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**Improving Access to Maternal Health
Services in Eastern Uganda: Changing
Incentives through Voucher Schemes**

**Doctor of Philosophy in Health Systems
Research**

2013

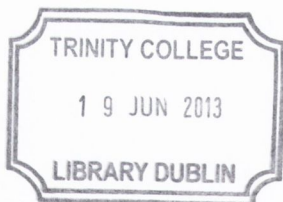
Elizabeth Ekirapa-Kiracho

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Summary

Introduction. The majority of women in Sub Saharan Africa still give birth without a skilled birth attendant. Existing evidence suggests that voucher schemes have the potential to provide more targeted services to vulnerable groups such as pregnant women. However, there is much less empirical evidence about the underlying processes that bring about this change. This thesis explores the influence of incentives provided by a voucher scheme that was implemented in Uganda, on the behaviour of clients and providers and analyses how the incentives influence access to maternal health services. It contributes to the existing literature on increasing the effectiveness of voucher schemes in achieving increased access to maternal health services.

Methods. This thesis has employed a case study design with longitudinal collection of quantitative and qualitative data. This design is suitable for studying questions that seek to understand how and why certain phenomena happen. It allows in depth study of the phenomena and associated causal mechanisms. The main quantitative methods included a health worker survey, analysis of facility records and structured interviews with women of reproductive age and transport providers while qualitative methods included focus groups and key informant interviews as well as observations. Bivariate analysis was done using the chi square test and the ordinal logistic regression model was employed for the multivariate analysis. The qualitative data was analysed using thematic analysis, with pattern matching, cross case analysis and the use of theoretical concepts as key analytic techniques.

Key Findings. According to a derived conceptual framework, it was expected that the voucher scheme would alter incentives for clients and providers in a manner that would lead to improved quality of maternal health services and increased utilization of the services. This was achieved through increasing transport availability and affordability, reducing formal and informal costs of seeking care and activating social networks (through male involvement and the use of transporters). Positive changes in the availability, attitudes and responsiveness of health workers was attributed to the financial incentives from the scheme, positive changes in the work environment and the acquisition of new skills and job enrichment through the increased numbers and diversity of clients, as well as the training and support supervision visits. However

maximum use of the non financial incentives was limited by the poor human resource management.

The use of the expectancy theory to explain the behaviour of health workers is closely linked with their ethical obligations. In facilities where ethical obligations and professional standards are observed, health worker performance was already good so the rewards did not significantly change behaviour. The multiplicative nature of the theory where absence of one precondition leads to zero motivational outcome, hence lack of service provision was observed among the transporters but not among the health workers who were ethically bound to continue providing services.

For a reduction in service costs to lead to an increase in utilization as predicted by the demand theory, the quality of services delivered should be reasonably good; clients should have adequate knowledge about MCH services as well as social support.

Recommendations. The unexpected additional factors (improved material and psychosocial support, active mobilization by transporters, improved client health worker relationships) that proved useful for the successful delivery of the incentives highlight the importance of social networks in improving the delivery and utilization of maternal health services. Hence, implementers should step up efforts that will promote the engagement of locally existing social networks, including local transport providers in increasing the utilization of maternal health services. Where there is no competition, leadership and human resource management are critical for ensuring improvements in quality of care offered in voucher schemes. Implementers of voucher schemes should work with local governments to strengthen human resource management and to provide adequate resources for health workers in order to strengthen the use of non financial incentives. Central and local governments in low income countries should consolidate efforts to improve the remuneration packages, which could include a component that is linked to performance. Local governance structures, continuous monitoring of implementation progress and effects and appropriate corrective action and regulation are important for successful delivery of intended voucher scheme incentives. Voucher schemes should consider these factors during their design and implementation.

Dedication

To my parents, Mr. and Mrs. Ekirapa; my husband Gilbert Kiracho; Our children Michelle, Christiana and Gabriel. Gabby even if you are no longer with us your memory is still fresh in our minds and I wish you were here!

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Special thanks go to my parents, Mr and Mrs Ekirapa who have nurtured me and inspired me to be the best that I can be. I appreciate the sacrifices that you have made so that I can be who I am today. I particularly want to thank my husband Gilbert Kiracho who has been very supportive all through my academic career and been both mum and dad during my absence. My children Michelle and Christiana, you too have tried to be understanding when mum has had to be away, thank you for trying so hard and for looking after Papa. I also wish to thank the Ekirapa family and the Kiracho family for supporting me and my family during this period. Special mention to Mr. and Mrs. Byoona and family as well as Mr and Mrs Musaali.

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List of Abbreviations

ANC	Antenatal Care
BHC	Bukungu Health Centre
BMHVS	Bangladesh Maternal Health Voucher Scheme
BPL	Below Poverty Line
CHW	Community Health Worker
DFID	Department for International Development
DSF	Demand Side Financing
FGD	Focus Group Discussion
HC	Health Centre
HR	Human Resource
IHC	Irundu Health Centre
ITN	Insecticide Treated Net
KAHC	Kamuge Health Centre
KASHC	Kasodo Health Centre
KHC	Kidera Health Centre
KI	Key Informant
MCH	Maternal and Child Health
MDG	Millennium Development Goal
NGO	Non Governmental Organization
PBF	Performance Based Financing
PFP	Private for Profit

PMHVS	Pakistan Maternal Health Voucher Scheme
PNC	Post Natal Care
PNFP	Private Not for Profit
PMTCT	Prevention of Mother to Child Transmission
SDS	Safe Deliveries Study
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
TBA	Traditional Birth Attendant
UDHS	Uganda Demographic Health Survey
USAID	United States Agency for International Development
VHES	Voucher and Health Equity Scheme

Chapter 1

1.0 Introduction and Background

Despite the momentum that has been gained globally through the setting of the Millennium Development Goals (MDGs), pregnancy still poses a high risk for many women in low income countries. While women in high income countries have a 1 in 30,000 risk of dying as a result of pregnancy related complications, women in Sub – Saharan Africa (SSA) face a 1 in 16 chance of death (Ronsmans and Graham 2006). Uganda has a high maternal mortality rate that is estimated at 435 per 100,000 live births according to the Uganda Demographic and Health Survey (UDHS) and 350 according to more recent global estimates (Uganda Bureau of Statistics and ORC Macro 2006; Black and Cousens 2010). This is comparable to that of South Asia, and almost half that of Sub Saharan Africa in general which was estimated at nearly 1000 per 100,000 live births (Ronsmans and Graham 2006). On the other hand it is almost 50 times higher than the maternal mortality of more industrialized countries (Ronsmans and Graham 2006). Consequently, the importance of reducing maternal mortality can not be over emphasised.

It has been proven that many maternal health interventions are cost effective, resulting in significant saving of lives for mothers and their newborns, as well as better survival for older children (Jowett (n.d) ; Lawn, Cousens et al. 2004; Adam, Lim et al. 2005; World Health Organization 2005). Available evidence indicates however that access to maternal health care services for the poor is often limited (Gwatkin, Bhuiya et al. 2004; Gwatkin, Wagstaf et al. 2005; WorldBank 2005; Eichler 2006; Bhatia 2007; Peters, Garg et al. 2008). Inequities in access to maternal health services have been reported in almost all low income and high income countries (Ronsmans, Etard et al. 2003; Gwatkin, Wagstaf et al. 2005; Eichler 2006; Peters, Garg et al. 2008). In Sub-Saharan Africa only 24.6% of women from the poorest quintile delivered with skilled birth attendants compared to 82% of women in the richest quintile (Eichler 2006). In Uganda the proportion of mothers delivering in health facilities has been persistently low (38% in 1995, 37% in 2001, 41% in 2006 and 59% in 2011) (Uganda Bureau of Statistics and ORC Macro 2001; Uganda Bureau of Statistics and ORC Macro 2006; Uganda Bureau

of Statistics and MEASURE DHS ICF international 2012). Inequalities in institutional delivery have also been noted. While 90% of those in urban areas delivered in health facilities, only 54% of those in the rural areas did so (Uganda Bureau of Statistics and MEASURE DHS ICF international 2012).

As noted above, ensuring access to quality maternal health care services throughout pregnancy and childbirth is essential. However the ability of health systems to improve health outcomes for the poor has been limited by several factors including insufficient finances, inadequately skilled providers, organizational rigidities and inappropriate incentives for providers (Eichler 2006). Financing of maternal health services in many developing countries including Uganda is largely supply based and is not directly linked to the quantity or quality of services (Ensor and Ronoh 2005; Bhatia, Yesudian et al. 2006; Borghi, Ensor et al. 2006; Ekirapa- Kiracho 2006; Peters, Garg et al. 2008). Literature shows that such supply based subsidies often benefit the rich more than the poor and tend not to give an incentive to improve quality or efficiency (Gwatkin, Bhuiya et al. 2004; WorldBank 2005; Bhatia 2007; Peters, Garg et al. 2008). The gross shortage of health workers especially in developing countries is also impacting negatively on maternal health service delivery. In Uganda, these health workers have poor working conditions in which many of the resources required to perform their work are lacking (Okello, Lubanga et al. 1998; Kyaddondo and Whyte 2003; Kyomuhendo 2003). In addition they are overworked, demotivated and underpaid; consequently this affects their performance and the quality of maternal health services (Okello, Lubanga et al. 1998; Kyaddondo and Whyte 2003; Kyomuhendo 2003). These supply side issues are compounded by a host of demand side issues that include factors such as difficulty in accessing transport, social cultural issues, lack of economic resources for facilitation of seeking care and lack of awareness about the importance of formal care (Kyomuhendo 2003; Nabukera, Witte et al. 2006; Waiswa, Kemigisa et al. 2008; Mrisho, Obrist et al. 2009).

In response to the problems highlighted above, a range of approaches that may have the potential to increase access for the poor have been identified. They include innovations in financing, delivery, and regulation of health services such as; conditional cash transfers, vouchers, provider subsidies, equity funds, contracting of NGOs, community based health insurance schemes, co-production and regulation of health services, social marketing and mass immunization campaigns (Gwatkin, Bhuiya et al. 2004; Ensor

2004a; Bhatia, Yesudian et al. 2006; Jacobs and Price 2006; Lagarde, Haines et al. 2007; Ir, Horemans et al. 2010; Ahmed and Khan 2011b). Increasingly, attention is being focused on demand side financing (DSF) as a potential way of increasing access to services by the poor (Ensor 2004a; Bhatia, Yesudian et al. 2006; Borghi, Ensor et al. 2006; Jacobs and Price 2006; Bhatia 2007; Lagarde, Haines et al. 2007; Ir, Horemans et al. 2010; Ahmed and Khan 2011b). DSF approaches typically place purchasing power in the hands of consumers to spend on specific services; such approaches have been referred to as consumer-led demand side financing (Ensor 2004a). DSF approaches often utilise vouchers defined in the Random House dictionary (1987) as “a subsidy that grants limited purchasing power to an individual to choose among a restricted set of goods and services.” When vouchers are used, consumers are given a written entitlement which can be exchanged for a specified service, up to a pre-determined amount at accredited facilities. Alternatively, consumers are told to claim a given service from a provider who then claims directly from the financing agency (Ensor 2004). The distribution of vouchers can be targeted at specific groups such as poor households or pregnant women. They can also be redeemed competitively (among many providers) or with one provider (USAID 2006).

Demand side financing schemes that utilise vouchers have been implemented in a number of countries mainly for health, education, public housing and nutrition (Ensor 2003; Mushi and Schellenberg 2003; Ensor 2004a; Tami A, Mbatia J et al. 2006; Kweku, Webster et al. 2007; Futures Group International 2010; Ir, Horemans et al. 2010; Agha 2011; Ahmed and Khan 2011a; Ahmed and Khan 2011b; Bellows 2012). Recent studies on voucher schemes have demonstrated an associated increase in the utilization of antenatal, maternal and institutional delivery (Iqbal, Rasheed et al. 2009; Ekirapa-Kiracho, Waiswa et al. 2010; Futures Group International 2010; Ir, Horemans et al. 2010; Agha 2011; Ahmed and Khan 2011a; Ahmed and Khan 2011b; Bellows 2012). These voucher schemes generally aim at improving financial access to, and utilization of, pre-specified priority services, by subsidising the price of the services through the use of vouchers. They also attempt to reduce the barriers caused by lack of transportation (Bashir, Kazmir et al.(n.d)). However, although there is evidence that voucher schemes are a potentially effective means of targeting health services or health products to specific population groups such as pregnant women, children under five, or

the poorest, most voucher schemes to date, have been largely donor funded and implemented on a small scale. There is limited documented evidence on their effectiveness, and on the feasibility and cost implications of scaling up pilots (Ensor 2004a; Borghi, Ensor et al. 2006; Eldis 2007; Schmidt, Ensor et al. 2010; Bellows 2012).

Furthermore their implementation tends to use a project approach that could result in high transaction costs. They could also lead to the skewing of services away from other services that are equally valuable, if providers concentrate on providing services that are rewarded through the vouchers (Borghi, Ensor et al. 2006). Several authors have acknowledged that voucher schemes for maternal health services can generate huge demand for services, and the health system needs to have sufficient adequately skilled providers and resources to meet the increased needs (Schmidt, Ensor et al. 2010; Agha 2011; Ahmed and Khan 2011b). However, on the whole, there is a paucity of information about supply and demand side initiatives employed by voucher schemes, and their effect on the quality of health service delivery (Ensor 2004a; Ensor and Ronoh 2005; Bhatia, Yesudian et al. 2006; Schmidt, Ensor et al. 2010). This therefore calls for a more detailed exploration and analysis of the incentives that voucher schemes provide for providers and the mechanisms by which they influence access to maternal health services. Lastly the incentives created by voucher schemes could lead to unintended consequences for clients and providers, which need to be understood and mitigated (Schmidt, Ensor et al. 2010). It is the intention of this PHD thesis to explore the influence of the incentives provided by a voucher scheme in Uganda, on the behaviour of clients and providers and its resultant effect on access to maternal health services.

The voucher scheme referred to as the Safe Deliveries Study (SDS) was managed by a team of researchers at the Makerere University School of Public Health. A brief description of the scheme is provided in section 1.2 and a more detailed description in Appendix II. The link between the PHD and the voucher scheme is explained in section 1.2.1 and further explained in chapter 4.7.

To provide a better understanding of the context in which the thesis was done, in the section that follows, brief background information on Maternal and Child Health (MCH) service delivery in Uganda is provided. This will be followed by the research questions, objectives and contributions of the thesis. The chapter concludes with an overview of the methods for this work and a lay out of the thesis structure.

1.1 Maternal Health Services in Uganda

1.1.1 Policy Environment

The health sector is guided by two main documents the national health policy and a health sector strategic plan both of which illustrate that the reduction of maternal health is a key issue in the country (Government of Uganda 1999; Government of Uganda 2000; Government of Uganda 2006; Government of Uganda 2010). The health system in the country aims at providing a minimum health care package. This minimum health care package is broadly also referred to as an essential health package. In the context of low income countries, an essential health package is defined as a cost effective set of public health and clinical services that should be provided at primary and/or secondary level (World Bank 1993; WHO 2008). The minimum health care package was developed following debates about selective and comprehensive health care. It was seen as a vehicle for promoting priority setting, equity, poverty reduction and enhancing accountability (World Bank 1993; WHO 2008). Evidence from Uganda however indicates that the country is not able to provide the full package of services identified in the package resulting in the rationing of the “*minimum package*” (Ssenooba). The minimum health care package for the country comprises 4 clusters) (Government of Uganda 2010) ;

- Health Promotion, Disease Prevention and Community Health Initiatives
- Maternal and Child Health
- Prevention and Control of Communicable Diseases
- Prevention and Control of Non-Communicable Diseases (NCDs).

In the maternal and child health cluster, under the component of sexual and reproductive health, targets have been set for increasing access to indicators that are crucial for improving maternal health. These targets relate to; attendance of at least 4 antenatal care sessions, institutional delivery, emergency obstetric care, family planning and reducing teenage pregnancies (Government of Uganda 1999; Government of Uganda 2006).

Efforts to achieve the MDGs in Uganda also resulted in the development of a road map to reduce maternal and neonatal mortality. The key interventions in the strategy aim at achieving the targets identified above (MOH 2006). In addition, several policies

affecting reproductive health have been adopted in the country. These include the national population policy (1995), the national gender policy (1997), reproductive health policy (2001), adolescent health policy (2004) and a policy for universal primary education (1997). The national health policy, national population policy, reproductive health policy and the adolescent health policies aim at reducing the rapid population growth rate and reducing maternal mortality and morbidity by promoting family planning, service accessibility and improved quality of care to all women of reproductive age (Government of Uganda 1995; Government of Uganda 1999; Government of Uganda 2001; Government of Uganda 2004). The gender policy is geared at addressing gender inequalities that limit the access of women to economic resources and services such as health, education and good nutrition (Government of Uganda 1997). Lastly, the country aims at achieving increased access to education through the universal primary education Policy.

There has also been increased attention to women's representation in the political arena through affirmative action. This has led to representation of women in higher level political committees such as the parliament, but also in lower level committees such as the local councils that are at village level and the health unit committees at health facility level. These efforts were intended to bring on board the voice of women in discussions that have a direct bearing on women's health (Neema 2005). Although this initiative has intensified discussions about issues related to improving maternal health, it is yet to result in tangible benefits and improved health outcomes for the majority of women in Uganda (Ekirapa- Byoona 2007).

1.1.2 Maternal Health Service Delivery

Maternal health services are typically provided by the public and private sectors. Although the government of Uganda did not officially approve a national policy on user fees, district authorities were allowed to charge fees for health services in order to raise additional revenue for service delivery at facility level. However in 2001, the charging of user fees in public facilities was abolished by a presidential directive (Kyaddondo and Whyte 2003). Hence, public services are now officially provided free except in the private wing of district, regional and tertiary referral health facilities. Patients who prefer to pay for services can seek services from these private wings.

As alluded to above clients such as pregnant women are entitled to receive free services, however they are often asked to buy basic supplies and drugs such as gloves and pitocin, when they are not available in the health facilities (Amooti-Kaguna and Nuwaha 2000). Informal services are provided by traditional birth attendants, friends and relatives (Uganda Bureau of Statistics and ORC Macro 2006). It has been reported that sometimes women prefer traditional birth attendants because they have better attitudes, are often located closer to their homes and demand fewer requirements. Furthermore, their payment rates are negotiable. Sometimes they deliver mothers on credit, or allow payment in kind or even free (Amooti-Kaguna and Nuwaha 2000).

The health care delivery system comprises of lower level health centres (HC IV, III and II) and higher level hospitals (district, regional referral and national referral hospitals). Table 1.1 provides details of the composition of facilities in the country.

Table 1-1: Composition of health facilities in Uganda:

	Public	Private not for Profit	Private for Profit	Total
Hospital	65	62	21	148
Health Centre IV	166	14	8	188
Health Centre III	868	251	69	1,188
Health Centre II	1,662	496	1,391	3,549
Total	2,761	823	1,489	5,073

Source: Health facilities inventory 2011((Government of Uganda 2011)

All health centres at level III, IV and hospitals are expected to provide antenatal care services (ANC), delivery care services and post natal care services (PNC). Table 1.2 contains findings from a study in Uganda (Mbonye, Mutabazi et al. 2007) illustrating the emergency obstetric care services (signal functions) that should be offered at the various levels of health facilities and what is actually offered.

Table 1-2: Provision of emergency obstetric care (Emoc) services in health facilities in Uganda

Type of emergency obstetric care (signal function)	Percentage of HC III's that offer specific signal functions (n=359)	Percentage of HC IV's that offer specific signal functions (n=107)	Percentage of hospitals that offer specific signal functions (n=87)	Percentage of total facilities that offer specific signal functions (n=553)
Parenteral antibiotics	80.2	87.9	98.9	84.6
Parenteral Oxytocis	74.4	82.2	96.6	79.4
Parenteral sedatives	37.9	42.1	87.4	46.5
Manual removal of retained Placenta	34.8	49.5	86.2	45.8
Removal of retained products	37.3	59.8	95.4	50.8
Assisted vaginal delivery	5.0	15.9	62.1	16.1
All the above signal functions	3.1	7.5	52.9	11.8
Blood transfusion	NA	13.1	86.2	45.9
Caesarean section	NA	9.3	86.1	43.8

Source Mbonye et al (2007). Declining maternal mortality ratio in Uganda: Priority interventions to achieve the Millennium Development Goal. International Journal of Gynecology and Obstetrics (2007). Vol 98. Pg 287(Mbonye, Mutabazi et al. 2007)

As noted in table 1.1 and 1.2, the country has a fairly extensive array of health facilities; however the facilities are not able to offer all the services that they should. A study done in 2007 revealed that services for emergency obstetric care are largely lacking in Uganda with 97.2% of the facilities expected to be offering basic emergency obstetric care services unable to do so (Mbonye, Mutabazi et al. 2007). The factors that were shown to contribute to the reduction of maternal mortality included a functional theatre,

electricity, a laboratory and presence of midwives, yet many facilities did not have all of these facilities (Mbonye, Mutabazi et al. 2007). In addition, it has been noted that the health sector suffers from chronic shortages of drugs, equipment, supplies and skilled health workers, as well as patchy implementation of policies (Kyomuhendo 2003; Neema 2005). Subsequently, maternal mortality has remained alarmingly high (435 per 100,000 child births) and the utilization of maternal health services such as delivery care, postnatal care (PNC) and family planning has not registered a significant increase as discussed earlier (Uganda Bureau of Statistics and ORC Macro 2006). Table 1.3 presents a summary of the maternal health service indicators, showing the proportion of women who attend at least one antenatal care visit (ANC), four ANC visits, who deliver with a skilled attendant and who attend PNC after one week and at six weeks.

Table 1-3: Summary of maternal health service Indicators for Uganda

MCH Service attended	Percentage attending service (1995-96)	Percentage attending service (2000-01)	Percentage attending service (2005-2006)
At least one ANC visit	90.7%	94.0%	94.0%
4 ANC visits +	47.2%	41.9%	47.0%
Delivery by skilled birth attendant	35.0%	37.0%	42.0 %
PNC within 24-48 hours	Not assessed	5.8%	23.0%
PNC within 6 weeks	Not assessed	7.4%	26.0%

Source UDHS 1995-96, 2000-01, 2005-2006.

A brief description of the safe deliveries voucher scheme is provided in section 1.2. A more detailed version is available in Appendix 2.

1.2 Safe Deliveries Voucher Scheme

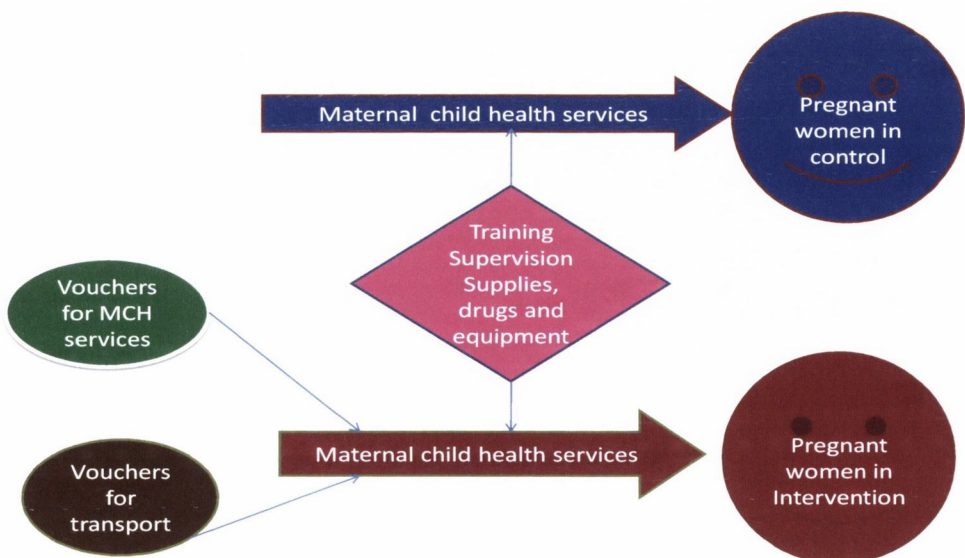
1.2.1 Description of the SDS Scheme

The Safe Deliveries Voucher Scheme was funded by DFID and the Melinda Gates foundation (through MU-JHU grant). It was implemented in two districts in the Eastern part of Uganda (Kamuli and Pallisa). The project was piloted for three months between

December 2009 and February 2010. The implementation started in June 2010. Vouchers were distributed for only one year; similarly other key activities such as support supervision were also implemented for one year. However payment for distributed vouchers continued until December 2011. It employed a quasi experimental study design (non- randomised control trial). Each district had an intervention arm and a control arm.

The intervention was a complex intervention with both demand and supply side components (Shiell, Hawe et al. 2008). The project had both financial and non financial incentives. The financial incentives comprised of payment for quantity of maternal health services (vouchers for maternal health services), and payment for transport services (vouchers for transport). The other support activities (non financial incentives) included provision of essential supplies, drugs and equipment for maternal health services, refresher training of health workers, support supervision and provision of information about maternal health services. While the vouchers were provided to all pregnant women in the intervention site, provision of essential supplies, drugs and equipment for maternal health services and refresher training of health workers was done in both the intervention and the control arm (Ekirapa-Kiracho, Waiswa et al. 2010). Figure 1.1 is a schematic representation of the intervention.

Figure 1.1 : Schematic presentation of the Intervention



Benefit Package During the Pilot

The vouchers were distributed during all antenatal care (ANC) sessions to all pregnant women irrespective of their gestation age. During the pilot, the voucher for services entitled a pregnant woman to receive ANC services (4,3,2 or 1 depending on her gestation period), 1 postnatal care service (PNC) and delivery care services (including caesarean sections) in selected public, private for profit and private not for profit health facilities located within the study intervention area. All facilities that provided MCH services, and had the basic essential requirements for maternal health service delivery were included. The service vouchers were redeemed by the private and public facilities for cash reimbursements in direct proportion to the number of deliveries, ANC and PNC sessions conducted on a monthly basis. Reimbursement per service differed in public and private facilities since they receive different amounts of funding from the government for the provision of services (Ekirapa-Kiracho, Waiswa et al. 2010). This money was initially handed over to the in-charge of the health facility and then later to the in-charge of the maternity wing.

The voucher for transport services entitled the pregnant woman to use locally available transport (motor cycle, bicycle) to the health facility for four antenatal care sessions, one delivery care session and one post natal care session (return trip) during the pilot phase. The vouchers for transport were redeemed by the transport providers for cash reimbursements in direct proportion to the number of women whom they transported (Pariyo, Ekirapa-Kiracho et al. 2009). After the pilot the results were reviewed and changes were made to the implementation package. The major changes are presented below.

Changes Made After the Pilot

The major changes included;

- Revision of the benefit package. The voucher for services entitled a pregnant woman to receive delivery care services (including caesarean sections) and 1 postnatal care session (PNC) for a mother or newborn with complications. The voucher for transport services entitled the pregnant woman to use locally available transport to the health facility for one delivery care session and one

post natal care session. This is the package that was provided during the implementation phase of the project (Ekirapa-Kiracho, Waiswa et al. 2010).

- Changes in the price of the transport and service vouchers. During the pilot phase the transporters were paid a flat fee of 5000 Ug sh (2.3 USD) after the pilot results were reviewed the rates were changed so that the prices varied between 2000 Ug sh (0.9 USD) to 5000 Ug sh (2.3 USD) per trip depending on the distance to the health facility (Ekirapa-Kiracho, Waiswa et al. 2010).

The changes in payment for the service voucher are presented in table 1.4. Rates for the service voucher changed twice during the pilot and implementation phase. These changes were made in an attempt to make the package more affordable for the project, since a restricted amount of funds had been budgeted for this purpose. Secondly a package that was affordable would be more appealing to policy makers in low income countries with a constrained budget.

Table 1-4: Payment rates for the service vouchers

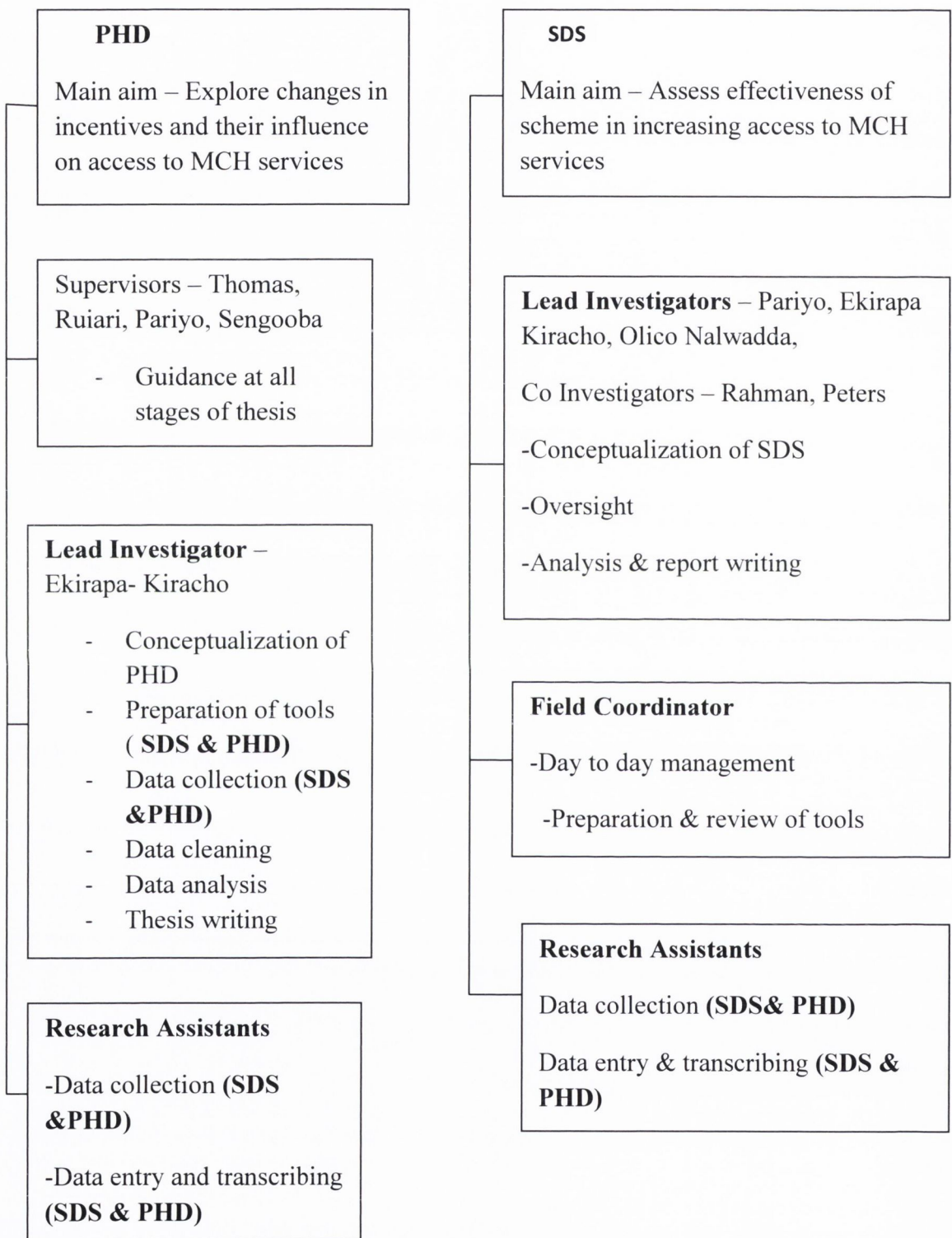
Service	Public Facilities Ug sh	Public Facilities USD(Ex rate 2200)	Private Facilities (PFP &PNFP) (Ug sh)	Private Facilities (PFP &PNFP) (USD Ex rate 2200)
Payment rates Dec 2009- Feb 2010				
ANC1	1,875	0.9	2,500	1.1
ANC 2,3,4	2,250	1.0	3,000	1.4
DEL	11,250	5.1	15,000	6.8
C/S	112,500	51.1	150,000	68.2
PNC	2,250	1.0	3,000	1.4
Payment rates Mar 2010 – Oct 2010				
ANC1	840	0.4	1,200	0.5
ANC 2,3,4	840	0.4	1,200	0.5
DEL	6,000	2.7	8,000	3.6
C/S	60,000	27.3	120,000	54.5
PNC	840	0.4	1,200	0.5
Payment rates Oct 2010 – Dec 2011				
ANC1	840	0.4	1,200	0.5
ANC 2,3,4	840	0.4	1,200	0.5
DEL	9,000	4.1	12,000	5.5
C/S	60,000	27.3	120,000	54.5
PNC	840	0.4	1,200	0.5

1.2.2 Link between the PhD Thesis and SDS

This PhD is linked to the SDS, however the voucher scheme and the PhD are two distinct elements and the conceptualisation and analysis presented in the thesis is all my own. I conceptualised the PhD after the initiation of the SDS and deliberately decided to focus it on a subject that was relevant to the voucher scheme but not the main thrust of the SDS. The main aim of the PhD is to study the influence of the vouchers on incentives for providers (health workers and transporters) and clients and its resultant influence on access to maternal health services. The main aim of the SDS was to increase access to institutional deliveries using demand and supply side incentives; therefore its primary objective was to assess the effectiveness of the voucher scheme in increasing utilization of maternal health services, primarily through utilization records using a quasi experimental design. The other secondary objectives of the SDS were to assess factors that affect choice of delivery place and to identify the pathways through which the vouchers work. The PhD work on incentives is closely linked to the objective of how the voucher works, and the voucher scheme has relied on the PhD student to answer this objective.

