

**EFFECTIVENESS OF RESULT BASED FINANCING
PROGRAMME ON UTILIZATION OF MATERNAL HEALTH
SERVICES IN URAMBO**

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PROGRAMME ON UTILIZATION OF MATERNAL HEALTH
SERVICES IN URAMBO**

By

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**A Dissertation Submitted to the School of Public Administration and Management
(SOPAM) in Partial /Fulfillment of the Requirements for Award of the Degree of
Master of Science in Health Monitoring and Evaluation of Mzumbe University.**

2018

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled **“Effectiveness of Result Based Financing Programme on Utilization of Maternal Health Services in Urambo”** in partial/fulfillment of the requirements for award of the degree of Master of Science in Health Monitoring and Evaluation.

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External Examiner

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I, **Abdilahi Nassor Njopeka**, declare that this dissertation is my own original work that has not been presented/submitted and will not be presented/submitted to any other university or institution of higher learning for a similar or any other degree award.

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Finally, I am grateful to all respondents who participated to this study and furnish valuable information that made production of this dissertation possible.

DEDICATION

I wish to dedicate this dissertation to my wife Mwanaharusi Selemani Mpinga and my kids Abubakar, Rumaysa, and Akmal Abdilahi Njopeka for their tolerance during my absence at home.

LIST OF ABBREVIATION AND ACRONYMS

ANC	Antenatal Clinic
BCG	Bacille Calmette Guerin
BRN	Big Result Now
CAG	Central Auditor General
CCHP	Comprehensive Council Health Plan
CHMT	Council Health Management Team
DED	District Executive Director
EGPAF	Elizabeth Glazer Pediatric AIDS Foundation
EmONC	Emergency Obstetric and Newborn Care
HEF	Health Equity Fund
HMIS	Health Management Information System
HSSP	Health Sector Strategic Plan
IAG	Internal Auditor General
LGA	Local Government Authority
MDG	Millennium Development Goal
MOF	Ministry of Finance
MOH	Ministry of Health
MoHCGEC	Ministry of Health, Community development, Gender, Elderly and Children
MoHSW	Ministry of Health and Social Welfare
MSD	Medical Stores Department
NGO	Non Government Organization
NHIF	National Health Insurance Fund
OPPRAS	Open Performance Review Appraisal System
PBC	Performance based contracting
PBF	Performance based financing
PO-RALG	President's Office, Regional Administrative and Local Government
RAS	Regional Administrative Secretary
RCH	Reproductive and Child Health
RCH	Reproductive and Child Health
RMNCAH	Reproductive, Maternal, Newborn, Child and Adolescent Health

SDG	Sustainable Development Goal
TABASAM	Tabora Adolescent and Safe Motherhood
USAID	United States Agency for the International Development
WHO	World Health Organization

DEFINITION OF TERMS

Health workers incentives

A conditional cash payment made to a provider of health services after verification and attainment of predefined results (MoHSW, 2015a).

Maternal health commodities

Maternal health commodities are recommended life saving medicines, equipment, supplies, diagnostic reagents and furniture that should be stationed at maternity wards and RCH clinics (Craig, 2017).

Health facility delivery

In this evaluation, health facility is the public dispensary. Private and FBO dispensaries are not enrolled into the RBF system in Urambo district.

Prenatal care

Prenatal care is a platform of services offered to pregnant women at the reproductive and child health clinic to monitor the development of the pregnancy, to detect pregnancy related complications at early stages and to provide medical support to women, families and the community (World Health Organization (WHO), 2016).

Postnatal care

Postnatal care is the continuum of maternal health care services to compliment health services provided at labor ward for the mother and the newborn (Lemiere, 2013).

Infrastructure

Is the physical and organizational condition of structures needed for operation of health service delivery including the status of building, availability of water and power sources, availability of communication and emergency transport (MoHSW, 2015a).

ABSTRACT

Background: Introduction of RBF to Africa resulted from increased maternal death and decreased national expenditure on health sector (Africa Progress Panel, 2010). In Tanzania, RBF was introduced in 2015, rolled-out to Urambo district in 2017. This study evaluated the worth of RBF on utilization of maternal health services through paying incentives, improving infrastructure and purchasing commodities to health facilities.

Methodology: Quasi experimental evaluation study conducted in Urambo district where multistage sampling was used to select households from RBF facilities as intervention participants and non-RBF facilities as control participants. Baseline data was collected from DHIS 2, associations tested using Chi square (95%) and 0.05 P-value.

Results: Institutional delivery cumulated 51% of incentives paid to health staff, implying that staff are motivated to perform duties with high incentives (20,720 Tshs/client) compared to the less paid of IPT 2 (1,240 Tshs/client) that demonstrated a drop of 11.7% after RBF implementation. The availability of 50% of medicines at maternity ward suggested the presence of other funds source. Changes from 0% to 61.3% state of building repair and an increase in availability of power and water sources by 82.9% and 50% respectively suggested improved facility infrastructures. Utilization of services increased for 43.3% in institutional delivery and 9.6% for prenatal visits >12wks were associated with incentives and infrastructure (P-values 0.006, 0.023; 0.001, 0.014)

Conclusion and Recommendations: RBF was effective on utilization of maternal health services but limited to prenatal visits >12wks and institutional deliveries with effect size of 0.12 and 0.21 respectively. It is recommended that non-monetary form of incentive should be directed to clients in order to advocate the concept of RBF to the community, and the CHMT should provide technical support to health facility management team and make effort to community health education on the importance of completing four prenatal visits before delivery.

TABLE OF CONTENTS

CERTIFICATION	i
DECLARATION AND COPYRIGHT	ii
ACKNOWLEDGEMENT	iii
DEDICATION	iv
LIST OF ABBREVIATION AND ACRONYMS	v
DEFINITION OF TERMS	vii
ABSTRACT	viii
TABLE OF CONTENTS	ix
LIST OF TABLES.....	xii
LIST OF FIGURES.....	xiii
CHAPTER ONE.....	1
1.1 Background	1
1.2 Statement of the problem	4
1.3 Evaluation questions and objectives.....	5
1.3.1 Evaluation question	5
1.3.2 Evaluation Objective	6
1.4 Significance of the evaluation study	6
1.5 Programme description.....	7
1.5.1 Introduction	7
1.5.2 Tanzanian RBF programme policy	7
1.5.3 RBF programme goal	9
1.6 RBF programme logic model	11
1.7 Roles and Functions of Stakeholders	12
CHAPTER TWO.....	13
LITERATURE REVIEW	13
2.1 Introduction	13
2.2 Theoretical literature review	13
2.3 Empirical literature review	15

2.4 Research gap.....	18
2.5 Conceptual framework	19
CHAPTER THREE	20
METHODOLOGY	20
3.1 Study area and Evaluation period.....	20
3.2 Evaluation design	20
3.3 Target population and sample size	21
3.4 Sampling Technique.....	21
3.5 Inclusion and Exclusion criteria	22
3.6 Data collection method.....	23
3.7 Pre-testing the research instrument	23
3.8 Data analysis.....	23
3.9 Ethical consideration	24
CHAPTER FOUR	25
PRESENTATION OF FINDINGS	25
4.1 Introduction	25
4.2 Financial incentive rewarded to health staff of maternity wards and RCH clinics	25
4.3 Availability of essential health commodities to maternity wards and RCH clinics.....	27
4.4 The status of health facility infrastructure.....	28
4.5 Utilization of maternal health services delivered at prenatal, intrapartum and postnatal periods as a result of RBF programme initiative	32
4.5.1 Association of RBF interventions to maternal health service utilization	39
CHAPTER FIVE	41
DISCUSSION OF THE FINDINGS	41
5.1 Introduction	41
5.2 Financial incentive rewarded to health staff of maternity wards and RCH clinics	41

5.3 Availability of essential health commodities to maternity wards and RCH clinics.....	42
5.4 The status of health facility infrastructure.....	43
5.4 Utilization of maternal health services delivered at prenatal, intrapartum and postnatal periods as a result of RBF programme initiative	44
CHAPTER SIX.....	48
SUMMARY, CONCLUSION AND IMPLICATION	48
6.1 Introduction	48
6.2 Summary	48
6.3 Conclusion.....	49
6.4 Policy Implications.....	49
6.5 Programmatic implications and use of findings for strategic planning.....	50
6.6 Recommendations	51
6.7 Possible limitations of evaluation.....	51
6.8 Areas for further research.....	52
REFERENCES	53
APPENDICES	58
Appendix 1: Work Plan for evaluation activities from 2017 to 2018	58
Appendix 2: Budget.....	59
Appendix 3: Check list	60
Appendix 4: Informed Consent for respondent	65
Appendix 5: Questionnaire to household respondent.....	66
Appendix 6: Ridhaa ya Mshiriki baada ya maelezo.....	71
Appendix 7: Dodoso kwa mshiriki wa kaya	72

LIST OF TABLES

Table 1.1: Roles and Functions of Stakeholders	12
Table 4.1: Prices of maternal health indicator per each client attendance	25
Table 4.2: Incentive paid to health facilities per each indicator.....	26
Table 4.3: Availability of commodities.....	28
Table 4.4: Health facility infrastructure status before RBF implementation	29
Table 4.5: Health facility infrastructure status after RBF implementation	31
Table 4.6: Maternal health service utilization before RBF implementation	34
Table 4.7: Maternal health service utilization after RBF implementation	36
Table 4.8: Changes before and after RBF interventions within group.....	38
Table 4.9: The EFFECT of RBF on utilization of maternal health services	39
Table 4.10: Association of RBF interventions to maternal health utilization	40

LIST OF FIGURES

Figure 1.1: RBF programme logic model	11
Figure 2.1: Conceptual framework.....	19
Figure 4.1: Incentive per health facility	26
Figure 4.2: Incentive per Indicator	27
Figure 4.3: Health facility infrastructure statuses for both groups before RBF	30
Figure 4.4: Health facility infrastructure statuses for both groups after RBF	32
Figure 4.5: Intervention group 2016 vs 2017	37
Figure 4.6: Control group 2016 vs 2017	38

CHAPTER ONE

1.1 Background

The result based financing (RBF) is a strategic programme funded by World Bank and USAID to low income countries that relies on developing financial or other resources to health facilities based on their achievements. These achievements are obtained after quarterly monitoring of agreed indicators and must be grounded on predefined outputs to improve the delivery of health services (Grittner, 2013). RBF programme categorizes its resources into health facility resources as development grant and incentives paid to health care providers or consumers, the aim is raise the performance of health care providers and utilization of maternal health services by the community (The World Bank, 2013; USAID, 2012).

The unsatisfactory health workers performance has been related to the financial instability in Sub Saharan Africa, and has also been considered as the root cause of failure to achieve the MDG target 5, where the maternal mortality ratio worldwide dropped from 380 maternal deaths per 100,000 live births in 1990 to 210 in 2013 (United Nations, 2015). Sub Saharan Africa alone accounted 86% of an estimated 289,000 Global maternal death. The average African government expenditure on health sector is only 9%, compared to 15% of the European countries (Africa Progress Panel, 2010). This situation made possible the emergence of RBF programme to Sub Sahara African region.

RBF exists at different stages of implementation in 48 African countries. Among them, three (3) countries are processing the scaling up of the RBF programme to all their regions; sixteen (16) countries are under impact evaluations; six(6) countries are at advanced planning process of RBF programme. Nine (9) countries are under discussion of launching the RBF programme and pilots implementation are ongoing to 14 countries including Tanzania (The World Bank, 2013).

The main expected output is to reduce the financial burden and increase the quantity and quality of service delivery and improve the status of health care service utilization.

The Tanzanian Government launched RBF as a pilot programme in Shinyanga Region, the district of Kishapu in 2015. This was later rolled out in 9 other regions including Tabora (early 2017), where Urambo district enrolled 16 out of 23 dispensaries into the programme.

The enrollment of health facilities based on star rating criteria after Big Result Now (BRN) readiness assessment conducted at health facilities on 9 areas for quality services in 2016. These areas include health facility management and governance, use of facility data, staff performance assessment, organization of services, emergency care and referral mechanism, client focus and social accountability, health infrastructure and infection prevention control, clinical services, and clinical support services. After the assessment, BRN ranked health facilities into score card from 0 up to five (5) stars based on their performance on assessed indicators and health facilities which scored at least 1 star was automatically enrolled into RBF programme (MoHSW, 2015a, 2015b).

RBF finances health facilities upon verification results. There are 19 indicators for assessment during verification every quarter; each indicator has a specific amount of money set per service offered to one consumer. The number of client's attendances that can be measured by RBF indicators defines the amount of fund to be paid to that particular health facility (MoHSW, 2015a). RBF was considered an opportunity for health management team of Urambo following the withdrawal of development health partners like EGPAF and Care International to support the maternal health priority area, resulting to financial constrains in implementation of maternal health interventions. This situation raised not only the number of maternal mortality death to Urambo district from 12 in 2015 to 15 death in 2016, but also the need for RBF financial support (CHMT Urambo, 2017).

Urambo district is the most funded district by RBF programme in Tabora region. The annual disbursement of fund from RBF is 437,870,517 Tshs in 2017 for only sixteen (16) dispensaries and one health centre, followed by Igunga district with the total amount of 405,866,878 Tshs for 31 health facilities (Tanzania HMIS, 2018). This fund comprises of resources for facility investment to ensure the availability of essential maternal health commodities, and health care workers monetary incentives and improving health facility infrastructure directed to increase the motivation of health care workers. RBF intervention is aiming to improve the quantity and quality of maternal health services, raise health facility utilization and improve the community maternal health status (MoHSW, 2015a).

Maternal health is a condition which manifests since when a woman has noticed that she is pregnant, continues during the period of labour pain to delivery and ends up to 42 days after delivery. These stages are respectively called prenatal, intrapartum and postnatal periods during which obstetric interventions are operational. It is the process of health workers performance towards reproductive health interventions that qualifies the status of maternal health during all three stages of prenatal, intrapartum and postnatal care (MoHCDGEC, 2016).

The effect of the RBF intervention for the purpose of this study will be measured based on the utilization of maternal health services. Indicators for maternal health services will fall in the following categories: During prenatal: Number of pregnant women who visited ANC before 12 weeks of pregnancy, Number of pregnant women who completed four (4) visits at ANC before delivery, Number of pregnant women who received anti worms drugs (mebendazole) and Number of pregnant women who received 2 doses of Intermittent Presumptive Therapy (IPT 2) for malaria; During intrapartum at maternity ward: Number of deliveries at health facility and Number of birth assisted by skilled staff; During postnatal care (PNC): Number Mothers attended for post natal care assessment within 7 days after delivery (MoHCDGEC, 2016; MoHSW, 2015a).

1.2 Statement of the problem

Maternal health in Tanzania has been considered an area of priority within the health sector (MoHSW, 2009). Numerous national policies and guidelines were introduced to address the maternal condition of the population. These includes, National health policies 1990 and 2007, the Tanzania Vision 2025 in 1999, the National Guideline on Essential Reproductive and Child Health Interventions (NGERCI 2003), the reproductive and Child Health Strategy (RCHHS 2005-2010), the Primary Health Service Development Programme (PHSDP/MMAM 2007-2017), the National Strategy for Growth and Poverty Reduction II (NSGRP/MKUKUTA 2010), and Health Sector Strategic Plan III 2009 – 2015 (MoHSW, 2009). They all focused at improving the performance of the maternal health care services delivery.

