	33	30	71
Level 4	12	4	10
Total	163	42	100%
Beyond Zero clinics	8	5	63

Source: Master facility register

Table 3.1 shows the purposefully sampled public health facilities by level. Out of the 42 health facilities sampled 71percent (30) were level 3, 19 percent (8) level 2 and 10 percent (4) level 4. The (8) Level 2 facilities were sampled as it's in them that the Beyond Zero intervention was being implemented

After devolving the health function to the counties some health facilities were upgraded. Some community clinics were upgraded to health centers but in operation still remained as community clinics/ dispensaries. Level 3 facilities (sub-county hospitals) were upgraded from health centers, equipped with the requisite equipment and personnel to

offer maternal health care services. Level 4 facilities (county hospitals) are 12 but only four were high volume and offering maternal health care services.

3.6 Data Analysis

Analysis was purely descriptive since the purpose of the study was to ascertain whether or not there has been any increase in the uptake of maternal health care services (ANC services and facility deliveries) after the government's declaration of free maternity services and the launch of Beyond Zero clinics. Data from the key informant interviews was analyzed by grouping the responses based on the emerging themes and responses triangulated with the quantitative findings.

CHAPTER FOUR: UTILIZATION OF MATERNAL HEALTH CARE SERVICES

4.1 Introduction

This section discusses the findings on the level of utilization maternal health care services focusing on the influence by the free maternal health care services and the beyond zero clinics in Nairobi County.

4.2 Facilities covered

The study targeted a sample size of 42 high volume health facilities that offer ANC and maternity services in Nairobi County including level 2 facilities which were used as models for Beyond Zero campaign. The main data was mined from DHIS2 and all the targeted facilities were reached. The data was supplemented by key informant interviews with facility in-charges.

4.3. Key Informant interview response rate

The study also purposed to interview 42 facility in-charges but managed to get responses from 30 facility in-charges. The other 12 facility in-charges could not be reached because they were busy in some trainings and the appointment dates they gave fell after the survey dates. This response rate was good and representative, further to this, according to Mugenda and Mugenda (1999), a response rate of 50 percent is regarded as adequate for analysis and reporting, rate of 60% is good while that of 70 percent and over is considered as excellent. The key informant interview response rate is shown in Table 4.1.

Table 4.1 Key informant interviews response rate

Facility level	Targeted	Reached	Percentage
Level 2	8	5	63
Level 3	30	21	70
Level 4	4	4	100
Total	42	30	71
Beyond Zero clinics	8	5	63

4.3.1 Distribution of respondents by cadre

The study sought to find out the relationship between respondents cadres and their responsibility they have in the facilities they oversee.

Table 4.2 Distribution of respondents by cadre

Cadre	Frequency	Percentage
Nurses	20	67
Clinicians	6	20
Doctors	4	13
Total	30	100

The study revealed that 67 percent of the facility in-charges were nurses. This was followed by 20 percent who were clinicians and 13 percent doctors.

4.3.2 Facility staffing and influence by the two interventions

The study sought to determine the level of staffing in public health facilities in Nairobi County. The results are presented in Table 4.3