Some of the data required for the thesis have been drawn from data collected under the SDS. I designed the instruments that were used to collect data for the thesis and for the SDS. Other members of the voucher scheme reviewed the instruments and suggested changes to them. I played a lead role along with the other voucher scheme staff in training research assistants, supervising and collecting data. Whereas all data entry and transcribing of data was undertaken by trained research assistants, I did all the data cleaning and analysis of data used for my thesis. Figure 1.2 provides a summary of the roles played by different personnel in the SDS project and the PHD.

Figure 1.2: Organogram for the PHD and SDS



In some cases activities carried out benefited both the PHD and the SDS. The areas of overlap are presented in bold.

1.3 Research Questions and Specific Objectives

1.3.1 Research Questions

1. How does a voucher scheme for maternal health services alter incentives for providers and clients?
2. How does the change in incentives influence access to maternal health services?

1.3.2 Specific Objectives

1. To explore the changes in incentives for providers and clients under a voucher scheme for maternal health services.
2. To explore the changes in clients' and providers' responses to the incentives provided under the voucher scheme for maternal health services.
3. To assess changes in access to maternal health services under a voucher scheme for maternal health services.
4. To analyse the influence of incentives for clients and providers on access to maternal health services under a voucher scheme for maternal health services.

1.4 Overview of PHD Methods

This work has employed a case study approach. The case study design is suitable for studying questions that seek to understand how and why certain phenomena happen. It allows in depth study of the phenomenon and mechanisms or pathways that are associated with it (Yin 1984; Gerring 2007). I therefore considered it suitable for studying the influence of incentives from the voucher scheme on clients and providers and the resultant effect on access to maternal health services.

Case studies may use quantitative, qualitative or a combination of data collection methods such as archives, interviews, questionnaires and observations (Eisenhardt 1989; Gerring 2007). A combination of methods has been recommended for studies that have several research questions that need to be answered from different angles and dimensions (Mason 2002; Gerring 2007). Other international studies on access to maternal health services, and incentives for health workers have used either quantitative or qualitative methods or a combination of both methods (Amooti 1997; Agyepong,

Anafi et al. 2004; Manongi, Marchant et al. 2006; Mrisho, Obrist et al. 2009; Stringhini, Thomas et al. 2009). Consequently, in this work, a combination of qualitative and quantitative methods are used to answer the research questions. These methods have different attributes that have benefited the study. The quantitative results provide descriptions of changes in variables and direct quantifiable comparability of factors (Mason 2002). Secondly they allow the testing of associations between explanatory and outcome variables. The main shortcoming of quantitative approaches is that they don't tell you why something happened since they don't allow an in-depth study of the underlying contextual issues and dynamics that are at play in the study area.

The qualitative methods were therefore useful in addressing this shortcoming. They allow the exploration of the understandings, experiences and imaginings of research participants in a flexible yet sensitive and context specific manner (Morgan and Krueger 1993; Liamputtong 2011). Eventually they enable the researcher to come up with descriptions, arguments and explanations based on the understanding of a complex detailed context. Although qualitative research has been criticised for its lack of external validity and the possibility of bias arising from the inclusion of the personal opinions of the researcher, it is now evident that case studies can be conducted with minimal bias and their findings can be applicable to a wider class of similar cases (Yin 1984; Mason 2002; Flyvbjerg 2006; Creswell and Piano-Clark 2007; Gerring 2007; Flyvbjerg 2011).

Data has been collected longitudinally at different time points during the implementation of the voucher scheme. The main quantitative methods employed include a health worker survey, review of facility records and structured interviews with clients and transport providers. These methods were chosen to allow the measurement of specific changes in financial incentives (e.g. allowances, earnings, changes in responses to the incentives), motivation of health workers, absenteeism, changes in utilization of services and of availability of resources e.g. equipment and supplies (Mason 2002; Creswell and Piano-Clark 2007). The qualitative methods used include qualitative interviewing (Focus groups and key informant interviews) as well as observations. They have been used to explore more fluid variables such as perceptions about the quality of services and experiences in using the voucher scheme. These methods have been discussed in detail in chapter 4.3.

To ensure that the data collected were valid, all research assistants used were trained before the data collection exercise was undertaken and they had a basic education level of at least senior six. Those who conducted qualitative interviews were fluent in the local languages (Lusoga, Ateso and Lugwere). The instruments used for data collection were pre tested before they were rolled out and key informant interviews were tape-recorded in order to minimize loss of information. Informed consent was obtained from all participants. A detailed discussion of each of the data collection methods is given in chapter 4.3. A reflexive section that brings to light the biases and opinions of the researcher is contained in chapter 4.7.

1.5 Contribution of the Thesis

This thesis will contribute to the existing knowledge on vouchers by providing additional information about;

- How incentives in voucher schemes influence clients and providers and how this in turn influences access to maternal health services. In addition it presents a conceptual framework that explains the linkages between the different incentives. The framework can serve as an explanatory tool to identify expected incentives and explain responses to them. Secondly it can act as a prescriptive tool by aiding in the identification of solutions and actors who can contribute to successful implementation of voucher schemes.
- The use of the expectancy theory and the will do theory to explain the motivation of providers in the voucher scheme. The thesis derives predictions from the theories and tests them against empirical situations providing evidence about how useful the theories are in real life situations.
- Design and implementation issues that may influence the success of voucher schemes.
- Contribute to methodological discussions on the use of multiple case studies to explain how health care interventions work.

This thesis will also provide information that can contribute towards improving policy and practise by,

- Bringing to light the perceptions of clients about maternal health services, revealing their key concerns and how this influences their utilization of services. In addition, it will propose locally relevant ways of improving incentives for clients in order to improve their utilization of maternal health services.
- Highlighting the challenges that health workers face in the delivery of health services and how these challenges could be mitigated by such a scheme.
- Adding to existing knowledge on factors that contribute to motivation of health workers and recommending locally relevant ways of improving incentives for health workers.

1.6 Thesis Structure

The thesis has several chapters. This first chapter provides an introduction and background to the thesis. The introduction establishes the problem leading to this study; it situates the study within the wider context of the literature while identifying deficiencies in the literature and it also provides the purpose for the thesis. In addition, this chapter contains a brief over view of the methods employed in this research, a summarised description of the voucher scheme, the research questions and specific objectives for the thesis and the contributions of the thesis to the wider audience.

The second chapter comprises of a detailed review of the literature. The literature provides a framework for understanding the study and a benchmark for comparing the results with other findings. Each section of the review starts with a justification for the selection of the topic. The review concludes with a summary that highlights key issues and the application of the literature to the thesis. This is followed by the third chapter, which contains a description of the conceptual framework, how it was derived from the literature, its uses and limitations as well as a detailed explanation of the research propositions.

The fourth chapter contains a summary of the research strategy that I have employed, as well as the data collection methods and procedures highlighting not only reasons for the

use of these methods, but also their advantages and disadvantages. The chapter ends with an explanation of the data management and analysis undertaken in the thesis.

The results of the thesis are presented in the fifth, sixth and seventh chapters of the thesis. The fifth chapter contains the overall results presented by objectives, while the sixth and seventh chapters focus on findings from the health worker incentives survey and a cross case analysis of the results. The eighth and ninth chapters are devoted to discussing the findings in relation to the conceptual framework and to existing literature. The thesis concludes with the tenth chapter which draws together conclusions and recommendations for improving MCH programmes, policies and voucher schemes.

Chapter 2

2.0 Literature Review

The aim of this review of existing literature is to provide current knowledge about various topics that are relevant to the thesis, to aid in the identification of knowledge gaps and to guide the choice of methods. The main areas of focus are;

- Access to health services
- Demand side financing
- Health and demand for health care
- The use of incentives in health care
- Incentives and theories for the motivation of health workers

The chapter ends with a summary of the key issues identified in the review and an explanation of the application of the literature to the thesis.

2.1 Access to Services

The review of the literature on access to health services brings to light the key issues that underlie the concept of access to health services. This prelude lays the foundation for the review of literature about the utilization of maternal health services and the factors that influence it. Consequently it provides a better understanding of the context in which the voucher scheme was implemented. An understanding of the context is important for explaining and interpreting the findings of the thesis. Key concepts about access to health services, utilization of MCH services and factors that affect the utilization of MCH services are expounded in the sections that follow.

2.1.1 Definitions

Several authors have proposed definitions for access to healthcare. The definitions are commonly centred on two main factors. The first is the characteristics of the population that can inhibit them from accessing services such as household income, insurance and attitudes towards health care. The second is associated with health system delivery issues that may limit the consumption of health services such as the distribution of

human resources, and health facilities and the organization of health service delivery (Aday and Andersen 1974). Subsequently places such as rural locations that tend to have fewer facilities and less qualified staff are often considered to have poorer access than urban areas with more facilities. Another key concept discussed in the literature on access is realised need. Consequently another common definition of access is the use of healthcare by individuals who need it (Campbell, Roland et al. 2000; Waters 2000). The literature further shows that it is not only need that should be considered, but also timeliness, hence access has also been defined as the timely use of needed care (Campbell, Roland et al. 2000; Waters 2000).

This thesis will employ the definition in which access is defined as the degree to which individuals are inhibited or facilitated in their ability to gain entry to and to receive care from the health system (Institute of Medicine 2012). This definition incorporates demand and supply side barriers which the voucher scheme intended to influence by providing incentives for providers and clients in an attempt to facilitate access to maternal health services. The demand side barriers include factors such as availability of transport, financial constraints, knowledge about health services and cultural restrictions, while the supply side barriers include factors such as availability of appropriate human resources, drugs, supplies, infrastructure and equipment as well as process factors such as waiting time (Kiwauka, Ekirapa et al. 2008).

2.1.2 Dimensions of Access

Inherent within the definitions of access given above is the revelation that access has several dimensions. These include geographical accessibility, availability, financial accessibility, utilization, quality and acceptability (Peters, Garg et al. 2008). This thesis will focus on assessing only the first four aspects mentioned as well as perceived quality. Perceived quality refers to the assessment of quality from the patient's perspective. Acceptability and technical quality were not assessed because their measurement would have required extensive data collection beyond the scope of this study. The definitions for the five dimensions are provided below.

Geographic Accessibility:

The term geographical accessibility is commonly used to refer to geographical/ physical barriers that may hinder patients from reaching service points, as well as physical distance or travel time from service delivery point to the user (Campbell, Roland et al. 2000; Hjortsberg 2003; Peters, Garg et al. 2008). Geographical accessibility to the point of service delivery is essential for ensuring that clients can reach the point of care when they need it. Poor geographical accessibility has been associated with reduced use of health care services (Hjortsberg 2003; Odaga 2004; Kiwanuka, Ekirapa et al. 2008; Peters, Garg et al. 2008; Ir, Horemans et al. 2010; Waiswa, Kallander et al. 2010; Agha 2011). In addition, good roads are important not only for helping patients access services but also for the distribution of supplies such as drugs (Peters, Garg et al. 2008).

Availability:

Availability was defined by Campbell et al (2000) as the extent to which the health care system provides facilities (structures) and services (processes) which meet the needs of the clients. Structure refers to physical domains such as equipment, buildings and supplies, and also staff characteristics such as the type of staff available. Process refers to the organizational aspects such as waiting time and operating hours (Campbell, Roland et al. 2000).

This thesis will assess changes in key structural and process elements in MCH delivery.

Financial Accessibility:

In countries where health care is not provided free, financial accessibility to health care cannot be ignored. Patients often require finances to meet direct costs such as consultation fees and drug costs, but also to meet indirect costs such as transport and hotel costs, as well as opportunity costs of time lost from labour (Kyomuhendo 2003; Nabukera, Witte et al. 2006; Kiwanuka, Ekirapa et al. 2008; Peters, Garg et al. 2008; Waiswa, Kemigisa et al. 2008; Mrisho, Obrist et al. 2009). In low income countries where health care is largely free these indirect costs usually persist and informal payments are also common (Odaga 2004).

Utilization:

Utilization refers to the actual use of services. Patients may gain entry into a facility and fail to receive services, utilization of services is therefore often seen as a way of “*validating service use*” (Aday and Andersen 1974). Appropriate utilization would therefore depend on the patient’s condition and their need for a service which is usually guided by treatment guidelines. For instance for ANC at least 4 visits are recommended (Lincetto, Mothebesoane-Anoh et al. 2006).

Perceived Quality

Health providers and clients define quality health care differently. One of the commonly used definitions of quality is the one by the institute of medicine which defines quality health care as “*The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge*” (Institute of Medicine 2012). Perceived quality of care on the other hand refers to the client’s perception of the quality of services received. It has also been defined as care that meets their perceived needs (Kiguli, Ekirapa-kiracho et al. 2009). Attributes that are often considered by clients include the attitude of providers (polite and courteous), waiting time, availability of services that they require, access to referral services, availability of health workers, supplies and drugs (Brawley 2000; Kiguli, Ekirapa-kiracho et al. 2009; Colosia, Peltz et al. 2011). They were grouped by Brawley (2000) into 4 main aspects;

- Technical competence: The skills and performance of the provider
- Interpersonal relations: The interaction between the client and the provider
- Accessibility: The absence of financial, physical barriers or other restrictions such as language and opening times
- Amenities: Physical infrastructure as well as supplies and equipment within the facility

This thesis will assess changes in interpersonal interactions, accessibility and amenities.

2.1.3 Utilization of Maternal Health Services

The literature shows that the interventions that are critical for saving the lives of mothers include interventions that prevent pregnancy such as family planning, those that promote detection of complications and treatment of infections during the pregnancy period such as ANC and those that ensure that complications are handled appropriately through the provision of essential obstetric and neonatal care (Jowett (n.d) ; Lawn, Cousens et al. 2004; Campbell and Graham 2006; Ronsmans and Graham 2006; Kerber, Graft-Johnson et al. 2007). These interventions have also been shown to be cost effective (Jowett (n.d) ; World Bank 1993; Lawn, Cousens et al. 2004; Campbell and Graham 2006; Ronsmans and Graham 2006; Kerber, Graft-Johnson et al. 2007).

Focused ANC allows the early management of complications such as eclampsia, in addition to the delivery of essential interventions such as tetanus toxoid immunization, intermittent preventive treatment for malaria during pregnancy, and identification and management of infections including HIV, syphilis and other sexually transmitted infections (STIs). Furthermore it provides an entry point for promoting skilled attendance at birth and healthy behaviors such as, early postnatal care and family planning (Lawn, Cousens et al. 2004; Lincetto, Mothebesoane-Anoh et al. 2006; Kerber, Graft-Johnson et al. 2007).

Skilled care around the time of delivery is even more critical for both mothers and newborns (Lawn, Cousens et al. 2004; Campbell and Graham 2006; Ronsmans and Graham 2006; Kerber, Graft-Johnson et al. 2007). The majority of maternal and neonatal deaths occur within the first 24 hours and the first 28 days respectively after delivery (Lawn, Cousens et al. 2004; Campbell and Graham 2006; Ronsmans and Graham 2006). Consequently it is critical that women deliver either in locations where they can receive appropriate care or where they can easily access transport to facilities that can provide appropriate care (Campbell and Graham 2006).

Unfortunately, the utilization of such interventions is still below the optimum in many developing countries. Typically in developing countries, the majority of women attend at least one ANC session, but much fewer women attend the recommended four ANC sessions (Lincetto, Mothebesoane-Anoh et al. 2006). In high income countries (Canada, Russia) about 97% of women attend ANC at least once (Penn-Kekana, Parkhurst et al (n.d). ; Landy, Sword et al. 2008). In some developing countries

(Uganda, Tanzania, Kenya) very high attendance of ANC (over 90%) at least once has also been reported (Penn-Kekana, Parkhurst et al.(n.d) ; National Bureau of Statistics Tanzania and O. Macro 2005; Uganda Bureau of Statistics and ORC Macro 2006; Van Eijk 2006; Uganda Bureau of Statistics and MEASURE DHS ICF international 2012) however in other developing countries, such as Bangladesh, the attendance of ANC has been low (Penn-Kekana, Parkhurst et al.(n.d)). The quality of ANC services is also important. In many developing countries the quality of ANC services has been reported to be poor (van Eijk, Bles et al. 2006; Uganda Bureau of Statistics and ORC Macro 2006) Whereas the majority of women in developed countries give birth with a skilled attendant (over 95%) the majority of women in developing countries do not give birth with a skilled attendant (Penn-Kekana, Parkhurst et al.(n.d) ; Amooti-Kaguna and Nuwaha 2000; Kyomuhendo 2003; Ronsmans, Etard et al. 2003; NBS[Tanzania] and Macro 2005; UBoS, Inc et al. 2007; Sami, Aktar et al. 2008; Landy, Sword et al. 2008). Furthermore, use of PNC in developing countries has also been reported to be very low and almost nonexistent in some cases (Nabukera, Witte et al. 2006; Waiswa, Kemigisa et al. 2008; Mrisho, Obrist et al. 2009). Many factors hinder mothers from accessing maternal health services as expounded in the section below.

2.1.4 Barriers to Accessing Maternal Health Services

According to a systematic review of factors affecting ANC in developing countries, the key factors that affect ANC attendance include cultural beliefs and ideas about pregnancy, maternal and husbands education, marital status, availability and cost of ANC, household income, women's employment, media exposure and having a history of obstetric complications (Simkhada, Teijlingen et al. 2007).

Other studies have shown that the above factors and several other factors affect delivery care and PNC. They include factors such as difficulty in accessing transport, social cultural issues, lack of economic resources for facilitation of seeking care, lack of awareness about the importance of PNC as well as poor quality of health services characterised by lack of skilled workers, shortage of drugs and equipment (Kyomuhendo 2003; Nabukera, Witte et al. 2006; Waiswa, Kemigisa et al. 2008)

These factors were categorized in the three delays model (Thadeus and Maine 1994) as;

- Delay one: Factors that affect the decision to seek care such as inadequate knowledge about MCH services, danger signs etc.
- Delay two: Factors that delay the actual seeking of care such as difficulty in affording the cost of transport and accessing transport as well as physical barriers that can hinder access to health facilities.
- Delay three: factors that affect the receipt of appropriate care such as lack of adequate skilled health workers, lack of the resources required for service delivery.

Key factors are further explored below

Health System Related Factors

Health system related issues have featured strongly in many developing countries as one of the reasons for low utilization of MCH services; these include inadequate equipment, drugs and supplies, inappropriate operating hours (Some health units are closed at night), rude, corrupt, unsympathetic and often absent health workers (Amooti-Kaguna and Nuwaha 2000; Kyomuhendo 2003; Kiwanuka, Ekirapa et al. 2008; Waiswa, Kemigisa et al. 2008; Waiswa, Kallander et al. 2010). Groups such as adolescents at times receive even more harsh treatment than other mothers. Adolescent mothers in Uganda have reported that the health workers are often harsh and abusive to adolescents who end up pregnant out of wedlock, and this has caused some of them to avoid seeking formal maternal health services in health facilities (Atuyambe, Mirembe et al. 2005).

Poor Geographical Accessibility with Lack of Efficient Transport

Access to efficient transport is one of the factors that affect the ability of individuals to receive timely health services. In developing countries, access to transport and the cost of transport both present difficulties especially for women in labour. In Uganda, one of the reasons that have been given for delivering at home was the fact that labour often starts at night, in the absence of transportation (Amooti-Kaguna and Nuwaha 2000). In such situations, mothers have often found TBA'S more accessible. Lack of money for

transport was also one of the barriers that were reported as reasons for not seeking ANC and PNC (Nabukera, Witte et al. 2006; Waiswa, Kemigisa et al. 2008; Mrisho, Obrist et al. 2009). Waiswa et al (2008) reported that this may cost up to 2 USD. Consequently women decide to go for ANC in the later stages when they are about to deliver, so that they get a card, to minimize the number of visits. In many FGD's this was reported as "husbands refused to give them money" (Waiswa, Kemigisa et al. 2008), which highlights the economic dependence that many women have on their husbands.

Poverty

Poverty, manifesting as lack of money for transport, the purchase of drugs, and for buying the medical requirements demanded in health facilities was also given as a reason for not seeking maternal health services (Amooti-Kaguna and Nuwaha 2000; Kyomuhendo 2003; Ensor and Ronoh 2005; Nabukera, Witte et al. 2006; Waiswa, Kemigisa et al. 2008; Mrisho, Obrist et al. 2009; Poku-Boansi, Ekekpe et al. 2010). Financial constraints were also linked to inability to afford decent clothing, or to keep these clothes clean. Thus lack of new or clean clothes to wear to the clinic acted as a deterrent for seeking ANC services (Amooti-Kaguna and Nuwaha 2000). In a verbal autopsy done in a Ugandan study a woman dying from postpartum hemorrhage said she could not go to hospital because she had nothing decent to wear and no cash to pay at the facility (Kyomuhendo 2003).

When women are unable to afford the costs of care they either decide not to attend the service, which leads to fewer than 4 ANC visits or to deliver at home or with a TBA. It has been reported that TBAs offer more flexible services, thus women with financial constraints tend to prefer them. With TBAs the woman can deliver and pay later, in such cases the TBA may retain part of her property as security until she pays. They can also negotiate the delivery fees; moreover they can even pay in kind (Amooti-Kaguna and Nuwaha 2000).

Inadequate knowledge

Inadequate knowledge about the importance of attending ANC and PNC has also featured strongly (Nabukera, Witte et al. 2006; Waiswa, Kemigisa et al. 2008; Mrisho, Obrist et al. 2009). Studies in Uganda have reported that there are misconceptions about the reason for attending ANC. Many women think the main reason is to get an ANC

card, which can facilitate access to the facility during delivery if complications arise. Reasons such as checking if the baby is growing well, and if the mother is healthy, to get a TT injection were only seen as secondary (Ndyomugenyi, Neema et al. 1998; Amooti-Kaguna and Nuwaha 2000). Some women also felt that they only needed to seek ANC if they were unwell or ill. In a culture where medicine is commonly consumed for its curative properties rather than for preventive purposes, many women tend to feel that only those who are unwell should go to the facility for ANC to “*drink medicine*” (Waiswa, Kemigisa et al. 2008). In many local languages (such as Lusoga) in Uganda, ANC is referred to as “*going to the facility to drink medicine*” (Waiswa, Kemigisa et al. 2008). As alluded to, low PNC attendance has also been attributed to the lack of awareness about the importance of attending PNC (Nabukera, Witte et al. 2006; Nabukera, Witte et al. 2006; Dhakal, Chapman et al. 2007; Waiswa, Kemigisa et al. 2008; Mrisho, Obrist et al. 2009). In Tanzania PNC was confused with the expanded program for immunization (Mrisho, Obrist et al. 2009). Furthermore it was reported that health workers tend not to emphasize the attendance of PNC (Waiswa, Kemigisa et al. 2008).

Social Cultural Issues

Social cultural factors have also been highlighted as playing a key role in maternal health. In some African countries, a section of women take great pride in giving birth unassisted (Kyomuhendo 2003). Those who deliver in this manner are seen as heroes. This perhaps explains why some women who seek ANC do not seek delivery care in health facilities (Kyomuhendo 2003). In one of the Ugandan communities, they considered delivery a woman’s battle, which could result in death; therefore labor and its complications were accepted as the fate of a woman and as something that one cannot avoid. Those who decided not to embrace this culture and who sought an easier option through assisted delivery were therefore seen as weak. Women were even expected to overcome all the problems that they got in early pregnancy without complaining about them. Therefore instead of seeking care early, they instead attempted to conceal such problems (Kyomuhendo 2003). Poor acceptability of some practices such as delivery in the supine position rather than the kneeling position, and the disposal of the placenta, have also been cited as reasons for not delivering in health facilities (Kyomuhendo 2003).

Social relations were also reported to influence choice of delivery significantly in another Ugandan study (Amooti-Kaguna and Nuwaha 2000). These “significant” others often included persons such as the husband, mother in law, TBA’s and sisters. When these people felt that a woman should deliver e.g. with a TBA this was bound to have a strong influence on where she gave birth (Amooti-Kaguna and Nuwaha 2000; Kyomuhendo 2003). There was also a perception that TBAs offer adequate ANC services, moreover they were perceived to even offer services which are not offered by the health units such as making the bones flexible so that labor is easy, changing the sex of the baby, turning the baby if the baby is not lying well, cleansing the birth canal and protecting pregnancy from “bad omen” (Amooti-Kaguna and Nuwaha 2000; Waiswa, Kemigisa et al. 2008). While presence of social support may not always have positive benefits, on the other hand, lack of social support from both parents and the men responsible for the pregnancy has often pushed adolescents into backstreet abortions, and risky deliveries with TBAs (Atuyambe, Mirembe et al. 2005).

The literature also showed that there is a general perception that if the pregnancy was uneventful then there was no need to deliver in a health facility. Consequently mothers who had uneventful pregnancies or who had previously delivered without complications, saw no reason to deliver in a health facility (Amooti 1997; Sami, Aktar et al. 2008).

According to Ensor and Cooper et al (2004) a lot more attention has been focused on trying to address the supply side factors, than in addressing the demand side factors that influence access to health services (Ensor and Cooper 2004). These supply side interventions have tended to focus on improving technical quality, protocols for treatment, availability of supplies and environment of the health facilities. He reasons that although these are important they don’t address the demand side barriers that patients are faced with such as physical and financial accessibility to services, knowledge of the services available and cultural norms of treatment (Ensor and Cooper 2004).

The factors discussed above are likely to influence the success of the intended incentives in increasing access to maternal health services. Their influence is further explored in the discussion chapters of the thesis.

2.2 Demand Side Financing

This section provides a detailed discussion of demand side financing (DSF), which is undertaken so as to enhance understanding about voucher schemes. Specific emphasis is put on studying the rationale for the use of DSF, the economics of vouchers, and key design and implementation features of voucher schemes.

2.2.1 Definitions

Demand side financing approaches typically place purchasing power in the hands of consumers to spend on specific services. Such approaches have been referred to as consumer led demand side financing (Ensor 2003). In contrast supply-side approaches involve the allocation of resources to a provider, so that they can provide particular services based on the cost of inputs (Ensor 2004a). Another closely related term is pay for performance. Eichler (2006) defines this as the “*transfer of money or material goods conditional on taking a measurable action or meeting a predetermined performance target*” (Eichler 2006). He then continues to differentiate demand side pay for performance from supply side pay for performance as approaches where consumers are required to take certain predefined conditions (Eichler 2006). The two commonly used demand side financing approaches are voucher schemes and conditional cash transfer programmes. As noted earlier, in voucher programs consumers are given vouchers that entitle them to receive pre – specified services, whereas in conditional cash transfer programmes, consumers are given cash conditional upon their performing certain actions (Ensor 2004a). Most conditional cash transfer programs have an educational component and an additional component linked to health or nutrition. Their goals are varied but either aim at achieving some overall social development or specific results within a defined population (Nigenda and González-Robledo 2005) .

Bradford (1999) has suggested that demand side financing arrangements should have the following characteristics:

- Grants to consumers based on personal or household characteristics.
- Intermediate choice such that users are not confined to one facility but can shop around between facilities for a specified good at designated outlets.
- Supplier competition

- An upper limit for payment of the vouchers (Ensor 2004a).

Ideally consumer-led demand side financing schemes should fulfil all the above criteria; however in reviewing the literature it is apparent that the schemes that are referred to as “demand side financing” schemes do not always fulfil all these criteria (Ensor 2003). Furthermore some financing schemes such as insurance schemes and some purchaser provider arrangements also tend to fulfil at least three of the above criteria (for example an intermediate purchaser that allows patients to receive services from a range of providers and pays for services up to agreed amounts). Hence there is often no clear distinction between demand and supply side financing but rather a spectrum of possibilities with three main paradigms (Ensor 2003).

- **Pure supply side:** Facilities are reimbursed on the basis of inputs such as number of staffing, beds and historical budgets.
- **Purchaser provider split:** A third party purchaser contracts with selected facilities on behalf of the population and reimburses on the basis of outputs such as patients treated.
- **Consumer led demand side:** Consumers are given purchasing power to obtain selective services from a range of accredited providers.

2.2.2 Why Use Demand Side Financing Approaches

In many developing countries, maternal health services are financed using supply side approaches (Ensor and Ronoh 2005; Bhatia, Yesudian et al. 2006; Borghi, Ensor et al. 2006; Peters, Garg et al. 2008). Although this approach has been successful in providing good quality equitable services in a few countries such as Sri Lanka, Kerala, India and Malaysia in many developing countries it has resulted in, poor quality services, which place a large burden on households, and benefit mainly the rich (Gwatkin, Bhuiya et al. 2004; Ensor and Ronoh 2005; Bhatia, Yesudian et al. 2006; Borghi, Ensor et al. 2006; Peters, Garg et al. 2008). In addition these services are mainly provided by the government as a monopolistic provider so there is often limited competition, and no choice for patients, hence there are limited incentives to improve quality or efficiency (Bhatia, Yesudian et al. 2006). DSF has therefore been proposed as an alternative financing strategy that could complement predominantly supply based financing

strategies (Ensor 2004a; Bhatia, Yesudian et al. 2006). The main ideology behind demand side financing is that “*subsidising demand among the poor for specific cost effective health services, while allowing a competitive market for its provision, may be more beneficial than using these resources to subsidise supply*” (Sandiford, Gorter et al. 2004). The DSF approach has the following advantages over other financing strategies;

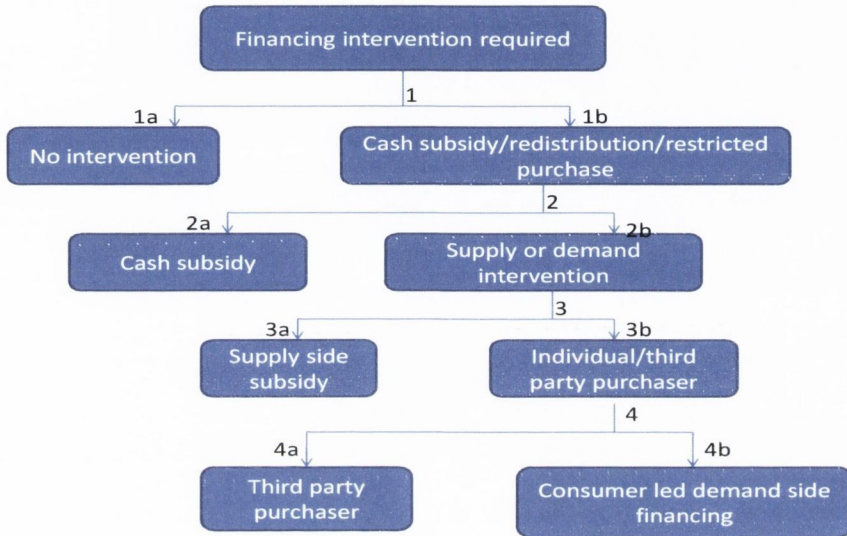
- By targeting the poor and vulnerable it allows those who cannot purchase services to do so.
- By stimulating competition and linking pay with performance, it alters incentives for providers and results in increased efficiency, improved service quality and responsiveness.
- It empowers consumers and allows them to have greater choice in deciding where to seek services.
- It promotes public private partnerships and uses up surplus capacity in the private sector.