However, despite all these policies, the country has not achieved the MDG 5 target of 193 Maternal Mortality Rate (MMR) per 100,000 live births by the end of 2015. The country has only managed to reduce the Maternal Mortality Rate from 870 per 100,000 live births in 1990 to 556 per 100,000 live births in 2016. The increase in maternal death was associated with poor utilization of maternal health services before, during and after delivery (MoHCGED, 2016; USAID, 2017).

In 2016, the phase out of the Tabora Adolescence and Safe Motherhood (TABASAM) project from Care international that was engaged more on raising the utilization of maternal health services to all district of Tabora went concurrently with the withdrawal of EGPAF financial support to reproductive and child health interventions in two districts of Tabora including Urambo. Urambo district was mostly affected (Excluding Tabora Municipal and Nzega Town council) and experienced the increase of maternal death from 12 in 2015 to 15 in 2016 that was associated with poor utilization of RCH clinic during ANC, and maternity ward services especially birth assisted by skilled health workers (CHMT Urambo, 2017; Tanzania HMIS, 2016b, 2016a).

Since the implementation of RBF programme in January 2017, Urambo district has been the highest funded district from RBF in Tabora region. The annual disbursement of fund to Urambo from RBF is 397,960,244 Tshs for only sixteen (16) dispensaries(Tanzania HMIS, 2018). This high payment to Urambo district is expected to conform to the quality and quantity of health facility service delivery, and be reflected to maternal health service utilization by the community around.

Even though, the RHMT is conducting quarterly internal verification of health facilities to produce the evidence for RBF payment, there is still a need for an external counter verification to evaluate the worth of RBF programme on the utilization of maternal health services by the people of Urambo Therefore this study aimed at evaluating the effectiveness of RBF programme on utilization of maternal health services in Urambo District.

1.3 Evaluation questions and objectives

1.3.1 Evaluation question

To what extent is RBF programme is effective on maternal health services utilization in Urambo District.

Specific evaluation questions

- i. What amount of financial incentives has been rewarded to maternity ward staff and RCH clinics?
- ii. To what extent essential maternal health commodities are made available at maternity wards and RCH clinics?
- iii. To what extent is the status of health facility infrastructures improved?
- iv. To what extent are maternal health services been utilized as a result of RBF programme initiative?

1.3.2 Evaluation Objective

To evaluate the effectiveness of RBF programme, on utilization of maternal health services in Urambo District.

Specific objectives

- i. To find out amount of financial incentive rewarded to health staff of maternity wards and RCH clinics
- ii. To determine the availability of essential health commodities to maternity wards and RCH clinics.
- iii. To investigate the status of health facility infrastructures.
- iv. To examine the utilization of maternal health services delivered at prenatal, intrapartum and postnatal periods as a result of RBF programme initiative.

1.4 Significance of the evaluation study

The findings from this evaluation inform and assist policy makers at national level to make appropriate review of the policy in the ongoing process of scaling up the RBF programme throughout the country. For RBF implementers, findings provide the status of maternal health service utilization at the community level; they provide information as evidence during the process of planning for individual health facilities. Furthermore, the CHMT of Urambo district will have a copy of the evaluation report as evidence in the coming planning processes for the betterment of using RBF in improving maternal health.

The completion of this study fulfills the requirement for the award of Masters of Science in Health Monitoring and Evaluation of Mzumbe University.

1.5 Programme description

1.5.1 Introduction

RBF is a health financing programme that was introduced in Tanzania with the aim of linking health facility funding to results that accelerate the achievement of health targets as well as strengthening the health system. The RBF payments are made to health facilities giving out 75% of funds received for facility investment and operating expenses; and 25% for staff incentives.

Innovation and creativity in RBF is the innermost part to generate health facility incentives. As a supply – demand sides RBF model, to benefit from the programme, the facility should have specific strategies to use existing fund on hand to improve the quality of maternal services. These strategies should focus on improving the working condition of the RCH and delivery rooms and providing incentives to health workers for excessive efforts to meet the required amount of services needed by the demand side. Automatically the provided services will attract the community toward health facility and more funds from the programme.

1.5.2 Tanzanian RBF programme policy

The mid review of HSSP III came up with recommendation to improve health facilities quality and quantity of health service provision through pay for performance strategy (P4P) to health workers (Ministry of Health, 2011). P4P was piloted in Pwani region and rolled out to all regions, unfortunately it did not deliver the expected output.

Moreover, the Government materialized the Open Review Appraisal System (OPRAS) that focused as well to reward service providers based on their agreed achievement to service delivery, leadership and governance, human resources management, health management information systems, supplies of health facility commodities and health technologies.

Mid and annual reviews produce the basis of rewards. But again the reward is limited to health workers promotion (Ministry of Health, 2011).

Recently, the Ministry of Health, Community Development, Gender Elderly and Children (MHCDGEC) introduced the RBF to compliment the P4P and OPRAS schemes. The ministry has developed RBF operational manual to describe different RBF actors and guide them in the implementation of RBF processes and procedures. The RBF programme was incorporated into the existing health system to increase the coverage of quality and quantity service delivery to the community, by creating prosperous and sustainable working conditions for health workers and improve the health status of the community using the fund provided upon agreed result (MoHSW, 2015a).

The Ministry of Finance (MoF) holds the fund, approve invoices and disburse the fund to approved health facilities as directed by the MHCDGEC through regional RBF committee after quarterly verification of agreed results. 25% of disbursed health facility is directed to health workers incentives and 75% of funds received will be intended to invest in the particular health facility like improving infrastructures and purchasing essential health commodities based on the facility business plan (MoHSW, 2015a).

The Medical Stores Department (MSD) and other specific suppliers (Furniture makers) are responsible to ensure that essential health commodities are available. The quality of maternal health care delivery is directly related to the presence of maternal health care commodities at the point of service delivery in the right quantities, conditions and at the right time (MoHSW, 2015a). The output of essential health commodities is the availability of medicines, hospital supplies, medical equipment, diagnostic reagents and other important assets at delivery rooms and RCH clinics, that will quantify essential maternal health service delivery.

While RBF was piloted in Kishapu District, maternal health indicators were amongst other health indicators monitored by the RBF. Concurrently the MOH was developing the current national Road Map Strategic Plan for Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH) and stipulated that the key result areas for concentration in maternal health is prenatal, intrapartum and postnatal periods (MoHCDGEC, 2016). Maternal health intervention at prenatal, intrapartum and postnatal periods depends on the payment of incentive to health providers, improvement of facility infrastructure together with procurement and supply of these essential health commodities to improve the quality of service delivered and to raise the utilization of maternal health services (MoHSW, 2015a).

Utilization of services is based on the attendances measured after RBF interventions. The operational targets from 2015 to 2020 are to increase the prenatal care visit four or more from 43% to 90%, health facility delivery from 50% to 80% of all deliveries, deliveries attended by Skilled Health personnel from 51% to 80% and to increase postnatal care within first 48 hours from 31% to 80%.

1.5.3 RBF programme goal

The goal of RBF is to reinforce the government health system to speed up the achievement of Universal Health Coverage in order to ensure that all people obtain the required health services to promote preventive, curative, palliative and rehabilitative health interventions for all at an affordable cost.

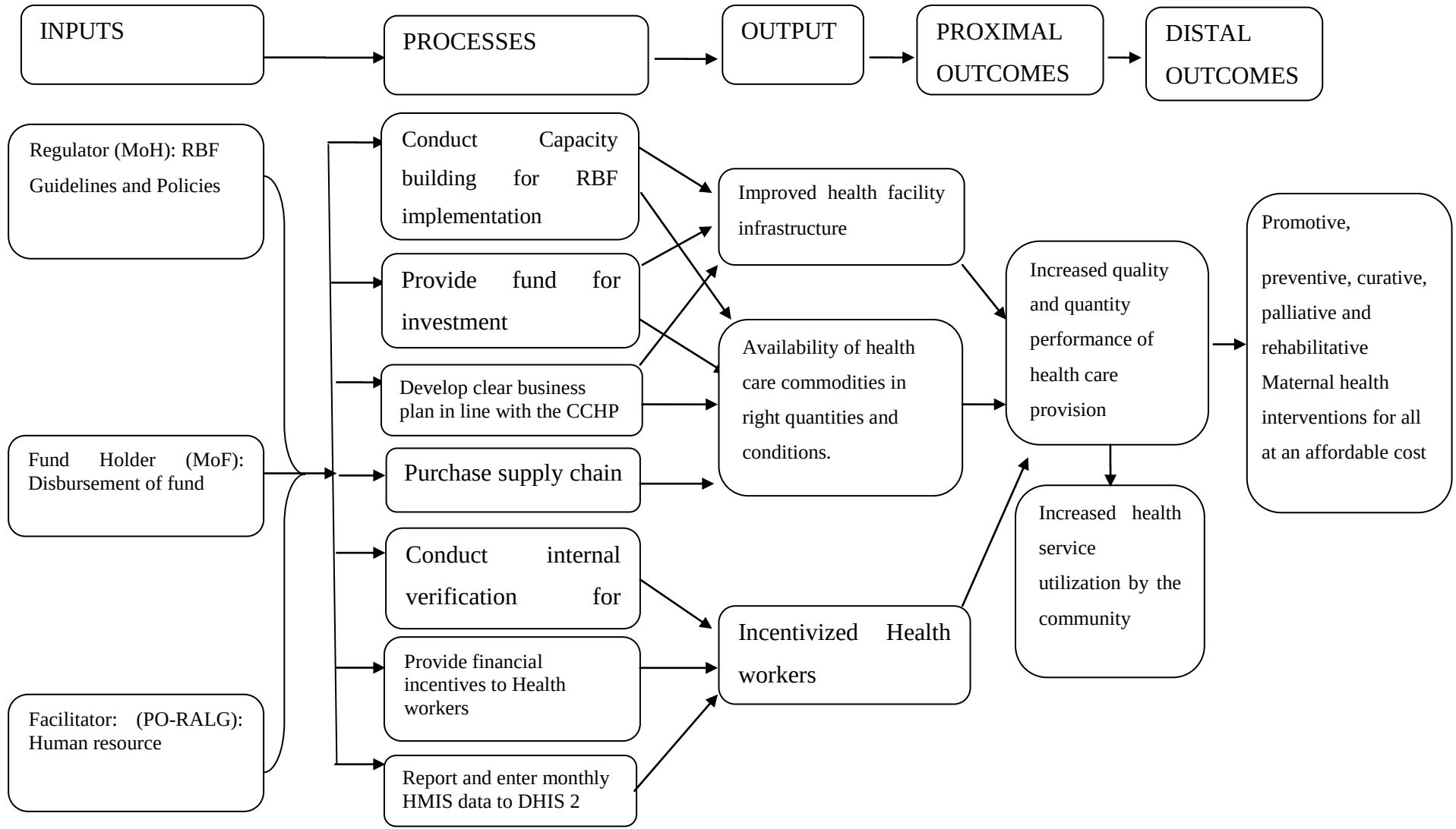
RBF programme strategic areas

1. Development of policies, guiding documents and tools used for the RBF system.
2. Purchasing specified management services from the health providers.
3. Disbursement of funds to the service providers after internal data verification.

4. Provision of management services by health facilities and specified services by CHMTs and RHMTs
5. Verification of internal and external results. The Internal Verification (Monitoring) validates results reported by service providers so as to ensure payment is done for the real results. External Verification (Evaluation) is for counter-checking the internal verification if it was of sound quality and quantity.
6. Facilitation to ensure effective functioning of LGA to bring about the desired outcome by providing indirect or unobtrusive assistance, guidance and supervision to health facilities, councils and regional secretariat.

1.6 RBF programme logic model

Figure 1.1: RBF programme logic model



1.7 Roles and Functions of Stakeholders

Table 1.1: Roles and Functions of Stakeholders

SN	Actor	Role	Responsibility	Degree of importance
1	Ministry of Health and Social Welfare (MOHSW)	Regulation which oversees RBF implementation	Review and develop various policies	High
2	NHIF	Purchasing of specified health or management services	To purchase supply chain services from MSD	Medium
3	Ministry of Finance (MOF)	Fund holding and disburses funds to the service providers after internal data verification	To disburse RBF funds for incentive to health facilities and MSD strategic business units,	High
4	Health facilities and some private facilities, RHMTs and CHMTs	Provision of health services and improvement of facility infrastructure.	Provide quality health services to clients and communities under conducive environment.	High
1	Community	Consumption of health services supplied	Utilizes the health services provided by health facilities	High
5	IAG/CAG	Verification of results which will be internal and external.	Conduct internal and external verification for both quantity and quality indicators to all health facilities and councils.	Medium
6	PO-RALG	Facilitation to ensure local government authorities function effectively to bring about the desired outcome	Ensuring that the RAS and DED have the necessary resources and capacity for implementation of RBF system.	High

Source: Researcher (2018)

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will discuss two main parts; the theoretical literature review that comprise the origin of Result Based Financing programme in low income countries, its concept, models and how it emerged in Africa as well as Tanzania. The empirical literature review presents the evidences from different studies done on RBF. It will further complimenting the gap which made the purpose for this evaluation study finally conceptualize the evaluation frame work.

2.2 Theoretical literature review

The Result Based Financing programme came as the consequence of failure for most low income counties to achieve the Millennium Development Goal 5 and created a room for the World Health Organization to search appropriate strategies to enhance the performance of health staff in developing countries. The maternal mortality ratio worldwide dropped from 380 maternal deaths per 100,000 live births in 1990 to 210 in 2013. Despite this reduction rate, the global maternal health burden was proved to be much contributed by low income countries (United Nations, 2015). Sub Saharan Africa alone accounted 86% of an estimated 289,000 Global maternal death where the average African government expenditure on health sector is only 9%, compared to 15% of the European countries (Africa Progress Panel, 2010). Hence the emergence of RBF programmes to low and middle income counties.

RBF was tested amongst many strategies, and most studies presented positive results relying on incentives of health workers, linking payment to their achievement (Gorter, Ir, & Meessen, 2013). Morgan (2009) highlighted that RBF for health is a rising needed mechanism to pay for results that slowly is overcoming the conventional donor based financing approach in low and middle income countries (B. L. Morgan, 2009; Toonen,

Canavan, Vergeer, & Elovainio, 2009). For that reason, RBF offers a way to make health workers even more responsible, and provides donors with an apparent means to establish the impact of their funds (World Bank & GAVI Alliance, 2010).

Gorter et al. (2013), further portrayed the impact of RBF in 3 models with different forms: the supply-side with a demand-side component (PBC&PBF); demand-side with a supply-side component (Vouchers for health & HEF); and demand-side RBF with no supply-side component through Conditional Cash Transfer (CCT) (Gorter et al., 2013). Jones et al. (2003) explained that all these RBF models were designed to enhance motivation to both supply and demand sides in order to increase the supplier's performance and produce more outputs towards consumers. The consistence of supplier (health workers) attendances on their responsibilities is eventually associated with the increase of health service utilization by the demand side (Jones, Steketee, Black, Bhutta, & Morris, 2003).