Table 4.3 Human Resource Capacity

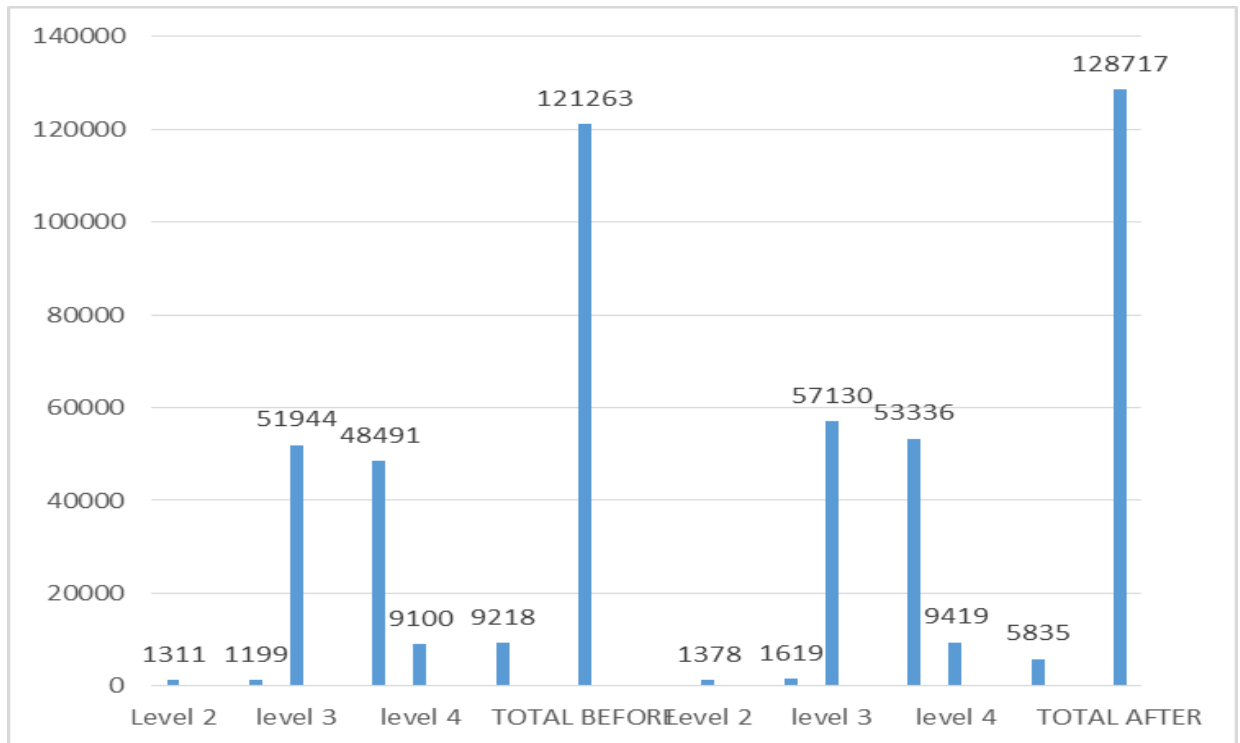
Response on level of staffing	Frequency	Percentage
Very Inadequate	3	10
Inadequate	22	73.3
Adequate	4	13.3
Very adequate	1	3.3
Total	30	100

The findings revealed that majority of the respondents 73.3 percent indicated that there was inadequate staffing. 10 percent of the respondents indicated that staffing level was very inadequate and 13 percent indicated staffing was adequate. 3 percent indicated that staffing level was very adequate. These findings reveal that public health facilities in Nairobi County had inadequate staffing.

4.4. New ANC clients by facility level

Figure 4.1 shows uptake of new ANC clients per year before and after the launch of free maternity services and the Beyond zero clinics.

Figure 4.1 New ANC clients by facility level before and after



There was a slight increase in clients registering for ANC services in level 2 health facilities from 2013, 2014 and 2015. However, there was a decrease in those registering for the same services in level 4 facilities. This could be as a result of strengthening of level 2 facilities which are nearer to the community than level 4 facilities. Level 3 also registered an increase between the years 2014 and 2015 compared to the two previous years before the launch of the interventions.

4.5. Number of ANC visits

Figure 4.2 show number of women attending at least 4 ANC visits per year before and after the launch of the free maternity services and the Beyond Zero clinics.