However DSF also has some disadvantages. DSF is complex to set up and requires well established administrative systems for efficient running. It sometimes requires the creation of a voucher management agency and this may lead to high administrative costs (Ensor 2004a; Bhatia, Yesudian et al. 2006). Even if it has been noted that it is good for targeting the poor, achieving this is not easy because of the difficulties encountered in implementing and monitoring different methods of identifying the poor (Ensor 2004a; Ensor and Ronoh 2005; Bhatia, Yesudian et al. 2006). Vouchers also have the potential to be abused so practises such as counterfeiting, black market sell of vouchers, collusion between providers and beneficiaries as well as moral hazard and cream skinning could occur (Bhatia, Yesudian et al. 2006). Moral hazard can arise when patients seek to use services more than they would usually mainly because they have a voucher. Cream skinning may result from conditions that lead to a variation in service cost among providers who may then choose to offer services to clients who will cost them less (Ensor 2004a). If the voucher scheme doesn't include the public sector, then it could also lead to weakening of the public sector (Bhatia, Yesudian et al. 2006).

2.2.3 The Economics of Vouchers

Ensor (2004a) lays out a series of issues that can guide decisions about the use of demand side financing. These are summarised in figure 2.1 and explained in the text that follows.

Figure 2.1: Decision to choose consumer led DSF



Three different criteria for the use of consumer led demand side financing are described. The initial decision depends on whether there is a need for a financing intervention or not. The second should be guided by whether there is a justification for using restricted or unrestricted transfers. The third by a justification for the use of demand or supply side financing and lastly whether consumer led or third party purchasing should be employed. Each of these steps is discussed briefly below.

Step One

The first step involves deciding whether there is a need for a financial intervention. Demand side financing is particularly appropriate when the objective is to

- Raise the overall consumption of a specific service,
- Improve the targeting of benefits at identified vulnerable groups
- Improve the quality of service provided to members of these groups (Ensor 2004a).

If there is a need for a financing intervention, then a case can be made for a financing intervention which may involve a cash subsidy, cash redistribution or restricted

purchase (1b). On the other hand, if the conditions for a financing intervention are not met then there is no need for a financing intervention (1a).

Step Two

In step two the main decision is whether to use restricted or unrestricted funds. A case for the restriction can be made in three main circumstances.

- The first is in the presence of a positive externality, where if left to the individual, consumption may be below what is optimal, leading to a restriction on what individuals can purchase (Ensor 2004a).
- The second is based on the merit good argument. If it so happens that the consumer doesn't know when and which goods to purchase, or is unable to choose the best provider to purchase from, then again restriction could be justified.
- The last argument is on grounds of intra household inequities. It may be argued that certain individuals e.g. girls and women may not be able to benefit from cash transfers because they are not the decision makers in the family and so some of their needs are often not met (Ensor 2004a; Ensor and Ronoh 2005).

If the above conditions are not applicable, there is no need for a cash subsidy (2a), whereas if the above conditions are met then a supply or demand side intervention can be implemented (2b).

Step Three

The next important decision will revolve around whether demand or supply side financing should be used. The decision pivots around two issues; targeting of the poor and potential gains in improvement in quality.

- If there is a perceived need for more accurate targeting of low income and other needy consumers; and there is the capacity to identify these vulnerable groups, then demand side financing appears more appropriate. This decision however needs to be made with caution. The literature suggests that both the targeting of the poor and the exemption of the poor is difficult (Bitran and Giedion 2003; Ensor and Ronoh 2005).
- The second issue is around the potential gains that could be made in improving the quality of services. Provider competition is a prerequisite for demand side financing to provide an incentive for improving quality or lowering prices.

Without a multiplicity of providers it is not possible to create competition, although it could be possible to exploit internal incentives for example by changing the paying system from one that provides limited incentives e.g. salary to a more output based system (Ensor 2004a).

A decision could therefore be made to use a supply side subsidy (3a) if there is little choice and no need for individual targeting. If the opposite is true then a case is made for individual or third party purchasing (3b).

Step Four

The last decision is whether to rely on a third party purchaser or to let the consumer make the decisions. Often the purchasing involves a combination of the two. The main considerations here are;

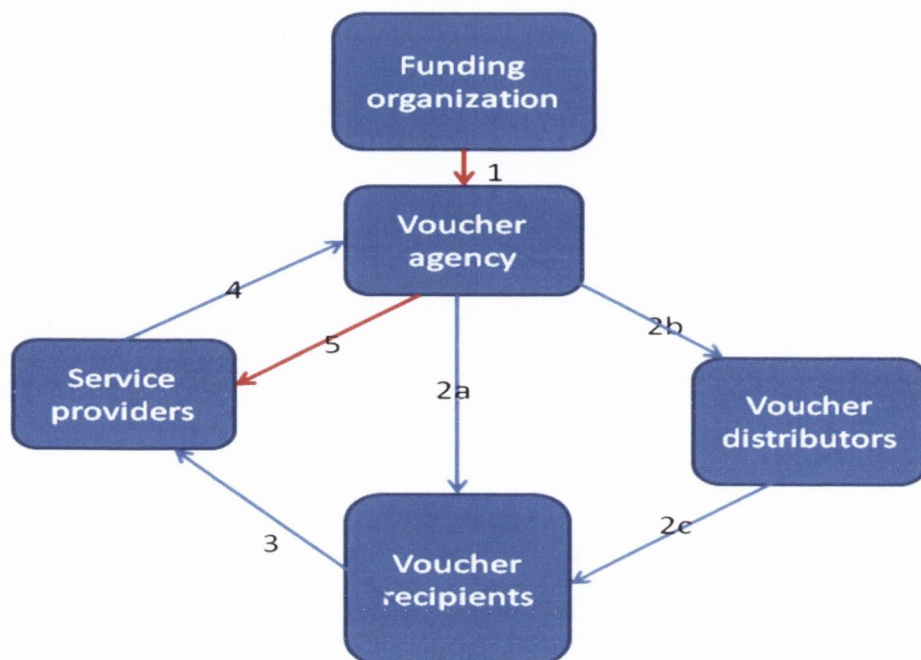
- The complexity and flexibility of purchasing goods. Activities such as the printing and distribution of vouchers, accreditation of providers and quality assurance may require a third party purchaser
- Benefits that could be made from bulk purchasing. This may also favour the use of a third party consumer

If economies of scale are required and individual purchasing capacity is poor then a third purchaser may be preferred (4a). If there is a high level of competition and individual ability to purchase then a case can be made for consumer –led demand side financing (4b).

2.2.4 Design Elements of Voucher Schemes

The design of a voucher scheme may determine the extent to which incentives provided by the scheme achieve their intended benefits. In the section that follows I review the design elements of several schemes; however this is preceded by a description of how a typical competitive voucher scheme is organized. Figure 2.2 displays the key features of voucher schemes.

Figure 2.2: Key features of a voucher scheme



Source Sandiford et al 2004

Five main stages are depicted in the figure as explained below:

1. Transfer of money from the funders of the voucher scheme (government agency, donor agency or another group) to the voucher management agency.
2. The voucher management agency distributes the vouchers to the recipients directly (2a) or through voucher distributors (2b) who then distribute them to the recipients (2c).
3. The recipients take the vouchers to the service providers (public, private or NGO providers)
4. The service providers take the vouchers to the voucher agency. Note they may be required to provide evidence that the services were provided.
5. The voucher agency pays the providers, cash paid is often commensurate with the services provided (measured through number of vouchers).

A Review of the Design Elements of Six Voucher Schemes

Table 2.1 presents a summary of the review of key features of six voucher schemes. These schemes were selected mainly because of the following reasons;

- Firstly they focus on improving uptake of maternal health services.
- Secondly there is fairly adequate information about their design, implementation and effects in the published literature.
- Thirdly they are chosen from different developing countries and therefore they present fairly different and yet similar contexts. Four of the schemes are from Asia, perhaps because vouchers for maternal health have been used quite extensively in Asia, compared to other developing regions.

The schemes include the BMHVS (Maternal Health Voucher Scheme) implemented in Bangladesh (Ahmed and Khan 2011a; Ahmed and Khan 2011b), the PMHVS (Maternal Health Voucher Scheme) implemented in Pakistan (Agha 2011), the vouchers and health equity schemes implemented in Cambodia (Ir, Horemans et al. 2010) the Haridwar voucher scheme in India (Futures Group International 2010) and two reproductive health voucher schemes in Kenya and Uganda (Bellows 2012). The two latter schemes are reviewed together because they are funded by one donor and have very similar design characteristics.

Table 2-1: Review of the design elements of voucher schemes

Title	BMHVS	PMHVS	Haridwar voucher scheme	Voucher and health equity scheme	Reproductive Health Vouchers Kenya and Uganda
Management of scheme	Ministry of health and family welfare department of the Government of Bangladesh	Nongovernmental organizations	Nongovernmental organizations	Nongovernmental organizations	Nongovernmental organizations
Implementation period	2 years	1 year	2 years	2 years	3 years
Main intervention	Vouchers Seed Funding Cash Incentives	Vouchers Behaviour change strategy	Vouchers	Vouchers Performance based financing Health equity funds	Vouchers

Title	BMHVS	PMHVS	Haridwar voucher scheme	Voucher and health equity scheme	Reproductive Health Vouchers Kenya and Uganda
				Delivery incentive scheme	
Price of Vouchers	Free	1.2\$	Free	Free	1.5\$ (Uganda) 2.7\$ (Kenya)
Targeting the poor	Geographical targeting(poorest districts) Means testing Only for the first 2 pregnancies.	Means testing. No previous facility delivery.	Possession of a BPL card (Below Poverty Line)	Means testing	Means testing
Benefit package	3 ANC sessions, 1 delivery care session and 1 PNC session+ C/sections if	3 ANC sessions, 1 delivery care session and 1 PNC session.	3 ANC sessions, 1 delivery care session and 1 PNC session. laboratory tests,	3 ANC sessions, 1 delivery care session and 1 PNC session. Transport refund	3 ANC sessions, 1 delivery care session and 1 PNC session+ C/sections if required Transport refund for

Title	BMHVS	PMHVS	Haridwar voucher scheme	Voucher and health equity scheme	Reproductive Health Vouchers Kenya and Uganda
	<p>required Transport refund</p> <p>Gift box (baby soap, a towel, baby clothes, nutritious drink) an additional 31 \$.</p>	<p>Referral for C/s Transport refund</p>	<p>tests ultrasound Family planning Caesarean sections. No transport refund</p>		<p>referral</p>
Distribution of the vouchers	Sub district DSF committee which works with voluntary CHW's	NGO workers	Voluntary CHW's Paid on PBF basis	Voluntary CHW's	CHW's Paid on PBF basis

Benefit Packages

The benefit package in all four schemes was similar with respect to the provision of basic services such as ANC, delivery, PNC and access to caesarean sections. It is only the Haridwar scheme which provided additional services such as ultrasound and family planning services. Ensor (2004a) recommends the use of voucher schemes for services that are easily packaged such as these ones (Ensor 2004a). It has been shown that availability of transport can pose a problem for women in labour costing significant sums of money (Ensor and Ronoh 2005; Borghi, Ensor et al. 2006). All the voucher schemes except the Haridwar scheme provided compensation for transport. In Kenya and Uganda transport was provided only for referral. While uniform payment rates were used in the other schemes, in Cambodia, mothers received 0.1 \$ per kilometre (Ir, Horemans et al. 2010; Agha 2011; Ahmed and Khan 2011a; Ahmed and Khan 2011b). In all three cases the transport charges were paid by the facility which was later reimbursed by the voucher scheme. However in the Bangladesh MHVS scheme there were complaints that at times the reimbursement was received late. Other studies that have provided reimbursement for transport services have also been faced with difficulties in providing timely reimbursement (Yao, Wei et al. 2008). Furthermore, sometimes the referral transport was not sufficient and households had to pay the deficit (Ahmed and Khan 2011b).

In addition in Bangladesh the women received a gift box containing baby soap, a towel, baby clothes, nutritious drink and an additional 31 \$ (Ahmed and Khan 2011b). Provision of additional incentives has been used in some voucher schemes as a way of offsetting some of the indirect costs incurred in consuming the service, or simply to encourage more uptake of the desired behaviour (Ensor 2004a).

Distribution of the Vouchers

In all the schemes the vouchers were given out by community health workers who were voluntary but those in the Haridwar scheme, BMHVS and in the reproductive health voucher programmes for Kenya and Tanzania received compensation based on their performance (Futures Group International 2010;

Schmidt, Ensor et al. 2010; Ahmed and Khan 2011b; Bellows 2012). In Ghana and Tanzania, voucher schemes for insecticide treated nets have distributed vouchers through the ANC clinics (Tami, Mbatl et al. 2006; Kweku, Webster et al. 2007). The distribution of vouchers via the ANC clinic reduces financial and human resource costs of setting up a different system for distribution of the vouchers. However concerns have been raised about possible selective distribution of vouchers, and the requirement to give some incentives to the health workers to compensate the time spent on the vouchers (Tami, Mbatl et al. 2006). In Tanzania, in 3 out of 22 health facilities that were surveyed, it was reported that the midwives at times refused to distribute vouchers to mothers who were not going to redeem them at the health centres (Tami, Mbatl et al. 2006). It also appeared that they occasionally colluded with the retailers to distribute vouchers to participants who didn't exist since they could not be traced in the community (Tami, Mbatl et al. 2006). Various authors have stressed the need for careful monitoring, documentation and control of vouchers in order to reduce fraud (Ensor 2003; Tami, Mbatl et al. 2006; Kweku, Webster et al. 2007).

Selection of Beneficiaries

It is apparent from the review, that all the schemes are aimed at targeting the poor, however, the extent to which the poor benefit is determined to a large extent by the method chosen to identify the poor and the ease of implementation. For example in the case of Bangladesh, the scheme was operating in a poor area where early marriage and large family sizes were common hence the most poor women are likely to have had more than 2 children (Schmidt, Ensor et al. 2010; Ahmed and Khan 2011a; Ahmed and Khan 2011b) and yet only women in their 1st or second pregnancy were eligible. In Pakistan, Kenya and Uganda the most poor may not have been able to afford the part payment (1.25\$, 2.7\$ and 1.5\$ respectively) for the voucher (Agha 2011; Bellows 2012). Identification and selection of the poor beneficiaries can also present a problem. In the Haridwar voucher scheme, selection of eligible participants was done through possession of the BPL (Below Poverty Line) card which is a card that is supposed to identify a

person as being poor, however it was noted that in some cases the most poor didn't have these cards. In Bangladesh it was reported that the poorest women at times had more than two children and so it was difficult for the implementers to avoid including them in the scheme (Ahmed and Khan 2011b).

The review of the design features of the voucher schemes has revealed that two main incentives that were common to all the schemes was a reduction in the cost of formal health services and in some cases reduction of indirect costs such as transport as well. While the main intervention in most of the schemes was the vouchers for two of the schemes (Voucher and health equity scheme and PMHVS) there were some other additional interventions. Any effects seen in such schemes therefore may not be attributed only to the vouchers.

2.2.5 Influence of Voucher Schemes on Access to MCH services

The influence of these schemes on access to MCH services was also examined. Table 2.2 presents a summary of the effects of the scheme on access to MCH services.

Table 2-2: Effects on access to services in the six case studies

Title	BMHVS	PMHVS	Haridwar voucher scheme	Voucher and health equity scheme (VHES)	Reproductive health vouchers (Kenya and Uganda)
Service providers	Public and private	Private providers	Private providers	Public and private	Private (Uganda) Public and Private (Kenya)

Title	BMHVS	PMHVS	Haridwar voucher scheme	Voucher and health equity scheme (VHES)	Reproductive health vouchers (Kenya and Uganda)
Effect on utilization	Voucher recipients were 2 times more likely to attend ANC, 3.5 times more likely to deliver with a skilled attendant, 2.8 times more likely to attend PNC	22% increase in the use of ANC and delivery services and 35% increase in PNC use. These increases were greatest amongst the poorest.	Institutional delivery increased by 18.1 % among the poor (BPL card holders). ANC increased by 4.8 % and family planning use increased by 4.4% among the poor.	Facility deliveries Increased by 28% From 16% to 44% 7% attributed to vouchers, 3% HEF beneficiaries and 18% self paying clients	Increased utilization of MCH services reported
Effect on Quality	Beneficiaries expressed satisfaction with services; providers were motivated to improve quality.	Not discussed, but may have been quite good initially since green start workers were overseeing service provision	74% were satisfied 21% somewhat satisfied.	Midwives reported to be available 24 hours. Improved attitudes also reported. Some non users still reported poor attitudes of midwives.	Satisfaction with services reported

Demand side financing schemes are expected to have three main types of effects (Ensor 2004a);

- An incentive effect which encourages individuals to modify their behaviour and comply with a treatment programme or utilise key preventive health services.
- Encouragement of consumers to exert their market power by choosing the best services from among the available accredited providers, with the expectation that this would lead to improvements in quality through competition.
- Encouragement of redistribution of opportunity to consumer priority services by placing purchasing power in the hands of those with a high need for services, but a low economic status.

The different schemes achieved two of the three effects albeit to different extents.

Utilization of ANC, Delivery and PNC

All the schemes reported an increase in the utilization of ANC, delivery and PNC (Futures Group International 2010; Ir, Horemans et al. 2010; Agha 2011; Ahmed and Khan 2011a; Bellows 2012). The main reason given in all the cases was the reduced cost of seeking services. Some of the additional reasons included

- Ease of accessing transport services
- Reduction in informal charges in Cambodia (VHES)
- The improvements in quality from the other incentives that were in operation within the intervention area in Cambodia (VHES).
- Short turnaround time
- Good attitude of providers

It was however noted that not all the voucher recipients used their vouchers this was attributed to;

- Difficulty in accessing transport especially at night (VHES)
- Poor attitudes of health workers, fear of informal charges and unavailability of health workers at the health units
- Other social cultural factors which affect the use of MCH services for example in Pakistan, the community held the belief that hospital delivery is required only for complicated cases and the uncomplicated ones can occur at home, ANC and PNC were also considered necessary only for complicated cases (Futures Group International 2010).

In some of the schemes, the facilities for providing emergency obstetric care were lacking and so these services were often not provided (Ahmed and Khan 2011a; Ahmed and Khan 2011b). In addition, concerns were expressed that the scheme could lead to an increase in fertility in Bangladesh (Ahmed and Khan 2011b).

Increased Purchasing Power among the Poor

Most of the schemes demonstrated increased use among the poor (Futures Group International 2010; Ir, Horemans et al. 2010; Agha 2011; Ahmed and Khan 2011a; Bellows 2012). In Bangladesh, the increased demand for ANC, delivery and PNC among the poor was attributed to the decreased financial barriers, whereas for the rich it may have been issues of quality that were their main concern so the increase was not as high as that seen among the poor (Ahmed and Khan 2011a; Ahmed and Khan 2011b).

Competition and its Effects on Quality

Many of the schemes didn't report adequately on improvements in quality. However in the Haridwar scheme and in Kenya and Uganda it was reported that clients were satisfied with the quality of services (Futures Group International 2010; Bellows 2012). It is likely that there was a variation in the

quality of services provided by public providers and private providers however the evidence available is inadequate for this assessment. Schemes where the providers were accredited and regularly assessed may have been able to provide better quality care (Futures Group International 2010; Agha 2011; Bellows 2012) .

DSF approaches are expected to create competition, which should stimulate providers to be more responsive to client needs. In Bangladesh it was noted that because of the limited numbers of providers, the schemes were not able to create competition. In areas where only private facilities were used, a shift was seen with clients moving from the public sector to the private (Futures Group International 2010; Ir, Horemans et al. 2010; Agha 2011; Ahmed and Khan 2011a; Ahmed and Khan 2011b).

Use of Resources from the Scheme

The public providers in the Bangladesh MHVS scheme received 50% of the money; the balance was retained in the bank to be used for service provision, repair, and maintenance. In addition Public facilities also received seed funds that could be used to improve service delivery. This kind of arrangement provides additional flexible resources for the public facilities to use for improving service delivery. The private facilities on the other hand received 100% of their income (Schmidt, Ensor et al. 2010; Ahmed and Khan 2011b). This can be a useful source of sustainability for private facilities that previously had a low clientele because they were charging user fees. Delays in reimbursement were reported in both the BMHVS and the Haridwar scheme (Futures Group International 2010; Schmidt, Ensor et al. 2010). Timely reimbursement may be more important in facilities that have a narrow resource base and which rely heavily on the income from such voucher schemes. According to (Schmidt, Ensor et al. 2010) such delays can discourage the participation of private providers.

Work load Related Issues

In the MHVS in Bangladesh, there were complaints by both the administrative staff and the health workers about the incentives provided by

the scheme. While the health workers complained that the cash they received was not commensurate with the increased workload, the administrative staff complained because they did not receive any additional pay. This therefore led to clashes between the providers and the managers. In the Haridwar scheme in India which only had private providers no complaints about the workload or the amount of incentives was reported (Futures Group International 2010). It's not clear whether this was because they had excess capacity before or because they were able to recruit new staff to meet the increased demand. Private facilities may find it easier to recruit than public facilities.

2.2.6 Expansion and Sustainability of Voucher Programs

Sustainability has been defined in diverse ways depending on the perspective taken. Those in the health promotion field define it as the *maintenance of health benefits over time*, while those in the community development field define it as *the capacity of communities and individuals to maintain changes in behaviour* (Gruen , Elliott et al. 2008) On the other hand those focused on organizational change and innovation define it as *“the ongoing delivery of health programmes measured by the ongoing delivery of independent voucher schemes or how well programmes become institutionalised in organizations or health and social systems”* (Gruen, Elliot et al. 2008). Multidimensional definitions have also been developed (Gruen, Elliott et al. 2008). A common thread in all these definitions is the emphasis on the long term continuity of the programs or voucher schemes. Sustaining health programs has been noted to be a common challenge especially in low and middle income countries (Gruen, Elliott et al. 2008). Failure to sustain the programs has often been associated with early discontinuation of programs which results not only in unmet need but also in wastage of resources that were used to start up the programmes, as well as loss or diminishing support from the community for future programs (*ibid*). Programme implementers should therefore strive to build sustainability plans into programs that are successful and cost-effective.

Some voucher programs that have been implemented have been expanded from the initial pilot areas to cover larger areas. This expansion has taken place mainly in India and Bangladesh where the government has teamed up with different donor organizations to extend the voucher programs. In the case of the Bangladesh MHVS scheme, the scheme has expanded from 12 to 21 to 33 sub districts while the Haridwar scheme was expanded from 1 pilot district to 3 other districts (Bhatia, Yesudian et al. 2006; Sami, Aktar et al. 2008).

The voucher scheme for insecticide treated nets in Tanzania, also resulted in increased use of insecticide treated nets among pregnant women and children under five, it was also found to be cost effective and eventually was scaled up to the National level using the Global funds (Mulligan, Yukich et al. 2008). The scaling up of this voucher program lends support to the idea that some demand side financing approaches can be scaled up even in low income countries, if they are found to be cost effective and if sustainability plans are inbuilt.

2.3 Health, Demand for Health Care and Incentives

This section begins with a review of the unique features of health, health care and the demand for health care. Emphasis is put on explaining how the health care market differs from the perfect market and how these features could affect the incentives provided by the voucher scheme in a developing country context. This is followed by a review of the agency theory and the use of incentives within the health care setting. This aspect of the review is therefore useful in shaping the development of the conceptual framework and the thesis from an economic perspective.

2.3.1 Health and Demand for Health Care

Health as a commodity is different from other economic goods. It was described by Grossman as having the characteristics of both a consumption

good and an investment/capital good (McPake and Normand 2008). Good health is considered a consumption good which is desired because of the utility derived from consuming it (Palmer and Theresa 2008). As an investment good, health can be produced by engaging in activities such as exercise and healthy eating as well as purchasing health care inputs (Mooney 2003; MCPake and Normand 2008; Palmer and Theresa 2008). Investing in health in this manner thus increases the number of healthy days available to work and earn an income (Mooney 2003; Palmer and Theresa 2008). Other unique features include the fact that it is associated with emotional feelings because of the risk of death that could occur with ill health and it is also shrouded with uncertainty. Furthermore consumers lack perfect knowledge about both their health status and interventions that can improve their health (Mooney 2003; MCPake and Normand 2008; Palmer and Theresa 2008).

The concept of demand refers to how willing consumers are to pay for different goods and services (Mooney 2003). Usually consumers pay for services for which they will derive the greatest utility (Mooney 2003). Health is not purchased from stores like other goods. Rather it is produced using a combination of both effort and time as well as purchases of health care inputs (McPake and Normand 2008). Consequently, when health care is demanded, this is primarily because people desire health. The demand for health care is thus commonly referred to as derived demand (Mooney 2003; MCPake and Normand 2008).

Determinants of Demand for Health Care

Some of the commonly known determinants of demand include individual tastes and preferences, increases in price, increases in income as well as increases in the price of substitutes and complements (McPake and Normand 2008). Other things being equal, demand has been known to increase with increases in individual tastes and preferences, decreases in price, increase in income and a decrease in the price of substitutes and complements. On the other hand, it decreases with a reverse in the above conditions (McPake and

Normand 2008). According to the consumer demand theory when the price of a good/ service decreases, the demand for the good/ service increases.

This theory, where price is the only determinant of demand for services may be difficult to fully apply in the health care setting because of the unique features of health and the difficulty of holding all other factors constant in practise (Grossman 1972; Jacobs 1974) . However some aspects of it are still applicable. It is generally agreed for example that the demand for health care is affected by price. With other things being equal a rise in the price of health care has led to a decrease in the amount of health care consumed especially among the poor, and a fall in price with an increase (McPake and Normand 2008). Increased income has also been associated with increased use of health services (McPake and Normand 2008). When user fees were instituted in many developing countries it was reported that the demand and consumption of health care decreased, mainly because of the increased price of seeking services (McPake and Normand 2008). Consequently when the fees were abolished consumption increased for many services. However for certain services such as delivery care this increase was constrained by other issues such as the price of complements like gloves and other birthing requirements which had remained high (Borghi, Ensor et al. 2006).

As alluded to earlier, there are special characteristics of health which make demand for health care different, one of them, is uncertainty which makes it difficult for an individual to determine the type of health care that they will need at all times (McPake and Normand 2008). This uncertainty is primarily caused by the information asymmetry that exists in the health care market (McPake and Normand 2008). The health provider is endowed with more knowledge about the patients illness and required courses of action than the patient them self (Palmer and Theresa 2008). A common buyer in the market is able to judge their state of well being with the good in consideration and without it, so he is able to make a decision about whether to purchase it or not. In the health care market the patient is not always well placed to judge

what would happen to him if he did not consume the health care good (Palmer and Theresa 2008). First of all he often doesn't have sufficient information about the health care good in question. Secondly at times it is difficult to judge the need for health care ex ante. The human body has been known to recover on its own or with natural benefits such as fresh air. Thirdly at times the outcomes of health status after consumption are not straight forward even to those endowed with medical knowledge (McGuire, Henderson et al. 1994; Mooney 2009). The presence of information asymmetry typically leads to an agency relationship in which the principal delegates decision making authority to the agent (Scott and Farrar 2002; Mooney 2003; McPake and Normand 2008; Palmer and Theresa 2008) . This is discussed further below.

Principal Agency Theory

The main reason for the agency relationship is that the principal recognizes that they are relatively uninformed about the most appropriate decisions to be made and realises that the best solution is to have an informed agent make these decisions on his behalf (Folland, Goodman et al. 2007; McPake and Normand 2008; Palmer and Theresa 2008). The perfect agent would therefore be expected to choose just as the patient would have chosen if they had the same level of information (Folland, Goodman et al. 2007; McPake and Normand 2008; Palmer and Theresa 2008). The agency theory may not work perfectly in the health care setting for several reasons; firstly the provider may not know all about the consumers preferences, secondly the provider may not be absolutely certain about all the possible outcomes that may exist and thirdly the provider may act in his own interests as well not only in the interests of the patients (McPake and Normand 2008; Palmer and Theresa 2008). To curb such practises that would not be in his favour, the principle has two choices, he could monitor the agent's behaviour closely or he could use incentives to make the agent take the desired actions that would be in his favour (McPake and Normand 2008).

In the voucher scheme that is reviewed in this thesis, incentives are being employed to get the health workers to provide appropriate services. The next section expounds on the use of incentives in the health care field.

2.3.2. Use of Incentives in Health Care

Economic incentives were defined by McPake et al (2007), as “*allowing individuals to behave in accordance with expected material rewards or favours that can be traded for such rewards*”. On the other hand, Buchan (quoted in Adams and Hicks (2001) defines an incentive as a particular form of payment intended to achieve some specific change in behaviour. As alluded to above, incentives have been employed to make the principle agency theory work for the patient. By giving the agent appropriate incentives they should be able to do what is right for the patient (McPake and Normand 2008). In such agency relationships there is usually a contract that may be explicit or implicit. Outcome dependent contracts, aim at designing mechanisms to restructure the incentives or rewards facing individuals in order to achieve desired objectives, a process referred to as incentive compatibility (McPake and Normand 2008). Often rewards are linked to observable performance characteristics, but this may lead to perverse incentives. The agents may neglect other duties in preference for the ones that will be rewarded (McPake and Normand 2008). The incentives may also fail to lead to the desired behavior if the rule linking the reward to the actions is vague or if the targets set are unachievable and there is no reward for the effort put into trying to achieve the desired outcomes (McPake and Normand 2008).

A good understanding of how incentives work in the health care field is essential for the analysis that will be undertaken in this thesis. Further discussion about the use of incentives is presented below.

Use of Financial Incentives to Promote the Performance of Health Workers

There are mixed views in the economics literature about success in the use of incentives in the health care setting. Some of the literature shows that financial incentives do work and that pay varies with performance, while there is also evidence that in some cases pay for performance doesn't seem to work and it may lead to inefficiencies instead (Scott and Farrar 2002; Soeters, Habineza et al. 2006; Palmer and Theresa 2008). Furthermore use of explicit performance contracts are rare in real life (Scott and Farrar 2002). Several reasons are proposed.

- In environments that have strong ethical systems, it has been suggested that there is less need for strong external incentives (Mooney and Ryan 1993) . For example the UK National health service has few explicit incentives for physicians who are paid using several methods that dilute the effect of any one payment system. General practitioners are paid using a combination of capitation, fee for service, flat rate payments, target payments and salaries.
- Le Grand also argues that the use of financial incentives can turn health providers who have been acting like “Knights” providing services for the good of the public into “Knaves” who are mainly interested in personal gains (Le Grand 1995).
- Another difficulty arises from the nature of tasks in the health care field. Often health care outputs arise from several different tasks that require providers to multitask (Scott and Farrar 2002). It is therefore difficult to choose which one to measure and which one to give incentives for. If there is an incentive given for activity A and not for B then the agents may devote more attention to achieving A rather than B. The activities measured and paid in some cases may lead to neglect of activities that are beneficial to the agents but not to the principals (Scott and Farrar 2002).

- Another issue that presents difficulty with the use of incentives is the multi output nature of health facilities such as hospitals. Hospitals can be responsible for producing several different outputs such as hotel services, teaching, in addition to providing different kinds of treatments for patients. It is therefore difficult to measure the outputs of the hospital satisfactorily (Scott and Farrar 2002).
- Agents may also game the system for their own benefit – this has been demonstrated in the use of fee for service and capitation payment with over treatment and cream skimming as unintended consequences (Mcguire 2000; Ensor and Ronoh 2005). This has also contributed to the limited use of incentives in hospital settings.

Financial incentives which can be employed in voucher schemes can have some negative effects as highlighted above. Careful monitoring of their use is necessary to ensure that this doesn't occur. On the other hand, they have the potential to improve service delivery if used positively. The use of financial incentives for the motivation of health workers is further discussed in chapter 2.4.1.