Based on RBF, PBF and Voucher performance based models discussed above; Gorter *et al* (2013) continues to state that maternal and neonatal health is a major strategic area for performance based application (Gorter et al., 2013). 15 out of 42 outcome evaluations were successfully targeted on maternal health priority area and the payment has been practical based on prenatal package, intrapartum services and postnatal care to motivate health care providers on their daily duties (Vermeersch, Rothenbühler, & Sturdy, 2012).

In Tanzania, the paying for performance has been guided by several policies in different successive approaches. In 2011, the mid review of HSSP III came up with two recommendations to improve health facilities quality and quantity of health service provision. The first one was Pay for Performance strategy (P4P) to health workers piloted in Pwani region and rolled out to all regions; unfortunately it didn't deliver the expected output. The second one is the Open Review Appraisal System (OPRAS) that focused to reward the performance of service providers based on their agreed achievement to service delivery, leadership and governance, human resources

management, health management information systems, supplies of health facility commodities and health technologies (Ministry of Health, 2011). OPRAS is still living and produced the basis of rewards, but again the reward is limited to health workers promotion.

Recently, the MoH introduced the RBF to compliment the P4P and OPRAS schemes. The ministry has developed RBF operational manual to describe different RBF actors and guide them in the implementation of RBF processes and procedures. The RBF program was incorporated into the existing health system to increase the coverage of quality and quantity service delivery to the community, by creating prosperous and sustainable working conditions for health workers and improve the health status of the community using the fund provided upon agreed result (MoHSW, 2015a).

2.3 Empirical literature review

Globally, RBF studies were conducted in low income countries due to its rationality and needs where by the Performance Based Financing (PBF) was the model of RBF proven positive by most studies (Gorter et al., 2013). Olken et al reported an increase of 50 – 75% in prenatal services and assisted institutional deliveries after the introduction of RBF programme in Indonesia (Benjamin Olken et al., 2014). This fact was supported by Mokdad et al. (2015) when he conducted a Mesoamerica study 8 countries of Central America and Mexico. High performing countries like Belize scored 99% to institutional deliveries while El Salvador scored 90% for proportion of women with four antenatal care visits with skilled staff (Mokdad et al., 2015).

The same observation was reported by Ir et al (2010) in Cambodia for voucher model of RBF and concluded that incentivized deliveries increased by 28.6% (Ir, Horemans, Souk, & W, 2010). However, his information was opposed by Nguyen et al. (2012) who has seen no difference of results between intervention and control groups upon offering of incentives to health staff in Bangladesh (Nguyen HTH, Hatt L, Islam M, Sloan NL, Chowdhury J, Schmidt JO, Hossain A, 2012).

In Sub Sahara African countries, RBF programme started in 2007 and focused more on three areas; the incentive payment to health staff, the availability of commodities and improvement of health facility infrastructure. Those were seen as gaps that made African countries' failure to achieve the MDG number 5 (Grittner, 2013). While Lundberg et al. reported the failure of health staff incentives to improve health service delivery in Uganda, Lemiere (2013) strongly opposed that most RBF studies provided positive results using financial incentives to enhance performance in the health sector and service utilization. Glittner (2013) elaborated more that quantitative outcome evaluations of RBF is valuable to targeted maternal health indicators and more useful in improving maternal health service coverage and supply chain of essential health commodities (Grittner, 2013; Lemiere, 2013; Lundberg M., 2007).

The MOH presented a list of essential life saving commodities as medicines, hospital supplies, medical equipment and diagnostic reagents (MoHCDGEC, 2016). However, interrupted supply chain has been spotted as challenge to consistent availability of health commodities even to successful implementers of RBF programme (USAID | JSI DELIVER, 2014). USAID (2016) in DRC Congo, agreed that health commodities are structural inputs of the health facility including medications, supplies, equipment but added electricity, communication system and transport evaluation (USAID/Democratic Republic of Congo, 2016). This argument was opposed by MoHCDGEC and elaborated more that electricity, communication system and transport are components of infrastructure together with the availability of water source and the status of the facility building (MoHCDGEC, 2015)

The BRN report 2016 highlights that the status of most facilities is not satisfactory and had no planned preventive maintenance to improve their infrastructure through rehabilitation and construction. The report enumerated that areas for renovation are facility buildings, as most of them have leaking roofs and cracks that attract bats, rodents and insects (bees) and that for construction is toilets, placenta pits and incinerators (MOH, 2016).

Hatt (2010) went a step forward to outline the outcome of RBF implementation in Bangladesh facilities and reported an increase of maternal health service utilization following the improvement health facility infrastructure, the increase of hospital supplies and medical equipment at prenatal (antenatal), maternity and postnatal service areas (Hatt, 2010).

At prenatal clinic, Basinga's report revealed no significant change in prenatal service delivery between the baseline and end line assessments from 98 to 99% in Rwanda after RBF intervention (Basinga, Gertler, & Vermeersch, 2010). Similarly USAID/Congo DRC (2016) had the same explanation on antenatal consultations at least once during pregnancy that raised for only 1% from 88% to 89%, and even a decrease from 57% to 50% for those completed four ANC visits between baseline and end line assessments (USAID/Democratic Republic of Congo, 2016).

While at maternity ward, Child births that happened to appear on health facility set up (institutional deliveries) are normally the transition of pregnant women attendance from prenatal clinic to delivery room (Conference & Beyond, 2014). Most evaluations reports portrayed significant changes in health facility deliveries assisted by health providers. Lagarde et al. (2009) and USAID reported an increase of 21% in Bolivia, and 14% in Congo DRC respectively. Similarly, Basinga et al. (2010) illustrated that 8.5% out 11% institutional deliveries were assisted by skilled health providers in Rwanda after RBF intervention (Basinga et al., 2010; Lagarde & Palmer, 2009; USAID/Democratic Republic of Congo, 2016).

Surprisingly very few studies revealed evidenced information about postnatal service utilization. Among those, Congo DRC and Rwanda reported no changes at all in postnatal care service delivery. Contrary to Eichler (2009) that stated a significant increase in postnatal care utilization by 41% in the five years trending from 2000 to 2005 for services contracted to NGOs in Haiti (Eichler, Auxila, & Antoine, 2009).

In Tanzania there is no recent studies on RBF apart from those of Canavan and Swai (2008) that stated no increase in maternal health indicators though the level of motivation to health workers was high comparing health service utilization from RBF facilities to non – RBF ones (Canavan & Kit, 2008), and complimented by Morgan one year after that maternal health service delivery should be targeted for RBF programme (L. Morgan, 2010).

The situation at the district level has been obtained from the District Health Information System (DHIS 2). DHIS 2 reported that in Urambo district, out of 9,361 health facility deliveries in 2016, 83.2% of births were assisted by skilled health providers, compared to Sikonge, Uyui and Nzega that had 6,795; 9,185 and 15,395 health facility deliveries and among those, 98.0%; 88.1% and 98.6% of births were assisted by skilled health workers respectively (Tanzania HMIS, 2016c). However, postnatal visits between 3 to 7 days, Urambo District scored 40.4% above Igunga and Uyui Districts with 28.9% and 8.8% of PNC visits within 7 days respectively (Tanzania HMIS, 2016a)

2.4 Research gap

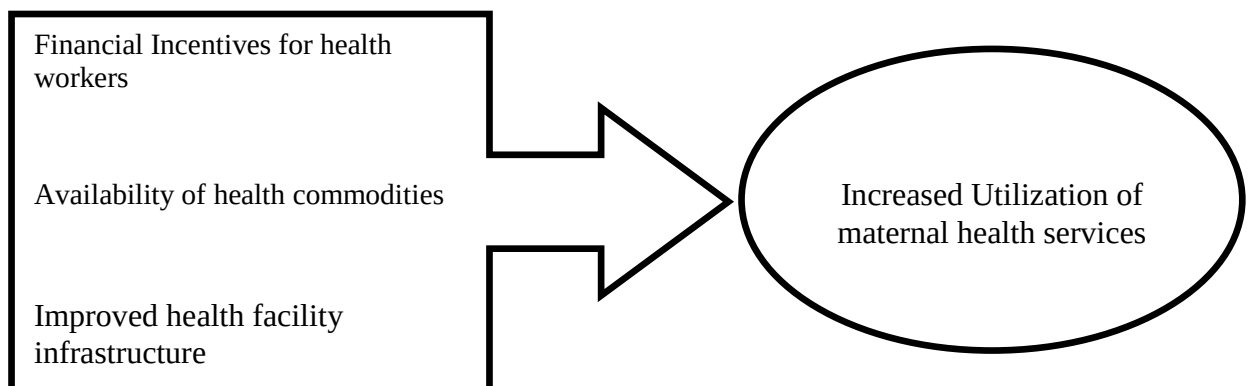
The above variation in findings to prenatal, intrapartum and postnatal indicators is suggestive. The majority of evaluation reports portrayed positive findings about RBF programme effects, specifically on improving the utilization of maternal health services in terms of hospital deliveries by skilled staff. Evidence from 13 RBF programme evaluations supports the argument, while no or slight changes were reported in prenatal and postnatal services. However, different models of RBF were implemented at different areas including the PBF, PBC, P4P, HEF, CCT and Vouchers for health. As a result, different methods were used by different evaluators according to the model of RBF implemented. These might be the reasons that suggest the variation of findings in prenatal and postnatal indicators.

For the fact that authors called for more researchers to examine RBF programme effectiveness, and that there is no any evaluation that has been conducted to assess the effectiveness of the RBF programme on utilization of maternal health services in Urambo health facilities after five quarters of the programme implementation, this evaluation sought to ascertain the effects of RBF incentives offered to health providers, improved their working environment and availability of health commodities at maternity wards and RCH clinics on maternal health services utilization after five quarters of RBF implementation.

2.5 Conceptual framework

The RBF programme has stipulated that incentives paid to health staff working in conducive environment at maternity ward and RCH clinics, with availability of health facility commodities as outputs after processing its resources would increase maternal health service utilization by the health facility surrounding community.

Figure 2.1: Conceptual framework



CHAPTER THREE

METHODOLOGY

3.1 Study area and Evaluation period

This study was conducted in Urambo, because it is one among 59 councils that implement the Result Based Financing programme in the country to improve the utilization of maternal health services. Due to familiarity with the council, the researcher decided to conduct this evaluation study in 7 wards of Mchikichini, Muungano, Nsenda, Uyogo, Songambele, Kiloleni and Ugalla. The findings are however generalized to 11 remaining wards of Urambo district that were not covered by the study (National Bureau of Statistics Tanzania (web), n.d.). This evaluation was conducted for the period of seven months starting from December 2017 to June 2018

3.2 Evaluation design

This evaluation is an outcome quasi experimental study design based on quantitative paradigm. Pre test observation was secondary data from DHIS 2 database before RBF implementation in 2016 and post test observation was conducted at the consumers of maternal health services (community) after RBF intervention in April 2018. The post test findings were compared for both control and intervention groups with the pre test data collected in 2016 on maternal indicators.

RBF incentives offered to health providers, improvement of infrastructure from RBF fund apart from readiness grant and availability of health commodities at maternity wards and RCH clinics were considered as treatment to the intervention group. The expected results are the changes in maternal health services utilization that were measured after RBF implementation for both intervention and control groups. Indicators that were measured include the number of pregnant women attended at ANC before 12 weeks of pregnancy, the number of at least 4 visits before delivery, IPT and Mebendazole reception, number of health facility deliveries and whether assisted by a

skilled health workers, and number of mothers receiving post natal care services within 3 – 7 days after delivery.

3.3 Target population and sample size

The target population was households of Urambo District. The effect size of 0.2 was considered to determine the sample, as similar studies ranged from 1 to 21% effect size; and the 0.6 of population proportion of between unequal samples of intervention and control groups. With 80% relative chance of detection (Power) and the expected type I and type II errors are 5 and 20% respectively. The samples of 150 households for intervention group and 90 households for control group were calculated using the formula for sample size calculation by creative research systems- formula (2016) as follows:

$$n = \frac{(1.96)^2 pq}{d^2} = \frac{(3.8416)(0.8)(0.2)}{0.0025} = 245$$

Where: +

n = required sample

p = maximum variability of population (0.8)

q = 1-p

d = margin of error (0.05)

3.4 Sampling Technique

Multi stage sampling technique was used as follows.

Stage 1: All health facilities enrolled to RBF programme were listed to generate the sampling frame of 16 health facility where each facility had an equal chance of being included into the sample. The sampling frame includes facilities of Isongwa, Izengabatogilwe, Nsogolo, Izimbili, Usisya, Itundu, Kasisi, Itebulanda, Vumulia,

Kamalendi, Nkokoto, Muungano, Kalemela “A”, Songambe, Igunguli and Uyogo dispensaries. By using probability sampling procedure, the sample of five (5) health facilities was selected from the list into the intervention group.

The rest of Kiloleni, Jionee Mwenyewe, and Kamsekwa health facilities that were not enrolled to RBF programme because they did not pass the eligibility criteria for enrollment were taken directly into the control group.

Stage 2: From the selected health facilities for both intervention and control groups, the list of households served by these facilities were prepared by village executive officers (VEO) and community health workers (CHW). For both intervention and control groups, households were then selected randomly from the list to get 121 households for intervention group and 73 households for control group to generate the sample of 194 households that were involved into the study.

3.5 Inclusion and Exclusion criteria

Households were eligible to participate into the evaluation if they qualify the following criteria for intervention and control groups:

1. Households should have been offered health services by facilities that are enrolled to RBF programme.
2. Households should have at least 1 pregnant woman or 1 child born not before 1st January 2018.

The specific criteria that differentiate respondents of intervention group from that of control is the requirement that the households should have been offered health services by facilities that at least has received RBF fund for 3 quarters.

The criterion that excluded households with the above qualifications from not participating into the study was the failure of respondents to remember the specific events required by the questionnaire.

3.6 Data collection method

Data was collected using questionnaire and checklist. A Swahili translated semi structured questionnaire was used to collect social and demographic information and utilization of maternal health service from the community as post observation data. Whereas the checklist prepared in English, was used to collect facility data for health workers' incentives, availability of health facility commodities and the status of health facility infrastructure as well as baseline information before implementation of RBF from DHIS 2 (2016).

3.7 Pre-testing the research instrument

To ensure validity and reliability, both semi structured questionnaires and checklist were pre tested to Vumilia dispensary and 2 households from its surrounding area that qualified the same criteria as the sample. Respondents found difficulties to differentiate levels of education on social/demographic part and confusion of names for hospital supplies and medicines on the part of availability of health facility commodities. Both the questionnaire and the check list were reviewed to reduce and condense levels of education from eleven (11) to only four (4) that respondents could understand and counter verification questions were added to the health facility checklist to determine the availability of health facility commodities. And some questions were omitted as well from the questionnaire.

3.8 Data analysis

Data collected was entered into matrix using Microsoft excel, then cleaned, summarized and analyzed using Stata. Frequencies and proportions were computed and comparisons were made between intervention versus control groups; the DHIS 2016 baseline data for utilization of maternal health services versus posts observations findings after RBF implementation; and association of health workers incentives and health facility commodities was tested against utilization of maternal health services using Chi square,

at 95% confidence level and 0.05 P value. Finally the effect size of RBF programme was calculated.