Figure: 4.2 Women attending at least 4 ANC visits by facility level

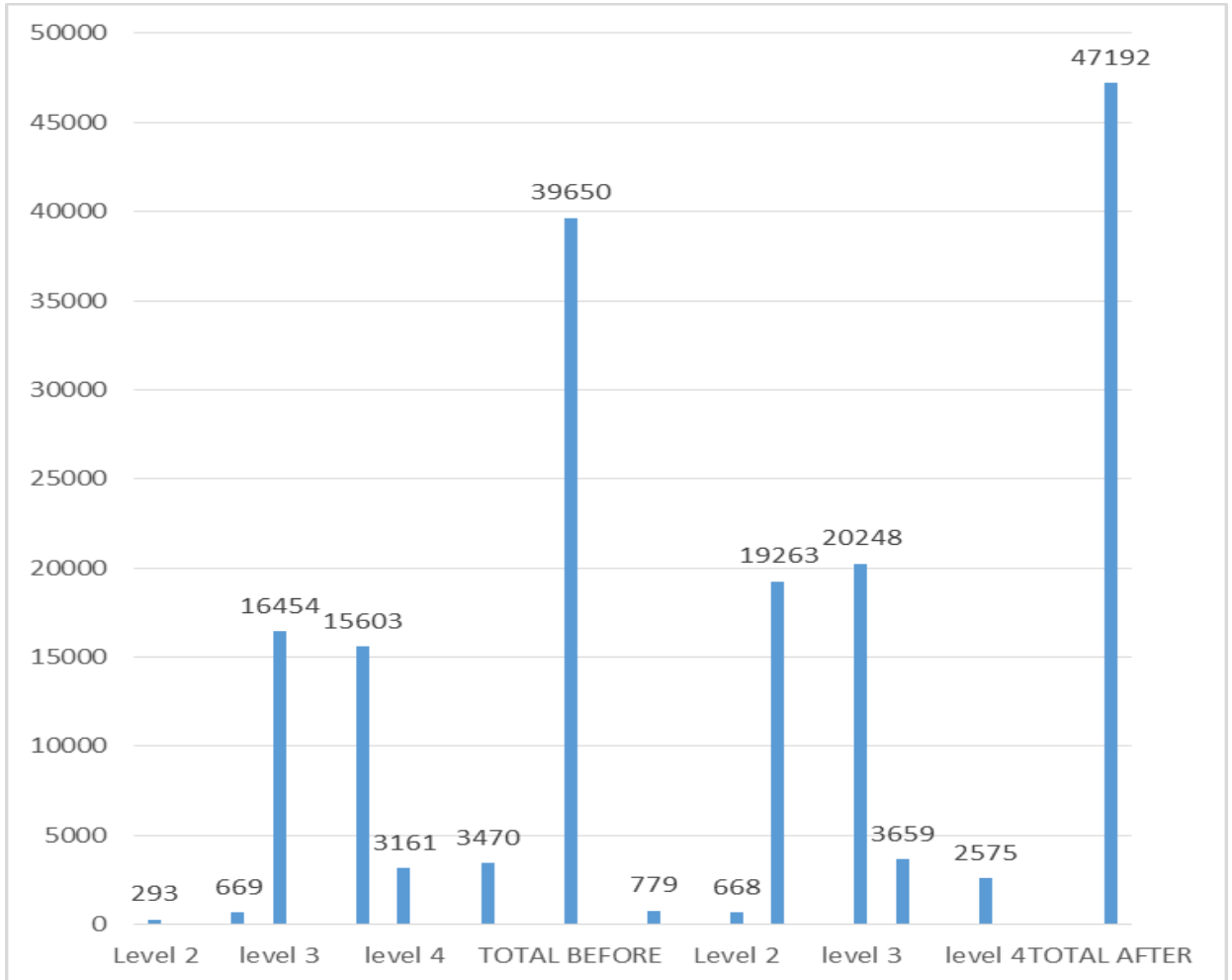


Figure 4.2 shows that women attending at least 4 ANC visits in level 3 health facilities kept on increasing significantly by the years while those attending level 4 facilities reduced. This could be because level 3 facilities are in almost all estates in Nairobi hence easily accessible while level 4 facilities are sparsely distributed i.e. in sub-counties. Level 2 facilities reported a slight increase in those attending ANC services. This could be as a result of Beyond Zero and the free maternity service interventions.