2.4 Motivation of Health Workers

In the voucher scheme, incentives are to be used to motivate health workers. Review of literature around what motivates health workers and theories that explain the motivation of health workers was therefore important for informing the conceptual framework, analysis and discussion of findings. The review of literature on the motivation of health workers spanned two main areas; incentives for the motivation of health workers and theories for the motivation of health workers. This enriched my understanding about the current incentive structure for the health workforce. In addition, it guided the selection of a framework and methods for assessing changes in incentives for clients and providers, and their influence on access to maternal health services.

The performance of those who deliver health services to a large extent determines the quality, efficiency, and availability of the services (Franco, Bennett et al. 2002). According to a study done in 29 African countries, the challenges that are facing health workers include shortages of staff, low motivation, lack of equipment, frequent shortages of supplies and mounting workload (Mathauer and Imhoff 2006). The shortage of health workers in developing countries has been the result of external movement of health workers to more developed countries, death from HIV/AIDS as well as in-country migration from rural to urban areas and private to public sector (Chen, Evans et al. 2004). The most common response to this crisis has been discussions around training more health workers, however it is being realised that incentives, retention and motivation of the remaining workforce also needs to be addressed (Bidwell, Thomas et al. 2009).

Motivation has been defined as “an individual’s degree of willingness to exert and maintain effort towards organizational goals” (Franco, Bennett et al. 2002). The literature also shows that motivation may be perceived differently in different contexts. In Benin motivation was perceived more as an incentive to perform better rather than as an intrinsic process or willingness to do one’s work (Mathauer and Imhoff 2006). Different incentives have been used to motivate health workers. The section below draws together key findings about the use of incentives to motivate health workers.

2.4.1 Incentives for the Motivation of Health Workers

A systematic review on motivation and retention of health workers in developing countries identified seven major themes that were related to motivation. These included financial rewards, career development, continuing education, hospital infrastructure, resource availability, hospital management as well as recognition and appreciation, with the core factors being financial incentives, career development and management issues (Willis- Shattuck, Bidwell et al. 2008).

Financial Incentives

The review showed that financial incentives may be rated differently by different cadres and in different contexts. For example nurses were reported to rate financial rewards higher than other cadres, perhaps because they tend to work longer hours and often receive less pay (Dieleman, Toonen et al. 2006; Willis-Shattuck, Bidwell et al. 2008). Health workers from low income countries also tend to rate financial rewards higher than their counterparts from higher income countries and this has often been cited as a reason for migration (Willis- Shattuck, Bidwell et al. 2008). The review concluded that although financial incentives are important, they need to be integrated with other incentives (ibid). Other authors have also cautioned that financial incentives should be handled with care because they can instead create demotivation and competition, creating a culture of personal financial reward rather than promoting the value of professional ethos (Le Grand 1995; Franco, Bennett et al. 2002; Bidwell, Thomas et al. 2009).

As alluded to above, several authors have acknowledged that although financial incentives alone are not sufficient to motivate health workers, more consideration needs to be given to raising the remuneration of health workers in low income countries (Franco, Bennett et al. 2002; Mathauer and Imhoff 2006). The current form of payment by salaries which is commonly used in many low income countries does not provide an incentive to improve output and quality (Agyepong, Anafi et al. 2004). On the other hand it might be that the salaries are simply too low (Agyepong, Anafi et al. 2004). One of the suggestions given for increasing financial incentives is through additional or top up allowances rather than by increasing salaries across the board (Agyepong, Anafi et al. 2004). However if such allowances are given they need careful monitoring to ensure that they are administered appropriately, their successful implementation may be hampered by the difficulty of designing and implementing objective performance criteria. Secondly political interference, lack of good governance and transparency, as well as corruption and nepotism may complicate the process even more (Mathauer and Imhoff 2006). The experience from Ghana where such a system is in

place to pay for overtime shows that the method used to request for the additional allowances is open to misuse such that some workers request for allowances that are beyond the time that they worked. Secondly when only some categories of staff benefit the rest get agitated. The end result has been that some workers are demotivated instead (Agyepong, Anafi et al. 2004). The following suggestions have been made about using financial incentives positively;

1. They should be linked to work output and quality of work, so that they can provide an incentive to improve performance. This should be measured using both implicit and explicit performance measures. Implicit performance measures are prone to several biases.

- The way the evaluations are done may not be transparent and can't be verified by a third party.
- Secondly they may not reflect the interests of clients. Principals may also wish to keep their costs down by under rating performance so that the additional pay wages remain low especially if they benefit from profits from the firm (Scott and Farrar 2002). However in a dynamic context this may be overcome by competition and the desire for employees to perform better.
- Inefficiencies may also arise where bad performance isn't differentiated from good. This leads to a centrality bias with the majority of employees getting rated around a certain norm that varies little. Alternatively it may lead to a leniency bias where by underperforming employees are given higher ratings in order to minimise the discomfort of delivering the bad news of poor performance (Scott and Farrar 2002).
- In another form of bias, agents deliberately attempt to please the principal so that they can get higher ratings. This may have two problems; firstly such actions may be of less value to the organization, secondly they may also lead to inflated personal

ratings making it difficult to identify true performance (Scott and Farrar 2002).

2. If the allowances are individual then they should benefit all the health workers who play a key role in service delivery rather than a specific category.
3. The systems should include rewards for team performance rather than individual effort only since health care tasks often require a team approach (Scott and Farrar 2002; Agyepong, Anafi et al. 2004). Several different skills are often required in health care and these need to be carefully integrated to promote the production of high quality care (Scott and Farrar 2002). It should be noted however that team based compensation may improve the performance of the weakest members of the team and discourage the high performers who tend to prefer individual compensation (Hansen 1997). Another concern is the concept of free riding, where some members of the team may put in little effort and leave the work to their counterparts. Peer pressure and mutual monitoring have been recommended as solutions to this problem
4. Efforts made towards improvement should also be rewarded. Reward of only good performance can demotivate those at the bottom of the scale (Locke and Latham 2002; Agyepong, Anafi et al. 2004).

Informal Payments

Informal payments are common in many low income countries where health workers are very poorly remunerated (McPake, Asiimwe et al. 1999; Lerberghe, Conceicao et al. 2002; Ensor 2004b; Allin, Davaki et al. 2005; Lewis 2007). The term is commonly defined as payments that are made to providers in cash or kind outside official channels (Lewis 2007). It is difficult to categorise the various types of payments, however they can be categorised

into three main groups; cost contributions, misuse of market position and payment for additional services (Ensor 2004b).

Although it has been suggested that this may be a useful additional source of income in countries where health workers are grossly underpaid, findings from Tanzania show that in general health workers reported that those engaged in such activities instead feel guilty, uncomfortable, dissatisfied and demotivated (Bidwell, Thomas et al. 2009; Stringhini, Thomas et al. 2009). In addition the health workers felt that informal payments affect access to health services in several ways.

- Create a barrier to accessing services for the poor.
- Compromise efficiency by directing resources to more profitable services rather than effective ones, and to profitable patients rather than those in need.
- Undermine government's ability to raise additional financing for healthcare and to regulate health care financing (Stringhini, Thomas et al. 2009).

It is therefore apparent that the problem of informal payments in the health system should be eradicated. However there is no easy solution. The suggestions that have been advanced for solving the problem include improvement of working conditions and providing opportunities for training and career growth as a way of eventually improving earnings, publicly condemning the practises (especially those that impact on service delivery negatively), increasing accountability of health workers and formalising payment systems with exemption systems for those who are unable to pay for services (Lerberghe, Conceicao et al. 2002; Ensor 2004b; Allin, Davaki et al. 2005; Lewis 2007).

Non Financial Incentives

The non financial incentives that were identified in the literature include career development, management, recognition or appreciation, support

supervision and positive feedback, education as well as hospital infrastructure and resource management. The review showed that the use of these non financial incentives to motivate health workers can be further strengthened through improved human resource management. Efforts to improve the management and leadership skills of managers in low developing countries who are reported to have inadequate skills therefore need to be strengthened (Bidwell, Thomas et al. ; Mathauer and Imhoff 2006). Several studies have also reported that health workers find it demotivating to work in an environment where the resources they need to provide a good service to their clients is lacking (Agyepong, Anafi et al. 2004; Manongi, Marchant et al. 2006; Willis- Shattuck, Bidwell et al. 2008). This lack of resources affects their ability to provide quality services which in turn influences appreciation and recognition from clients and yet this has also been shown to be a strong motivating factor (Willis- Shattuck, Bidwell et al. 2008).

Interventions that are aimed at motivating health workers need to be carefully designed so that they have the right mix of incentives that will motivate the workers. While some of the financial and non financial incentives can be provided by voucher schemes, others such as career development, recognition, education, hospital infrastructure require strong involvement of the local governance structures (Kyaddondo and Whyte 2003). Where health systems are weak and human resource development is poor these financial incentives may not be exploited to their full potential (Mathauer and Imhoff 2006). This issue will be explored further in the concluding chapters of the thesis.

2.4.2 Theories for the Motivation of Health Workers

Several theories have been proposed for understanding motivation. Herzberg differentiates between them as extrinsic and intrinsic factors. The intrinsic factors which are perceived to be motivators include factors which relate to job content such as recognition, achievement, the work itself and responsibility advancement. In contrast, the extrinsic factors which relate to the job context are perceived as satisfiers which may contribute to job

retention but not motivation and include supervision, working conditions, salary, job security (Hertzberg, Mausner et al. 1959). However when reviewing the literature one notes that when health workers are asked what motivates them some extrinsic factors such as supervision and working conditions have been mentioned as motivating factors (Manongi, Marchant et al. 2006; Willis- Shattuck, Bidwell et al. 2008). This may arise partly from differences in perception about what constitutes a “motivator” and also from differences in the influence of environmental factors. According to Bidwell et al incentives are valued differently depending on the profile of individuals (Bidwell, Thomas et al. 2009). Their age, gender, stage of career, number of dependents, personal values etc may therefore determine how incentives influence them and hence which factors motivate them.

Another theory that has been commonly used to explain motivation is Maslow’s hierarchy of needs (Maslow 1957). The lowest level comprises of physiological or basic needs such as food and clothing, while the highest level is self actualization (self fulfilment). According to this model, only when one level of needs has been met does the individual change focus to meet the next level of needs. Indeed there is evidence to support the theory that needs are met in a hierarchical manner, however it has also been noted that this is not always the case. In some cases individuals may progress to a higher level of need, without meeting the lower one. For example in Africa many health workers are motivated to show compassion and care for their patients and yet they don’t earn sufficient income (Bidwell, Thomas et al. 2009).

McGregor’s theory X and Y, classifies people into 2 categories the X type of people who don’t like work, think only of personal monetary gains, resist change and are not intelligent while the Y theory categorizes people as being intelligent, self directed and committed. People with the Y characteristics are therefore more hardworking and need less supervision (McGregor 1957). He explained that those under theory X are mainly trying to meet their basic level needs and are therefore driven by monetary incentives while those in the Y category have met their basic needs and are moving to meet higher level needs related to self actualization and self esteem (McGregor 1957).

Edwin Locke also came up with the goal setting theory where he proposes that goal setting is linked to performance (Locke and Latham 2002). Hence more complicated and challenging goals lead to higher motivation and better performance. The ability to be motivated is therefore linked to the clients' self efficacy. Hence his participation in setting the goal is key to his being able to achieve the targets set. Feedback is also particularly helpful under this theory. The main criticism of this theory was the fact that there is no evidence that goal setting improves job satisfaction.

Skimmers theory on reinforcement is mainly useful in explaining how behaviour is reinforced and learned, with positive reinforcement encouraging desirable characteristics and negative reinforcement discouraging them (Bourbon 1997; Dailey 2008). The equity theory mainly relies on the individual's perception of the degree to which fairness, equity and judgement is practised by the management. If their perception of their treatment is that it is fair then they are more likely to have higher motivation levels (Adams 1963).

Two theories for the motivation of health workers have been reviewed in detail because they link more directly with the work planned under this thesis.

The will do and can do theory by Franco and Bennet proposes that motivational processes in the work context operate at the level of the individual and comprise of two parallel components the extent to which workers adopt organizational goals ("*will do*") and the extent to which they effectively mobilize their personal resources to achieve these goals ("*Can do*"). These two components are further determined by factors arising from the individual, organizational work context and the cultural context with the socio-cultural context of the health workers determining the relative importance of each of these levels (Franco, Bennett et al. 2002).

The individual workers determinants affect internal motivation, by influencing the extent to which organizational goals are adopted as personal goals and the extent to which workers will mobilize resources to accomplish group tasks. These individual determinants include their individual goals, self

concept and self efficacy, expectations, and experience of outcomes (Franco, Bennett et al. 2002).

Organizations influence motivation through efforts to improve worker capability, provision of resources and processes, feedback, performance assessments and consequences as well as through the work culture. They impact on the workers motivation through influencing their adoption of organizational goals and their perceptions about the possibility of contributing to these goals (Franco, Bennett et al. 2002).

Programs designed to motivate health workers can affect aspects of the organizational structure and process in a manner that can influence health worker performance and motivation. For instance they can improve worker capability, provision of resources and processes, supervision and performance assessment with corrective feedback. They may also indirectly influence individual goals and motives (ibid).

Communities also influence worker motivation through their expectations of service delivery, individual client provider interactions and formal and informal feedback about services (ibid).

Lastly the expectancy theory has also been advanced as a process theory of motivation. According to this theory, an individual's motivation is a multiplicative combination of expectancy, instrumentality and valence (Vroom 1964). These three, form the main components of the theory.

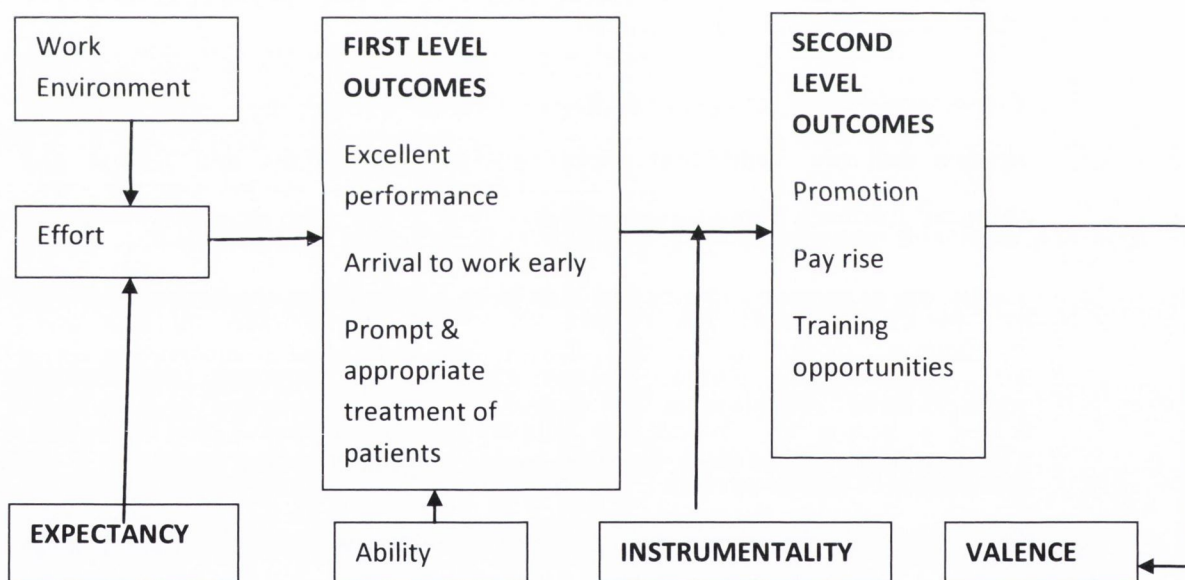
Expectancy. Expectancy is the employee's subjective belief that a given level of effort will lead to a specific first level outcome on the job. There are two levels of outcomes. First level outcomes such as job performance and second level outcomes which are a direct result of achieving or not achieving first level outcomes e.g. receiving a pay rise or a promotion.

Instrumentality: The personal belief that first level outcomes will lead to second level outcomes. If instrumentality is positive, then the employee believes a second level outcome will occur given some level of performance.

Valence: The personal attractiveness of different outcomes. If an outcome has a positive valence, then the employee gets motivated by behaviours which he thinks will lead to this outcome.

Fig 2.3 summarises this theory. For the employee to achieve a specific first level outcome he must exert a certain amount of effort. He will only exert this effort if his expectancy is high. Another reason for exerting the effort is the instrumentality that he has, his belief that this first level outcome will lead to a desired second level outcome with a positive valence. However, the improved performance may also be positively valent in its own right. It is important to note that the work environment and the ability of the individual are also important for helping him achieve the required effort (Vroom 1964).

Figure 2.3: Expectancy theory



Adapted from Dailey (2008)

Although several theories of motivation have been reviewed, two of them are particularly relevant for the thesis. The will do and can do theory by Franco and Bennet which links individual, organizational and community level effects to motivation and the expectancy theory which explains in more detail how an individual actually gets motivated to undertake specific forms of behaviour.

2.5 Key Features of the Review and Application of the Literature

2.5.1 Key Features of the Literature Review

The review of literature focused on the following topics;

- Access to health services
- Demand side financing
- Health and demand for health care
- The use of incentives in health care
- Incentives and theories for the motivation of health workers

Key issues from the review are summarised below;

1 The review of literature around access to health services revealed that;

- Utilization of ANC at least once is high in many developing countries; however the utilization of delivery care and postnatal care is low in most developing countries.
- The main factors that influence utilization of maternal health services are poor geographical and financial accessibility, social and cultural preferences as well as the poor quality of health services characterised by shortage of both staff and equipment and rude health workers who are disrespectful to patients. The incentives provided by the scheme need to be able to influence these factors.

2 The review around DSF revealed that ;

- Attention has been drawn to DSF as an approach that has the potential to increase utilization of key services among the poor by increasing their purchasing power. Secondly it could result in improvements in quality and efficiency by stimulating competition among providers.

- The voucher schemes reviewed in this thesis increased the utilization of maternal health services such as ANC, delivery and PNC. Some of the schemes were able to demonstrate increased utilization among the poor. This was mainly attributed to the reduction in financial costs.
 - In spite of the presence of the vouchers, some women still didn't utilize formal maternal health services. The main reasons that were given for non use included difficulty in accessing transport, poor perceived quality of services, as well as cultural norms. A multisectoral approach was recommended for addressing demand and supply side constraints that influence the utilization and delivery of maternal health services.
 - Lastly the review of voucher schemes showed that there is a paucity of information on how DSF influences incentives for health care workers and how it influences the quality of services delivered. This thesis could therefore contribute to the existing body of evidence.
- 3 The review of literature around the health care market and demand for health care, showed that
- Several determinants influence demand for supplies including health care. These include the price of the good, income, tastes and preferences of the consumer, keeping other factors constant.
 - It also showed that the market for health care is faced by problems such as uncertainty and information asymmetry. This led to the development of the principal agency relationship where the principal contracts the agent to make decisions on his behalf and then the principal uses incentives to ensure that the agent makes decisions that are in his favour.

- 4 The review of the use of incentives in health care showed that
- There are mixed results about the use of financial incentives in health care. Incentives can have positive consequences such as improving performance especially if it promotes a team approach to work.
 - Financial incentives can also have negative effects such as diverting attention from other services that are not rewarded. The incentives may also fail to lead to the desired behaviour if the rule linking the reward to the actions is vague or if the targets set are unachievable and there is no reward for the effort put into trying to achieve the desired outcomes.
 - The review concluded that financial incentives need to be carefully applied to promote team work and using both explicit and implicit performance measures is recommended.
- 5 The review of literature around the motivation of health workers illustrated that
- The main motivating factors for health workers included financial rewards, career development, continuing education, hospital infrastructure, resource availability, hospital management and recognition and appreciation, with the core factors being financial incentives, career development and management issues.
 - Both financial and non financial incentives are important for motivating health workers; hence strategies to improve motivation need to include both types of incentives.
 - Issues related to the low income of health workers in low income countries need to be addressed. One of the suggestions proposed is the provision of additional income that is linked to output and quality rather than raising salaries which do not provide an incentive for better performance.

- It also revealed that the use of human resource management tools could increase the benefits that can be gained from non financial incentives; however their use has not been fully exploited in most developing countries.
- 6 The review around theories for the motivation of health workers, exposed several theories that have been used to explain motivation. Two theories that were considered most relevant for this work include the expectancy theory and the will do and can do theory.
- According to the framework proposed by Franco et al (2002) motivation at the individual level is composed of two components, the “will do” and “can do” components. These components are influenced by individual, organizational work context and cultural factors in the health work force environment. Hence a health workers willingness to devote time and effort to work tasks can be influenced by these three factors.
 - Under the expectancy theory individuals exert more effort if they expect to receive a reward that they consider valuable.

2.5.2 Application of the Literature to the Focus of the Thesis

This literature review has been useful for shaping the thesis in various ways.

1. It has provided the basis for key definitions that have been employed in the thesis as outlined below;
 - I adopted the definition in which access to health services is related to the degree to which individuals are inhibited or facilitated in their ability to gain entry to and to receive care from the health system(Institute of Medicine 2012). This definition incorporates demand and supply side barriers which the voucher scheme intended to influence by providing incentives for providers and clients in an attempt to facilitate access to maternal health services. The demand

side barriers include factors such as availability of transport, financial constraints, knowledge about health services and cultural restrictions, while the supply side barriers include factors such as availability of appropriate human resources, drugs, supplies, infrastructure and equipment as well as process factors such as waiting time (Kiwanuka, Ekirapa et al. 2008).

- The definition for motivation as an individual's degree of willingness to exert and maintain effort towards organizational goals was also obtained from the literature (Franco , Bennett et al. 2002).
 - Similarly the definition for incentives as a form of payment that is expected to result in a particular type of behaviour was adopted from the definition by Buchan.
2. The dimensions of access that were assessed in this study were derived from the literature and they included geographical accessibility, availability, financial accessibility, utilization and perceived quality (Peters, Garg et al. 2008).
 3. The literature review also aided in the identification of the different types of financial and non financial incentives that were assessed in this thesis.
 4. Furthermore it informed the development of the conceptual framework and propositions which have been used to guide this work. A framework that would offer a more holistic explanation was desired. Out of the available frameworks, I chose two frameworks one by Franco et al (2002) and the expectancy theory. The framework by Franco et al was very comprehensive. It not only considered individual factors that could affect motivation, but it also encompassed organizational factors and community factors that could affect motivation. However this framework did not offer sufficient explanation about what causes an individual to exert a specific amount of effort in their work. In this regard the expectancy theory seemed more applicable compared to the other theories such as the goal setting theory, McGregor's Theory X and Y, and Skimmers theory on reinforcement.

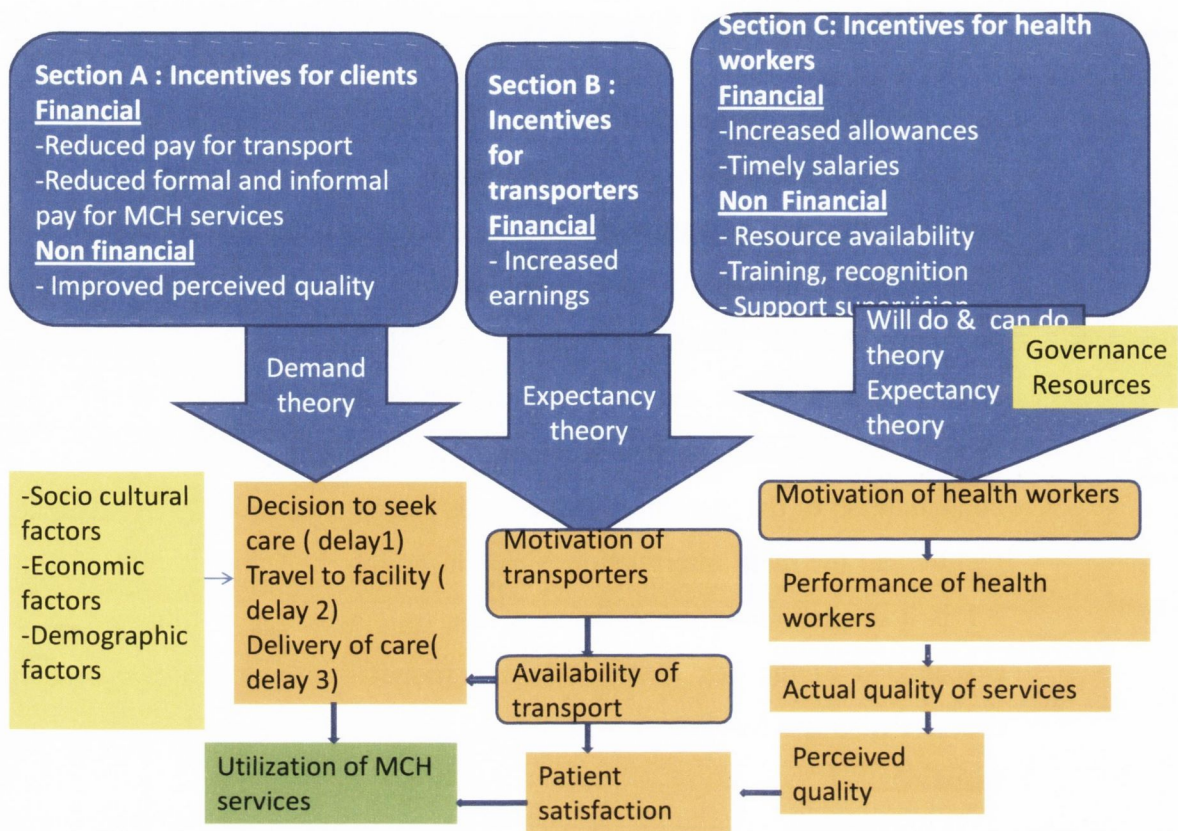
5. It also provided a standard for comparing findings from this work with other studies and providing recommendations for policy, implementers and academia.

Chapter 3

3.0 Conceptual Framework

As noted earlier, the focus of this thesis is to answer two main questions that seek to explore how the voucher scheme will change incentives for the clients and providers, and how this will influence access to maternal health services. This chapter is devoted to the conceptual framework which demonstrates the pathways through which the voucher scheme will change incentives for clients and providers and how this alteration of incentives will influence access to maternal health services. The conceptual framework is a consolidation of the literature for the thesis and it gives linkages between key factors and the main interrelationships concerning the topic of study. Figure 3.1 is a diagrammatic presentation of the framework. It is followed by an explanation of the key elements of the framework. The last two sections describe how the framework was derived as well as its uses, limitations and variations.

Figure 3.1: Conceptual framework



3.1 Key Elements of the Conceptual Framework

The framework has three main areas section A, B and C. Section A focuses on the incentives for clients, B incentives for the transporters and C on the incentives for health workers. Each of the key components of these sections will be introduced in turn. A detailed discussion of the underlying processes is provided under the derivation of the conceptual framework.

Section A

This section presents the incentives that were planned for the clients, their responses to the incentives and anticipated effects on the demand and hence utilization of maternal health services. Utilization of MCH services is used as a proxy for access to maternal health services. The key components of section A are highlighted below;

- The incentives planned for the clients comprised of financial and non financial incentives (see section A of the conceptual framework). The main financial incentives planned for the clients included reduction in pay for transport and for MCH services. These costs were met by the voucher scheme through the transport vouchers and the service vouchers.
- The non financial incentive was improved perceived quality of services (see section C for explanations of how improved perceived quality was to be achieved).
- Through the demand theory (“*when the price of a good decreases, the amount of the good purchased increases*”) It is anticipated that reductions in the cost of seeking services will influence decision making about seeking care (delay 1); and the actual seeking of care (transport to the health facility – delay 2); and delivery of care (delay 3) consequently leading to increased utilization of maternal health services.
- Furthermore if the perceived quality of services was improved, it was anticipated that this would also result in increased demand for maternal health services.
- It is also acknowledged that other factors not represented in this framework such as social cultural factors, demographic factors may also influence the utilization of maternal health services.

Section B

This section presents the incentives that were planned for the transporters, their expected responses and the anticipated resultant effects on the utilization of maternal health services.

- The expected financial incentive for the transporters was increased earnings from the transport vouchers (see section B of the conceptual framework).

- According to the expectancy theory, it was anticipated that these earnings would motivate the transporters, who would respond by providing more transport services and this increased availability of transport would facilitate travel to the health facility hence increasing the utilization of maternal health services.

Section C

Section C displays the incentives that were planned for the health workers, their expected responses and the anticipated resultant effects on the delivery and utilization of maternal health services. The main components of section C are presented below

- The main financial incentives that were planned for health workers comprised of increased pay either in the form of increased allowances or timely salaries (see section C of the conceptual framework).
- The anticipated non financial incentives included training, improved availability of resources, positive supervision and feedback as well as recognition.
- It was anticipated that through the will do and can do theory as well as the expectancy theory, these financial and non financial incentives would lead to the motivation of the health workers.
- Their increased motivation would then lead to improved performance and improved actual quality of services.
- It was then expected that the improved actual quality would lead to improved perceived quality resulting in patient satisfaction with services and consequently increased utilization of MCH services.
- It is worth noting that external factors such as governance at the facility level and availability of resources will also influence the expected responses of the health workers.

3.2 Derivation of the Conceptual Framework

The main thrust of the conceptual framework is to explain how incentives provided by the voucher scheme will influence access to MCH services. It was therefore necessary first of all to identify the incentives that could be provided by the scheme and then to identify expected responses and their influence on access to MCH services based on existing theories. Consequently the explanation of the derivation of the conceptual framework has two main parts

- Identifying incentives
- Expected responses and theoretical explanations

These sections are elucidated in turn.

3.2.1 Identifying Incentives for Clients and Providers

The financial and non financial incentives that were identified for the clients were derived based on the review of literature on factors that influence the utilization of maternal health services (see chapter 2.5.3) and review of incentives that were provided in other voucher schemes implemented in other areas of the world (see chapter 2.2.4). Consideration was also given to the incentives that were planned for clients under the project (see Appendix 2). The literature showed that there were several barriers and therefore several incentives could be given to overcome these barriers. The incentives that could be provided to the clients included financial incentives that could meet the cost of transport, and meet the cost of seeking services, as well as improved quality of services.

Similarly incentives for the health workers were derived based on the review of literature around incentives for the motivation of health workers (see section 2.5.1) and consideration of the incentives planned for the health workers under the project. The literature revealed the main motivating factors for health workers. While some of them could be provided by the voucher

scheme as planned under the project some could not, and so for this work I selected those that were likely to be provided under the planned project. The incentives for transporters were identified based on the project plans for transporters.

3.2.2 Expected Responses and Theoretical Explanations for the Responses

Expected responses and influence on maternal health services will be discussed with reference to sections A, B and C of the conceptual framework, that focus on clients, transporters and health workers respectively.

Theoretical Explanation of Responses among Clients

As explained in section A, it was anticipated that if the financial incentives resulted in reduced cost of seeking care, then financial access to services would be improved and more women would demand and utilise MCH services. Since the main barrier addressed was financial, one of the theories that could be used to explain this behaviour was the demand theory. According to the theory of demand when the price of a good decreases the quantity of the good demanded increases. Although the consumer demand theory in its entire form where price is the only determinant of demand for services may be difficult to fully apply in the health care setting because of the unique features of health and the difficulty of holding all other factors constant in practise, some aspects of it are still applicable (McPake and Normand 2008).

The non financial incentive for the clients was improved perceived quality of care (see section on theoretical explanation of responses among health workers for explanation of how this would be achieved). Improved perceived quality reflects a change in the taste and preference of the consumer. As noted in the literature review, this is one of the determinants of demand. The perceived quality of services is therefore one of the factors that could influence the utilization of maternal health services. In the Ugandan context, maternal health services are provided by formal trained health workers as well as relatives and traditional birth attendants. Each of these services are

utilized for different reasons, so it was implicit that it was not only price that would affect the utilization of services but also the preference and test of the consumers. The clients would be expected to consume services that meet their expectations.

Theoretical Explanation of Responses among Transporters

As mentioned in section B it was expected that the availability of transport services would increase, and so together with the increased affordability of transport services it would be easier for mothers to travel to the health facilities. The expectancy theory is useful for explaining the actions of the transporters. Their main interest was to make a profit; therefore if this expectation was met then they would exert more effort into providing efficient transport services to their clients, thus increasing transport availability and addressing the second delay which is getting to the health facility.