3.9 Ethical consideration

Mzumbe University Ethical Clearance committee approved the evaluation proposal and grants a letter to District Executive Director of Urambo District Council to seek permission of conducting an evaluation to working areas that are under his authority. Since there was involvement of human subject as participants, each participant was given a copy of written informed consent to read, ask questions and made decision by putting signature on the consent to indicate her participation into the evaluation. All collected information from participants was kept confidential and subjected not otherwise than academic purposes.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Introduction

This chapter illustrates findings from the evaluation on Result based financing to all maternal service working areas of prenatal, maternity and postnatal. It demonstrates the amount of financial incentives paid to health staff by RBF programme is computed per each maternal health indicator. It further describes the availability of maternal health commodities by type. Finally, the chapter gives details on the status of maternal health utilization before and after RBF implementation for both intervention and control groups.

4.2 Financial incentive rewarded to health staff of maternity wards and RCH clinics

Each maternal indicator has its specific price in Tanzanian shillings per client attendance and 25% from the total amount paid, returned to health care providers as incentives to motivate them working more productively (*See Table 4.1*).

Table 4.1: Prices of maternal health indicator per each client attendance

Indicators	Price in Tshs
Prenatal visit before 12wks of pregnancy	8,290
Completed 4 prenatal visits before delivery	6,210
Intermittent presumptive therapy of malaria	1,240
Deworming with mebendazole	1,244
Institutional deliveries by skilled health providers	20,720
Postnatal visits within 3 – 7 days after delivery	8,290

Source: (MoHSW, 2015a)

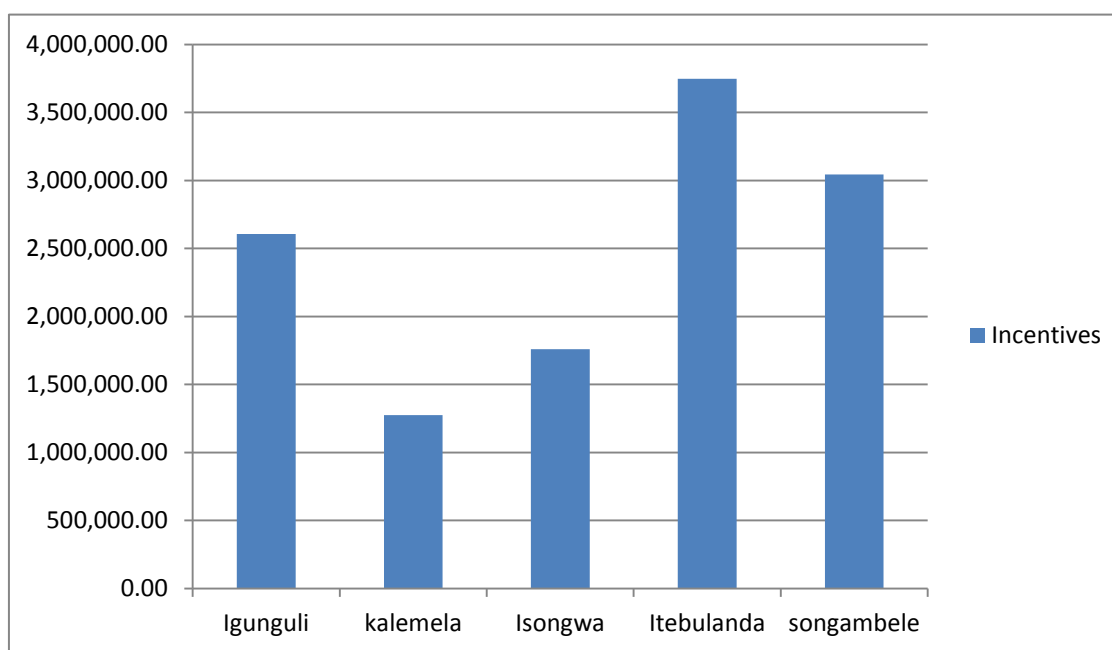
The total amount of 12,429,263.87 Tshs was paid to health workers of five (5) health facilities forming the intervention group (*See Table 4.2*).

Table 4.2: Incentive paid to health facilities per each indicator (n=5)

Health facility	ANC <12wks	Completed 4 visits	IPT2	Meb	Institutional deliveries.	3 - 7 days after delivery	Total	%
Igunguli	347,815.66	291,870.00	62,436.95	125,245.92	1,393,420.00	384,724.81	2,605,513.33	21.0
Kalemela	115,404.06	215,021.25	50,139.99	49,449.00	675,990.00	169,411.50	1,275,415.80	10.3
Isongwa	91,190.00	111,034.80	45,418.32	94,264.10	989,380.00	426,935.00	1,758,222.22	14.1
Itebulanda	385,485.00	324,472.50	130,510.00	212,748.88	1,688,680.00	1,004,164.80	3,746,061.18	30.1
Songambebe	281,549.13	323,452.82	101,766.49	117,187.91	1,610,980.00	609,315.00	3,044,251.34	24.5
Total	1,221,443.84	1,265,851.37	390,271.74	598,895.81	6,358,450.00	2,594,551.11	12,429,463.87	100
Percentage	9.8	10.2	3.1	4.8	51.2	20.9	100	
P-Value	0.023	0.185	0.655	0.060	0.006	0.000		

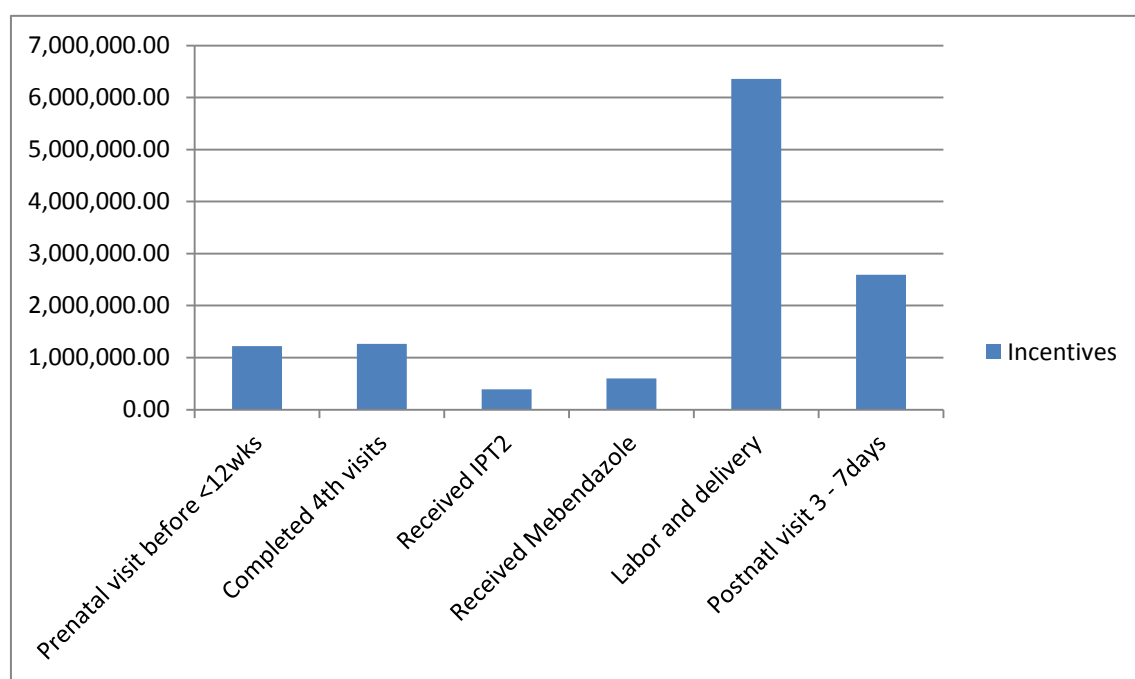
Source: DHIS 2

Itebulanda dispensary was the most paid 3,746,061.18 Tshs (30.1%), and the least was Kalemela 1,275,415 Tshs (10.3%) (*Figure 4.1*). Whereas, high incentive of 6,358,450 Tshs was paid to health facilities due Institutional delivery assisted by skilled health worker (*Figure 4.2*).

Figure 4.1: Incentive per health facility**Source:** DHIS 2

Approximately half of the total incentives were paid for institutional deliveries by skilled health provider (51.2%) followed by postnatal visits within 3 – 7 days after delivery (20.9%) and the least paid is the second dose of Intermittent presumptive therapy for malaria (IPT2) (3.1%)

Figure 4.2: Incentive per Indicator



Source: DHIS 2

4.3 Availability of essential health commodities to maternity wards and RCH clinics.

Maternal health commodities are categorized to as available if at least 2 items are available at maternal health working area. Hospital supplies at prenatal clinic were highly available by 63.2%, however furniture was the only commodity that was purchased to all three maternal working areas 52.6% at prenatal and 38.9% each at maternity ward and postnatal clinic; while Medicines and supplies were purchased at maternity and postnatal clinic by 50% each (*see Table 4.3*).

Table 4.3: Availability of commodities

	Prenatal clinic (n=57)		Delivery and postnatal areas (n=54)		
Commodities	Supplies	Furniture	Medicines	Supplies	Furniture
Availability	36	30	27	27	21
Percentage	63.2	52.6	50	50	38.9

Source: Researcher (2018)

4.4 The status of health facility infrastructure.

Data for infrastructure are rather sub classified into specific indicators than maternal working areas of prenatal, maternity and postnatal, because construction or renovation were done at facility level of without making partitions. These indicators are status of the building that qualified the roofing, sealing body, floor and walls of the building; the availability of water source that measure not only presence of dip well, Sim tank or water harvesting tank but also the accessibility of that water throughout the whole year; the availability of power source including the national grid and alternative power source of solar energy and m-power;

Moreover, the means of communication within and between different levels of authorities is another indicator measuring the health facility infrastructure. This one involves the availability of communication network not necessarily with presence of facility telephone and throughout passable road throughout the whole year regardless of the season; finally the availability of emergency transport that measure the amount of time from the need to execution. All these indicators are graded to as good, fair or poor according to scores. Indicators scores were joined to summarize the status of health facilities infrastructure where by wherever there was a *poor* score even if all other scores were *good* that facility score was automatically reduced to *fair*, but if the *good* scores outweighed the *fair* ones the score remained *good* (See Table 4.4).

Table 4.4: Health facility infrastructure status before RBF implementation

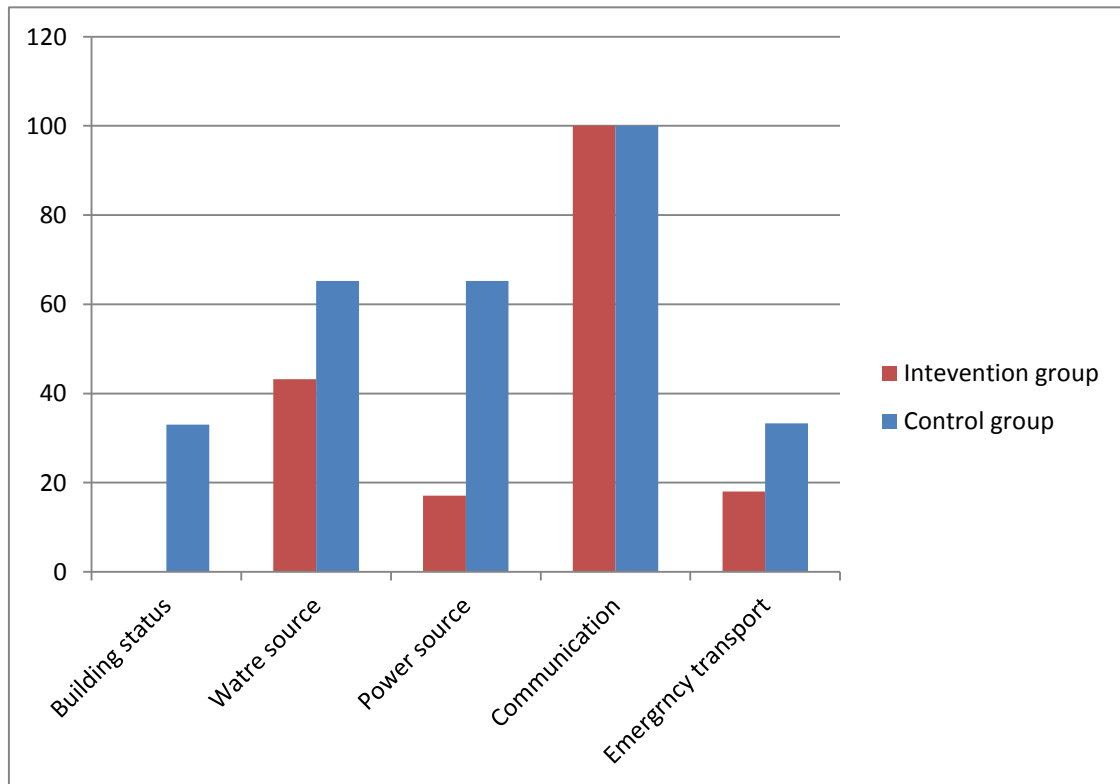
<i>Intervention group</i>									
Health facility	Status of the building	Water source		Power source		communication	Emergency transport		
Score	Poor	Good	Poor	Good	Poor	Good	Good	Fair	Poor
Igunguli	24	0	24	0	24	24	0	0	24
Isongwa	20	0	20	0	20	20	20	0	0
Itebulanda	25	25	0	0	25	25	0	25	0
Kalemela	19	0	19	19	0	19	0	19	0
Songambebe	23	23	0	0	23	23	0	23	0
Total	111	48	63	19	92	111	20	67	24
%	100	43.2	56.8	17.1	82.9	100	18	60.4	21.6

<i>Control group</i>									
Health facility	Status of the building		Water source		Power source		communication	Emergency transport	
Score	Good	Fair	Good	Poor	Good	Fair	Good	Good	Fair
Jionee	0	24	0	24	0	24	24	0	24
Kamsekwa	23	0	23	0	23	0	23	23	0
Kiloleni	0	22	22	0	22	0	22	0	22
Total	23	46	45	24	45	24	69	23	46
%	33.3	66.7	65.2	34.8	65.2	34.8	100	33.3	66.7

Source: Researcher (2018)

Before implementation of RBF, both intervention and control groups had good means of communication (100), but the majority of health facility building infrastructure in intervention group were poor (100%) compared to control that not only they had one quarter of their building in good status of repair, but they were also ahead of intervention group in availability water and power sources and even for time consumed waiting for transport during emergencies by 21.8%, 48.1% and 15.3% (See Table 4.5 and Figure 4.3)

Figure 4.3: Health facility infrastructure statuses for both groups before RBF



Source: Researcher (2018)

After RBF implementation, the score matrix with the same categories as before its implementation changed and demonstrated improvement of infrastructure in intervention group for all inspected indicators as it had also appeared in control group (*See Table 4.6*).

Specific changes for both intervention and control groups were similar changes of their facility in reliability of electricity (100%) and improved building status by 61.3% and 66.7% respectively with no change in availability of water sources, Communication and emergency indicators (*See Table 4.5*).