The study anticipated to find out from DHIS2 the performance of women on timing of ANC visits, but this was not realized since the available data focused on number of New ANC visits and revisits hence making this a limitation to the study.

4.6. Total Deliveries by facility level

Figure 4.3 shows uptake deliveries by facility level per year before and after the launch of free maternity services and the Beyond Zero clinics.

Figure 4.3 Deliveries by facility level

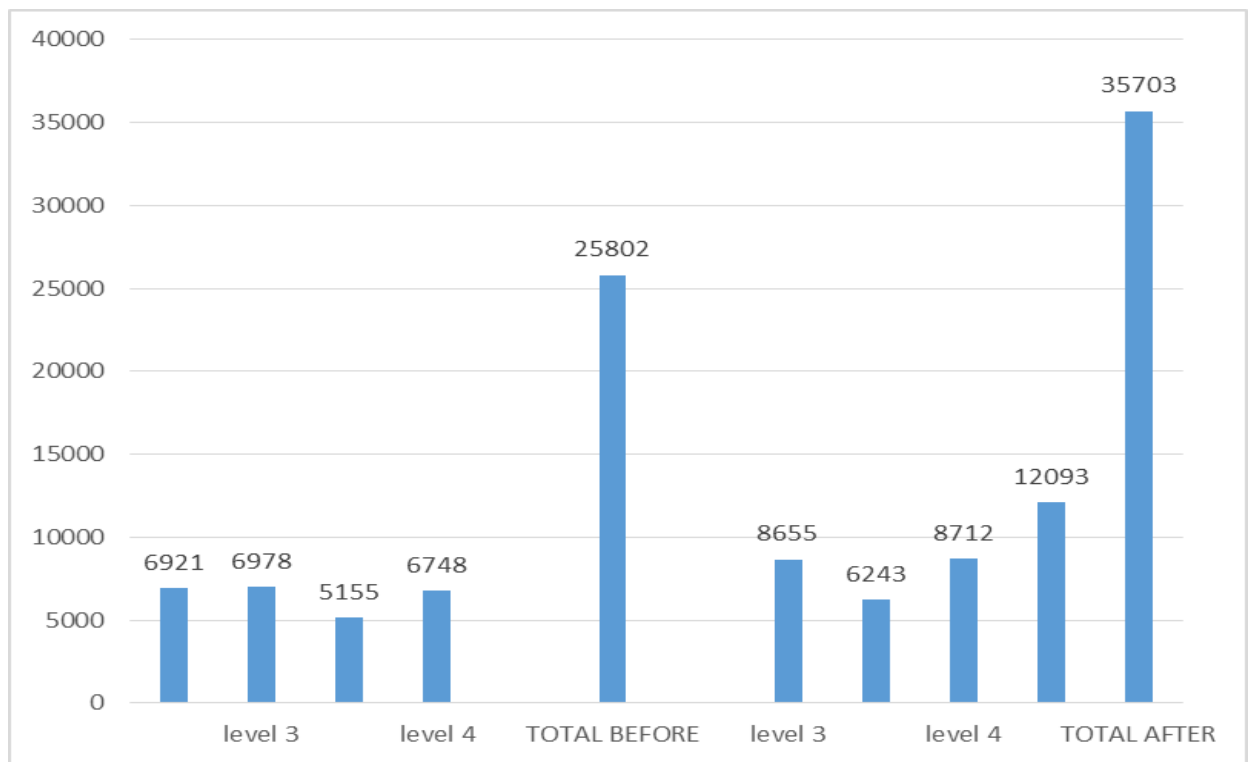


Figure 4.3 shows that level 4 facilities experienced a continuous increase in the total deliveries each year as compared to level 3. This could be because not all level three facilities were conducting deliveries. The study got data from 30 level 3 health facilities where 21 facilities provided both ANC and maternity services while 9 of them had antenatal care and mother-child health services care (MCH). Level 2 registered no deliveries in the years since they lack the requisite infrastructure (delivery rooms, personnel and equipment) to conduct deliveries but offer ANC services.