Theoretical Explanation of Responses among Health Workers

The health workers had a critical role to play, since they are responsible for service delivery and existing literature had already shown that quality related issues were one of the key factors influencing access to maternal health services (Agyepong, Anafi et al . 2004; Waiswa, Kallander et al. 2010). It was anticipated that the financial and non financial incentives would lead to the motivation of the health workers and hence improved performance, improved actual and perceived quality of services, increased patient satisfaction with services and hence increased utilization of maternal health services.

According to Franco and Bennet, organizational processes and structures influence performance in a health facility. The current state of these structures and processes and the resultant influence of the voucher scheme were therefore likely to affect worker motivation, performance and hence delivery of maternal health services positively or negatively. Some processes such as resource availability, support supervision and feedback were likely to be

affected by the scheme, while the governance at facility, health sub district and district level is an underlying factor that would affect provider responses to the scheme and hence access to maternal health services.

According to the Expectancy theory (1964), the incentives provided by the voucher program could alter the work environment and raise the expectancy of the providers. This could cause them to exert extra effort to improve their performance at work. If this improved performance was rewarded by outcomes that are valued by the providers, then it would encourage health workers to continue exerting more effort to achieve organizational goals which are ultimately aimed at improving the quality and utilization of maternal health services. However it is also important to note that improved performance and achieving of expected goals itself may be rewarding to the health workers who primarily want to improve the health of mothers.

3.3 Uses and Variations of the Conceptual Framework

3.3.1 Uses of the Conceptual Framework

In this thesis this framework is being used as an analytical tool. Components of this conceptual framework will be tested as stipulated in the research propositions. Specifically I intend to establish the following

- Whether and how the cost of seeking services reduced and whether this contributed to increased utilization of maternal health services.
- Whether there was a positive change in the motivation and performance of health workers, reflected in improved availability, responsiveness and attitudes of health workers. In addition it will be used to provide an explanation for these changes.
- Whether the changes among health workers improved the perceived quality of services and patient satisfaction with services resulting in increased utilization of maternal health services.

This framework can also be used both as an explanatory and a prescriptive tool by implementers of voucher schemes and maternal and newborn health programmes. It can aid them to identify the factors that affect the utilization and delivery of maternal health services and solutions and actors who can be used to contribute to solving these challenges.

3.3.2. Variations of the Conceptual Framework

Three variations of this conceptual framework are possible as explained below;

- Utilization of maternal health services has been used as the main outcome rather than access to maternal health services. Dimensions of access such as financial access, geographical access and availability can be used both as outcome variables or explanatory (independent variables), According to the definition of access used in this work they are major determinants of whether services will be utilized or not. I therefore decided to use them more as explanatory variables. This was also done in order to maintain the simplicity of the conceptual framework.
- Different theories could be used to explain the changes in incentives and responses to them; however for reasons explained earlier, the demand theory, the three delays model, the will do and can do theory as well as the expectancy theory.
- Lastly this framework was developed before the thesis was undertaken. During the data collection, analysis and writing of the thesis, additional incentives which are not reflected in the framework presented above were identified. These incentives have been included in a modified framework presented on page 261.

3.4 Research Propositions

Research propositions are particularly useful for guiding the data collection and analysis to ensure that information required for answering the research questions is obtained and analysed appropriately. This study has two groups of research propositions.

Proposition 1

The theory of demand is used to explain the expected response among the clients. According to this theory, when the price of a good decreases the quantity of the good demanded increases (McPake and Normand 2008). It was anticipated that if the cost of seeking care in public and private facilities decreases as a result of the voucher program, the consumption of maternal health services (utilization) will also increase. The sub propositions around this area are the following;

- If the transport vouchers are used to pay for transport to the health facilities, the cost of seeking care is likely to decrease because the transport vouchers will lead to a reduction in the amount of money that mothers need to pay for transport for maternal health services. It is therefore expected that women will utilize more services (Delivery, PNC and ANC¹) since it will be easier for them to access the health facility.
- If the service voucher is used to pay formal health service fees for maternal health services (Delivery, PNC and ANC), it is expected that the formal cost of seeking care will decrease. Since clients will not have to meet the costs, it is expected that they will demand and utilize more services.
- If finances from the service vouchers are used to provide allowances to the health workers, it is anticipated that the informal cost of seeking

¹ Vouchers will cover ANC services only in Kamuli district where the pilot was done and in selected private facilities where previously patients had to pay for services.

care will decrease because the voucher for services will provide allowances for health workers in the public sector and improve the availability of sundries. This will reduce the tendency of asking clients for under the table payments and money for the purchase of supplies required for service delivery, hence the clients will utilize more services.

Proposition 2

The expected response by the health workers could be explained by the motivation theory by Franco and Bennet and the Expectancy theory. Under the motivation theory by Franco and Bennet these incentives will affect the *will do* (extent to which health workers accept and adopt organizationally prescribed goals) and the *can do* (extent to which workers effectively mobilize their resources to accomplish joint goals) components of health worker motivation through influencing directly or indirectly aspects of individual and organizational work context (Franco, Bennett et al. 2002).

According to the expectancy theory, the incentives provided by the voucher program will raise the expectancy of the providers. This will cause them to exert extra effort to improve their performance at work in expectation of a reward that they value (regular pay and increased allowances) (Vroom 1964). This improved performance will lead to improved delivery of maternal health services, improved actual and perceived quality, and increased patient satisfaction and hence increased utilization of maternal health services.

- The sub propositions around this area are the following; if facilities have good governance, they are likely to provide an environment in which organizational goals, missions, norms and standards are embraced by the health workers. Hence this kind of governance will increase the extent to which health workers accept and adopt organizationally prescribed goals (*will do component*). This is likely to lead to improved performance and improved actual and perceived quality of services.

- If facilities have resources such as trained health personnel, supplies, drugs and equipment, and organizational processes are conducive they will provide an enabling work environment for health workers. This kind of environment will encourage health workers to exert extra effort to achieve their specific tasks and roles (can do component). This will lead to improved performance hence improved actual and perceived quality of services, increased patient satisfaction and hence increased utilization of maternal health services.
- If good performance is rewarded by outcomes that are valued by the providers such as increased allowances, regular or increased pay then the providers will be encouraged to continue exerting effort in their work (positive instrumentality). This good performance on its own may also be intrinsically rewarding to the providers because they are able to achieve their objective of helping the mothers to access care. Hence the improved performance will lead to improved actual and perceived quality of maternal health services.

Chapter 4

4.0 Methods

4.1 Study Design

This work has employed a multiple case study design. The case study is mainly explanatory in nature, but it has some exploratory aspects (with definitions supplied later in this chapter). In the sections that follow I briefly describe the main facets of a case study and then provide a justification for choosing this particular design.

4.1.1 Case Study Design Approach

There are numerous definitions of case studies, some of which are contradictory and considered largely misleading (Flyvbjerg 2006; Flyvbjerg 2011). However consensus appears to be moving towards definitions such as that by Yin in which the case study has been defined as an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident (Yin 1984). In a similar line of thought, it has also been defined as an intensive study of a single unit or small number of units for the purpose of understanding a larger class of similar cases (Yin 1984; Gerring 2007). According to Flyvbjerg (2011) there are 3 important distinctions about the case study: It focuses on the in depth study of an individual unit, it stresses developmental factors (the fact that a case evolves over time as specific activities and events unfold) and lastly case studies relate to the environment, such that activities occurring external to the case study unit are considered as contextual factors (Flyvbjerg 2011). On the other hand, Yin (1984) outlines another set of three distinguishing factors.

- The case study approach is able to allow investigations in a situation where there are more variables of interest than data points presenting these as a single result,

- It relies on multiple sources of evidence, which are triangulated to form one result
- It benefits from the prior development of theoretical propositions that can guide the process of data collection and analysis (Yin 1984). This last factor distinguishes it from other qualitative methods such as ethnography and grounded theory which typically don't start off with a theory.

There are three main types of case studies; explanatory, exploratory and descriptive case studies (Yin 1984). The explanatory case study seeks to explain why certain phenomena happen, while the exploratory one explores or investigates specific phenomenon with the aim of providing a better understanding of them and the descriptive one focuses on describing particular phenomena (Yin 1984). Case studies can be carried out using a single case or multiple cases. The single case study is especially useful when the case represents “*a critical test of existing theory, a rare or unique circumstance, a representative or typical case and a revelatory or longitudinal purpose*” (Yin 1984). Multiple case studies on the other hand are especially useful for allowing literal or theoretical replication. When literal replication occurs, the same consequences are seen occurring over and over again in different cases. On the other hand with theoretical replication, different outcomes are seen with plausible explanations that help to strengthen rather than weaken the theory. The evidence from multiple case studies has thus been considered more compelling and robust by some authors (Herriot and Firestone 1983). These single or multiple case studies can be further described as single or embedded. When they are single they are holistic and have the case itself as a unit of analysis, whereas when they are embedded they have other smaller units of analysis besides the main primary unit of analysis (Yin 1984).

Advantages and Limitations of the Case Study Approach

As alluded to earlier, case studies are useful for answering research questions that try to answer how a particular phenomenon exists or why it exists

(Gerring 2007). Their ability to handle mixed methods and the rich material which they generate, therefore facilitates the understanding of why something happens rather than just indicating that something happens (Yin 1984). It is also suitable when the context in which the phenomenon takes place plays a significant role in influencing the outcome and when you can't control the context sufficiently (Yin 2003). Thirdly, if well designed it has strong internal validity and can be used to build theory and generate hypotheses (Gerring 2007). Fourthly, it is suitable for studying heterogeneous cases (Gerring 2007).

The common misunderstandings in relation to case studies and perhaps qualitative research in general relate to five main issues. These include;

1. General scientific knowledge is more important than theoretical knowledge.
2. The claim that one can't generalize on the basis of an individual case therefore the case study cannot contribute to scientific development.
3. The case study is more suitable for generating hypotheses, rather than for testing or generating theory.
4. The case study contains a bias towards verification, a tendency to confirm the researchers preconceived opinions.
5. It is generally difficult to summarise and develop propositions and theories on the basis of specific theory (Flyvbjerg 2006; Flyvbjerg 2011).

In response to the first misunderstanding, Flyvbjerg argues that it has been shown that the kind of context specific information generated by case studies is actually useful for learners to progress from being rule based beginners to experts. With regard to the second misunderstanding, it is now generally agreed that findings from case study designs can still be applicable to the wider class of similar cases and to populations in a similar context (Yin 1984; Flyvbjerg 2006; Gerring 2007; Flyvbjerg 2011). Findings from case studies

can be generalised through a second level type of inference commonly referred to as “analytical generalization”. This type of generalization is dependent on the literal and theoretical replication of the theory employed in the study rather than the representativeness of the study population as seen in statistical generalization (Yin 1984; Yin 2003). With reference to the last three misunderstandings the literature shows that if well designed and implemented, and depending on the research question at hand, case studies can be used both to generate and test hypotheses, to build theories and they can be implemented with minimal bias. Lastly although it is difficult to summarize and develop propositions from case studies it is possible to do so (Yin 1984; Flyvbjerg 2006; Flyvbjerg 2011).

Designing and Analysing Case Studies

The case study design has 5 main components that are especially important, the study questions, its propositions, its units of analysis, the logic of linking the data to the propositions and the criteria for interpreting the findings (Yin 2003). The study questions answered by a case study need to be appropriate, aiming at answering how and why questions. These questions should be guided by propositions that lay out the areas that are to be investigated eventually forming a link between the data collected and the conclusions drawn from a study (Yin 1984). The unit of analysis needs to be well articulated, to ensure that attention is paid to the correct variables. A specific logic needs to be applied when linking the data to the propositions. This commonly involves, pattern matching, explanation building, rival explanations or the use of logic models (Yin 1984). Lastly the criteria for interpreting the findings need to be well thought out and clear (Yin 1984).

Selection of Research Design

The selection of the research design was guided by several factors. These included my world view assumptions, the appropriateness of different strategies for inquiry, the nature of the research problem and my personal experiences in research (Creswell 2009). These are discussed below.

The World views can be summarised into 4 main types. However it's important to note that researchers may subscribe to more than one world view.

- The post positivist world view (scientific method of research) is characterised by a deterministic philosophy where causes determine specific effects or outcomes. It is also reductionist seeking to reduce ideas to specific discrete ideas that can be tested and measured through careful empirical observation and research. Lastly it is often used for theory verification (Creswell 2009).
- The constructivist world view seeks to understand the meanings that individuals develop from their personal experiences. It also upholds the belief that individual's meanings stem from their historical and social perspectives and tends to involve the generation of theories inductively from data (Creswell 2009).
- The advocacy and participatory world view is in line with the philosophical assumptions of the advocacy and participatory approach. Hence it tends to be emancipatory seeking to free people from unfair constraints to their individual advancements, generating political debate and involving collaboration among partners with a focus on advancing an agenda for change (Creswell 2009).
- The pragmatic world view springs from actions, situations and consequences. It allows researchers to choose methods and procedures that meet their purposes instead of confining them to one system of philosophy. Researchers who use this approach therefore tend to focus on understanding the problem and using pluralistic approaches to derive knowledge about the problem (Creswell 2009). They also use the method to identify what works and to suggest solutions to problems observed (Patton 1990).

The research questions that this thesis seeks to answer are more in keeping with the pragmatic world view. The case study approach was therefore

suitable for use under this world view because of its ability to use a combination of data collection methods that allow the generation of rich data that can explain why certain phenomena happen.

Strategies of inquiry refer to types of qualitative, quantitative and mixed methods designs that determine the procedures employed in a research design (Creswell 2009). Table 4.1 summarises the commonly used strategies of inquiry. The Randomised controlled trial is considered the gold standard in assessing the effectiveness of interventions (Black 1999). Randomisation allows random allocation of explanatory variables between interventions and controls such that they only differ with respect to the intervention (Black 1999; Burns 2000). In this kind of work where interest lies both in studying the comparative effects of an intervention and understanding underlying processes of how this happens an explanatory component could have been added to a cluster randomised trial. It was not possible to use a randomised control trial because of the resource implications of conducting one. The unit of randomisation would have been a district and getting sufficient units would have required funds that were beyond what was available both for the PHD and the project. The case study was therefore an appropriate alternative strategy for me to use to answer my research questions because it allows the in depth exploration of a limited number of cases using quantitative and qualitative data collection methods that allow the generation of rich data that can be used to explain why certain things happen.

Table 4-1: Alternative sources of inquiry

Quantitative	Qualitative	Mixed methods
Experimental designs	Narrative research	Sequential
Non experimental designs such as surveys	Phenomenology	Concurrent
	Ethnography	Transformative
	Grounded theory	
	Case study	

Adopted from Creswell (2009) Research design. Qualitative, quantitative, and mixed methods approaches

The nature of the problem is important because different problems require different types of strategies and data collection methods to answer them. The case study design is suitable for studying questions that seek to understand how and why certain things work in a certain manner, hence it allows in depth study of phenomena and the study of mechanisms or pathways that lead to specific phenomenon. It is therefore suitable for studying the influence of incentives from the voucher scheme on clients and providers.

Lastly, my personal training, experience and interest were also key in determining the design. I am fairly familiar with both qualitative and quantitative research methods and I work in an environment that increasingly requires knowledge of qualitative approaches that can explain why programs work or don't work. The case study design therefore had a personal appeal because it offers an opportunity for creativity and innovation to work with researcher designed frameworks (Creswell 2009), while allowing me to build my skills in designing, conducting and analysing case studies.

4.2 Study Area

4.2.1 Selection of the Case Study Facilities

The case studies comprise of 8 health facilities in the intervention area of the Safe Deliveries Study. The SDS was done in two districts in the eastern part of Uganda, Kamuli and Pallisa. The districts have now been split into smaller districts. At the time of the implementation of the project Kamuli district had a population of 680,500. The growth rate of the district was 5.1%. The population below the poverty line was 35.9% and the proportion of women delivering in health facilities was 34%. It is a multicultural and multiethnic society with the Basoga comprising of 76% of the population. The main economic activities include fishing, ranching, fish farming, bee keeping and retail trading in urban areas.

Pallisa had a population of 480,000 with 35.9% of its population below the poverty line and 44% of women delivering in health facilities. It had a growth rate of 3%. Subsistence crop agriculture and animal husbandry are the main economic activities. See Figure 1.1 for the map of Uganda indicating the location of Kamuli and Pallisa.

Each of the districts had three HSD's. One was randomly selected as an intervention and then the one which was most comparable to it was made the control. A HSD is an administrative health area with a population of between 30,000 and 100,000. The intervention HSD in Kamuli (Buyende) had a total of 14 facilities that offer MCH services, while the control HSD (Buzaaya) had 11 facilities that offer MCH services. The intervention HSD in Pallisa (Pallisa) had 8 health facilities and the control (Kibuku) had 12 health facilities.

The facilities chosen as cases were selected randomly after stratification according to the levels of service delivery (Level IV, III and II) and ownership (Public, PFP and PNFP). The stratification was done because these variables are likely to influence the response of the facilities to the voucher scheme and consequently incentives and access to maternal health services under the scheme. Simple random sampling was used to select the case study facility whenever there was no specific distinction between the facilities in a particular category. All facilities located in the intervention area where the baseline survey for the voucher scheme was conducted were considered. All the facilities in a particular category were listed, and then one facility was selected using the ballot method. Purposive selection was used if only one facility of a desired category existed. For example there was only one HC IV in the intervention area. The final selection of facilities was representative of the lower level health facilities that provide delivery care in the intervention area. Table 4.2 provides key features of the facilities that were included. These key features provide background information about the case study facilities.

Table 4-2: Key features of the case study facilities

Facility	Kidera HC KHC	Irundu HC IHC	Bukungu HC BHC	Kamuge HC KAHC	Kasodo HC KASHC	Irapa	Wesunire Catholic	Agule Community health centre
District	Kamuli	Kamuli	Kamuli	Pallisa	Pallisa	Kamuli	Kamuli	Pallisa
Level of facility	HC IV	HC III	HC II	HC III	HCIII	HC II	HC III	HC III
Ownership	Government	Government	Government	Government	Government	PNFP	PNFP	PNFP
Services provided	Basic Emoc ² Also serves as referral unit	Basic Emoc	Basic Emoc	Basic Emoc	Basic Emoc	Basic Emoc	Basic Emoc	Basic Emoc
Infrastructure	Labour room, ANC waiting area and maternity ward	Labour room , ANC waiting area, and maternity ward	Labour room , general waiting area used for ANC as well and maternity	Labour room, ANC waiting area, maternity	Labour room and general waiting area used for	Small labour room Ward with	labour room, ANC waiting area, maternity ward	Small labour room, ANC waiting area, general ward

² Basic emergency obstetric care services (EMOC) include provision of parenteral antibiotics, sedatives, oxytocics, manual removal of the placenta, assisted delivery and removal of retained products. Comprehensive EMOC includes all these services in addition to blood transfusion and caesarian sections. None of the case study facilities could provide comprehensive EMOC services.

Facility	Kidera HC KHC	Irundu HC IHC	Bukungu HC BHC	Kamuge HC KAHC	Kasodo HC KASHC	Irapa	Wesunire Catholic	Agule Community health centre
			ward	ward	ANC, no maternity ward	one bed		
Target population	100,000	20,000	5000	20,000	20,000	5000	20,000	20,000
Location	Semi urban area, close to trading center.	Rural, but close to small trading centre.	Rural, close to fishing village	Rural with good road network	Rural with good road network.	Rural with good road network.	Rural with good road network.	Rural with good road network.
Management structure	Health centre and maternity have separate in-charges	Health centre and maternity have separate in-charges	Health centre and maternity have one in- charge	Health centre and maternity have separate in- charges	Health centre and maternity have separate in- charges	Health centre and maternity have one in-charge (nursing aide)	Health centre and maternity have separate in-charges	Health centre and maternity have separate in-charges

4.3 Data Collection Methods

Table 4.3 provides a summary of the study objectives and the data sources, data collection methods and the various outcome variables that were studied.

Table 4-3: Data collection matrix

Objective	Data Source	Data collection methods	Outcome Variables/ Themes
To assess changes in incentives for providers (Health workers and transporters)	Health workers Support supervision check lists Facility records Transporters	Key informant interviews Health worker survey Observation Survey with transporters FGD with transporters	<u>Financial incentives (Health workers & Transporters)</u> Allowances Timely salaries Amount of pay/earnings <u>Non financial incentives</u> <u>-Organizational, management and support structures and processes</u> Equipment, drugs, supplies Support supervision Feedback
To assess changes in incentives for clients	Clients Community leaders	Key informant interviews FGD's Structured interviews with women	<u>Financial incentives (clients)</u> _Decrease in transport charges Decrease in formal and informal payment for services <u>Non financial incentives</u> Perceived improvements in quality of services

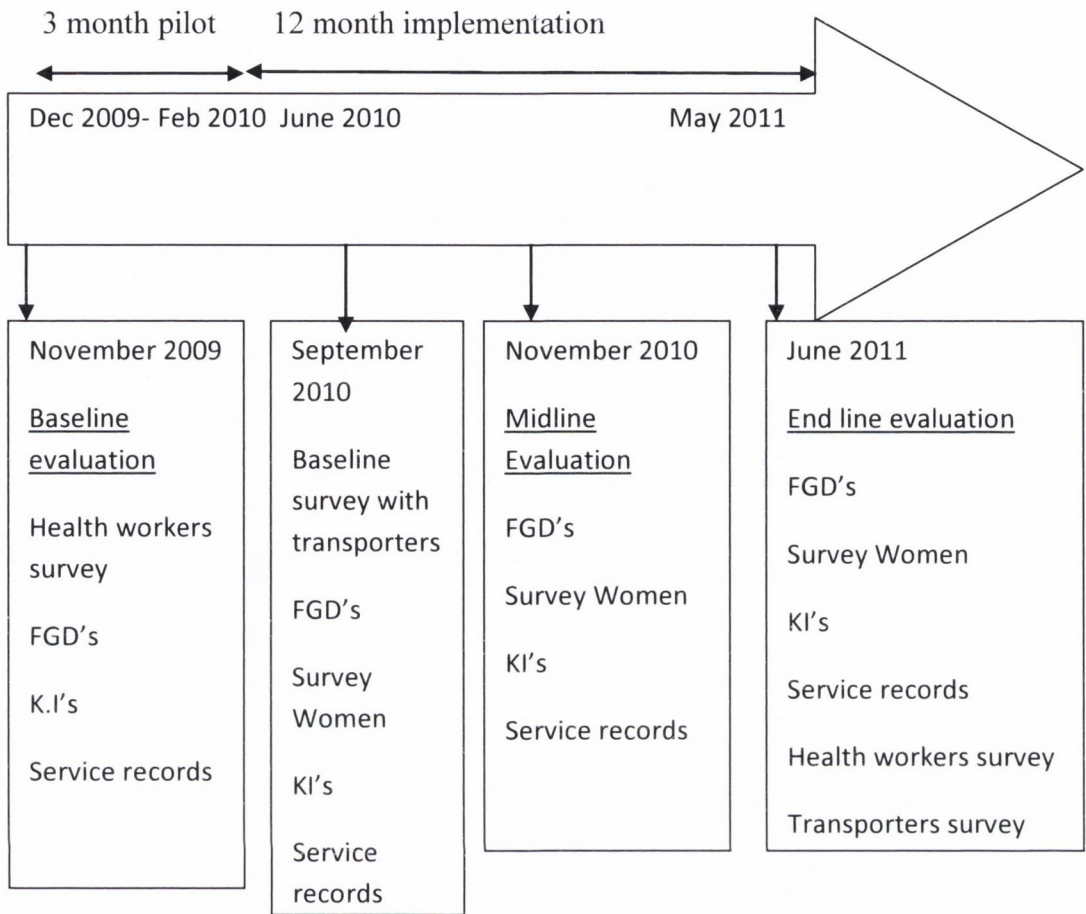
Objective	Data Source	Data collection methods	Outcome Variables/ Themes
To explore the changes in clients' responses to the incentives	Clients Voucher scheme documents and records	Key informant interviews FGD's Document review	Health seeking behaviour Male involvement Unintended consequences
To explore the changes in providers' responses to the incentives	Health workers Transporters Facility and voucher scheme documents and records	Health worker survey Key informant interviews FGD's Document review Observation	Attitudes of health workers Absenteeism from work/ Availability Responsiveness Opening hours of facilities Facility management Unintended consequences Mobilization of clients
To assess changes in access to maternal health services under a voucher scheme for maternal health services.	Clients Health workers Support Supervision checklists Facility utilization records	Key informant interviews FGD's Review of records Observation	Geographical accessibility Financial accessibility Availability Utilization Perceived quality

Objective	Data Source	Data collection methods	Outcome Themes Variables/
To analyse the influence of incentives for clients and providers on access to maternal health services under a voucher scheme for maternal health services.	Clients Support Supervision checklists Facility utilization records Providers	Key informant interviews FGD's Document review Survey with women Health workers survey Transporters Survey	Geographical accessibility Financial accessibility Availability Utilization Perceived quality Changes in financial incentives (clients and providers) Changes in non financial incentives (clients and providers) Organizational structures and processes

4.3.1 The Data Collection Process

Figure 4.1 illustrates the timing of the data collection and its links with the evolution of the voucher scheme. For logistical reasons I collected my data during the period when the voucher scheme was collecting data. In all cases, except for the structured interviews with women, and the health worker availability checklist, the same data collection instruments were used to collect data for the thesis and the voucher scheme. The thesis was conceived after the voucher scheme, but prior to the data collection of the voucher scheme. It was therefore possible to include questions that were of interest to the thesis in the data collection for the voucher scheme and since the research undertaken in the thesis was of interest to the voucher scheme there was no objection to this being done. It is important to mention however that although this arrangement was useful for helping me collect my data it had some limitations, which have been discussed in greater detail in section 4.7.

Figure 4.1: Implementation of the voucher scheme and data collection schedule



4.3.2 Quantitative Data Collection Methods

Structured Interviews

I used structured interviews so as to capture changes that would allow the comparison of variables at the beginning of the voucher scheme and at the end of it. This allowed the determination of changes that occurred in the course of the voucher scheme. Structured interviews comprise a set of standardized questions with pre specified responses. In some cases they may also contain a few open ended questions to which the respondent may respond according to their discretion (Mason 2002). The standardised manner in which questions are written and asked allows limited flexibility to the interviewer and the respondent, so the responses obtained are fairly uniform.

In so doing the method helps to reduce bias (Mason 2002). One of the limitations of this method however, is that the researcher isn't able to find out the beliefs, feelings or perceptions of the respondents that don't fit within the pre-specified responses. Secondly the nature of the interview also limits the extent of trust and rapport that can be built between the respondent and the interviewer, and hence the amount of information that can be obtained. Various authors have reported that more interaction between the interviewer and the interviewee allows the interviewer to get richer information from the interviewee (Burns 2000; Mason 2002). To ensure maximum benefit from the method, I followed the recommended standard procedures for developing questionnaires to develop the structured questionnaire for the women and for the transporters (Foddy 1993; Fink 2003). These included the following considerations among others;

- Maintaining the focus of the questionnaire to include only questions that are relevant to the objectives of the thesis.
- Inclusion of open and closed ended questions as appropriate.
- Asking questions in a clear simple manner, avoiding jargon and terms that are not locally familiar to interviewees.
- Including a range of all possible options for pre - coded questions.
- Avoiding double questions.
- Using complete sentences.
- Using filters and skips to ensure that only eligible respondents answer the questions.
- Keeping the questionnaire within reasonable length considering the occupations of the respondents and time constraints.

For the health workers survey I adopted questions that had been previously used in other surveys. Further explanations about this are provided in the

section below under structured interviews with health workers (Foddy 1993; Fink 2003).

The questionnaires that were used for the structured interviews and the transporters survey were pre tested, and any questions that didn't seem to yield the correct information were adjusted. In some cases the questions needed to be made more specific or to be clarified. For instance I found that it was necessary to ask about the mode of transport to each of the ANC sessions separately. In other cases additional questions needed to be asked. For instance when comparing changes in ease of accessing transportation it was necessary to add a category that captured cases where there was no difference. Instruments that were going to be used to interview participants from the community were translated into the respective local languages (Ateso, Lugwere and Lusoga). During the training, the translations were reviewed by the research assistants who were fluent in both English and the local language to ensure that the intended meaning of the questions were maintained. The interviewers who did the interviews were trained, and had obtained a level of education that was sufficient for them to understand the content of the interviews.

The sections that follow provide more detailed information about the structured interviews that were conducted with women of reproductive age, transporters and health workers.

Structured Interviews with Women of Reproductive Age

I conducted structured interviews with all the women of reproductive age who attended the focus group discussions. The purpose of these interviews was to collect information on geographical accessibility and financial accessibility to maternal health services. To capture changes in financial and geographical accessibility I needed a comparison group. I could have conducted similar interviews in the control area, however I considered this approach to be more cost effective since only additional information about financial and geographic accessibility was required from the women of reproductive age. I therefore decided to do the comparison using the subjects themselves.

Consequently, I selected women who had been pregnant twice and asked them to compare financial and geographical accessibility between their most recent pregnancy and their previous pregnancy. The limitations of using this method are discussed in chapter 4.6. As alluded to above, convenience sampling was used primarily for logistical reasons. The interviews were conducted three times. At the beginning of the intervention, midway through the intervention and at the end of the intervention.

Structured Interviews with Transporters

Structured interviews were conducted with transporters who were participating in the program. I therefore utilised this opportunity to collect quantitative information about the incentives provided by the scheme. It also allowed the capture of changes in these incentives since the interviews were done shortly after the voucher scheme had started and later on after the voucher scheme had progressed. Short focused structured interviews were done with all the transporters who were active in the scheme as they came to collect their pay. This convenient method of sampling was chosen because transport providers are a mobile group who are difficult to track down because of the nature of their work. It was not possible to link the transporters directly with the case study facilities, since in some cases they transported mothers to all facilities within their catchment area depending on where the mother wanted to seek services from.

Structured Interviews with Health Workers

To explore changes in the incentives for health workers from the voucher scheme, I conducted structured interviews with health workers. Two rounds of interviews were done before the intervention and towards the end of the intervention so that changes could be ascertained. The health worker survey was done in all the health facilities in the intervention and control areas of the SDS rather than in only the 8 case study facilities. This was done to increase the sample size and to provide a comparison area. All health workers who provided maternal health services and who were available on the day of the survey were included for the health worker survey. Similar methods have

been used by other researchers who have done studies on motivation of health workers (Agyepong, Anafi et al. 2004). The instruments that were used for the survey were adapted from tools developed by IMMPACT (<http://www.abdn.ac.uk/immimpact>) and the Aid Effectiveness study. IMMPACT is a consortium of researchers from Aberdeen University who have conducted research in the area of maternal health for over a decade and therefore have a wealth of experience in this area. The Aid Effectiveness study was conducted in three countries in Africa, one of their aims was to assess human resource incentives. These questions had been used in developing countries in Africa to study similar topics. The use of survey questions that have been successfully used previously is recommended (Fink 2003). However I only selected questions that were relevant for this work and modified them where necessary. For instance the questions on income earned were simplified and reduced in number, questions on allowances were left open rather than closed, the grading of responses about motivation predictors were also modified to make them easier for the respondent to answer.

Review of Voucher scheme and Facility Records and Documents

I used facility records to obtain information on the utilization of ANC, PNC and delivery care services. This information was collected from facility registers. This data was collected prior to the intervention, midway through it and at the end of the intervention. Facility data from 8 comparable facilities in the control area are used to allow for comparison. Facility and voucher scheme documents were used to obtain information about human resource availability, support supervision and feedback. I prepared check lists that outlined the facility utilization data required from the facility, as well as the financial information and support supervision data and human resource data required from facility and project records. This information was then extracted from the project and facility records and entered into the check lists. Poor record keeping may have affected the accuracy of facility records. The voucher scheme put in place measures that were aimed at improving record keeping however the service records collected may still have some shortcomings.

4.3.3 Qualitative Data Collection Methods

Semi Structured Interviews (Key Informant Interviews)

I used semi structured interviews to collect information about incentives provided by the scheme to clients, and providers, and also to collect views about the voucher scheme, and its implementation. The use of this qualitative method, allowed me to approach the research questions from a different angle and with a different type of depth that provides explanations for the changes and responses to the incentives, as well as their influence on access to MCH services (Mason 2002).