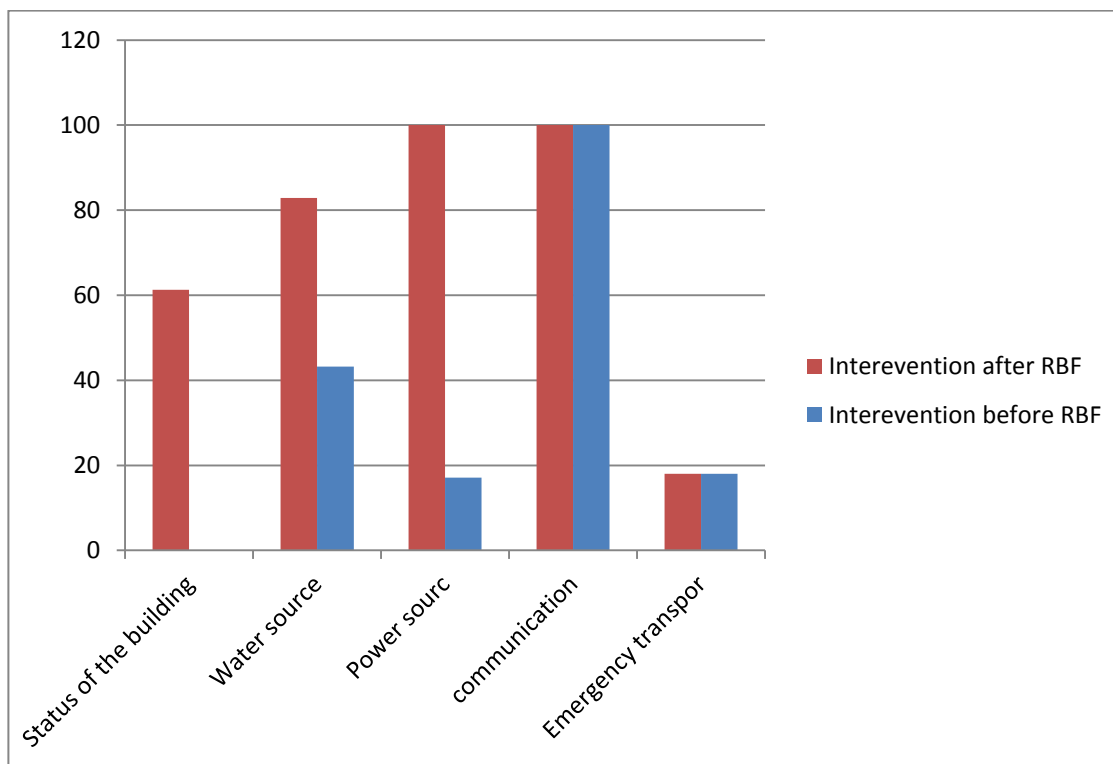
Table 4.5: Health facility infrastructure status after RBF implementation

Health facility	Status of the building		Water source	Power source	communication	Emergency transport			
Intervention group									
Score	Good	Fair	Good	Fair	Good	Good	Good	Fair	Poor
Igunguli	24	0	24	0	24	24	0	0	24
Isongwa	0	20	20	0	20	20	20	0	0
Itebulanda	25	0	25	0	25	25	0	25	0
Kalemela	19	0	0	19	19	19	0	19	0
Songambebe	0	23	23	0	23	23	0	23	0
Total	68	43	92	19	111	111	20	67	24
%	61.3	38.7	82.9	17.1	100	100	18	60.4	21.6
Control group									
Score	Good	Fair	Good	Poor	Good	Good	Good	Fair	
Jionee	24	0	0	24	24	24	0	24	
Kamsekwa	0	23	23	0	23	23	23	0	
Kiloleni	22	0	22	0	22	22	0	22	
Total	46	23	45	24	69	69	23	46	
%	66.7	33.3	65.2	34.8	100	100	33.3	66.7	

Source: Researcher (2018)

Changes were observed in all groups but significantly the intervention group in health facility building indicator where score shifted from 100% poor condition to 61.3 % of good state of repair for facilities, and an increase of almost 50% in availability of power and water sources by 82.9% and 50% respectively while communication and emergency transport remained constant (*See Figure 4.4*).

Figure 4.4: Health facility infrastructure statuses for both groups after RBF



Source: Researcher (2018)

4.5 Utilization of maternal health services delivered at prenatal, intrapartum and postnatal periods as a result of RBF programme initiative

Young's choice making model (1981) laid down concepts of maternal health care utilization process and narrowed them into three common factors, that a client will utilize maternal health services at clinical set up only if those services are accessible to her reach in terms of abundance, economic capability and geographical location; if her condition is defined as an abnormal condition by her belief and values; and that her friends and relatives can influence her to seek maternal health services (Rebhan, 2008).

This evaluation study, focused on the extent to which the community was using their health facility to get maternal health services. One of the requirements to detect effect of RBF programme in maternal health service utilization is to know the baseline situation of maternal health care utilization status before the implementation of FBF programme

for both intervention and control groups in December 2016. Data was collected using the secondary data source of District Health Information System version 2 (DHIS 2) for the period of one year.

The baseline data explained that in intervention group, out 2400 clients, the majority 2,354 (98.1%) received anti worm medicine; while 510 (21%) visited the clinic before 12 weeks of pregnancy; 1,136 (47.3%) completed their 4th prenatal visits before delivery and 1,149 (47.9%) received the second dose of Intermittent Presumptive Therapy for malaria (IPT2) at prenatal clinic. For the maternity ward and postnatal clinic 1,085 (45.2%) cases were reported for institutional deliveries assisted by skilled staff and 823 (34.3%) returned for postnatal services consultations within 3 – 7 days after giving birth (*See Table 4.6*) (National Bureau of Statistics, 2016).

Whereas the control group constituted 1,479 expected pregnant women and mothers, out of them 1,144 (77.3%) received anti worm medicine, 339 (22.9%) visited the clinic before 12 wks of pregnancy, 652 (44.1%) completed their 4th prenatal visits before delivery and 840 (56.8%) received IPT2. At maternity and postnatal clinic 355 (24%) mothers were reported for institutional deliveries assisted by skilled staff and only 268 (18.1%) returned for postnatal services within 3 – 7 days.

Table 4.6: Maternal health service utilization before RBF implementation

Health facility	Target n=1,479	ANC <12wks	%	4 visits	%	IPT2	%	Meb	%	Inst. Deliv.	%	3 – 7 days	%
<i>Intervention group (n=2,400)</i>													
Igunguli	647.0	201.0	31.1	321.0	49.6	243.0	37.6	802.0	124.	289.0	44.7	198.0	30.6
Isongwa	239.0	49.0	20.5	120.0	50.2	130.0	54.4	152.0	63.6	152.0	63.6	150.0	62.8
Itebulanda	738.0	169.0	22.9	341.0	46.2	359.0	48.6	905.0	122.	320.0	43.4	267.0	36.2
Kalemela	528.0	24.0	4.5	151.0	28.6	205.0	38.8	238.0	45.1	127.0	24.1	62.0	11.7
Songambebe	248.0	67.0	27.0	203.0	81.9	212.0	85.5	257.0	103.	197.0	79.4	146.0	58.9
Total	2,400.0	510.0	21.3	1,136.0	47.3	1,149.0	47.9	2,354.0	98.1	1,085.0	45.2	823.0	34.3
<i>Control group (n=1,479)</i>													
Jionee	468.0	85.0	18.2	221.0	47.2	143.0	30.6	385.0	82.3	196.0	41.9	124.0	26.5
Kamsekwa	545.0	86.0	15.8	253.0	46.4	435.0	79.8	542.0	99.4	0.0	0.0	46.0	8.4
Kiloleni	466.0	168.0	36.1	178.0	38.2	262.0	56.2	217.0	46.6	159.0	34.1	98.0	21.0
Total	1,479.0	339.0	22.9	652.0	44.1	840.0	56.8	1,144.0	77.3	355.0	24.0	268.0	18.1

Source: DHIS 2/NBS 2016

For comparative purposes, counter community survey verification was conducted to collect actual information from health service consumers on maternal health service utilization. Unlike the DHIS 2 (2016) data set that was computed against the number of expected pregnant women and mothers (denominator) to get percentages and ratios in baseline information, the total number of respondents in end line information was the sample of 180 respondents where by 111 (61.7%) respondents were in intervention group and 69 (32,3%) were in control group.

In intervention group, out of 111 respondents, 57 (51.3%) pregnant women attended prenatal services while 54 (48.6%) were already delivered. At prenatal clinic, pregnant women who received IPT2 were 43 (75.4%), followed by those who received Mebendazole 39 (68.4%) and prenatal visits before 12 weeks of pregnancy 22 (38.6%) and lastly those who completed 4 visits before delivery accounted 10 (17.5%) only. For institutional deliveries assisted by skilled personnel scored 47 (87%) out of 53 deliveries, and postnatal visits 3 – 7days post delivery 32 (59.3%) (See Table 4.6).

Whereas the control group that has not been exposed to RBF interventions has the total number of 69 respondents, out of them 31(44.9%) were pregnant and 38 (54.1%) were delivered. Like in intervention group, pregnant women who received IPT2 led to 27 (87.1%), followed by those who received Mebendazole 21 (67.7%), then those who completed 4 visits before delivery 10 (32.3%) and lastly prenatal visits before 12 wks of pregnancy 9 (29.0%). Institutional deliveries assisted by skilled personnel accounted 17 (44.7%) out of 38 deliveries, and 3 - 7 days after delivery 21 (55.3%) (*See Table 4.7*).

Table 4.7: Maternal health service utilization after RBF implementation

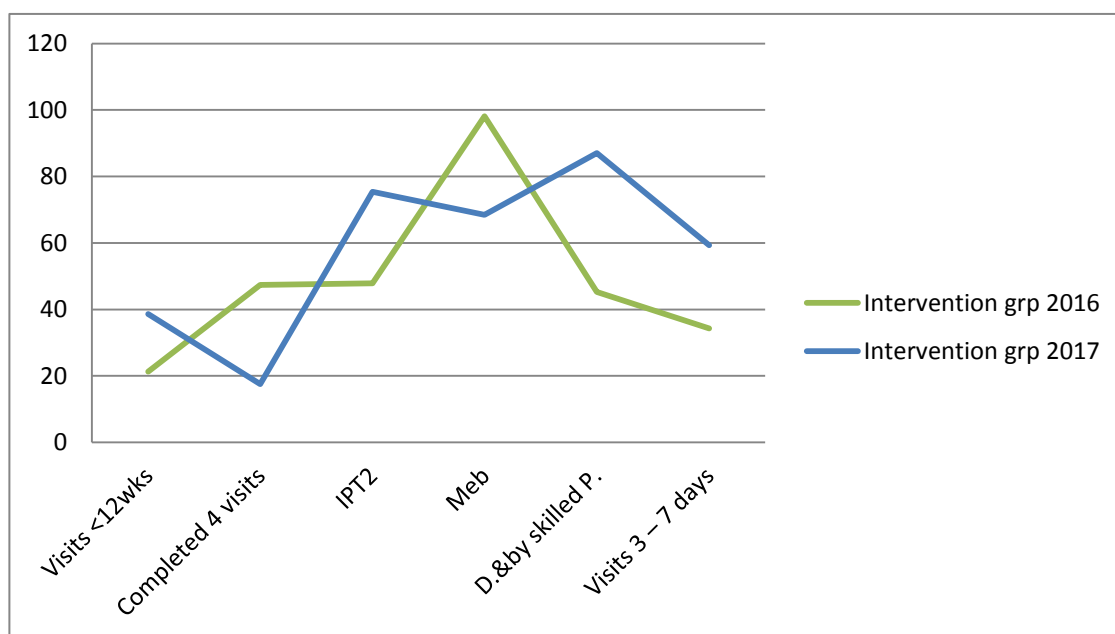
Health facility	Prenatal attendance	ANC <12wks	%	Completed 4 visits	%	IPT2	%	Meb	%	Deliveries	Inst. Deliv.	%	PNC 3 – 7 days	%
<i>Intervention group (n=111)</i>														
Igunguli	19	9	47.4	7	36.8	8	42.1	8	42.1	5	3	50	4	75
Isongwa	8	4	50.0	0	0.0	9	112.5	6	75.0	12	8	66.7	5	41.7
Itebulanda	9	3	33.3	0	0.0	8	88.9	8	88.9	16	16	100	15	93.7
Kalemela	8	0	0.0	1	12.5	6	75.0	4	50.0	11	11	100	4	36.4
Songambebe	13	6	46.2	2	15.4	12	92.3	13	100.0	10	9	90	4	40
Total	57	22	38.6	10	17.5	43	75.4	39	68.4	54	47	87	32	59.3
<i>Control group (n=69)</i>														
Jionee	11	2	18.2	4	36.4	11	100.0	8	72.7	13	7	53.8	6	46.1
Kamsekwa	10	3	30.0	1	10.0	8	80.0	6	60.0	13	0	0	4	30.8
Kiloleni	10	4	40.0	5	50.0	8	80.0	7	70.0	12	10	83.3	11	91.7
Total	31	9	29.0	10	32.3	27	87.1	21	67.7	38	17	44.7	21	55.3

Source: Researcher (2018)

Trends for maternal services utilization in both intervention and control groups has raised tremendously higher after RBF implementation than before for all indicators except for those pregnant women who completed 4 prenatal visits before delivery, and those who received deworming services with mebendazole.

Comparative presentation of intervention group findings before and after the implementation of RBF disclosed falling of pregnant women who completed 4 prenatal visits indicator before delivery from 47.3% in 2016 to 17.5% in 2017. Likewise for pregnant women who received mebendazole the number dropped from 98.1% in 2016 to 68.4% in 2017 (See Figure 4.5).

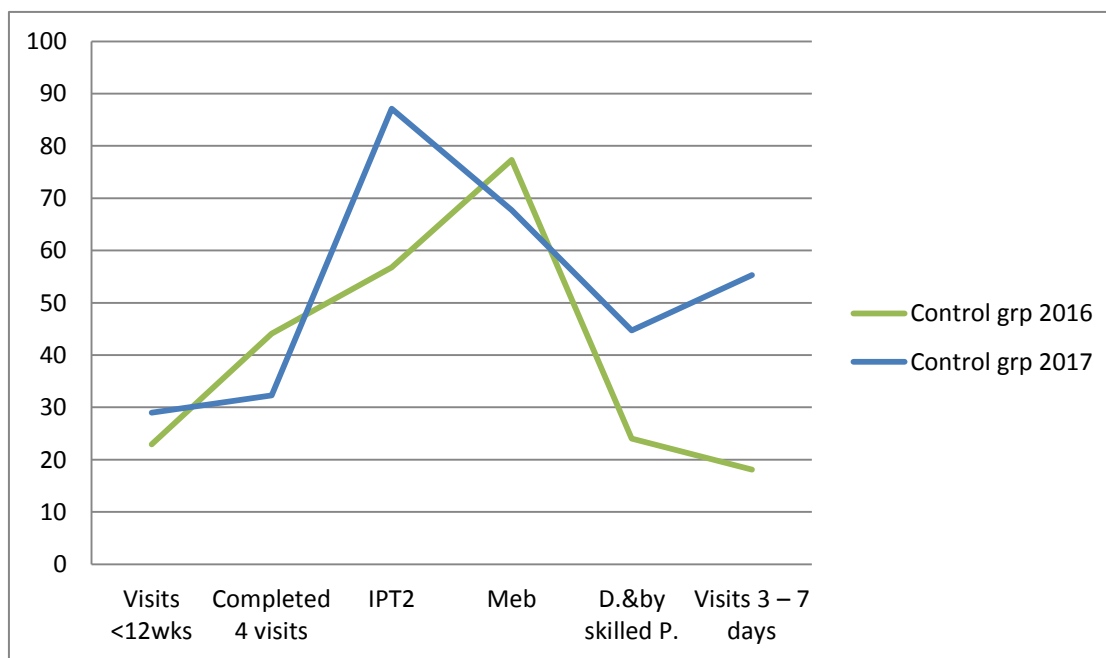
Figure 4.5: Intervention group 2016 vs 2017



Source: DHIS 2/ Researcher (2018)

The same results were observed in control group for indicators of pregnant women who completed 4 prenatal visits that the number has dropped from 44.1% in 2016 to 32.3% in 2017, and those who received deworming with mebendazole the Figure went down from 77.3% in 2016 to 67.7% in 2017 (See Figure 4.6).