4.6 Beyond Zero Clinics

To address the barriers to access caused by out of pocket payments and to facilitate progress towards universal health coverage, the Kenyan government removed user fees in public health facilities and introduced the provision of free maternal health care services effective June 1, 2013. Following this directive, public health facilities put in place measures for user fee exemption that exempts all pregnant women from paying for maternity services. This therefore, ensured that pregnant women have skilled attendance at the time of delivery to reduce maternal mortality.

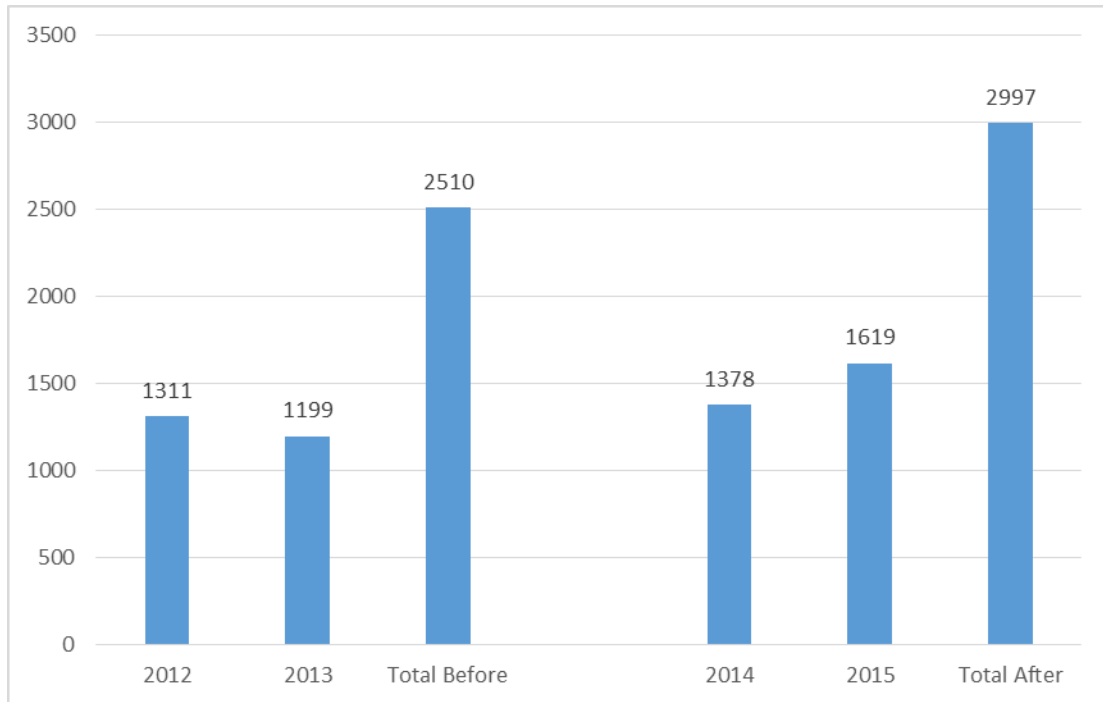
The study sought to find out how the uptake of maternal health care services has been since the launch of the Beyond Zero strategy to reduce maternal and infant mortality and whether since inception there has been any change in utilization of health care services.

Nairobi County has eight functional Beyond Zero clinics, and five were sampled for key informant interviews. The respondents interviewed in these clinics were the facility in-charges. These clinics are all located in Lang'ata sub-county specifically in Kibra informal settlement in Nairobi County. There are 12 villages in Kibra and the plan was to have one functional beyond zero clinic in each village, however only eight are functional.