Semi structured interviews involve the use of focused interviews to corroborate facts already obtained from other respondents. Questions are often open ended with a conversational tone that allows the build up of rapport between the researcher and the interviewee (Burns 2000). In this type of interview, an interview guide is used to guide the discussion to ensure that critical areas are covered (Burns 2000). It also permits greater flexibility than structured interviews and allows the interviewee to respond in a language and manner that is comfortable and familiar to them (Burns 2000). One of the disadvantages of the method however is that comparability of responses is more difficult, the coding process is also more tedious. There may also be a tendency to depend on one respondent (Burns 2000).

Key informant interviews were conducted with opinion members of the community and health workers. These key informant interviews were done three times throughout the voucher scheme. At the start of the intervention, midway through the intervention and at the end of the intervention. This was done to allow the capture of both early and late responses to the scheme. The instruments that were used for the interviews included some questions that were adapted from tools developed by IMMPACT. Only questions that were relevant for the thesis were selected. In some cases the phrasing of the questions was simplified to make it easier to translate into the local language.

The sections that follow provide more detailed information about each of the groups with whom the interviews were done and procedures that were undertaken.

Semi Structured Interviews with Health Workers

The selection of participants for the key informant interviews employed a purposive sampling strategy (Mason 2002; Immpact 2007). This was to allow the selection of respondents who hold information that would be useful in explaining how the incentives were changing, how the different groups were responding to them and how it was influencing access to services. Secondly the respondents would also be able to share their own experiences since some of them were directly involved in the scheme (health workers and opinion leaders of reproductive age) (Mason 2002). Whenever possible in each health facility two key informant interviews were done with the in charge of the facility and with one of the staffs who conduct deliveries (Midwives). The health workers were selected with the guidance of the in charge of the health facility. These health workers were selected because they were involved in the voucher scheme as health providers, and would therefore be in position to share their experiences about the voucher scheme. These interviews were done three times in the course of the voucher scheme.

Semi Structured Interviews with Community Opinion leaders

In the community, key informant interviews were done with opinion leaders three times in the course of the voucher scheme. These opinion leaders were selected using purposive sampling (Mason 2002; Immpact 2007) because they are well informed about the affairs within the community and could therefore provide information about the voucher scheme from a community perspective. The opinion leaders who were selected include local council women representatives, chairmen of the Health Unit Management Committees and chair persons of local nongovernmental organizations.

Techniques Employed

The key informants were informed about the purpose of the research, how long the interview would take, and informed consent and permission to record the interviews was also obtained from them. This was important to ensure that the interviewees had sufficient information about the interview (Burns 2000). Several practises have been recommended in the literature for conducting key informant interviews. These practises were emphasised during the training of research assistants and practised while conducting the interviews.

- The interviewer sought to create rapport, create empathy, privacy and intimacy as a way of gathering data from the respondent (Burns 2000; Mason 2002).
- Techniques that were used to encourage respondents to feel relaxed and to share their feelings without fear included the funnelling technique as well as parroting or mirroring. The funnelling technique involved allowing the informant to respond to a general question and then later focusing on specific questions that were of interest (Burns 2000). Using the parroting or mirroring technique the interviewer would repeat the last words of what the key informant said, or most of what they said.
- Minimal encouragers were also used to encourage the respondents to continue talking as well as non verbal techniques such as eye contact and head nodding (Burns 2000).
- Contrast questions were used to minimise the chances of biasing the respondent.
- Lastly the interviewer used skills such as listening attentively with empathy and achieving a good balance between talking and listening, observing and taking up verbal and non verbal cues from the interviewees (Mason 2002).

Focus Group Discussions

I employed focus groups as a complementary source of data for purposes of triangulating information and corroborating information that had been collected from other sources (Morgan and Krueger 1993). Furthermore they allowed me to capture shared lived experiences which are difficult to get from other methods (Morgan and Krueger 1993; Liamputtong 2011). The average rural woman in Africa is typically shy and so the group interaction in focus groups were ideal for getting women to articulate their thoughts more easily (Morgan and Krueger 1993; Liamputtong 2011). Another reason for their use was the fact that they provided an opportunity to follow up on concepts and to crosscheck issues in a more interactive manner (Morgan and Krueger 1993; Liamputtong 2011). Fifthly the focus groups provided an opportunity to get consensus about what was happening with regard to specific incentives or issues within the study (Morgan and Krueger 1993).

Focus groups are group discussions that typically involve 6- 8 people from a similar social and cultural background, or who have similar experiences. They gather to discuss a particular topic, facilitated by a moderator, with the aim of not reaching consensus but of sharing their perceptions and experiences (Krueger 1994; Liamputtong 2011).

What distinguishes focus groups from other methods is the presence of group interaction in response to the research questions. Groups have been noted to start off dynamics which release inhibitions, widen the range of responses and activate forgotten details (Liamputtong 2011). This interaction also creates a synergistic effect allowing members to build on to what others have said, and it often reveals points of agreement, conflict and uncertainty. Complementary discussions in which members share experiences, concerns and needs allows them to build their understanding of issues while the argumentative interaction in which they challenge and question each other's views reveals peoples underlying beliefs as well as the reasons for these divergent opinions (Krueger 1994). It is important to note however that focus groups may not be suitable for certain topics e.g. very sensitive topics, or when groups are not

homogenous, topics where people have very strong diverse opinions and where statistical data is required (Morgan and Krueger 1993; Liamputtong 2011). In cases where they are suitable still some members may not participate, hence the views of more dominant members of the group may dominate. Furthermore, people may not share personal intimate details. An attempt is often made to reduce the occurrence of such problems by planning and preparing for the focus group carefully and including a skilled moderator, nevertheless all methods have some limitations (Morgan and Krueger 1993).

The sections that follow provide more detailed information about each of the groups with which the focus groups were done and procedures that were undertaken.

Focus Group Discussions with Women of Reproductive Age

The focus group discussions were done with women of reproductive age at three intervals: at the beginning, midway through the intervention and at the end of the intervention. They allowed the exploration of factors related to access to maternal health services, and incentives provided by the scheme. The focus groups done midway through the implementation of the scheme allowed the capture of factors that may affect access and responses to the scheme, which could have been missed if the discussions were only conducted at the end of the study.

Respondents for the focus group comprised of women of reproductive age (18 – 30 years as well as emancipated minors between 15 and 18 years). Eight to twelve respondents were selected for each group (Morgan and Krueger 1993). The groups comprised of women who gave birth within the period of the implementation of the voucher scheme, or for the baseline FGD's women with children less than one year of age. Homogenous groups of women with similar cultural and social backgrounds, gender, ethnicity and educational background (Morgan and Krueger 1993) were recruited into the study with the help of local gate keepers. This homogeneity within the group was useful for facilitating the free sharing of ideas.

One focus group discussion was initially conducted within the catchment area of each of the case study health facilities. By the time 8 focus group discussions had been conducted, no new data was being generated and so the focus group discussions were stopped. Unfortunately not all the focus groups were attended only by women who sought care from the case study facilities. Those who sought care from facilities close by were also included in some cases. In hindsight it may have been better for me to conduct focus groups only among the women who sought care from the case study facilities. However it would have required a lot more logistics. To reduce the effect of this shortcoming, during analysis a special effort was made to obtain an understanding of whether respondents used mainly the case study facility or several other facilities by analysing data on where the focus group participants received maternal health services from. The case studies presented in chapter seven were done among five facilities which were mostly used by the respondents. This shortcoming is therefore unlikely to have had a significant influence on the results of the thesis.

Focus Group Discussions with Transporters

Focus group discussions were done with transporters active in the SDS programme, midway through the implementation of the intervention and at the end of it. They allowed the capture of factors related to incentives provided by the scheme. Respondents for the focus group discussions with transporters comprised of homogenous groups of transporters who were active in the program. The transporters had a similar cultural and social background. This was important for providing a free environment that would facilitate the sharing of information.

Ensuring Quality of the Focus Group Discussions

I ensured that quality was maintained in the focus groups by following the recommended guidelines for conducting good focus groups (Krueger R 1993). These steps were implemented when planning for the focus groups, recruiting the participants, training the moderators and finally when carrying out the focus groups.

The instruments that were used for the discussions included some questions that were adapted from tools developed by IMMPACT (Immpact 2007). The guide started off with general opening and introductory questions that were aimed at allowing participants to reflect on their experiences and gather their memories, and then later the questions focused on key issues that were central to the study. The questions used were open ended and not dichotomous. Questions in the guide were ordered in a manner that moved any sensitive questions to the end (Krueger 1993; Krueger 1994). Lastly, the questions were reviewed by other experts to ensure that they are able to elicit the type of information required (Fink 2003).

The moderators used were familiar with the local language and local context and therefore sensitive to local practises. They had previous experience conducting focus groups (Krueger 1993), had been involved in the data collection from the start so had some idea about the research, and yet they were not as involved in the voucher scheme as to hold particular biases. Furthermore, those who conducted the focus groups were not associated with the implementation of the voucher scheme so participants felt free to say what they wanted.

The moderators were trained to be warm and respectful to participants, to be able to listen without interjecting their personal opinion, to be able to maintain the course of the discussion within the research interests, to maintain a balance in participation by encouraging those who are shy and restraining the more dominant ones in a respectful manner, to probe and follow up whenever necessary (Krueger 1993). Role plays were done during the training and any practises that needed to be reinforced or corrected were addressed.

The focus group was held in an environment that was convenient, and non threatening to the participants, with members seated round in a circle so that each person could view the other. The main purpose for the focus group was to collect data and this purpose was made clear to the participants (Krueger 1993). Participants were also assured that all the information that they shared

would remain confidential. The length of the focus group was maintained to between 60 and 90 minutes so as to avoid fatigue of the participants. We strived to create an open, free and permissive environment where everyone felt free to participate. To reduce moderator fatigue while in the field at least two moderators were used and each of them conducted a maximum of two discussions in a day (Krueger 1993).

I encountered a few challenges while conducting the focus group discussions. I was not able to attend the focus groups because I was also conducting other interviews with health workers at the same time. In some cases it was not possible for me to capture all the non verbal communication that transpired during the focus groups since transcription could not capture all of them. Never the less, the note takers were encouraged to record non verbal communication and include it in the transcripts. However, I was able to attend some review meetings with the moderators and to get feedback from them about what transpired in the field especially in the early days of the interviews. In some locations where the focus groups were done, there were several facilities in the catchment area, sometimes the participants made reference to a facility that was not one of the case study facilities. It was difficult to restrict the discussion only to the case study facilities since this data was also being used by the voucher scheme which had a wider scope. Occasionally it was difficult to maintain the meaning of a phrase when it was translated into English, without giving additional explanations, or without further probing of the respondent. However since this problem was encountered only once during the analysis it was not considered a major problem.

Observations

Participant observation was also used because it allowed the capture of information in its real life context. Secondly it allowed the corroboration of information that I was receiving during the focus group discussions and other interviews with community leaders.

Participant observation is a method where the researcher participates in an activity and observes the activity at the same time. Its advantages include;

- Allowing the researcher to observe behaviour in its context, such that he is in a better position to understand the everyday life of the group, since as the participant observer he actually experiences life as the group does. The researcher is thus able to perceive reality from the view point of an insider.
- Furthermore it allows the researcher to collect information that could have been missed (Burns 2000).

In this work, both informal and formal methods of observation were employed. The informal observation was used to assess the availability of health workers. I made spot checks to the health facilities 3 times during the life of the voucher scheme often at different times of the day. In some cases I was able to experience what the health workers experienced themselves. For instance I recall arriving at one of the health facilities and finding the entire waiting area filled with mothers waiting for antenatal care. I also recall arriving at another small health facility and finding that there was no midwife because the only midwife at the facility had gone for a workshop. I recorded the availability of health workers during the spot visits in a form after each visit. Any other findings that seemed relevant to the thesis were also recorded.

Informal observation was used to understand the perspectives of the health workers. For instance during stakeholder meetings, I was able to observe their reactions to various topics that were discussed. I often recorded these observations in my note book so that I could reflect on them later in the course of data analysis. I also employed casual observations during the spot visits, in which my main aim was to find out whether the health workers were available at the health facility. Results from spot visits however need to be interpreted with caution because the spot visits are not representative of the entire project period, secondly nurses work in shifts, so absence at one shift doesn't mean complete non availability. Thirdly sometimes, they also don't

capture the reasons for the absence, and lastly the absence of a particular health worker doesn't necessarily mean inability to receive a service, since other workers may be available, or the health worker may be within the vicinity of the health centre and could be called if they were required.

Formal observations were also utilised through the supervision process during which members of the district health team and the voucher scheme team visited the health facilities to provide support supervision. They used a structured checklist in which they recorded several variables. The variables that I shall draw on for my thesis are the ones related to the availability of basic infrastructure, supplies and sundries. This information was extracted from the support supervision forms.

4.4 Data Management and Analysis

4.4.1 Quantitative Data Analysis

The quantitative data was edited in the field, and then data entry was done using epi- info. The data was then transferred into STATA for analysis. The analysis of the quantitative data followed the steps outlined below

Exploration

The data was explored by running frequencies for all the variables. They were checked for consistency and for missing variables. The errors that were found were corrected. The data from the structured interviews was also explored for normality. This was considered a concern since the selection of respondents had not been entirely random.

Univariate Analysis

Frequencies of all the variables were run and they have been presented as univariate statistics. Percentage changes for the utilization of delivery care services were also obtained. These descriptive statistics have been presented in textual, tabular and graphic format. The t test was used to assess the

differences between the mean salary earned by health workers during the baseline and the end line survey and between the intervention and the control.

Bivariate Analysis

Where necessary bivariate analysis was done and appropriate statistical tests were used to measure associations. The chi square test or fishers exact was used to measure associations between the dependent and independent variables that were categorical (Kirkwood and Sterne 2003) . The chi square test compares observed numbers in the categories in a contingency table with numbers to be expected if there was no difference between the exposed and unexposed groups (Kirkwood and Sterne 2003). The fishers exact test was used when any number in any of the cells was less than 5 (Kirkwood and Sterne 2003). The test of proportions of probabilities was used to ascertain differences between proportions. Significance of tests at a 5% and 10% level were both considered. Most writers recommend setting the cut of point at 5% since it provides a higher level of confidence compared to when a 10% level of significance is used (Kirkwood and Sterne 2003; Dewbury 2004). However in organizational research with small sample sizes a 10% level of significance may be acceptable (Dewbury 2004).

Multivariate Analysis

Multivariate analysis was done for variables on satisfaction and motivation in order to control for confounding. Confounding occurs when the magnitude of the effect of the exposure is influenced by the inclusion of a variable that is related both to the exposure and the outcome (Kirkwood and Sterne 2003). Multinomial logistic regression was used when the outcome was categorical, while ordered logistic regression was employed , when the outcome variable was ordered (Kirkwood and Sterne 2003). For instance, motivation was considered to have a logical sequence moving from low to high motivation.

4.4.2 Qualitative Data Analysis

Data Management

An assistant moderator was present at all focus group discussions. The note taker took notes, but in addition, all focus groups were recorded using digital recorders that were able to play back the discussions clearly. The notes were transcribed and reconciled with the notes that were taken during the focus group. Non verbal communication that occurred was also included in the transcripts. Attention was given to trying to maintain the original meaning of all parts of the discussion to the extent possible. Data was labelled and stored in 3 categories baseline, midline and end line so that distinctions could be made between the different data (Knodel 1993).

The main analytic strategy that guided the analysis was the use of theoretical propositions with pattern matching and the use of cross case analysis as key analytic techniques (Yin 1984; Miles and Huberman 1994).

Pattern matching was selected because it allowed me to collect data that could answer the research propositions, identifying whether the data met the identified pattern predicted in the research propositions. Different non equivalent dependent variables were selected (these variables are linked to the study propositions), and a series of instruments were used to measure them. The overall pattern expected for these variables was predicted in the research propositions. If the results of the study were as predicted then solid conclusions about the propositions were drawn. If there were inconsistencies, then these inconsistencies were mentioned (Yin 1984).

Cross case analysis was also used since this is a multiple case study (Yin 1984; Miles and Huberman 1994). The cross case analysis allowed the comparison of different variables across the 5 cases highlighting similarities and differences seen between the cases as cross case patterns. This cross case synthesis was done mainly through word tables and it relied on

argumentative interpretation. Strong plausible fair arguments that are supported by the data were developed.

Descriptive case studies allowed thick descriptions of the case study facilities. The qualitative analysis was done using thematic analysis as a method for identifying, analysing and reporting patterns (themes) within the data (Yin 1984; Miles and Huberman 1994). The qualitative data analysis included three main concurrent processes that involved data reduction, data display and conclusion drawing and verification (Yin 1984; Miles and Huberman 1994). For purposes of simplicity and presentation they are discussed under six main sections.

1. Familiarization with data

The in-depth interviews and focus group discussions were transcribed and reconciled with the notes that were recorded during the interviews ensuring that verbal and nonverbal accounts of the data are captured in their original form. Those who conducted the interviews transcribed them. They were also familiar with both the local language and English so they were able to translate the recorded interviews. The interviews were reported and interpreted through the eyes of the interviewee by trying as much as possible to maintain the original meaning when translating (Burns 2000). Those who did the transcriptions were familiar with the local language, so they were directed to maintain the original meaning to the extent possible.

The interviews were then typed into Microsoft word. The transcripts were then read literally, interpretively and reflexively, according to best practice. This process enabled me to familiarize myself with the breadth and depth of the data. During the literal reading the surface meanings were observed, while during the interpretive reading, I read between the lines to identify the hidden meanings. Lastly while reading reflexively; I took special consideration of myself as an implementer and a researcher. During this stage notes were written and kept as analytic memos. Possible codes that could be used later were also noted.

2. Generating initial codes

Initial codes were then generated. Lists of codes that are linked to the theoretical framework were initially developed, but more codes that were derived from the data were also included (Knodel 1993; Braun and Clarke 2006). This was done by working systematically through the data set and carefully coding all data extracts that could later become themes (Knodel 1993; Braun and Clarke 2006). The coding was inclusive and reflective of inconsistencies that were present in the data. The coding was done assisted by NVivo.

3. Searching for themes

After the coding process was completed, the codes were grouped into themes and subthemes, by sorting the different codes and collating them under potential themes. A theoretical thematic analysis approach was used. So the themes were mainly deductive and based on the theoretical framework for the analysis that is guided by the research questions and the propositions for the study. However some themes were inductively drawn from the data (Braun and Clarke 2006). The approach was mainly semantic with themes being drawn from the surface meanings of the data, but in some aspects a latent approach that involved further interpretation of the data was also employed (Braun and Clarke 2006).

4. Reviewing themes

During this phase the themes were reviewed, and some themes were discarded or collapsed, while others were separated. This phase ensured that there was internal homogeneity (similarities) within the themes and external heterogeneity (differences) between the themes. This review involved two levels firstly a review of the material that had been collated under each theme to ensure that they fit in the correct themes and secondly a review of the themes in relation to the entire data set. At this second level the aim was to ensure that the identified themes were an accurate representation of the data set, and that all relevant data had been coded. Any data that may have been left out in the initial coding was coded (Braun and Clarke 2006).

5. Data Display, conclusion drawing and verification

During the data display, conclusion drawing and verification of the conclusions, two way matrices, descriptive text and models were used (Miles and Huberman 1994; Corbin and Strauss 2008). The two way matrices were used to compare different topics across the case study facilities. The matrices were partially ordered according to the type of participants, their place of residence and the intensity of the variable of interest. In addition they were also time ordered to cover events before the intervention, midway through the intervention and at the end of the intervention (Miles and Huberman 1994). Descriptive text was used to present the findings and to explain interpretations about the findings. Models were used to explain the relationships between the different variables (Miles and Huberman 1994; Corbin and Strauss 2008).

The drawing of meaning from the data involved interpretation of the data and the drawing of conclusions. The main tactics employed include pattern matching, plausibility, clustering, counting, making contrasts/comparisons, noting relationships between the variables, and making theoretical coherence (Yin 1984; Miles and Huberman 1994; Corbin and Strauss 2008). Table 4.4 details what was done in each of the tactics.

Table 4-4: Tactics used to generate meaning and draw conclusions

Tactic used to generate meaning and draw conclusions	How the tactic was employed
Identification of patterns	This involved the identification of similar patterns within the data.
Plausibility	This was used to find out whether the explanations provided in the data made logical sense
Clustering	Clustering was used to group the different findings into categories that had similar features in common, or that were different from the rest.
Counting, comparing and contrasting	Counting was useful for making sense of what the data was saying and also weighing the evidence. Counting also allowed the comparison of changes in the incentives and responses among the different types of clients, providers, and case study health facilities.
Noting relationships between variables	This aided in providing an explanation of how the different factors were influencing each other. For example increased utilization of maternal health services was often attributed to the increased availability of transport indicating that there was a link between the two variables. This was eventually used to build a model to explain what was happening in the study.
Theoretical concepts	This stage involved linking the findings of the study to the study propositions, as a basis for explaining how and why particular changes were being observed

To verify the conclusions drawn above, the tactics employed included assessing representativeness, checking of researcher effects, triangulation, weighing of the evidence, replicating findings, checking out rival explanations and getting feedback from key informants and local stakeholders in the study setting as well as members of the academic community (Yin 1984; Miles and Huberman 1994) (see Table 4-5).

Table 4-5: Tactics used to verify conclusions

Tactic used to verify the conclusion	How the tactic was applied
Representativeness	During the design phase it was ensured that the case study facilities chosen would provide a typical picture of what was happening with the intervention area. The participants selected as respondents were also selected from different categories of the population to allow the representation of key local stakeholders within the intervention area.
Triangulation	Triangulation of the data sources (records, people), data methods (focus groups, observations, key informant interviews) and researchers was employed. Sources and methods that have different strengths and biases were selected so that they could complement each other.
Weighing the evidence	<p>Attempts were made to weigh the evidence and include only evidence that was considered credible. Opinions from different stakeholders were also weighed according to the likely perspectives of the respondents and their likely biases. For instance information about the attitudes of health workers was obtained from the clients rather than the health workers themselves. Opinions about male involvement from the women were considered to provide a truer picture than opinions from the men themselves.</p> <p>The degree of agreement within the focus groups was also used to weigh the evidence</p>
Checking on outliers	In some cases outliers were observed and an attempt was made to get an explanation. For instance overall there was one health facility where the availability of the health worker did not improve markedly. Attempts were made to find possible explanations.
Replicating findings	Findings were replicated by the use of multiple case studies. This allowed the similar patterns to be observed in the case of

Tactic used to verify the conclusion	How the tactic was applied
	some variables. For example improved availability, attitudes and responsiveness of providers was observed in most facilities. While findings were also observed to be different in some facilities for example in some facilities the health workers were available even before the intervention, except that they were not responsive to client needs
Checking out rival explanations	One of the possibilities in this study was that another intervention could have been responsible for the changes seen. During the interviews health workers were asked about what they attributed changes to, and also about the intensity of other existing interventions. For example delivery kits were used to encourage male involvement, by giving mothers who came with their husbands delivery kits. However there were very few kits provided by the MOH, moreover they were provided irregularly.
Getting feedback from key informants stakeholders and members of the academic community	Findings from the study were shared with stakeholders in the intervention area at a stakeholder's workshop. Some of the stakeholders consisted of key informants from the intervention area. The results were also shared with members of the academic community at two seminars. Their feedback about the plausibility of the study findings was considered during analysis and write up process.

6. Writing the thesis

The final phase consisted of presenting the results, discussions and conclusions of the thesis. This involved a back and forth process of analysing and re analysing the data, and also writing up the thesis through several drafts. This process has been enriched by periods of reflection and review not only of my own work but also of relevant literature. Lastly the analysis and writing process benefited from the insight gained from discussions with my supervisors (Braun and Clarke 2006). Arguments and explanations were

drawn and presented in relation to the research questions drawing upon the evidence as well as my interpretation and reflexivity (Knodel 1993; Miles and Huberman 1994; Braun and Clarke 2006).

The final report of the thesis aimed at producing a consistent coherent account of the story behind the data ensuring that the analytic narrative with embedded data extracts provided a convincing argument in relation to the research questions (Braun and Clarke 2006).

4.5 Quality Assurance

Yin (1984), recommends several measures that can be undertaken to ensure validity (construct, internal, external) and reliability of case studies by employing different study tactics. I used some of these tactics and table 4.6 provides a summary of those employed.

Table 4-6: Measures taken to ensure validity and reliability

Tests	Case study tactic	Phase of research
Construct validity	Multiple sources of evidence were used	Data collection
	Case study report reviewed by supervisors. Key findings shared with key informants	Report writing
Internal validity	Pattern matching was used to link data to the propositions	Analysis
External validity	Replication logic was employed by using multiple case studies	Research design
Reliability	Case study protocol was developed	Designing phase
	Case study database was developed	Data collection

Table was adapted from COSMOS Corporation

Construct Validity

This concept refers to the use of correct operational measures for the concept under study. According to Yin (1984), not only is it important to identify the

change that will be measured, it is also important to demonstrate that the selected measures reflect the type of change being studied (Yin 1984). The three main methods recommended are use of multiple sources of evidence during data collection, establishing a chain of evidence and review of the case study report by key informants. Key findings were shared with some of the key informants during a stakeholders meeting. The key findings were also shared with members of the academic community at two seminars.

Internal Validity

Internal validity is useful for explanatory case studies, and it aims at establishing a causal relationship between variables. In a case study it implies that the researcher is using documentary and interview data to make an inference about activities that happened in the past (Yin 1984). The main tactics that are commonly employed to achieve this include pattern matching, rival explanations, explanation building and using logic models. In this thesis I used mainly pattern matching (Yin 1984).

External Validity

External validity is concerned with establishing the domain to which the study findings can be generalised. Whereas in experimental survey research a sample that is selected is representative of the general population, allowing the results to be generalised to that population, in case study research the theory is the entity that is generalised to other populations (Yin 1984). These concepts are referred to as statistical generalization and theoretical generalization respectively. In the case study research this theory should therefore be replicated in several settings if the findings are to be generalisable to these settings (Yin 1984). In this thesis I have utilized theoretical generalization.

Reliability

Reliability refers to the concept that if the same steps were followed, similar results would be obtained. To allow this kind of scenario to occur I used a case study protocol and a case study data base (Yin 1984) .

4.6 Limitations, Methodological Considerations and Insights

In this section I present the methodological considerations that were taken while designing, conducting the data collection and report writing of the thesis. I also share some insights that can be useful for informing similar studies.

4.6.1 Limitations

This work had some limitations which included

- Recall Bias. During structured interviews with women and transporters, recall bias may have influenced the responses given. The women were asked how much money they spent while seeking MCH services; they may have forgotten the precise amounts. Transporters were also asked how much money they earned before and during the project, the estimates they gave may have been affected by their recall as well (Foddy 1993).
- Incomplete Records. Some of the project records that were used for support supervision and review of financial expenditures from the vouchers were incomplete, and this could have affected the accuracy of some results. Triangulation of data sources was used to ensure that a truer picture is obtained.
- Lack of a Comparison Group. All the case study facilities were located within the intervention area and so it was not possible to compare them with facilities in the intervention area. However, comparison was possible for the health facility data and the health workers survey. When comparing ease of access to transport services and affordability of MCH services, a comparison group was not available and so the same sample was therefore used and a before and after approach was employed.

- Inability to Control for Confounding. The case study design used does not control the potential confounders in the study. It may also be argued that other factors within the study area could have contributed to the changes seen. The effect of this shortcoming was minimised by using a comparison area for some of the variables (motivation of health workers, facility utilization of maternal health services) where this was especially important. Multivariate analysis was also undertaken. Furthermore active and careful documentation of all other activities within the study area that could have had an influence on the study outcomes were undertaken with careful consideration and acknowledgement of these factors when writing the thesis.
- Small Sample Size. The sample size for the health worker survey would have been very small if only the case study facilities had been included. In an attempt to increase the sample size, all the facilities in the intervention and the control area and all health workers at the facility were interviewed. However this resulted in the inclusion of health workers who had not been directly involved in the study in the intervention area and so it may have reduced some of the effects of the project. The project mainly targeted health workers in the maternity health department, but other health workers who often assist in the maternity unit were also interviewed, in order to assess if there were any spill over benefits. During analysis it was not possible to exclude such staff (a suitable variable for doing the exclusion was not captured).
- Inability to Measure Distance. During the assessment of geographical access, more accurate data would have been obtained if the distances from the respondent's homes to the health facility were known. However this information was not available and measuring it was beyond the scope of the study.
- Hawthorne Effect. The health workers in the study may have altered their behaviour, as a result of being studied, an effect that is

commonly referred to as the “Hawthorne effect”. Since the implementation period of the study was rather long, it’s expected that this effect was eventually minimised. Furthermore the research team was not in the field full time.

The methodological insights and considerations undertaken during this work are outlined below.

4.6.2 Attribution

This is a complex intervention, with both demand and supply side components that are interdependent. In addition the intervention involves the health system which is a complex system that is also adaptive to changes within the environment. Attribution of changes to specific components of the scheme was done whenever sufficient evidence was available. In some cases the changes were attributed to both the demand and supply side components of the scheme. The following steps were taken to allow attribution;

- I utilised a case study design with a longitudinal approach to data collection using quantitative and qualitative methods. This allowed the capture of changes in variables before the scheme and during the scheme and therefore permitted attribution.
- Triangulation of methods during data collection and analysis was used to collect sufficient evidence that can be used to make interpretations about the changes in incentives and their resultant effect on access to maternal health services.
- Attribution of qualitative findings was done by following recommended tactics for generating meaning, drawing and verifying conclusions (Yin 1984; Miles and Huberman 1994). The main tactics employed to draw the conclusions included pattern matching, plausibility, clustering, counting, making contrasts/comparisons, noting relationships between the variables, and making theoretical coherence. The tactics used to verify these findings included

representativeness, checking of researcher effects, triangulation, weighing of the evidence, , replicating findings and checking out rival explanations

- Attribution of quantitative findings was done using statistical measures of association such as the odds ratio, relative risk ratio (RRR) and the chi square test. Multivarait analysis was done to control for confounding.

4.6.3 Sampling

- The convenient sampling method used for structured interviews with women could have led to some bias in the assessment of financial and geographical accessibility. However, since selection criteria for participation depended on the age of the woman and the age of the baby and not on place of delivery or use of the voucher scheme, it may not have biased findings on financial and geographical accessibility.
- Using the same subjects for comparison may also have led to some biases. It may mask differences in costs that have occurred in the intervention area under specific conditions. For instance if there was a high inflation rate then clients are likely to consider costs in the current year much higher than costs in the previous year and so they are more likely to rank the services as having been more expensive. Secondly if the circumstances in one of the pregnancies under comparison was more complicated (e.g. if a normal delivery was compared with a caesarean section), and therefore required more resources again one of the services would be ranked as more expensive, and yet the main difference was perhaps not in the costs of the service but in the conditions under treatment.

4.6.4 Value of Triangulation

In this thesis triangulation of data sources, data methods and researchers, was employed during data collection and analysis. This was useful in several ways;

- It allows one to understand issues from the perspectives of the various respondents. For instance in this thesis, the clients and the health workers had different perspectives about the availability of supplies. The clients said supplies and drugs are not available, because they are told to buy them or pay for them. The providers on the other hand said supplies were available partly because they have supplies to use to clean the ward, conduct deliveries and to use in cases of emergencies.
- Triangulation of methods is also useful for getting some sort of consensus on what the truer picture is likely to be. For instance when clients were asked if supplies are available, they gave their opinion, and during support supervision visits availability of supplies was assessed. This helped provide an explanation for why the clients and health workers have different responses about the availability of supplies in some cases.
- Lastly it helps to balance the advantages and disadvantages of the different methods that are employed. For example the spot checks used in this thesis were beneficial for providing additional evidence of what was happening in the facilities, but at the same time they were not reliable as a single method because of the limited number of spot checks done, and so other methods needed to be used as well to get a truer reflection.