Figure 4.6: Control group 2016 vs 2017



Source: DHIS 2/ Researcher (2018)

To determine the variance of maternal health services utilization before and after RBF, findings were first converted from percentages (*Table 4.5 and 4.6*) into ratios to facilitate the computation of differences not only between baseline and end line data but also between intervention and control groups data. Marked change of 0.42 for institutional delivery assisted by skilled health worker and 0.27 for IPT 2 occurred in intervention group after one year of RBF implementation, while in control group 3 - 7 days after delivery took the lead of 0.37 followed by IPT 2 (0.30) (*See Table 4.8*).

Table 4.8: Changes before and after RBF interventions within group

Indicators	Interv. Grp 2016	Interv. Grp 2017	Difference	Control Grp 2016	Control Grp 2017	Difference
Prenatal visits <12wks	0.21	0.39	0.18	0.23	0.29	0.06
Complete 4 visits	0.47	0.17	-0.30	0.44	0.32	-0.12
IPT2	0.48	0.75	0.27	0.57	0.87	0.30
Meb	0.98	0.68	-0.30	0.77	0.67	-0.10
Intituational delivery	0.45	0.87	0.42	0.24	0.45	0.21
3 – 7 days postnatal	0.34	0.59	0.25	0.18	0.55	0.37

Source: Researcher (2018)

After RBF implementation, a positive net RBF effect size of 0.12 and 0.21 were observed by subtracting changes in control group from changes in intervention group to remain with net RBF contribution in intervention group (See Table 4.9).

Table 4.9: The EFFECT of RBF on utilization of maternal health services

Indicators	Intervention grp variance	Control grp variance	RBF Effect
Prenatal visits <12wks	0.18	0.06	0.12
Complete 4 visits	-0.30	-0.12	-0.18
IPT2	0.27	0.30	-0.03
Meb	-0.30	-0.10	-0.2
Intituional delivery	0.42	0.21	0.21
3 – 7 days postnatal	0.25	0.37	-0.12

Source: Researcher (2018)

RBF interventions of incentives payment and availability of health commodities have been related to six maternal health indicators; four (4) of them measured the utilization of maternal services at prenatal clinic, one (1) at maternity ward and the last one (1) at postnatal clinic.

4.5.1 Association of RBF interventions to maternal health service utilization

The evaluation conceptual framework has defined the relationship between variables. These paragraphs will association health workers incentives, health commodities and facility infrastructure with the utilization of maternal health services after one year of RBF programme implementation. There are four (4) indicators were used to measure the utilization of maternal services at prenatal clinic, one (1) at maternity ward and one (1) at postnatal clinic. The result from each indicator is compared to its specific amount of incentive, commodities supplied and improvement of facility infrastructure.

At prenatal clinic, visits of pregnant women before 12 weeks of gestation age (38.6%) was the only indicator that was statistically significant ($P - \text{value} = 0.023$) with incentives of 1,221,443.84 Tshs paid to health workers. Both Institutional deliveries assisted by skilled health workers and post natal visits within 3 – 7 days post delivery were also statistically significant with incentives of 6,358,450 and 2,594,551 Tshs and with $P - \text{values}$ of 0.006 and 0.000 respectively.

Likewise facility infrastructure was found statistically significant with prenatal visits of pregnant women before 12 weeks, and institutional deliveries assisted by skilled health workers to respondents affiliated to 13 and 44 facilities with p – values of 0.014 and 0.001 respectively.

Unlike RBF incentives, maternal health commodities are categorized to as available at prenatal clinics has been statistically significant (P – value = 0.042) with number of pregnant mothers who received deworming with mebendazole (21). Whereas after delivery post natal visits within 3 – 7 days (19) was also statistically significant with P – value = 0.029. Though health facility infrastructure was focused on general condition of the facility and not bounded directly to specific maternal service areas, still it was significant to prenatal visit before 12 weeks of pregnancy (P – value =0.014) and showed strong significance to institutional deliveries assisted by health workers (See Table 4.10).

Table 4.10: Association of RBF interventions to maternal health utilization

Indicator	Visits	%	Incentive (Tsh)	%	P-value	Commodities	P-value	Infrastructure	P-value
<i>Prenatal visits n=57</i>									
Visits<12wks	22	38.6	1,221,443.84	9.8	0.023	16	0.254	13	0.014
Compl 4 visits	10	17.4	1,265,851.37	10.2	0.185	7	0.592	3	0.000
IPT2 given	41	75.4	390,271.74	3.1	0.655	20	0.367	33	0.679
Meb given	39	68.4	598,895.81	4.8	0.060	21	0.042	29	1.000
<i>Institutional deliveries and postnatal visits n=54</i>									
Inst. Deliv.	47	87	6,358,450.00	51.2	0.006	25	0.070	44	0.001
3 -7 days postanal	32	59.3	2,594,551.11	20.9	0.000	19	0.029	28	0.137

Source: Researcher (2018)

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.1 Introduction

This chapter will discuss about rationality of the findings presented in chapter four, their comparative analysis as well as similarity of results from other studies of the same nature. It starts by finding reasons for the appearance of RBF programme financial incentives paid to health workers and the availability of commodities in intervention group, continues with explaining the status of maternal health utilization pre and post RBF implementation. It ends by making inferential analysis between predictor and outcome variables.

5.2 Financial incentive rewarded to health staff of maternity wards and RCH clinics

Approximately half of the total incentives were paid to health staff for institutional deliveries by skilled health provider (51.2%). The basis for this information is high pricing of more than two times for institutional delivery indicator of 20,720 Tsh per client for maternity working area (*See Table 4.1*), compared to the highest price of 8,290 for prenatal visit before 12 weeks of pregnancy indicator for prenatal and postnatal visit within 3 – 7 days after delivery for postnatal indicators respectively. As a result more skilled health workers were motivated and achieved institutional delivery by 87% just after one year of RBF implementation in Urambo compared to national target of 80% by 2020 (MoHCDGEC, 2016).

5.3 Availability of essential health commodities to maternity wards and RCH clinics.

High percentage of supplies in prenatal clinic of 63.2% suggest the increase of prenatal visits before 12 weeks of pregnancy from 29.0% of control group to 38.6% in 2017 in intervention group after RBF implementation.

Though the national target of maintaining 80% of life saving commodities has not been achieved in Urambo, the availability of 50% of medicines and supplies for maternity and postnatal service areas has made an increase for institutional delivery (86.7%) by 2 times in the in intervention group compared to that of control group (44.7%) after RBF implementation.

Prenatal clients have attended well their first prenatal visit before 12 weeks of pregnancy (from 21.3 % to 38.6%) but fail to complete 4 visits at prenatal clinic before they deliver (dropped from 47.3% to 17.5%). This situation suggests that the community is not well aware of risk factors related to pregnancy; they feared malaria more (IPT 2 = 75.4%) than complications that could arise from not completing 4 prenatal visits.

With exception to mebendazole indicator that the receipt of its dozes has dropped down for both intervention and control group from 98.1% to 68.4% and from 77.3% to 67.7% respectively when comparing baseline and end line data that might be due inconsistency of commodities availability at health facility, both intervention and control groups have presented an increase in the utilization of maternal health service, and trending for the same fashion. This reality suggests that health workers from control group performed much better for the intention and desire of being enrolled into RBF programme latter.

Unlike RBF incentive to health workers, availability of commodities have shown negative association with RBF outcome, the receipt of mebendazole for deworming is associated with availability of commodities at prenatal clinic with P – value of 0.042 with variance of -0.20 comparing interventional group before and after RBF

implementation. Similar observation was found in post natal visits within the first week after delivery, with P – value of 0.029 and variance of -0.12

Similar findings were reported by USAID (2016) in Democratic Republic of Congo reported that procurement of essential health commodities did not make any significant change for both intervention and control groups for maternal health service utilization (USAID/Democratic Republic of Congo, 2016).

5.4 The status of health facility infrastructure.

The fact that control group was ahead of intervention group in availability of water and power sources by 48.1% and 21.8% might be due the presence of partner supporting kiloleni dispensary. The Friends of Urambo and Mwanhala (FUM) have contributed the availability of SIM tank in Kiloleni dispensary, but also the township location of Kamsekwa dispensary was a favor as it is supplied water by the Urambo district water supply corporate, it explained as well as the minimum waiting time for emergency transport that the control group was in front (15.3%), minimizing the waiting time for transport from the district office (Ambulance) or else cheaper expenses for relative to hire a private transport.

Changes that were observed after RBF implementation, especially in intervention group from 100% poor building status to 61.3% of good state of repair and an increase in availability of power and water sources by 82.9% and 50% respectively suggested the contribution of RBF programme. Facilities in intervention group showed unsatisfactory infrastructure condition before RBF, these results could be contributed by the programme. The HSSP IV (2016 - 2020) pointed the aim of improving health facility infrastructure by ensuring electricity, and water supply to all facilities in order to provide BEmONC or CEmONC services (MoHSW, 2015b).

The same improvement was also observed in control group that health facility buildings and availability of power sources have improved by 50% and 35% respectively. This information may be contributed by the start up fund of 10,000,000 Tshs paid by RBF to improving health facility environment. This fund was paid to all health facilities regardless of enrollment to the programme. Another suggestion can be the power of the management to supervise the accordingly the development project as well as discipline of health facility in charges on financial handling when implementing their activities (Basinga et al., 2010).

5.4 Utilization of maternal health services delivered at prenatal, intrapartum and postnatal periods as a result of RBF programme initiative

Two observations were taken into consideration in interpreting the utilization of maternal health services, the status of utilization before and after RBF and between intervention and control groups. Before the programme implementation, intervention group led by many indicators, that the reasons why facilities forming the intervention group were enrolled into RBF programme. Criteria for enrollment were to have at least one star after Big Result Now (BRN) readiness assessment; all facilities in the control group did not pass this criterion. IPT 2 was the only indicator that the control group was upfront by 8.3%, it may be due to the fact that IPT 2 indicator was pushed by malaria control programme.

Prenatal clients have attended well their first prenatal visit before 12 weeks of pregnancy (from 21.3 % to 38.6%) but fail to complete 4 visits at prenatal clinic before they deliver (dropped from 47.3% to 17.5%). This situation suggests that the community is not well aware of risk factors related to pregnancy; they feared malaria more (IPT 2 = 75.4%) than complications that could arise from not completing 4 prenatal visits.

Despite the fact that the Ministry of Health has planned to achieve 90% of 4 prenatal care visits by 2020, there is a drop out of this indicator by 29.8% when baseline and end line data were compared in intervention group even with the price of 6,210 per client

compared to the least paid 1,240 Tsh of Intermittent Presumptive Treatment of malaria second dose (IPT 2) that increased by 27.5%. This might be due to familiarity and worry of malaria disease to pregnant women and lack of education to pregnancy related complication making pregnant women never miss their doses to prevent malaria than bother themselves to complete all 4 prenatal visits before giving birth, while it is during prenatal visits when risk factors to pregnant women are detected and referred to appropriate health facilities for delivery. Together with other facility working areas, maternal health services utilization have been related to the improvement in facility infrastructure as prenatal visits of pregnant women before 12 weeks, and institutional deliveries assisted by skilled health workers to respondents affiliated to 13 and 44 facilities with p – values of 0.014 and 0.001 respectively.

Several studies were conducted and revealed positive changes contributed by RBF. In Asia, Mishra et al in India 2011 and et al in Bangladesh 2010 reported an increase of institutional deliveries from 30% to 53% and 27% to 64% respectively, and most East African countries reported the same findings at different magnitude of increase in institutional deliveries. Bellows et al in Kenya 2012 presented the Odds ratio of 1.4 (95%CI: 1.19 – 1.58) while in Uganda 2011 Population Council revealed an increase from 52% to 61% of institutional deliveries.

Moreover, both intervention and control groups have presented big changes comparing baseline and end line data in increasing the utilization of maternal health service, and trending for the same fashion This reality can be explained not only by incentive paid to the intervention group but also the presence of RBF programme motivate even those health workers who are not enrolled to the RBF programme, increased utilization of maternal health service to the control group in 2017 compared to baseline in 2016 suggest that health workers from these facilities performed much better for the intention and desire of being enrolled into the programme latter. With exception to mebendazole indicator that the receipt of its doses has dropped down for both intervention and control group from 98.1% to 68.4% and from 77.3% to 67.7% respectively when comparing

baseline and end line data. It might be due inconsistency of commodities availability at health facility.

Changes observed in institutional deliveries for intervention group (0.42) was twice than that observe in control group (0.21) and that occurred in prenatal visits <12wks (0.18) was three times than that occurred in control group when these group were compared before and after RBF implementation. This implies that variations within these two indicators collectively comprise the RBF effects and contributions from other maternal health interventions. And finally by further making difference between intervention and control variances, the net RBF effect sizes of 0.12 and 0.21 were obtained prenatal visits before 12 weeks and institutional delivery respectively. This suggest that there other factors contributing the observed changes in control group and these factors needs more studies to be conducted.

Therefore, in considering the associations of RBF interventions to maternal health service, maternal health utilization have been have measured by 6 indicators sub classified into maternal working areas of prenatal, intrapartum and postnatal. These findings have revealed diverse explanations based on the type of RBF intervention associated with.

Out of 6 indicators, 3 of prenatal visits before 12 weeks, institutional delivery and post natal visit 3 – 7 days post delivery are statistical significant with P – values of 0.023, 0.006 and 0.000 respectively to financial incentives paid to health staff. These Figures suggest strong association between incentives and intrapartum as well as postnatal indicators than prenatal one, and this fact is supported by data from the RBF variance of outcomes between baseline and end line results in interventional group of 0.42 and 0.25 for institutional delivery and post natal visits 3 – 7 days compared to 0.18 of prenatal visits before 12 weeks.

Contrary to RBF incentive to health workers, availability of commodities have shown association to indicators with negative RBF outcome, the receipt of mebendazole for deworming is associated with availability of commodities at prenatal clinic with P – value of 0.042 but present the RBF variance of -0.30 comparing interventional group before and after RBF implementation.

Maternal health services areas were among health facility building that were aimed for rehabilitation and construction. 200,000,000 Tshs was paid to 20 health facilities for improvement of infrastructure by RBF as start up fund (CHMT Urambo, 2017). This could be the reason behind that facility infrastructure was found statistically significant with prenatal visits of pregnant women before 12 weeks, and institutional deliveries assisted by skilled health workers to respondents affiliated to 13 and 44 facilities with p – values of 0.014 and 0.001 respectively.