4.6.1 New ANC visits

Figure 4.4 below shows the performance in the uptake of ANC services in the Beyond Zero clinics two years after they were launched. The data was mined from DHIS2 since the Beyond Zero clinics provide services as level 2 facilities and report on the system.

Figure 4.4 New ANC clients in Beyond Zero clinics before and after the launch



There was an increase in the uptake of ANC services in the Beyond Zero Clinics after they were launched. These clinics are located in the densely populated parts on Kibra informal settlements in Langa'ta sub-county.

“The Beyond Zero clinics provide medical services like ANC, vaccinations, immunizations, family planning, and nutrition services to the residents, complementing care received at other facilities” (Nurse, at **Kianda community clinic**).

“We serve all residents who visit the facility from all over Kibera, on a regular day, the facility receives an average of 360 patients. This shows a high uptake of services in the clinic in terms of utilization” (Nurse, at **Silanga community clinic**).

4.6.2 Number of ANC visits

Figure 4.5 shows that the number of women that attended at least 4 ANC visits in the Beyond zero clinic per year. i.e. ANC service uptake before and after the launch.

Figure 4.5 Women attending at least 4 ANC visits in Beyond Zero clinics before and after the launch

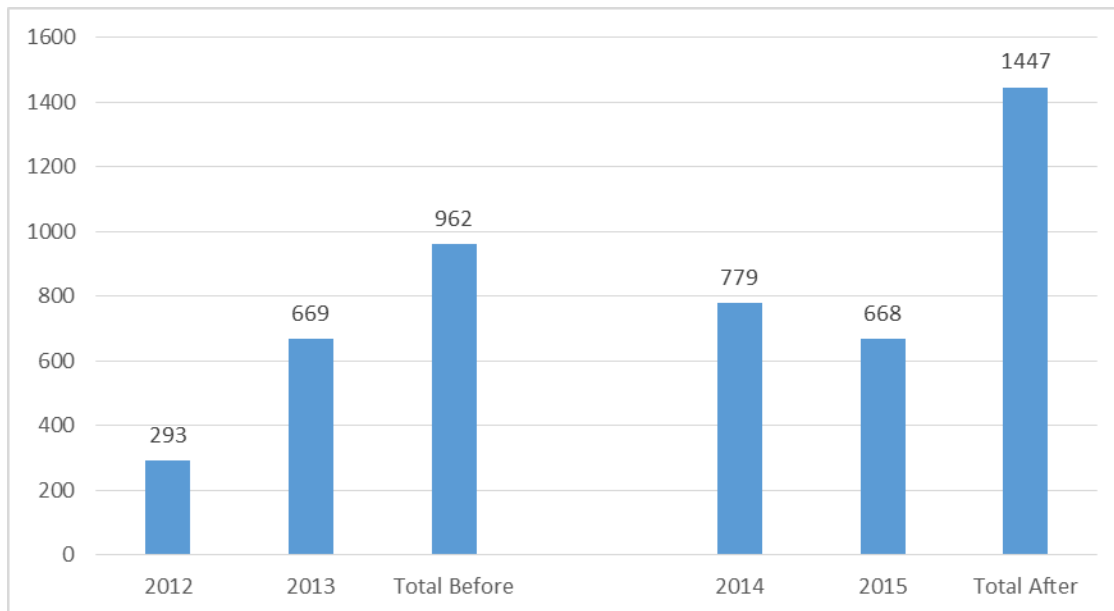


Figure 4.5 shows that the number of women completing at least 4 ANC visits also increased in year 2014 but slightly reduced in year 2015. This could be due to facility expansion and the fact that the Beyond Zero clinics are situated in densely populated communities hence ease in access and use.

“Since the introduction of the government policy on user fee exemption, the facility has seen an increased number of women coming for our maternal health care services especially women of modest means from Kibra and other nearby informal settlements” (Nurse, at **Karanja Road Community Clinic**).