4.6.5 Case Study Design with a longitudinal Data Collection Approach

Using the case study approach was useful in several ways

- It was useful in unearthing context specific issues that influence the delivery of maternal health services.
- Multiple case studies also helped to provide evidence that supported the propositions for the thesis, through replication of the findings.
- The longitudinal approach also allows the capture of early responses and late responses, as well as changes that may occur in the intervention area during the implementation. For instance in this thesis the project package and pay structure was changed, and that led to different responses. For example the transporters were initially very active when the pay was high, and then they became less active when the pay was reduced.
- Case studies are useful for exploratory purposes as well because they expose issues for further research. It was not always possible to sort out and understand all the issues that emerged in the course of conducting the thesis.

However it also presented some disadvantages

- Use of multiple cases studies with multiple data collection methods results in extensive data collection and analysis and so it may affect the extent to which one goes in depth and so a balance needs to be maintained.
- The limited sample size made it difficult to use statistical comparisons within the different health facilities.

4.7 Reflexivity

This section elucidates my perspectives and any biases that I bring to the study. I reflect on 2 main areas, my involvement in the SDS as a team leader and a researcher and the use of data collected under the voucher scheme.

4.7.1 My Role as Team leader and Researcher

I was the lead investigator in the safe deliveries study and among the initial investigators who came up with a concept of the study. I was therefore closely involved in the actual implementation of the study, along with other members of the team. My close association with the voucher scheme resulted in both advantages and disadvantages for the thesis.

- The topic that I chose for my PhD was a topic that the voucher scheme was interested in covering and so my thesis was viewed as complementary. Furthermore the voucher scheme project was supportive of building the capacity of PhD researchers.
- My close involvement with the voucher scheme also allowed me to use participant observation as one of the data collection methods in my PhD. I was therefore able to observe firsthand the changes that happened in the voucher scheme from the beginning to the end.

Some of the disadvantages of my close involvement included;

- Having been a participant in the implementation I could also have been blind to some important issues. The involvement of supervisors who were not deeply involved in the implementation of the voucher scheme and yet who were familiar with health services in developing countries including Uganda has helped to ensure that a balanced picture of the findings from the thesis is presented.
- As a participant I strived to elicit cooperation, trust, openness and acceptance. With this in mind it meant that at times I could not probe

too much about certain issues for instance, if a problem was reported in a specific health facility during a project meeting and then during the interview this was denied, I had to accept this position, to maintain the relationship as voucher scheme leader. In some cases, I had to respond to problems or issues that were raised during the interview because I was seen not only as a researcher but also as a voucher scheme leader who needed to give advice. When I needed to do this I waited until the interview was over so as not to affect the interview. Only then did I offer advice about the issues raised.

- My close association with the voucher scheme may have biased some key informants, causing them to keep the truth away, if they feared to acknowledge it to me as the voucher scheme leader, but by using several different methods of collecting evidence including methods where I was not involved, it was possible to get a true(r) picture of what was happening. The community felt free to say what they wanted to say without trying to be modest.

4.7.2 Collecting Data along Side the Project

I was able to collect data for the thesis, as data was being collected for the scheme. The advantages of doing this were that;

- Firstly my thesis was conceptualised after the main ideas of the SDS had been decided upon, however they had not yet been executed. I was also able to include questions that were important for the PhD into the data collection instruments for the voucher scheme.
- I was able to benefit from the resources from the voucher scheme especially during the data collection phase. I didn't have sufficient funds for supporting my data collection; therefore it would have been impossible for me to collect the amount of data that I collected.

Some of the disadvantages included;

- At times the voucher scheme activities would take place at one point in time for purposes of maximising resources and so I would be

unable to supervise all the data collection that was going on, while at the same time collecting data myself. This may have compromised data quality in some cases. However I tried to mitigate this by participating during the training sessions and emphasising areas that were critical for the success of the thesis.

- Lastly, in some cases I was not able to collect data that was specific only to the case studies because the voucher scheme had a wider scope and they also required this data. This limitation was handled by doing a sub analysis to get a better perspective of what was happening within the case study facilities.

4.8 Ethical considerations

Ethical approval to conduct the study was sought and gained from the Institutional Review Boards at Trinity College Dublin, the Makerere University School of Public Health and Uganda National Council for Science and Technology (UNCST).

Permission to conduct the study was obtained from the appropriate officers at the MOH and the districts where the study was carried out. Written informed consent was obtained from all the study participants. At the conclusion of the studies any information that could be used to link the respondents to the research data collected will be destroyed. Only individuals who freely consented were allowed to participate in the study, and no one was coerced in any way to participate. The consent form used for the study detailed out the aims, methods and anticipated benefits and risks of the research. It also informed the respondents that their identity and replies were confidential, and that participating in the study would not result in any potential hazards. Consent forms were translated into the local language. Lastly individuals were informed that they had the right to abstain from the study, or to withdraw at any point.

Chapter 5

5.0 Results

As alluded to in chapter three, I set out to test the key components of the conceptual framework. This was guided by the propositions for the thesis specifically I set out to test whether and how;

- The incentives provided for clients contributed to increased demand and hence utilization of maternal health services.
- The incentives provided for health workers led to a positive change in the motivation and performance of health workers, reflected in improved availability, responsiveness and attitudes of health workers.
- The changes among health workers improved the perceived quality of services resulting in increased utilization of maternal health services.
- The incentives provided for transporters led to increased availability and affordability of transport services for maternal health.

In chapter five, six and seven, I present results in response to the questions stated above. The results are combined from both the qualitative and quantitative data collection methods, outlined in Chapter 4. Table 5.1 displays the timing of the different data collection sessions. Please refer to figure 4.3 in chapter 4.3.1 for more detailed information about timing.

Table 5-1: Data collection methods employed

Type of interview	Timing of interview			Total number of interviews
	Before intervention (Dec 2009)	Midway through intervention (Sept - Dec 2010)	End of intervention (June 2011)	
Qualitative				
Focus groups with clients	4	8	4	16
Focus groups with transporters	Not done	6	3	9
Key informant interviews with community leaders	4	7	2	13
Key informant interviews with health workers	8	8	8	24
Quantitative				
Facility utilization data	Records from 2007 Dec to 2009 Nov	Records collected For 2009 Dec- Nov 2010	Records collected Jan2011 – June 2011	
Structured interviews with women of reproductive age	Not done	115	74	189
Structured interviews with transporters	Not done	193	102	295
Structured interviews with health workers	108		119	227

The quantitative results provide descriptions of what happened during the implementation of the intervention, allowing the capture of changes in incentives. Secondly they allow the testing of associations between explanatory and outcome variables. The qualitative results explain the phenomenon seen in the results. Chapter five contains combined results about incentives provided for clients and providers and responses to the incentives as well as changes in access to maternal health services. Chapter six contains results from a survey with health workers. It has a very direct focus on the health workers with distinct analyses and it has therefore been presented

separately. In chapter 7 a cross case analysis is done to capture in depth information in each of 5 case study health facilities. Table 5.2, provides a summary of the key themes of the results that will be presented in chapter five, six and seven. An analysis of how the incentives influenced access to maternal health services is presented in chapter eight.

Table 5-2: Structure for results

Theme	Section of results	Key features
Changes in incentives for providers and clients	5.1	<p>Changes in financial and non financial incentives for clients, transporters and health workers.</p> <p>Changes for some of the dimensions of access such as financial accessibility, geographical accessibility and perceived quality are presented since they overlap as financial and non financial incentives.</p> <p>Expected changes in incentives according to the conceptual framework and additional incentives.</p>
Responses to incentives	5.2	<p>Responses to the incentives among clients, transporters and health workers.</p> <p>Expected responses according to the conceptual framework and additional responses.</p>
Changes in access to MCH services	5.3	<p>Changes in utilization of services.</p> <p>Summary of changes in financial access, geographical accessibility, perceived quality.</p>
Motivation of health workers	6.0	<p>Distinct analysis about changes related to motivation of health workers, perceptions about motivation and determinants of motivation.</p>
In depth review of influence of incentives in 5 case study facilities	7.0	<p>Case studies of 5 health facilities</p> <p>Changes in utilization , Perceived quality</p> <p>Reasons for perceived quality</p>

5.1 Changes in Incentives for Clients and Providers

As alluded to above one of the aims of this thesis is to understand how incentives have changed for clients and providers, how they responded to these incentives and how this influenced access to maternal health services.

This section of the chapter comprises of results for changes in incentives first for the clients (chapter 5.1.1) and then for the providers, who consist of transporters (chapter 5.1.2) and health workers (chapter 5.1.3). This is preceded by a brief review of the definition of incentives and their classification. The responses to the incentives, changes in access to maternal health services and explanations for these changes are provided in the latter sections.

Definition and Classification of Incentives

Incentives in this thesis are viewed as particular forms of financial or non financial rewards or non financial actions/ activities that can induce particular forms of behaviour (Franco, Bennett et al. 2002) (see chapter 2.3.2 in literature review). Table 5.3 provides a summary of the incentives that were identified, both financial and non-financial. The classifications of actual incentives that are presented in the table are derived both from my conceptual framework and the interviews themselves, as will be described.

Incentives for Clients

All the types of financial incentives for clients were derived from the conceptual framework and informed by the literature on vouchers (Futures Group International 2010; Ir, Horemans et al. 2010; Agha 2011; Ahmed and Khan 2011a). For the non-financial incentives, perceived quality of care was also derived from the conceptual framework while increased access to information, increased family support and increased availability of transport were derived from the qualitative interviews.

Increased access to information was considered an incentive because according to the qualitative interviews, respondents considered it one of the benefits from the project. Secondly it was reported that changes in care seeking such as attendance of delivery care were partly in response to the information that mothers now had about the importance of delivery care. This additional information motivated them to seek care. However it is important to note that access to information could also be considered a facilitating factor that was necessary for successful implementation of the scheme. Increased availability of transport was also considered an incentive because clients were able to utilize the transport services not only because the cost of transport had decreased but also because the transport services were now more available.

Incentives for Providers

All the types of financial and non financial incentives for health workers were also derived from the conceptual framework (Franco, Bennett et al. 2002; Agyepong, Anafi et al. 2004; Mathauer and Imhoff 2006; Stringhini, Thomas et al. 2009) except job enrichment, a factor drawn from the interviews. Finally, increased earnings for the transporters were also derived from the conceptual framework while the issues of social status and recognition were highlighted in the interviews.

Table 5-3: Classification of types of Incentives for each group

	Financial Incentives	Non Financial Incentives
Incentives for clients	Pay for transport	Perceived quality of care
	Formal pay for services	<i>Increased access to information about MCH services*</i>
	Informal pay for services	<i>Increased family support*</i>
		<i>Increased availability of transport*</i>
Incentives for Health workers	Allowances Salary increases	Improved working conditions
		<i>Job enrichment*</i>
		Valued training
Incentives for transporters	Increased earnings	<i>Social status and recognition*</i>

*Incentives that were additional to the conceptual framework are presented in italics with an asterix**

5.1.1 Changes in Incentives for Clients

According to the conceptual framework, it was expected that the financial and non financial incentives for clients were going to be altered through the voucher scheme. The expected financial incentives were pay for transport, formal and informal pay for services, while the expected non financial incentive was perceived quality of care. During data collection and analysis some unexpected incentives were identified, these included increased access to information about MCH services, increased family support and increased availability of transport.

The section that follows is devoted to presenting changes in the financial and non financial incentives outlined above. Additional information that is important for understanding the influence of these incentives on access to MCH services is also presented. This includes information on perceptions

about informal payment, as well as reasons for some of the changes that are noted.

The results presented are combined from:

- The focus group discussions with women of reproductive age in the study area and transporters
- Structured interviews with FGD participants who had been pregnant at least twice
- Key informant interviews with community leaders and health workers.

5.1.1.1 Socio Demographic Characteristics of Respondents

The structured interviews were performed during the intervention with 189 women; 56% (107/189) of them were from Kamuli district and 43% (82/189) from Pallisa district. The age distribution of the women is displayed in table 5.4.

Table 5-4: Age distribution of women interviewed

Age group	Frequency	Percent
18 – 19	13.0	6.9
20-29	115.0	60.9
30-39	60.0	31.7
40-49	1.0	0.5
Total	189.0	100.0

Most of the women were in the age group of 20-29 with a mean age of 26.1. It is important to note that 6% of the women were relatively young (18-19). They could potentially face several difficulties in accessing maternal health services.

5.1.1.2 Changes in Pay for Transport

Changes in pay for transport was assessed firstly by finding out those who incurred costs for transport services during the intervention period. Secondly during the structured interviews and focus group discussions, respondents were asked their opinion about whether there had been a reduction in pay for transport services. These results are presented below. More results about changes in transport costs are reported under affordability of MCH services in Chapter 5.1.1.4.

Results from the structured interviews done during the intervention, showed that women used a variety of transport means when seeking maternity services. These included bicycles, motorcycles from the project or hired motorcycles and taxis³. In some cases they also walked. Those who used the project transport did not incur any costs for the transport. A minority of women incurred some costs for transport. 6.3% (12/189) of women paid for transport services when seeking ANC; 2.1% (4/189) paid for transport when seeking delivery care and only 0.5% (1/189) reported to have paid money for transport when seeking PNC services.

The project made arrangements for locally available transporters to provide transport to the mothers. The mothers were required to give their transport voucher to the transporter who would transport them and then redeem the voucher for cash from the project. This arrangement largely worked well. In all the seven focus group discussions and four key informant interviews, respondents reported that expenses on transport had reduced. However in two of the focus groups conducted in Pallisa⁴, it was reported that there was no reduction in expenses for ANC and PNC. Specific inquiries were made about whether the transporters charged the women extra fees. In all the four focus groups and three key informant interviews where this issue was discussed,

³ Taxis are commercial minivans used to transport passengers. They have the capacity to carry 11 – 14 passengers

⁴ In Pallisa the voucher scheme benefited only women who were in labor or those with complications after delivery

participants reported that clients did not have to pay additional money to the boda boda cyclists who were registered with the project.

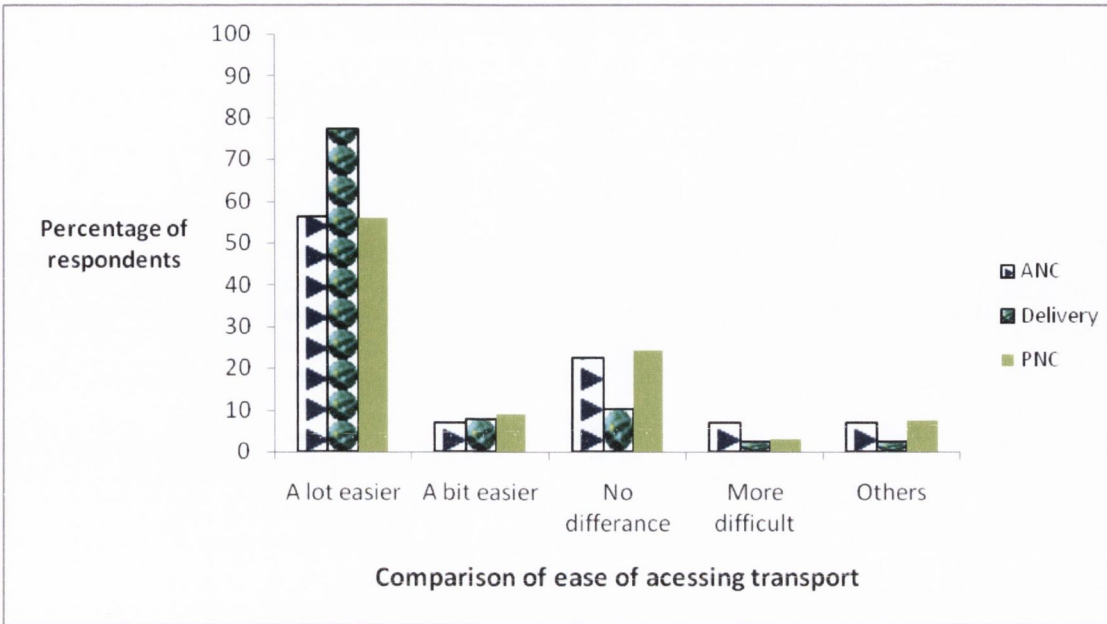
5.1.1.3 Availability of Transport Services

Changes in the availability of transport services was assessed by asking women to compare the ease of accessing transport services during their most recent pregnancy and the previous pregnancy, they were also asked to give the reason for their grading. Secondly during the FGD's and KI's, respondents were asked to give their opinions about the availability of transport services. These results are presented in the sections that follow. In addition, results about reasons for variation in availability of transport services are also presented.

Changes in Availability of Transport Services

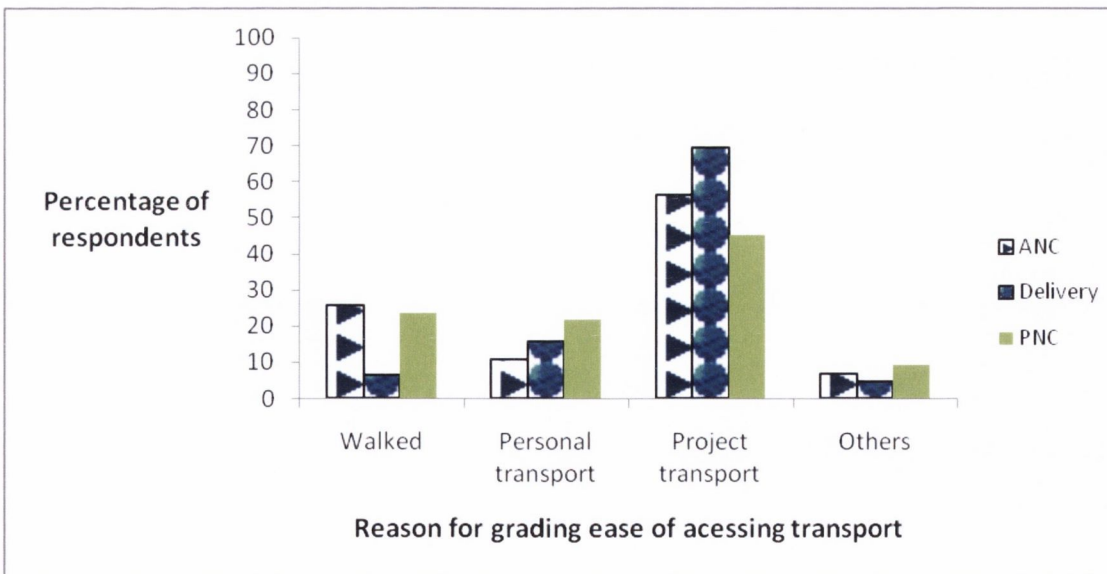
As alluded to above, women were asked to compare ease of accessing transport for maternal health services during their most recent pregnancy and their previous pregnancy. The majority of women reported that it was a lot easier to access transport during their most recent pregnancy compared to the previous one (56 % (ANC care), 77% (delivery care) and 56% (PNC). Figure 5.1 provides a summary of the responses for women who sought care from formal health facilities.

Figure 5.1: Comparison of ease of accessing transport for MCH services



The same women were then asked to give the reasons for the grading that they gave during the above comparison. Most of the women again attributed improved ease of access to availability of project transport 56 % (ANC care), 69.0% (delivery care) and 45% (PNC) as depicted in figure 5.2.

Figure 5.2: Reasons for grading of comparison of ease of accessing transport for MCH services



Reasons for grading the comparison of ease of accessing services, was done only for those who graded ease of accessing transport and who utilised the formal health care services.

The results above are similar to the results that were obtained during the focus group discussions. In all eight key informant interviews conducted before the intervention, it was reported that availability of transport was a problem. In thirteen out of fifteen focus group discussions and eleven out of twelve key informant interviews conducted during the project period, it was acknowledged that transport services had become more available during the project period. There was increased access both during the day and the night according to respondents such as the one quoted below.

“The programme has availed us with bodaboda⁵ transport which has greatly eased our movement to come here to receive medication. This was not there before you people came in. It is faster because the boda boda cyclists have mobile phones, so when we communicate, they respond very fast to pick us wherever we are in the village. They really try to care for us whether it is during the day or night.” FGD Women Kamuli (FGD held after 12 months of implementation)

Variation in Transport Availability

In nine out of fifteen focus groups and six out of twelve key informant interviews conducted during the project period, it was however noted that in some situations it was still difficult to access transport services. This was mainly during the night (4/27), in cases of referral (3/27), in far off places (5/27), and in places where there were few transporters (5/27).

Reasons for Reduced Access to Transport at Night

Several reasons were given to explain why there was reduced access to transport at night. In some cases the women resided far away from the

⁵ Boda boda is a local word in Uganda used to refer to commercial motor cycles which are one of the main means of transport especially in rural areas.

transporters and so they could not contact them, especially if the family didn't have a phone or if the telecommunication network was poor. In other cases there was the fear of armed robbers, so transporters were not willing to risk their lives.

“Because there was a time when they killed somebody when you are proceeding to Pallisa town. Somebody was killed at around 8.00pm. So now transporters have that fear when a mother calls them at night a transporter can say, due to insecurity (fear of armed robbers) I cannot risk.” KI Health Worker Pallisa (Interview held after 12 months of Implementation)

Sometimes it was a combination of the low pay for transport services and the long distances or the high risk of transporting clients at night. During the implementation of the project, the mode of payment was changed from a flat rate of 5000 Ug sh (2.3 \$) to a rate of between 2000 Ug sh (0.9\$) and 5000 (2.3\$) according to the distance from the health facility. There was also a hike in fuel prices, which was a result of the global increase in fuel prices, worsened by local inflation within the country. These two factors reduced the profit that the transporters were making and it is also reported to have affected their enthusiasm and hence provision of transport services. This is illustrated in the quotations below.

“.....However, this depends on the distance between the transporter and the mother meaning that if it is very far, the boda bodas tend to refuse to pick mothers saying the money is too little compared to the distance, since the rates are the same.” KI Community leader Pallisa (KI held after 6 months of implementation)

“I heard from some boda saying that the things are not good any more. Before it was 5000, then it was reduced to 3000 so now the boda realized they are no longer benefiting because the cost of fuel has gone up yet many women stay far. To go, pick her and take to the health centre and then you receive 6000 for bringing and taking her

home. It's not cost effective but when am on stage⁶ and I do my normal work I can get 10,000. So those people who dropped out are many and yet women giving birth are many. Men used to go in villages looking for mothers and bodas never used to reach, they used to go there but now they are discouraged.” FGD Women Kamuli (FGD held after 12 months of implementation)

Referral Transport

Accessibility to referral transport was also a problem. Four-wheel motorized transport which would have been more suitable for transporting mothers who required referral was not available in most cases. Those who were not in a critical condition and those who came during the day were able to use the motorcycles albeit with some discomfort.

“Transport for referral services is still a problem even if the boda-bodas are available because when a woman is in critical condition it is very hard to travel on a motorcycle except when a woman is not so badly off, but they have been referring them and they take them on boda-bodas; it has somehow tried to ease the travel for referrals.” KI Community leader Kamuli (KI held after 12 months of implementation)

Reasons for Decreased Access to Transport in Far Off places

The reduced access to transport for mothers who reside far off was mainly attributed to the decreased pay and changes in the benefit package. In kamuli where the pilot was done, changes in the pay structure of the program resulted in lower pay for the transporters and so their enthusiasm in transporting patients reduced and some of them dropped off from the program.

Changes in the benefit package during the implementation phase resulted in a reduction in the number of clients. Only women in labour and those with

⁶ A stage is a local name for the location where motorcycles are stationed, similar to a bus stop for buses.

complications in the post natal period were eligible to benefit from the transport provided by the project during the implementation phase. During the pilot phase women were transported for ANC as well. This is illustrated in the quotations below.

“That number is not enough because in the beginning we were 30 (in the pilot phase) but now we are only 13. We had one hospital but now we have 2 hospitals but when they told us that they only need women who are in labour, the number reduced.” FGD Transporters Kamuli (FGD held after 18 months of implementation)

5.1.1.4 Formal and Informal Pay for Maternal Health Services

Changes in formal⁷ and informal⁸ pay for MCH services were assessed by establishing respondents who paid for MCH services during the intervention period. In addition the respondents were asked to assess the affordability of services (considering all direct and indirect costs) and to give the reasons for their assessment. In addition, during the qualitative interviews, information about informal pay was explored firstly to assess the extent of the practise, but also to provide a better understanding of the perceptions of clients about informal pay. These results are presented below.

Pay for Delivery Services

Findings from the structured interviews with the women revealed that some clients paid some money at the health facilities during the project implementation period. This practice was prevalent especially when seeking delivery care services; (77/166) 46.3% of those who received delivery services reported to have paid some money, whereas only 6.9 % (13/186) of women who attended ANC and 6.0% (4/66) of those who attended PNC services reported to have paid some money at the health facility. The mean amount paid for delivery services was 4.6 USD. This amount of money is

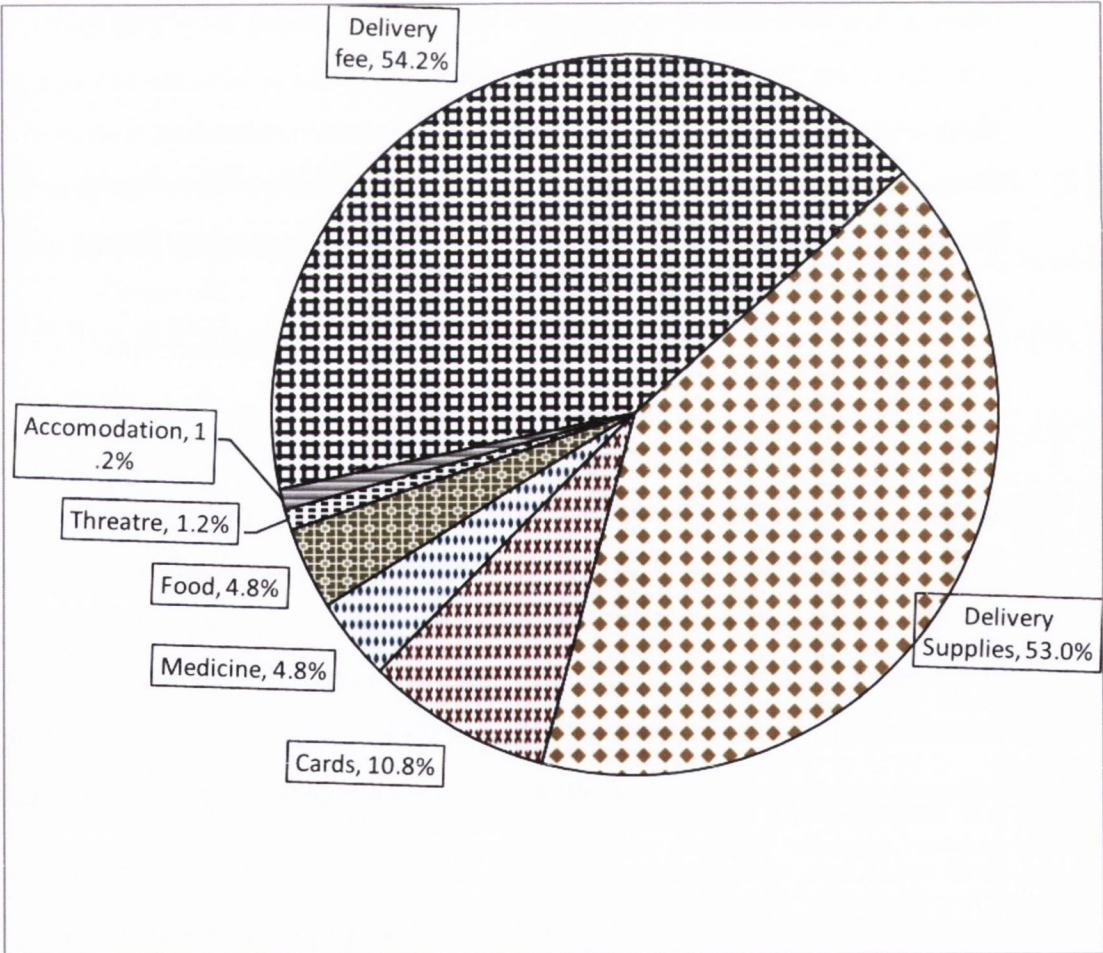
⁷ Formal pay refers to official payment that may be required in private or public health facilities

⁸ Informal pay refers to unofficial fees paid at public or private facilities

fairly high for some households considering that 31% of households in Uganda earn (spend) less than 1 \$ a day (Uganda Bureau of Statistics 2003).

Figure 1.3 displays how the money that was paid formally and informally for delivery care services was used. Thirteen women paid for ANC services; 61.5 % (8/13) of them used the money to pay for cards while 23.1% (3/13) of them used some of the money to pay for medicine. The others used the money to purchase other items. Four women reported that they paid for PNC services. One of them used the money to pay for medicine and another one used the money to pay for laboratory tests. The others used the money to purchase other items.

Figure 5.3: Use of money paid during delivery at health facilities



The largest proportion of the money was used either to purchase delivery supplies such as gloves or given to providers as a delivery fee.

The qualitative interviews revealed similar findings about informal pay for MCH services. During all the interviews held before the intervention (four interviews with key informants and four focus group discussions), it was reported that informal pay was very common in almost all facilities, public and private. During the project period, in seven out of nine focus group discussions and six out of seven key informant interviews, it was reported that the practise of informal payments had stopped while in three (two FGD's and one KI) out of sixteen interviews, it was reported that it was still present. These opinions were expressed in quotations such as those indicated below.

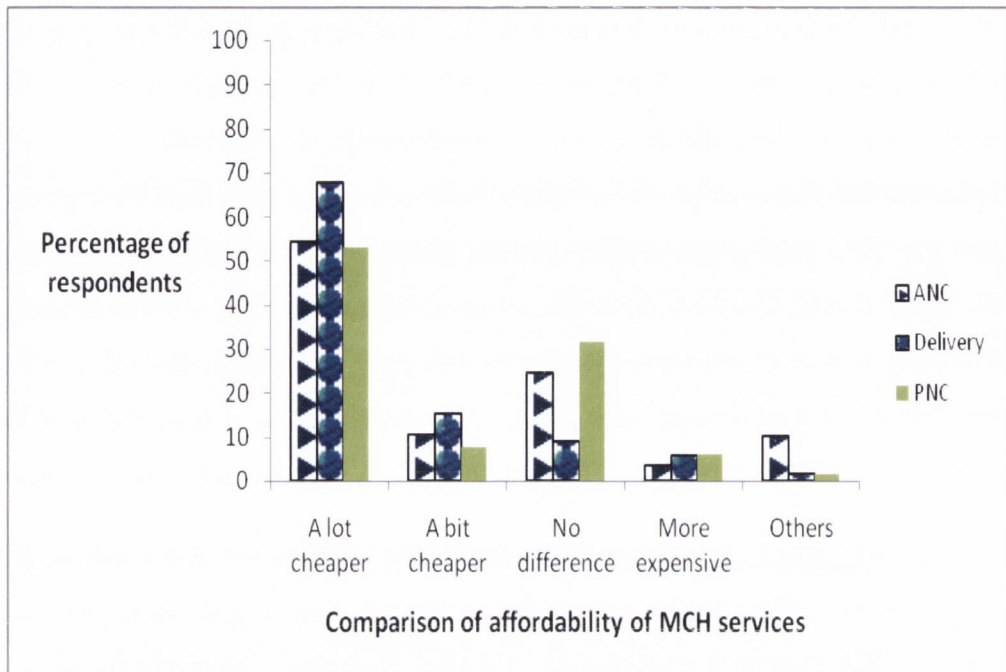
“We don't pay money for delivery now the nurses don't ask us for money. We are the ones who decide whether to give them or not.”
FGD Women Kamuli (FGD held after 6 months of implementation)

“ The only thing I see wrong in this project is that these midwives still ask for money from these mothers, I wish the project could give more sensitization.” FGD Transporters Pallisa (FGD held after 6 months of implementation)

Changes in the Affordability of Maternal Health Services

To ascertain if there had been some changes in the overall affordability of maternal health services, the respondents were asked to compare affordability of services between their most recent pregnancy and the previous one. The findings are presented in Figure 5.4. In spite of the relatively high number who reported to have paid some money for delivery, 54% of respondents reported that the ANC services were more affordable, 67 % reported that delivery services were more affordable when they considered transport costs and other direct costs related to the delivery while 53% of respondents reported that PNC services were more affordable during the most recent pregnancy compared to their previous pregnancy.