CHAPTER SIX

SUMMARY, CONCLUSION AND IMPLICATION

6.1 Introduction

This chapter summarizes the evaluation findings of each specific objective together with their interpretations. It then draws the general conclusion of the evaluation study based on the main objective and general research question. It further illustrates recommendations to inform RBF programme different actors with possible implications to policy makers and the programme management aiming at improving the programme. Finally the chapter highlights the limitations that author came across with during the execution of the evaluation, and will outline areas for further researches.

6.2 Summary

This study evaluated the worth of staff incentives paid, commodities made available and the improvement of health facility infrastructure that have made possible by RBF programme that have an influence on utilization of maternal health services. Health workers financial incentives differ by indicators whereby almost half of all incentives (51%) was paid to institutional deliveries assisted by skilled staff; and the least (3.1%) was paid for IPT 2. This implies that health staff were more motivated for duties with incentives in maternity ward as institutional deliveries increased almost twice for 87% in intervention group compared to 44.7% of those not incentivized in control group and 45.2% of baseline data, opposing to IPT 2 that presented a drop out of 11.7% in intervention group (75.4%) when compared to control (87.1%) even after RBF implementation.

Moreover, for the availability of commodities, high percentage of supplies in prenatal clinic of 63.2% might have increased prenatal visits before 12 weeks of pregnancy by 9.6% in intervention group after RBF implementation. Likewise the availability of 50%

of medicines and supplies for maternity and postnatal service areas has made an increase of institutional delivery for intervention group (87%) after RBF implementation compared to control group (44.7%).

Additionally, by improving all facilities with poor infrastructure towards facilities with renovated buildings by more 60%, water source 50% and power source by 80% have motivated not only the working environment of staff but also may be the trigger to achieve the district objective of reducing the maternal death by 50% from 12 death occurred in 2017 (CHMT Urambo, 2017), as up to June 2018 the District had 3 maternal death (Tanzania HMIS, 2018).

6.3 Conclusion

The RBF programme has been found to be effective to maternal health utilization in Urambo District, but its effectiveness is limited to maternal health indicators of *prenatal visits before 12 weeks* and *institutional deliveries assisted by skilled staff* with the effect of 0.12 and 0.21 respectively. Furthermore, its presence in the district motivates even health workers from those facilities not enrolled to the programme to perform more for the wish of either not being left behind or desire of achieving the criteria of at least 1 star for enrollment to RBF programme.

6.4 Policy Implications

The findings from this evaluation inform the policy makers that the RBF programme is effective to increase the utilization of maternal health services. However, its document need to be reviewed before the scaling up all over the country, and by doing so concentration should be put on the observations:

- i. Maternal health indicators that have shown statistical significance are prenatal visits before 12 weeks of pregnancy and institutional delivery assisted by skilled health staff. There are other important maternal health indicators of completing all 4 prenatal visits and postnatal visits that contributes to reduce pregnancy

related complications before and after delivery, these indicators seemed to be left behind. Health promotion affiliated to this indicator should be incorporated into the programme, and non monetary incentives package should be introduced to clients at the last 4th ANC and post natal visits.

- ii. The level of health workers motivation by incentives paid is high and therefore there is a risk of negative reaction if strategies for programme sustainability are not well stipulated. The sustainability plan written in the programme document does not demonstrate any specified and tangible strategies rather than furnishes MSD with financial support to increase their profitability and later on to provide performance incentives. This statement should be supported by strategies to make it alive, during the mid review of the programme document, strategies to maintain health workers motivation should be put in place to sustain the observed results when RBF is not there.
- iii. A very strong point that the researcher came across with during data collection is the increased timely and accurate primary health data collection at the facility. This situation has been associated with health staff concentrating only with incentivized indicators. There might be a risk of substandard in the quality of data collected.

6.5 Programmatic implications and use of findings for strategic planning

- i. Findings demonstrated that non RBF facility managers have also handled to renovate and expand their facility even more better in some areas than those enrolled to RBF, good management and discipline on spending money was stated very crucial especially with the launching of Direct facility financing. Strengthening of supportive supervision and mentorship on implementation of health activities by Council Health Management Team is very important. They should provide technical support to health facility management team from planning process to ensure the money disbursed based on evidence from facility data.

- ii. Health facility management team should coordinate and conduct health education sessions to the community not only to raise awareness of RBF programme concept but also to talk about the importance of completing 4 prenatal visits before delivery.

6.6 Recommendations

- i. The implications from this evaluation should be taken into consideration by all actors.
- ii. Without distorting the motive of reducing maternal death by influencing more pregnant women to deliver at health facilities and assisted by skilled staff, pricing of indicators should be revised to standardize prenatal and postnatal visits to become attractive like institutional delivery.
- iii. RBF programme concept is much known in clinical set up than in the community. Health education indicators to the community set up should be added, and the component of community incentive to households seeking maternal health services should also be added to spread the theory of RBF to the community.

6.7 Possible limitations of evaluation

- i. Insufficient time to conduct the study could not allow data collection for both baseline and end line data by using the same sample. In health sector, a reliable source of information is the DHIS 2 database, as a result to restore the validity of the study secondary data from DHIS 2 was used for baseline information compared line data obtained from the community survey.
- ii. Both availability of commodities and utilization of maternal health services data were at first place meant to be collected from the community, but after piloting the data collection tool it was found that hospital supplies were highly confused with medical equipment by respondents even after translating it to Swahili. For

this reason, the health facility checklist was supplemented with questions for availability of commodities at facility set up to have more appropriate responses.

- iii. The status of respondents to forget the important event during its pregnancy or delivery period observed after pre testing the questionnaire was used as exclusive criteria of the study.

6.8 Areas for further research

- i. Though RBF document stipulate clearly that an outcome evaluation can be conducted after one year of the programme implementation, there is still a need to conduct to conduct another study using the same method 2 to 3 years later when the programme will be fully matured.
- ii. There was a huge difference of scores between control group after intervention and before it with the effect sizes of 0.12 and 0.21 for prenatal visits before 12 weeks and institutional delivery respectively. Beside the ambition of health workers in control group to perform more in order to be inclusive to the programme, there might other factors. There is a need for more studies to establish the possible factors contributing these changes.

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APPENDICES

Appendix 1: Work Plan for evaluation activities from 2017 to 2018

No.	Activity description	Current implementation	Time frame for implementation		
			2017	2018	
			Q4	Q1	Q2
1	Proposal development	Done			
2	Proposal assessment and refining	Done			
3	Development of data collection tool	Done			
4	Conduct meeting with stakeholders	Done			
5	Submission of the proposal	Done			
6	Field data collection	Done			
7	Data entry and Analysis	Done			
8	Submission of report draft	Done			
9	Correction and submission of final evaluation report	Done			

Appendix 2: Budget

Item	Unit	Unit cost	Quantity	Amount	Source of Fund
Training to research assistants	Person	10,000	21	210,000	
Fare of participants	Person	10,000	19	190,000	
Sub Total				400,000	
Research assistants for Pilot study	Person	25,000	3	75,000	
Research assistants	Person	75,000	16	1,200,000	
Sub Total				1,275,000	
Field Supervision	Person	300,000	2	600,000	
Transport				1,000,000	
Sub Total				1,600,000	
Stationeries					
A4 papers	Ream	15,000	10	150,000	
Photocopy	@ paper	50	1000	50,000	
Printing	@ paper	100	1000	100,000	
Final report binding	Book	60,000	5	300,000	
Sub Total				600,000	
Result dissemination	Refreshment	100,000	5	500,000	
Contingency		500,000	1	500,000	
Sub Total				1,000,000	
Grand Total				4,875,000	

Appendix 3: Check list

Baseline data for maternal health service utilization in 2016

Evaluation Title: The effectiveness of result based financing (RBF) programme, on utilization of maternal health services in Urambo health facilities after five quarters of implementation.

Principal Evaluator: NJOPEKA, Abdilahi Nassor (14412018/T.16)

Student: Masters of Science in Health Monitoring and Evaluation of Mzumbe University

Health facility:

S/N	Indicator	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter	cumulative	Verification
Prenatal							
1	First attendance before 12weeks of pregnancy						DHIS
2	At least 4 completed ANC visits						DHIS
3	Clients who completed 2 doses of IPT						DHIS
4	Clients who received mebendazole for deworming						DHIS
Intrapartum							
5	Number of health facility deliveries with skilled health workers.						DHIS
Postnatal							
6	Number of visits within 3 to 7 days after delivery						DHIS

Financial incentive rewarded to health workers of maternity wards and RCH clinics

Questions answering to evaluation objective 1					
To compute financial incentive rewarded to health workers of maternity wards and RCH clinics					
No	Indicator	Amount paid @ Tshs	No. of indicators annually	Amount due in Tshs	verification
Prenatal					
1	First attendance before 12 weeks of pregnancy	8,290			DHIS
2	At least 4 completed ANC visits	6,210			DHIS
3	Clients who completed 2 doses of IPT	1,240			DHIS
4	Clients who received mebendazole for deworming	1,244			DHIS
Intrapartum					
5	Number of health facility deliveries with skilled health workers.	20,720			DHIS
Postnatal					
6	number of visits within 3 to 7 days after delivery	8,290			DHIS
Total					

The Availability of essential health commodities for maternity wards and RCH clinics

Questions answering to evaluation objective 2 To determine the availability of essential health commodities to maternity wards and RCH clinics.															
No	Medicines			Equipment			Supplies			Diagnostics			Furniture		
	Item	No	RBF Amount	Item	No	RBF Amount	Item	No	RBF Amount	Item	No	RBF Amount	Item	No	RBF Amount
Prenatal (1 for Available, 0 for Not available)															
7	FeFo			Weighing scale			Examination gloves			Albustic			Benches		
	Mebendazole			BP machine			Antiseptic			Gluko-sticks			Tables		
	S/P			Foetoscope			Bin liners			HIV test kit			Shelves		
	TT			Glucometer			RCH cards			RPR			Chairs		
Intrapartum (1 for Available, 0 for Not available)															
8	Oxytocin/ Misoprostol			BP machine			Surgical gloves			Albustic			Tables		
	Magnesium sulphate			Delivery kits			Antiseptics			HIV			Shelves		
	Methyldopa			Oxygen concentrator s			Bin liners						Chairs		
	Gentamicin			Suction machines/ Ambu bag			Partograph						Cabinet		
	Ampicillin/ Cloxacillin			MVA kits			Apron								
Postnatal (1 for Available, 0 for Not available)															

9	Anti pain			BP machine			Surgical gloves			Glucosticks			Benches		
	Methyldopa			Glucometer			Antiseptics						Tables		
	Gentamicin Ampicillin/ Cloxacillin			Thermometer			Bin liners						Shelves		
	FeFo												Chairs		
	Vitamin A														

Status of health facility infrastructure

Health facility used			
Score codes 1=Good, 2=Fair, 3=Poor			
S/N	Area of observation	Indicator	Score
2	Status of building	Wall painted	
		No cracks, on floor	
		Ceiling body intact	
		No housing for bats	
		3 functional toilets	
		Conducive waiting area	
3	Availability of water source	Functional water source	
		functional Plumbing system	
		Water availability through	
4	Availability of power source	National grid	
		Alternative power source	
5	Means of communication	Availability of network	
		Availability of phone	
		Presence of passable road	
	Emergency transport	Waiting from time the Time you were in need	

Appendix 4: Informed Consent for respondent

Investigator:

My name is NJOPEKA Abdilahi Nassor, I am a masters student at Mzumbe University pursuing Masters of Science in Health Monitoring and Evaluation. I am conducting an Evaluation research on RBF programme titled **“The effectiveness of RBF programme on utilization of maternal health services in Urambo District”** as the criteria for the partial fulfillment of my master’s degree.

This study is purely conducted for academic purposes and none of the information that you provide will be disclosed to anyone. For the purpose of this study I have a questionnaire that contains some questions that will answer the objectives of this study. I request you to be a part of the study by providing some necessary information to respond the questionnaire requirement guided by the evaluator in order to complement towards the final results of the study. There are no risks to you for participating in this evaluation, and if you do not wish to continue, you have the right to withdraw from the study at any time.

You are allowed to ask questions for anything that makes you uncomfortable.

Participant:

All of my questions and concerns about this study have been addressed. I choose, voluntarily, to participate in this evaluation. I certify that I am 18 years of age/or above

Signature of participant

Date

Abdilahi Nassor Njopeka

Name of investigator

Signature of investigator

Date

Appendix 5: Questionnaire to household respondent

Evaluation Title: The effectiveness of result based financing (RBF) programme, on utilization of maternal health services in Urambo health facilities after five quarters of implementation.

Evaluator: NJOPEKA, Abdilahi Nassor (14412018/T.16), student: Masters of Science in Health Monitoring and Evaluation of Mzumbe University. **(Circle/write appropriate number)**

Number of household members			
Number of women 15 – 49 years old			
Health facility used			
Socio-demographic information's			
S/N	Question	Responses or options	Codes
1	How old you (in years)		
2	What is your Marital status	Single	1
		Married	2
		Divorced	3
		Cohabiting	4
		Widow	5
3	What is your level of education?	No formal education	1
		Primary not completed	2
		Primary completed	3
		Secondary not completed	4
		Secondary completed	5
		Tertiary education	6
		Certificate	7
		Diploma	8
		Degree	9
		Post graduate	10
		Others (Specify).....	11
4	What is your current occupation	Employed	1
		Business woman	2
		Housewife	3
		Peasant	4
		Others (specify)	5
5	What is your religion	Muslim	1
		Christian	2
6	How many children do you have?	1 child	1
		2 children	2
		3 children	3

		More than 3 children	4
Questions answering to evaluation objective 3			
To examine the utilization of maternal health services during prenatal period.			
Prenatal			
7	Are you pregnant? (If no, skip to Q. 12)	Yes	1
		No	0
8	Did you visit ANC during year 2018? (Verify ANC Card) if no skip to question No. 11	Yes	1
		No	0
9	When did you first visit ANC? (Verify ANC Card)	Before 12 weeks of pregnancy	1
		After 12 weeks of pregnancy	0
10	How many times did you visit ANC? (Skip to question No. 12)	Four times and more	1
		Less than 4 times	0
11	Why didn't you visit ANC?	Yes for 1, No for 0	
		I couldn't have permission	
		Due to poor services at dispensary.	
		I didn't have fare for travel	
		Due to bad language from health workers	
Intrapartum			
12	Have you ever given birth?	Yes	1
		No	0
13	Which year did you give birth?	2018	1
		Before 2018	0
14	Where did you give birth?	At health facility	1
		At home	2
		At TBA	3
		On transit	4
15	Who assisted you during delivery? (Skip to question No. 22)	Skilled personnel	1
		Medical attendant	2
		TBA	3
		Relative	4
Postnatal			
16	Have you visited PNC after delivery?	Yes	1
		No	0
17	When did you visited PNC (Concentrate on 1 st visit)	3 to 7 days	1
		28 th day	2
		42 nd day	3