4.6.3 Deliveries

The clinics do not offer any delivery services since they lack the requisite infrastructure. They do not have delivery rooms, equipment and personnel to conduct deliveries.

The clinics are categorized as level 2 facilities (health centers) in the DHIS2 but on the ground they are referred to as community clinics and located within and existing health facility.

4.6.4 Strategies adopted to achieve safe motherhood along with the Beyond Zero strategy

The key informants in the sampled Beyond Zero clinics indicated that other facilities within Lang'ata sub-county had come up with a number of strategies to fight maternal and infant mortality. The office of the First Lady, in collaboration with non-governmental organizations and government, came up with a number of initiatives to raise funds for expansion and for running costs. The measures include organizing of marathons, contributions from well-wishers, training and mentorship of staff on key areas to enhance their skills and capacities. Community health workers and traditional birth attendants have been trained to assess maternal cases and to refer mothers to the nearest health facility.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter gives a summary of the findings on utilization of maternal health care services in public health facilities in Nairobi County. The section is sub-divided into summary of the findings, conclusion and recommendations.

5.2 Summary of findings

The study set out to analyze the level of utilization of maternal health care services in public health facilities in Nairobi County including the Beyond Zero Clinics.

Descriptive analysis of variables on utilization of maternal health services was done and the focus was on the three variables; total deliveries in health facilities, new antenatal care visits and the number completing at least four antenatal care visits. The information got from these variables was supplemented by data from key informant interviews done with facility in charges.

5.2.1 staffing

The study sought to find out from the facility in charges on the influence of staffing on the uptake of free maternity services in public health facilities in Nairobi County. The study revealed that public hospitals in Nairobi County had inadequate staffing.

5.2.2 ANC visits

The study found that there was an increase in ANC visits uptake but not across the board since some facilities lacked adequate human capacity to provide the services after the launch of the two interventions which increased clients flow in to the public health facilities.

5.2.3 Number completing at least 4 ANC visits

The number completing at least 4 ANC visits kept on increasing through the years from level 2 facilities to level 3 but declined in level 4 facilities. This was as a result of having level 3 facilities in every estate hence making it easier to access and use.

5.2.4 Deliveries

Facility deliveries increased in the years of 2014 and 2015 in level 4 facilities. This can be explained by the fact that these facilities have adequate infrastructure to handle both normal and complicated deliveries and being County referral facilities have sufficient trained staff.

5.3 Conclusion

There was an effect on the usage of maternal health care services after the launch of the two strategies. These strategies continue to address the issue of maternal health care gaps and encourage women to deliver under the care of a skilled health care provider.

The interventions adopted by the Kenya Government have shown an increase in maternal health i.e. number of women seeking New ANC, Number that completed the four required ANC and those that delivered in health facilities increased. As a result there is need to escalate these strategies while ensuring a sound monitoring and evaluation framework that will produce useful information to enable the Government make decisions as the general public continue to embrace the services.

5.4 Recommendations

Based on the research findings, the study offers the following recommendations:

1. The Ministry of Health to review staffing needs in public health facilities to help them cope with the increasing numbers of people seeking skilled delivery services.
2. Ministry of Health to encourage continuous dissemination of information regarding free maternal health care services and the Beyond Zero campaign initiatives, which together has not only eased access but also brought maternal health care services closer to the people. These efforts should focus on sensitizing the general public on maternal health care services and measures that need to be put in place to promote health seeking behavior among women of reproductive age.

5.4.1 Policy recommendation

The government through the Ministry of Health should come up with clear guidelines on how to regulate and monitor free maternity and the Beyond Zero initiatives and how the interventions can be integrated and reported in the already existing health care reporting system.

5.4.2 Recommendations for further research

There is need for further research to assess the impact of free maternity and Beyond Zero interventions on quality of service delivery in public health facilities in Kenya.