Questions counterchecking the answer to evaluation objective 2 To determine the availability of essential health commodities to maternity wards and RCH clinics.			
Prenatal (Check ANC Card)			
Medicine			
18	Have you given medicine for prevention at ANC?		Yes for 1, No for 0
		Ferrous sulphate	
		Folic acid	
		Mebendazole	
		Sulphadoxine/Pyrimethamine	
	Tetanus toxoid		
Equipment			
19	Have you been examined at NC for?		Yes for 1, No for 0
		Weight	
		Blood pressure	
	Fetal heart		
Supplies			
20	Have you been taken any specimen for lab investigation?		
		Yes	1
		NO	0
21	Did the health worker wear gloves during examination?	Yes	1
		NO	0
22	Did the health worker rub your skin with antiseptic before taking the sample for testing?	Yes	1
		NO	0
23	Was the working area clean?	Yes	1
		NO	0
Diagnostics			
24	Have you been tested for?		Yes for 1, No for 0
		Albumin	
		Hemoglobin	
		Random Blood Glucose	
		HIV	
	Syphilis		
Intrapartum			
Medicine			
25	Did you get any complication during delivery?	Yes	1
		NO	0

26	What complication did you get?		Yes for 1, No for 0
	(Check ANC Card)	IPH/PPH	
		Eclampsia	
		Sepsis	
		Obstructed labor	
27	What medicine did you get?		Yes for 1, No for 0
	(Check ANC Card)	Oxytocin	
		Misoprostol	
		Magnesium sulphate	
		Hydralazine	
		Methyldopa	
		Gentamicin	
	Ampicillin, and Cloxacillin		
Equipment			
28	On what did you lying during delivery?		Yes for 1, No for 0
		Delivery bed	
		Normal hospital bed	
		On the mattress only	
	On the floor		
29	During delivery, have you been examined for?		Yes for 1, No for 0
	(Verify RCH cards)	Temperature	
		Blood pressure	
		Fundal height	
	Fatal heart		
30	Were your child weighed after delivery?	Yes	1
	(Verify RCH cards)	NO	0
Supplies			
31	Did the health worker wear gloves during examination?	Yes	1
		NO	0
32	Did the health worker wear Apron during examination?	Yes	1
		NO	0
33	Have you been taken blood sample for investigation?	Yes	1
		NO	0
34	Did the health worker rub your skin with antiseptic before taking the sample for testing?	Yes	1
		NO	0
35	Was the working area clean?	Yes	1
		NO	0
Diagnostics			
36	Have you been tested for?		Yes for 1, No for 0
	(Verify RCH cards)	Albumin	
		Hemoglobin	
		Random Blood Glucose	

		HIV	
Postnatal			
Medicine			
37	Did you given any medicine for prevention? (If no skip to Q. 39)	Yes	1
		NO	0
38	What medicine for prevention did you get? (If no skip to Q. 41)	Yes for 1, No for 0	
		Ferrous sulphate	
		Folic acid	
		TT	
39	Did you get any complication at postnatal?	Yes	1
		NO	0
40	What complication did you get?	Yes for 1, No for 0	
		Severe pain	
		Sepsis	
		Anaemia	
		Heart diseases	
41	What medicine did you get?	Yes for 1, No for 0	
		Anti pain	
		Gentamicin	
		Ampicillin, and Cloxacillin	
		Ferrous sulphate	
		Folic acid	
		Methyldopa	
Equipment			
42	Have you been examined for?	Yes for 1, No for 0	
		Temperature	
		Blood pressure	
Supplies			
43	Have you been taken any specimen for lab investigation?	Yes	1
		NO	0
44	Did the health worker wear gloves during examination?	Yes	1
		NO	0
45	Was the working area clean?	Yes	1
		NO	0
Diagnostics			
46	Have you been tested for hemoglobin	Yes	1
		NO	0

Thank you very much for your participation!!!

Appendix 6: Ridhaa ya Mshiriki baada ya maelezo

Mtafiti:

Jina langu ni NJOPEKA Abdilahi Nassor, Ni mwanafunzi katika Chuo Kikuu cha Mzumbe nasoma Shahada ya Uzamili ya sayansi ya Ufuatiliaji na Tathmini ya shughuli za Afya. Nafanya tafiti ya ufuatiliaji wa mpango wa ulipaji kwa ufanisi (RBF) wenye kichwa cha habari “**Matokeo ya ulipaji kwa ufanisi (RBF) kwenye vituo vya kutolea huduma za afya katika matumizi ya huduma za afya ya mama, Urambo**” ikiwa ni sharti la kukamilisha mafunzo yangu ya shahada ya Uzamili. Tafiti hii ina lengo la kitaaluma na hakuna taarifa yoyote itakayotolewa kwa sababu nyingine yoyote ile.

Kwa makusudi ya kukamilisha tathmini hii, nimeandaa dodoso na naomba uwe sehemu ya tathmini kwa kutoa maelezo kulingana na maswali yaliyoandaliwa kwenye dodoso. Ushiriki wako ni wa muhimu ili tuweze kukamilisha zoezi zima la kupata matokeo ya tathmini hii. Hakuna madhara yoyote yatakayosababishwa na ushiriki wako, na uko huru kijitoa wakati wowote utakapoona haupo tayari kuendelea kushiriki kwenye tafiti hii. Unaruhusiwa kuuliza maswali kama kuna sehemu ambayo haijaleweka.

Mshiriki:

Maswali yangu yote na dukuduku kuhusu tafiti hii yamepatiwa majibu. Nimechagua kwa ridhaa yangu, kushiriki, katika tafiti hii. Nathibitisha kwamba nina umri wa miaka 18 au zaidi.

Jina la mshiriki _____

Saini ya mshiriki

Abdilahi Nassor Njopeka

Jina la mtafiti

Saini ya mtafiti

Tarehe

Tarehe

Appendix 7: Dodoso kwa mshiriki wa kaya

Tathmini: Matokeo ya mpango wa malipo kwa ufanisi katika matumizi ya huduma za afya ya mama Urambo, baada ya utekelezaji wa mpango kwa kipindi cha mwaka mmoja.

Mtathmini: NJOPEKA, Abdilahi Nassor (14412018/T.16), mwanafunzi: Shahada ya Sayansi ya Uzamili katika Afya, Ufuatiliaji na Tathmini Chuo Kikuu Mzumbe.

(Zungusha/Andika namba husika)

Idadi ya wanakaya			
Idadi ya wanawake kati ya umri wa 15 – 49 kwenye kaya			
Kituo cha kutolea huduma za afya unachotumia:			
Taarifa binafsi za mshiriki (Zungusha namba yenye jibu sahihi)			
Na.	Swali	Majibu	Mfumo/ishara/kanuni
1	Una umri gani? (andika idadi)		
2	Hali yako ya mahusiano ikoje?	Sijaolewa	1
		Nimeolewa	2
		Nimeachika	3
		Naishi na mwanaume bila ndoa	4
		Mjane	5
3	Una kiwango gani cha elimu?	Sijasoma	1
		Sijamaliza shule ya msingi	2
		Nimehitimu shule ya msingi	3
		Sijamaliza shule ya sekondari	4
		Nimehitimu shule ya sekondari	5
		Nimehitimu elimu ya juu	6
		Ngazi ya cheti	7
		Stashahada	8
		Shahada ya kwanza	9
		Shahada ya pili	10
		Shahada nyinginezo (taja)-----	11
4	Unajishughulisha na kazi gani?	Nimeajiriwa	1
		Mfanyabiashara	2
		Mama wa nyumbani	3
		Mkulima	4
		Kazi nyinginezo (staja)	5
5	Imani yako ni dini gani?	Muislamu	1
		Mkristo	2

6	Una watoto wangapi?	Mtoto mmoja	1
		Watoto wawili	2
		Watoto watatu	3
		Zaidi ya watoto watatu	4
Swali linayojibu lengo la 3 la tathmini			
Kuchunguza matumizi ya huduma za mama katika vituo vya kutolea huduma za afya.			
(Kliniki ya wajawazito) kabla ya kujifungua			
7	Wewe ni mjamzito? Kama (hapana nenda swali la 12)	Ndio	1
		Hapana	0
8	Ulishawahi kuhudhuria kliniki ya wajawazito mwaka 2018? (Kama hapana nenda swali la 11)	Ndio	1
		Hapana	0
9	Ni lini ulihudhuria mara ya kwanza? (Hakikisha kwenye kadi ya wajawazito)	Kabla ya wiki 12 za ujauzito	1
		Baada ya wiki 12 za ujauzito	0
10	Ulihudhuria mara ngapi kliniki ya wajawazito hadi sasa? (Nenda swali la 12)	Mara 4 na zaidi	1
		Chini ya mara 4	0
11	Kwa nini hujawahi kuhudhuria kliniki ya wajawazito	Ndio=1, Hapana=0	
		Sikupata ruhusa	
		Huduma hazikuniridhisha.	
		Sikuwa na nauli ya kwenda zahanati	
		Kwa sababu ya lugha mbaya za wahudumu	
Kipindi cha kujifungua			
12	Ulishajifungua? (Kama hapana nenda swali la 17)	Ndio	1
		Hapana	0
13	Ulijifungua mwaka gani?	2018	1
		Kabla ya 2018	0
14	Ulijifungulia wapi?	Katika kituo cha kutolea huduma za afya	1
		Nyumbani	2
		Kwa mkunga wa jadi	3
		Njiani	4
15	Nani aliekuhudumia wakati unajifungua?	Mkunga mwenye ujuzi	1
		Mhudumu wa afya	2
		Mkunga wa jadi	3
		Ndugu	4
Kliniki baada ya kujifungua			
16	Ulishawahi kuhudhuria kliniki baada ya kujifungua?	Ndio	1
		Hapana	0

17	Ni lini ulihudhuria kliniki baada ya kujifungua? (Angalia hudhuria la kwanza)	Kati ya siku 3 na 7	1
		Siku ya 28	2
		Siku ya 42	3
Swali linalojibu lengo la 2 la tathmini			
Kuchunguza upatikanaji wa dawa, vifaa tiba na vitendanishi na fanicha katika wodi ya wazazi na kliniki ya afya na uzazi na mtoto.			
Kliniki ya wajawazito kabla ya kujifungua (Angalia kwenye kadi ya mjamzito)			
Dawa			
18	Ulishawahi kupewa dawa za kinga wakati unahudhuria kliniki?	Ndio=1, Hapana=0	
		Ferrous sulphate	
		Folic acid	
		Dawa za minyoo	
		Dawa kinga za malaria	
	Dawa ya pepopunda		
Vifaa tiba vya kudumu			
19	Ulipimwa vipimo vifuatavyo wakati unahudhuria kliniki? (Angalia kwenye kadi ya mjamzito)	Ndio=1, Hapana=0	
		Uzito	
		Shnikizo la damu	
		Mapigo ya moyo ya mtoto	
Vifaa tiba (Vinavyotumika)			
20	Ulifanyiwa uchunguzi wa aina yoyote wakati unahudhuria kliniki?	Ndio	1
		Hapana	0
21	Wahudumu walivaa mipira kwenye mikono (glavu) wakati wa uchunguzi?	Ndio	1
		Hapana	0
22	Wahudumu walifuta ngozi yako na pamba yenye dawa wakati wa kuchukua vipimo?	Ndio	1
		Hapana	0
23	Eneo la kutolea huduma lilikua safi wakati unapatiwa huduma kliniki?	Ndio	1
		Hapana	0
Vitendanishi (Angalia kwenye kadi)			
24	Ulifanyiwa uchunguzi kwa ajili ya (Angalia kwenye kadi ya mjamzito)	Ndio=1, Hapana=0	
		Albumini kwenye mkojo?	
		Wingi wa damu?	
		Sukari kwenye damu?	
		Ukimwi?	
		Kaswende?	
Kipindi cha kujifungua			
Dawa			

25	Ulipata matatizo yoyote wakati wa kujifungua?	Ndio	1
		Hapana	0
26	Yalikuwa matatizo gani?	Ndio=1, Hapana=0	
	(Angalia kwenye kadi ya mjamzito)	Kutokwa na damu	
		Kifafa cha mimba	
		Uambukizi	
		Uzazi pingamizi	
27	Ulipata dawa kwa ajili ya matatizo hayo?	Ndio=1, Hapana=0	
	(Angalia kwenye kadi ya mjamzito)	Oxytocin	
		Misoprostol	
		Magnesium sulphate	
		Hydralazine	
		Methyldopa,	
		Gentamicin	
		Ampicillin, and Cloxacillin	
Vifaa tiba vya kudumu			
28	Ulilalia nini wakati wa kujifungua?	Ndio=1, Hapana=0	
		Kitanda cha kujifungulia	
		Kitanda cha kawaida cha hospitali	
		Kwenye godoro tu	
		Sakafuni	
29	Ulipimwa vipimo vifuatavyo wakati wa kujifungua?	Ndio=1, Hapana=0	
	(Angalia kwenye kadi ya mjamzito)	Joto la mwili	
		Shinikizo la damu	
		Kimo cha mimba	
		Mapigo ya moyo ya mtoto	
30	Mtoto/watoto walipiwma uzito baada ya kujifungua? (Angalia kwenye kadi ya mjamzito)	Ndio	1
		Hapana	0
Vifaa tiba (Vinavyotumika na kuisha)			
31	Wahudumu walivaa mipira mikononi (glavu) wakati wanakuhudumia?	Ndio	1
		Hapana	0
32	Wahudumu walivaa aproni wakati wankuhudumia?	Ndio	1
		Hapana	0
33	Uliwahi kuchukuliwa sampuli ya damu kwa ajili ya kipimo? (Kama hapana nenda swali la 34)	Ndio	1
		Hapana	0
34	Wahudumu walifuta ngozi yako na pamba yenye dawa wakati wa kuchukua vipimo?	Ndio	1
		Hapana	0
35	Eneo la kufanyia kazi lilikua safi?	Ndio	1
		Hapana	0
Vitendanishi			

36	Ulifanyiwa uchunguzi kwa ajili ya		Ndio=1, Hapana=0
	(Angalia kwenye kadi ya mjamzito)	Albumini	
		Wingi wa dam	
		Wingi wa sukari	
		Ukimwi	
Kliniki baada ya kujifungua			
Dawa			
37	Ulipewa dawa zozote za kinga? (kama hapana nenda swali la 38)	Ndio	1
		Hapana	0
38	Ulipewa dawa gani za kinga?		Ndio=1, Hapana=0
		Ferrous sulphate	
		Folic acid	
		TT	
39	Uliwahi kupata matatizo yoyote baada ya kujifungua? (kama hapana nenda swali la 41)	Ndio	1
		Hapana	0
40	Ulipata matatizo gani?		Ndio=1, Hapana=0
		Severe pain	
		Sepsis	
		Anaemia	
		Heart diseases	
41	Ni dawa gani ulizopewa?		Ndio=1, Hapana=0
		Dawa za maumivu	
		Gentamicin	
		Ampicillin, and Cloxacillin	
		Ferrous sulphate	
		Folic acid	
		Methyldopa	
Vifaa tiba vya kudumu			
42	Ulichunguzwa?		Ndio=1, Hapana=0
		Joto la mwili	
		Shinikizo la damu	
Vifaa tiba (Vinavyotumika na kuisha)			
43	Uliwahi kuchukuliwa sampuli ya damu kwa ajili ya kipimo?	Ndio	1
		Hapana	0
44	Wahudumu walivaa mipira kwenye mikono (glavu) wakati wa uchunguzi?	Ndio	1
		Hapana	0
45	Eneo la kufanyia kazi lilikua safi?	Ndio	1
		Hapana	0
Vitendanishi			
46	Ulipimwa wingi wa damu	Ndio	1
		Hapana	0

Asante sana kwa ushiriki wako!!!