The following are the areas that should be focused on;

1. To find out why some pregnant women still choose to deliver outside health facilities;
2. Carry out a study to find what are the challenges facing the implementation of free maternity services program;
3. Carry out a study to assess the effects of devolving the health care function and how it has affected the implementation of free maternity and Beyond Zero interventions in reducing maternal and infant mortality.

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APPENDICES

Appendix 1: Authorization letter from the University



UNIVERSITY OF NAIROBI
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Our Ref: Q51/75513/2014

Date: September 30, 2016

TO WHOM IT MAY CONCERN

RE: JAMES NYAMAI NZOLA

This is to confirm that the above is a 2nd year Master of Arts student in Monitoring and Evaluation at Population Studies and Research Institute, at the University of Nairobi.

He is in the process of collecting data for proposal entitled "Utilization of Maternal Healthcare Services in Nairobi County."

Any assistance accorded to him will be highly appreciated.


Murungaru Kimani, PhD
Director, PSRI
and
Associate Professor



Appendix 2: Interview Schedule for the Hospital In charges

Opening of the interview:

Greetings. My name is James Nzola, a postgraduate student from the University of Nairobi. I am conducting a study on the utilization of maternal health care services in selected public institutions in Nairobi County. This is in partial fulfillment of the requirements for the award of a Master of Arts degree in Monitoring and Evaluation. Thank you for agreeing to be interviewed. The information collected will be used for academic purposes only. All matters of confidentiality will be adhered to and you will not be quoted directly in any report of this study unless with your permission. I will be writing down your answers as the interview progresses. The interview will take about 30 minutes. Are you comfortable to proceed with the interview?

- a. What position do you hold in the hospital?
 - b. For how long have you worked in the hospital?
 - c. Have you held any other positions in the hospital previously?
 - d. What is your area of professional specialization?
2. Regarding the free maternity services program, what impact has it had on service delivery in this hospital? Benefits? Challenges?
 3. Which hospital department(s) is/are involved in offering the free maternity services?
 4. About the human resource capacity in the department(s) outlined in question 3 above:
 - a. How many doctors/nurses/other cadres are there?
 - b. Is the number of staff in line with the recommended norms on staffing level? Please explain.

- c. Have there been additional members of staff after the introduction of the program?
 - d. What training opportunities are there for these members of staff?
 - e. What is your take on the working conditions of these members of staff?
 - f. In your opinion, what needs to be done with regard to the human resource so as to enhance their capacity to deliver services efficiently & effectively?
5. About the financing of the free maternity services at the hospital:
- a. Has the free maternity services program received adequate financing? Please explain.
 - b. What partners have helped to fund the program?
6. About the hospital infrastructure used to offer free maternity services:
- a. Please outline the basic & specialized equipment that is available at the hospital and the general working condition.
 - b. What referral facilities does the hospital have?
 - c. Has any equipment (basic/specialized/referral) been acquired since the introduction of the free maternity services program? Who financed this?
 - d. Is the existing infrastructure adequate? Please explain.
 - e. In your opinion, what infrastructural improvements need to be done to facilitate better service delivery?
7. Regarding the quality of free maternity services offered in this hospital:
- a) How would you grade the quality of services offered?

b) Has the quality of maternal care changed since the introduction of free maternity services program? If Yes, how?

c) What characteristics of care given under this program best describe the quality of the services provided?

8. What do you believe should be done to enhance the quality of the care offered under the free maternity services program?

9. Do you have any other comments about the free maternity services program?

(Questions for Beyond Zero Clinics)

1. In your opinion do you think that beyond zero clinics have helped create awareness to women of reproductive age to seek better health care in terms of ANC visits and maternity services?
2. What have been some of the challenges facing the beyond zero campaign?
3. What are some of the constraints to achieving safe motherhood in this locality?
4. What do you suggest should be done to improve uptake of maternal health care service in this locality?

End of interview questions.

Thank the interviewee for his/her time.