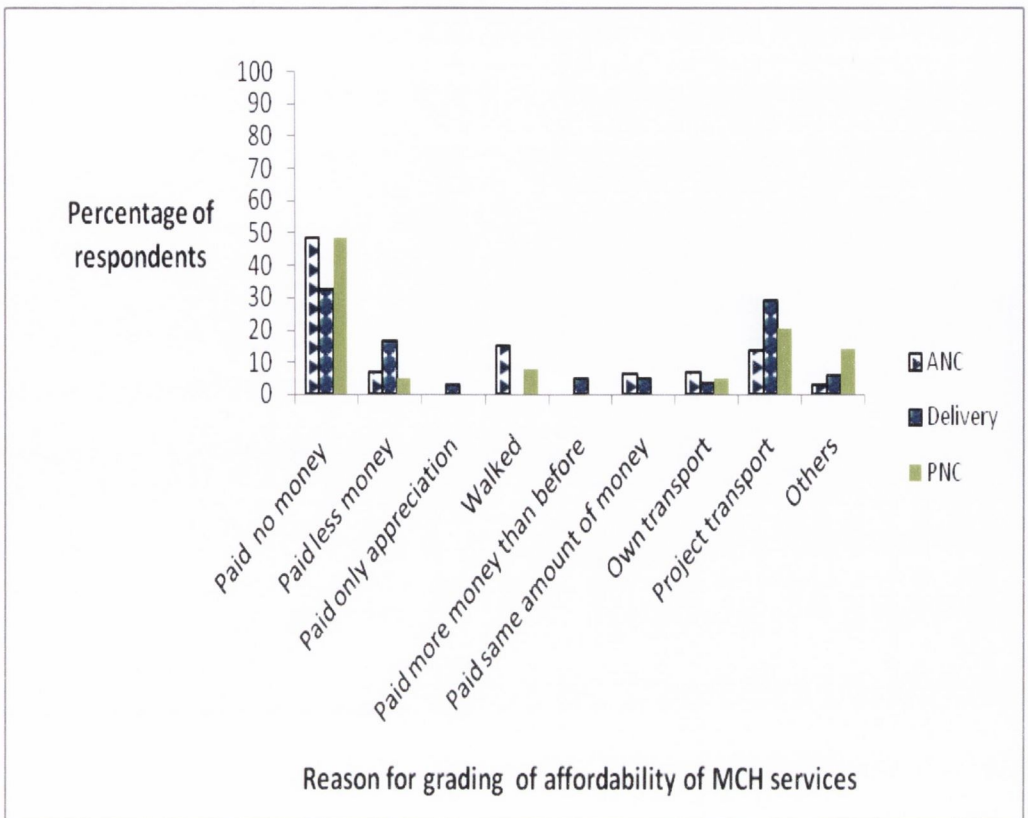
Figure 5.4: Comparison of affordability of services



It is worth noting that no difference was reported most in relation to ANC services and PNC services, and least in relation to delivery care services. During the project period, vouchers were targeted at women attending delivery care services and women and newborns that had complications after delivery.

The respondents were asked to give their reasons for the grading of affordability of MCH services. The reasons are summarised in figure 5.5.

Figure 5.5: Reasons for grading of affordability of MCH services



The majority of the respondents, gave reasons that were related either to having paid no money for the services 48% (ANC), 32% (delivery), 48% (PNC) and to the project transport 13% (ANC), 29% (delivery), 20% (PNC). This highlights the relative importance of the financial incentives in terms of cash and in terms of provision of transport.

Results from the focus group discussions were in agreement with the quantitative results. It was reported that financial access to services had improved during the project period, since the mothers were now able to access services at low cost because their costs for transport and services were catered for by the project.

“It is because of the availability of transport for them and then the high charges they used to incur in the health centres. (Since delivery is free now and transport is available), women see no reason why they should deliver from the villages. (Even those who deliver at night just

call these boda-bodas by phone and) they come and take them to the facility.” KI Community leader kamuli

(KI held after 12 months of implementation)

“Women don’t use these boda-bodas except during these days, because you are paying for the transport. This is because these boda-bodas are very expensive for them; they either foot or use their bicycles. So these days they are using those bodas but they are not paying them; it is the project paying.....” KI Community leader Kamuli (KI held after 12 months of implementation)

Before and during the intervention, information about informal pay was collected. Results on perceptions about informal pay, reasons for informal pay and how informal pay affects the utilization of services are presented below.

Perceptions about Informal Pay

In five out of seven focus group discussions done before and during the intervention women were not happy with being forced to pay for services especially in government facilities. They felt it is the responsibility of government to pay for services.

“I am not happy because the Health centre is for the Government and it’s the Government supposed to pay them not us.FGD Women Pallisa (FGD held after 6 months of implementation)

However in one focus group done before the intervention, one of the respondents reported that she didn’t have a problem with paying for services, if she is informed that she needs to pay, what she disliked is being asked to pay when they don’t expect it.

“For me, I have no problem with paying for services because I will be saving my life.” (FGD held 12 months before implementation)

“What discourages me really is to tell us that these are free services then again they tell us to pay. Its better we know whether we are to

pay so that it helps in our planning.” FGD Women Pallisa (FGD held 12 months before implementation)

Reasons for Informal Pay

The following were given as reasons for informal pay during the interviews done prior to and during the intervention;

To Receive Attention

In some cases it was given to receive attention or to receive quick services.

“They could just ignore you and even touching you on the stomach⁹ they could charge you money”. KI Community Leader kamuli (Interview done after 12 months of implementation)

“Yes we do have them like if you want to be served fast and you leave early, you have to part with some money.” KI Community leader kamuli (Interview done after 12 months of implementation)

Token of Appreciation

In other cases this money was given simply as a token of appreciation. The FGD participants reported that sometimes they gave providers money to show their appreciation for the services rendered to them especially after a live birth. However in one of the key informant interviews, the respondent felt that giving health workers money creates an expectation which may cause them to give you poor services if you don't give them this “*appreciation*”.

To purchase Supplies or Taken as a “Bribe”

Sometimes, the health worker demanded the money. When the money was demanded, it was either used to purchase supplies required for delivery or simply taken by the health workers as a “*bribe*”. When the money was demanded there was no fixed amount, but the amount seemed related to the health workers assessment of the client's social economic status, the clinical

⁹ This was a local phrase used to refer to the abdominal examination of pregnant women

condition of the client and the sex of the baby. Poor patients were charged less, while patients who were very ill were charged more; very ill patients often required more drugs and supplies. The patients were required to pay more for a baby girl, often double what was paid for a boy. In Uganda bride price is often received when a girl is married off so mothers were told that giving birth to a girl is like “sowing a seed”. These findings were drawn from quotations in the qualitative interviews, some of which are presented below.

“A girl was charged expensively because she was like you had sowed a seed and boys they provide security at home.” FGD Women Kamuli (FGD held 12 months year before implementation)

“..... Could say that for a girl they are going to give you sugar¹⁰ so you must also pay much money.” FGD Women Kamuli (FGD held 12 months before implementation)

Influence of Informal Pay on Utilization of Services

In three focus groups and four key informant interviews where the influence of informal payments on utilization of maternal health services was discussed before the intervention, it was reported that the informal payments which are demanded from clients hinder them from accessing maternal health services. However in one focus group and one key informant interview, it was reported that when the payments are initiated by the clients and given either as a token of appreciation or in an attempt to receive services faster then it doesn't hinder them from seeking services, since they decide how much they give in accordance with what they can afford.

“Some women fear to come for maternal services, because of these payments. They instead remain home and deliver from there. It has led to the death of mothers because they don't attend ... at times when they don't have money.” FGD Women Pallisa (FGD held one year before implementation)

¹⁰ Giving of sugar is a local phrase used to imply some sort of benefit either financial or non financial

5.1.1.5 Changes in Perceived Quality of Care

One of the expected non financial incentives which was observed for the women was improvements in perceived quality of care. This reflects the perspectives of the clients about the quality of maternal health services as well as their tastes and preferences. As alluded to in the introduction (see chapter 2.1.2) perceived quality is often assessed by clients in relation to the availability of amenities, interpersonal relations, accessibility and technical competence. The assessment of changes in perceived quality of care focused around the former three components highlighted below, technical competence was not assessed.

- Amenities: Changes in the availability of amenities was assessed by ascertaining changes in the availability of supplies and medicines.
- Accessibility: Changes in accessibility was assessed by ascertaining changes in financial and geographical accessibility, availability of health workers and responsiveness of health workers. Results about financial and geographical accessibility were presented earlier (see chapter 5.1.1.2-chapter 5.1.1.4)
- Interpersonal relations: Changes in interpersonal relations was obtained by assessing changes in the attitudes of providers.

The results are presented as outlined above.

Changes in Availability of Amenities (Supplies and Medicines)

Prior to the intervention, in three out of three focus groups and eight out of eleven key informant interviews, it was reported that supplies such as gloves and mackintoshes for delivery were largely lacking and patients were required to buy them most of the time. It was acknowledged that although government provides these products, they usually do so in inadequate quantities and sometimes the deliveries are made late. In a minority of key

informant interviews (three out of eleven) it was reported that these supplies were available.

Once the project was underway, in four out of thirteen focus group discussions and nine out of fourteen key informant interviews, it was reported that there was an improvement in the availability of supplies although in seven out of thirteen focus groups and five out of fourteen key informant interviews it was reported that supplies were not available. In two out of thirteen focus groups a mixed picture was reported. In most cases the women still had to come with their own gloves. If they didn't they were often asked to buy and sometimes the gloves were got from the cupboards in the health facilities. The health workers themselves however reported that they had basic supplies such as JIK and Paraffin and also emergency supplies such as gloves in case a mother didn't have any. See table 5.5 for a breakdown of what different respondents said about the availability of supplies.

“Those requirements they used to ask for them but they are now there in the facilities and they now give them to you when you go there. But again they tell you to go with yours in case you don't find them they will have to use the one you have brought.” FGD Women Kamuli (FGD held after 12 months of implementation)

“Those days mothers used not to pay anything in government health units but buy the requirements like gloves, mackintosh, cotton wool, razor blades, etc and even today we still do that so nothing has changed as regards this.” FGD Women Pallisa (FGD held after 12 months of implementation)

Table 5-5: Availability of supplies according to different respondents

Type of Interview	Before the intervention		During the intervention period		
	Supplies not available	Supplies available	Supplies not available	Supplies available	Mixed picture
FGD with women	3/3	0/3	3/9	4/9	2/9
FGD with transporters	Not conducted	Not conducted	4/4	0/4	
KI with opinion leaders	2/4	2/4	4/7	3/7	
KI with health workers	6/7	1/7	1/7	6/7	

It is interesting to note the different perspectives that the different respondents had about the availability of supplies. Before the intervention most health workers said supplies were not available while during the intervention most of them said supplies were available. For the women before the intervention all the focus group participants said supplies were not available while during the intervention there was a mixed picture with some saying supplies were available and others that they were not. All the transporters on the other hand tended to say supplies were not available.

Health workers probably said supplies were available because they had the supplies that they required to use during the intervention. The women and KI's on the other hand sometimes received free supplies other times they had to purchase the supplies and so reported a mixed picture. The transporters tended to say supplies were not available most probably because they were often asked to go and buy the supplies if a mother didn't have them. The implications of these different perspectives are discussed further in chapter 4.6.

Changes in the Availability of Medicines

In six out of six qualitative interviews (two focus groups and four key informant interviews) where the availability of medicines was discussed it was reported that medicines were not available before the intervention. During the project period in three out of six focus groups it was reported that medicines were available and in three out of six focus groups that they were not available. In two out of two key informant interviews a mixed picture was reported. When this mixed picture is compared to the period before the intervention, the results reflect a slight improvement in the availability of medicine. The quotation in text box 5.1 expresses the delight of one of the respondents at finding drugs at the health facility during the project period.

Text Box 5-1: Surprise about availability of medicine

... I went back home wondering because we have been coming and not receiving any help or medication in the health centre. Even though you come back, you do not receive any help or they just write for you to go and buy medication from somewhere else and yet you might not be having any money at all so you just go back home and you find yourself worsening. Now you receive medication..... So there is a very big change and we just request you to just continue with your work. FGD women kamuli (FGD held one year after implementation)

An FGD participant expresses surprise about the availability of medicine in health facilities

Changes in Accessibility (Availability and Responsiveness of Health Workers)

Another aspect that reflected changes in perceived quality was the improved availability and responsiveness of health workers during the project period.

During the interviews conducted before the intervention, a mixed picture was presented about the availability of health workers. In one out of three focus groups it was reported that they were not available, while in two out of three

focus groups a mixed picture was reported. In five out of five key informant interviews it was reported that they were available however two of the key informants acknowledged that although they were available they were few in number. During the intervention period, more respondents reported that they were available (ten out of eleven focus groups and four out of eight key informant interviews reported that they were available and only one out of eleven focus groups and three out of eight key informant interviews reported that they were not available. The response from one key informant was mixed).

According to information provided about the responsiveness of health workers prior to the intervention in seven out of eleven focus groups and three out of four key informant interviews, it was reported that the health workers were not responsive. While the project was ongoing, in nine out of ten focus groups and two out of three key informant interviews, it was reported that health workers were more responsive, however in one key informant interview it was noted that they were not responsive. In one out of ten focus groups a mixed picture was reported.

Changes in Interpersonal Relations (Attitudes of Health Workers)

During the interviews conducted prior to the project a mixed picture was presented about the attitudes of health workers. In one out of four focus groups and two out of four key informant interviews it was reported that their attitude was poor. While in three out of the four focus groups and two out of the four key informant interviews, a mixed picture was reported with some members saying their attitude was good others saying it was poor. During the intervention in ten out of thirteen focus groups and two out of four key informant interviews it was reported that their attitudes were good. It is only in three out of the thirteen focus groups where a mixed picture was reported while in two out of the four key informant interviews poor attitudes were reported. The improved attitudes were described vividly by one of the community leaders as captured in the text box 5.2.

Text Box 5-2: Change in attitude of providers

“..... they treat you as a person which was not the case before. Now we have the privilege to chat with nurses which was not there before. Sometimes we used to come to the HC while fearing. You do something small and she starts abusing you and you may feel ashamed in front of your fellow expectant mothers but now they act in a professional way like nurses are supposed to behave when handling patients. They treat you educate you and the environment becomes friendly but before we used to fear coming to the HC and I can comfortably say they are doing a great job” FGD Women Kamuli (FGD held one year after implementation)

Community leader describes the change in attitude of providers

5.1.1.6 Increased Access to Information about MCH Services

One of the unexpected non financial incentives for the clients was increased access to information about maternal health services. This was mentioned as a benefit from the project. According to the respondents the knowledge that they had acquired inspired them to seek for care from skilled providers. This information increased as a result of the sensitization by the transporters and the health workers, as well as the health education messages and talk shows that were aired in the radio.

“.....people are not educated and people don't know so many things, people didn't know what polio is, how to help the mother who is in labour etc. With the presence of the safe delivery project, mothers now know that they are supposed to go to health centres for ANC, delivery and taking children for immunization and it has reduced deaths.”

FGD Transporters Pallisa (FGD held after 6 months of implementation)

5.1.1.7 Improved Family Relations and Social Support

Another unexpected non financial incentive was improved family relations and support. The interviews revealed that the increased social support facilitated the use of formal MCH services.

It was reported that family relations between husbands and wives had improved during the project period compared to before the intervention. Information about family relations and support prior to the project was obtained from focus group discussions and key informant interviews conducted before and during the intervention. In all the key informant interviews (six key informant interviews out of six) it was reported that the males were not involved in maternal health issues. In one focus group out of three it was reported that they were not involved and in two out of three focus groups that they were involved.

During the intervention in four out of twelve focus groups it was reported that the men were more involved in providing support to their wives, while in four out of twelve focus groups it was reported that some men were not providing support to their wives. Similarly in four focus groups a mixed picture was reported. In nine out of sixteen key informant interviews it was reported that the men were more involved, while in six out of sixteen key informant interviews it was reported that some of them were not involved in providing support. In one out of sixteen key informant interviews, a mixed picture was reported.

The slight increase in the involvement of men in MCH issues compared to the baseline, was attributed to the decreased financial burden on the husbands. The women reported that they were getting more support from their husbands in terms of both psychosocial support and material support. They were now reported to be caring for their wives well, buying some of the requirements and escorting them to the hospital.

“Some time back men could even lose love for women because of fear when you are pregnant but now we have a lot of love in our relationships with our husbands and they keep on asking you, are you about to deliver? So it has also helped us in our relationships.” FGD women Kamuli (FGD held after 12 months of implementation)

“Since we get free transport which men used to pay for us they can now save some money and buy us some clothes (Nyanza)” FGD Women Kamuli (FGD held after 12 months of implementation)

Social support was also provided by the transporters. This is further discussed in chapter 5.2.2 under responses by the transporters.

5.1.2 Changes in Incentives for Transporters

According to the conceptual framework, it was expected that provision of financial incentives to the transporters would result in increased earnings, which would motivate them to provide transport services leading to increased transport availability. The results presented here show changes in the availability of financial and non financial incentives for transporters. The main expected financial incentive for the transporters was an increase in earnings. Changes in their earnings were assessed by comparing their earnings before they joined the project and during the project. The unexpected incentive was social recognition. This data was obtained from structured interviews and focus group discussions with transporters.

Two hundred and ninety five (295) male transporters were interviewed 64.1 % (189/ 295) were from Kamuli district and 35.9 % (106/ 295) were from Pallisa district. There were no female transport providers in the intervention area subsequently no women were recruited into the scheme. The majority of the transport providers (94.9 %) were already in the transport business prior to the onset of the project. Table 5.6 displays their age distribution.

Table 5-6: Age distribution of transporters in the structured interviews

Age	Frequency	Percent
Under 20	13	4.4
20-29	111	37.6
30-39	118	40.0
40-49	48	16.3
50 and above	5	1.7
Total	295	100.0

The majority of transporters were aged between 30-39. Their mean age was 31.

The transporters were asked to mention the benefits that they received from the project. Table 5.7 shows the benefits that the transporters reported that they received from the Safe Deliveries project.

Table 5-7: Reported benefits for transporters from the Project

Income related benefits	Frequency	Percent
Built house	27	9.2
Bought motor cycle	28	9.5
Married	8	2.7
Improved family health	117	39.7
Educated children	88	29.8
Increased access to health services	7	2.4
Expanded business/income	61	20.7
Improved standard of living	51	16.0
Other benefits		
Gained popularity	22	7.5
Other benefits	6	2.0

The focus group discussions outlined similar benefits. Most of these benefits are linked to improved welfare stemming from the increased earnings from the project. The increased earnings for the transporters were therefore considered a direct incentive. One of the benefits (gaining popularity and social status) was considered an indirect incentive because it was not directly related to income and has potential on its own to motivate the transporters. Details of these incentives and benefits are outlined below as drawn from the focus group discussions.

5.1.2.1 Increased Earnings

The main incentive that changed for the transporters was an increase in their earnings Table 5.8 displays their earning before and during the project.

The correlation between the earnings received by transporters before the project and during the project was positive but weak (0.14) and it was significantly different from zero (P Value 0.01). To investigate the difference in earnings further, a test of proportions of probabilities was done.

Table 5-8: Earnings before and after joining the project

Amount	Amount earned before project (monthly) Frequency(Percent)	Amount earned during project (per payment) Frequency(Percent)	P value
0 - 50,000	91 (30.8)	90 (30.5)	0.92
50,001-100,000	73 (24.7)	66 (22.4)	0.49
100,001-250,000	85 (28.8)	68(23.0)	0.11
250,001 and above	46 (15.5)	71 (24.1)	0.01**

There was a significant difference among those earning 250,000 Uganda shillings

(113.6 USD) and above (P value 0.01) with an increase in those earning 250,000 and above during the project. It is important to mention however that these are estimates of what was earned before and during the project. The amount earned varied each month, so it is likely that the transporters could not remember what they earned accurately. Secondly, sometimes payments for transporters were delayed beyond a month.

This increase in earnings was used in several different ways by the transporters. In all the seven focus groups with transporters, it was reported that the increased earnings were useful for improving their living conditions mainly by meeting the basic needs for their families, and improving the conditions of their houses. In four out of the seven FGD's they mentioned that they were able to pay fees for their children. Several respondents also mentioned that they were able to acquire property such as motorcycles, bicycles, animals such as pigs and cows through their earning. Lastly in two FGD's they mentioned that they were able to pay off debts and loans. The quotations below are illustrative:

“ I thank this project very much, I as one I have achieved a lot from this project in terms of increase in animals...it has given us assured work, every 2 weeks you get paid which is better than before, when we used to sit at the stage with few clients in a day” FGD Transporters Pallisa (FGD held after 6 months of implementation)

“I am managing to pay fees for my children out of the money I am getting from this project and I have managed to sustain my family very well” FGD Transporters Kamuli (FGD held after 12 months of implementation)

5.1.2.2 Change in Status/Recognition

In two out of seven focus groups with transporters; the cyclists acknowledged that their status in the society had changed. This was largely because their social economic status had changed as evidenced by the way

they dressed, the kind of houses in which they lived etc. This is reflected in the quotation below.

“For me I have managed to renovate my house and I am now respected because of that so the project has really worked” FGD Transporters Kamuli (FGD held after 12 months of implementation)

Another interesting form of recognition noted in one of the focus groups was the naming of a child after the transporters.

“After she delivered, the husband called me and asked me what my name was, then I told him, then he said I am going to name this child after you, because you are the one who transported her to the health centre for delivery. So, this is one achievement for me.” FGD Transporters Pallisa (FGD held after 6 months of implementation)

5.1.3 Changes in Incentives for Health Workers

The conceptual framework outlines the incentives that were expected for the health workers. These included financial incentives (timely salaries and increased allowances); increased availability of resources for work, training that would improve the acquisition of skills required for service delivery, support supervision as well as recognition. The main incentives that changed for the providers in both public and private facilities included an increase in allowances, improved working conditions, job enrichment and training - improvement in the skills required for providing care for pregnant women. The financial resources from the scheme were supposed to result in increased incentives for the health workers, hence in this section I also present results on the use of these financial resources. Additional information about incentives provided for health workers was obtained from the health workers survey and is presented in chapter six. These results were obtained from focus group discussions with women and key informant interviews with health workers and opinion leaders, as well as review of project records.

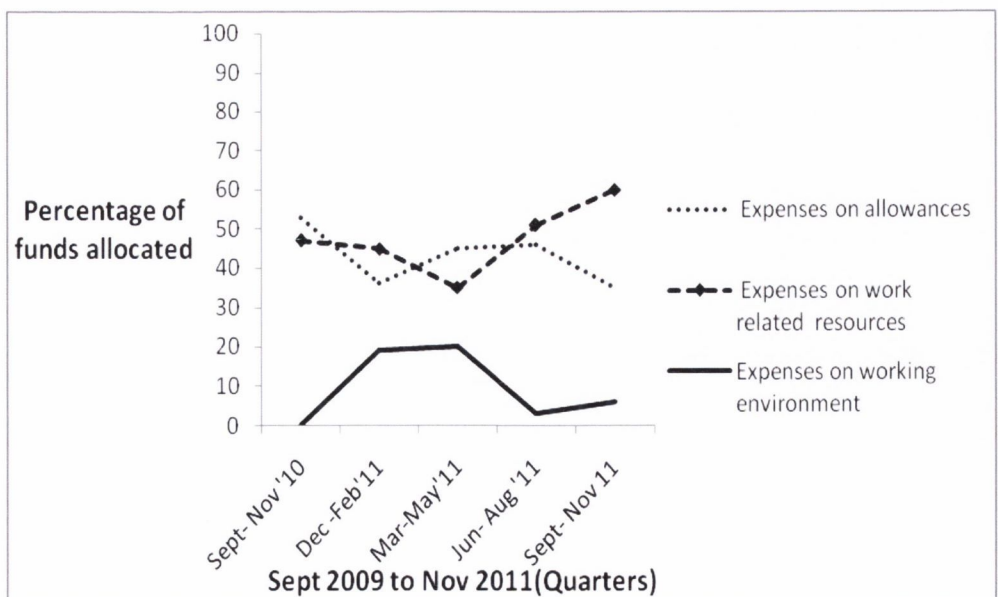
5.1.3.1 Use of Financial Resources from Vouchers in the Case Study Facilities

An analysis was made of the use of the money received from the vouchers. The expenses were categorized into 3 main areas.

- Expenses on allowances refers to allowances that were allocated to staff including any payments used for salary and other direct benefits to staff such as Easter and Christmas gifts.
- Expenses for resources allocated for work included money used for the purchase of medical and non medical supplies used at the facility such as drugs, equipment, stationary, fuel used for sterilization of equipment etc.
- Expenses on the work environment included money spent on items such as maintenance and repair of the facilities, purchase of water, payment for solar systems, electricity etc.

Figure 5.6 displays the expenditure in all the 8 case study facilities for the different periods of the year.

Figure 5.6: Allocation of financial resources in the health facilities



The allocation of funds for the working environment increased steadily to about 20% and then decreased again to very negligible amounts. It received the least amount of money throughout the study period. The gradual rise in the allocation for work environment could be attributed to the project gaining momentum, while the drop could be related to the fact that work environment related expenses are often capital expenses which don't need immediate replacement hence a gradual decline in expenditure for this area could be expected once the initial needs have been met. The allocations for the allowances and resources for work kept fluctuating between 35% and 60% with the allocations more in favour of resources required for work towards the end of the study period.

5.1.3.2 Increased Income/ Allowances

In four interviews done with health workers prior to the intervention, they all reported that the allowances that they received were not sufficient. Once the project was underway, in ten out of ten interviews with health workers an increase in allowances was reported during the intervention. The money received from the vouchers eventually trickled down to the health workers in all the different facilities. In all cases an attempt was made to ensure that all the different clinical and support staff benefited from the allowances. It was felt that since they all contributed to improving maternal health service delivery they were entitled to receiving some benefits even if they may not have been based in the maternity unit.

Respondent: *“It assisted very much because at least every health worker was gaining from it because when we would get money from the vouchers at least everybody was getting and so the project was handled as ours.*

Interviewer: When you say the project was handled as ours what exactly do you mean?

Respondent: *The project was handled as ours it means that all of them participated it wasn't left for maternity only. From the night*

watchman, gatekeeper, compound cleaner would participate and handle the patients well." KI Health Worker Pallisa (FGD held after 12 months of implementation)

In six out of the eight health facilities a meeting was held to decide how the money would be spent by the facilities. Cadres of the same rank received the same amount of money and cadres of a different rank received a different amount as well. The minimum amount earned during a round of payment among healthcare providers was 50,000 (22.7 USD) Uganda shillings and the maximum was 400,000 Uganda shillings (181.8 USD). This translates to between 15% to 85% of the salary for an enrolled midwife (466,000 Uganda shillings /211.8 USD).

In two of the facilities the amount of responsibility and the deliveries conducted by the different staff was also considered. In one PNFP facility there was only one staff so sometimes meetings were held with the health unit management committee and sometimes she made the decisions on her own. In the other PNFP facility decisions were generally made by the in charge of the health centre after the money was combined with the rest of the income received from user fees. However staff members were informed about how the money would be used and the in charge of the maternity unit contributed suggestions about missing equipment in the maternity unit. In the third PNFP facility, the project money was kept separate from the income from user fees, and so the in charge had more control over its use. He was able to hold meetings with staff members to decide on the use of the financial resources. Initially conflicts were reported when the money was supposed to be controlled by the in charge of the health facility rather than the in charge of the maternity unit. During a stakeholder meeting it was agreed that the money should be controlled by the in-charge of the maternity unit in public health facilities.

In all the three PNFP facilities they were actually able to earn more income from MCH services during the project implementation period because of the increase in clients. The PNFP units in some cases used this money to top up

the salaries of their staff since earnings from patient fees in some cases were inadequate for paying the salaries of staff. This was the case especially in one of the small PNFP facilities where the management had actually stopped providing payment for salary and so the only money that the health worker earned was what was provided by the project. This quotation from a health worker in one of the small PNFP facilities demonstrates how grateful she was about the money from the project.

“For me I request you to continue with the programme am very grateful on my side because even my children would have been chased from school since there was no another alternative (implying she used the money to pay school fees).” KI Health Worker Kamuli (FGD held after 18 months of implementation)

The increased number of clients received by PNFP facilities also opened doors for further funding. In one of the PNFP facilities they were able to win a grant (Quadrante) in which a facility needed to have high utilization figures in order to qualify for funding.

“Safe delivery has mainly helped to improve Quadrante because if it was not you people our deliveries would (have been low and we were not going to score sufficient points for the Quadrante grant).” KI Health Worker Kamuli (Interview held after 18 months of implementation)

5.1.2.3 Improved Working Conditions

As alluded to earlier it was expected that the project would result in improved working conditions for the health workers. Changes in their working conditions were assessed based on the opinions of the health workers.

Prior to the project, it was reported that many of the facilities didn't have adequate resources for service delivery. The additional resources provided by the project were therefore useful for improving working conditions. In six out of six interviews with health workers where this was discussed, an increase in

the availability of resources was reported during the intervention. These quotations illustrate how staff appreciated the improved working conditions.

“Like this money that we recently got I bought a scrubbing brush, liquid soap, Jik and then mops. I saw that it was encouraging the staff because we used to use hand brooms and compound brooms for scrubbing the ward. At least when you have this one it encourages the staff. ” KI Health Worker Pallisa (FGD held after 6 months of implementation)

“.....in fact we had few of the instruments but when this project came it provided us with instruments. We were using a charcoal stove during sterilization but now we bought a gas cylinder, so in the sterilization department we are okay. As we have told you this is a remote area. Electricity has not yet been installed so when the solar goes off, we use paraffin so we are well equipped with paraffin. Before the project begun we could even spend the whole night in darkness using our small torches.” KI Health Worker Kamuli

(FGD held after 12 months of implementation)

5.1.2.4 Job Enrichment

One of the unexpected incentives for health workers was job enrichment. In three interviews, health workers mentioned that they felt that their jobs were more enriched because they had clients to attend to. In some of the public facilities, the client numbers had been rather low with very few clients utilizing the facility for maternal health services. So they were pleased that they were not redundant, but had patients to attend to. They also felt that the increased diversity of patients enabled them to be exposed to different clinical conditions and so they improved their skills in the management of clients.

“If you are a mid wife and mothers come to deliver you just enjoy your work. You will just know that you are working but when you just sit there idle you even forget some complications of labour and then you mess up, because you take time to conduct a delivery. When they come

you get the chance to know other complications.” KI Health Worker Pallisa (FGD held after 3 months of implementation)

5.1.2.5 Training

Training was one of the expected non financial incentives outlined in the conceptual framework. During the key informant interviews, five of the health workers reported that they had benefited from the workshop that was held for providers by the project. This was a hands on workshop that enabled them to acquire more knowledge and skills for improving maternal and newborn service delivery.

Summary of Changes in Incentives for Clients and Providers

The financial incentives for clients included pay for transport; formal and informal pay for services. While the non financial incentives included perceived improved quality of maternal health services, increased availability of transport services, increased information about maternal health services and improved family relations and family support. The results showed that;

- Transport services were more available and affordable during the project period compared to the period before the project. However there was reduced access for those residing in far off places, during the night and in cases of referral. This was mainly attributed to changes in the benefit package and the payment structure for transporters, as well as local contextual factors such as armed robberies at night.
- Compared to the period before the project, a reduction was reported in the formal and informal costs for seeking services, although informal payments were not completely eliminated.
- During the focus group discussions the mothers reported that attributes of quality such as availability of resources required for delivery for example gloves improved only slightly. In most cases, they still had to bring or buy some requirements such as gloves.

Health workers were also more available and in addition, they were generally more kind and responsive to the women.

- The unexpected incentives included an increase in awareness about maternal health and maternal health services, increased availability of transport services and increased family and social support from the men and transporters.

Changes in Incentives for Providers (Health Workers and Transporters)

The main incentives that changed for the providers in both public and private facilities included an increase in allowances, improved working conditions, job enrichment and training - improvement in the skills required for providing care for pregnant women. According to the conceptual framework, it was expected that provision of financial incentives to the transporters would result in increased earnings for the transporters. The summary of results presented here show changes in the availability of financial and non financial incentives for health workers and transporters.

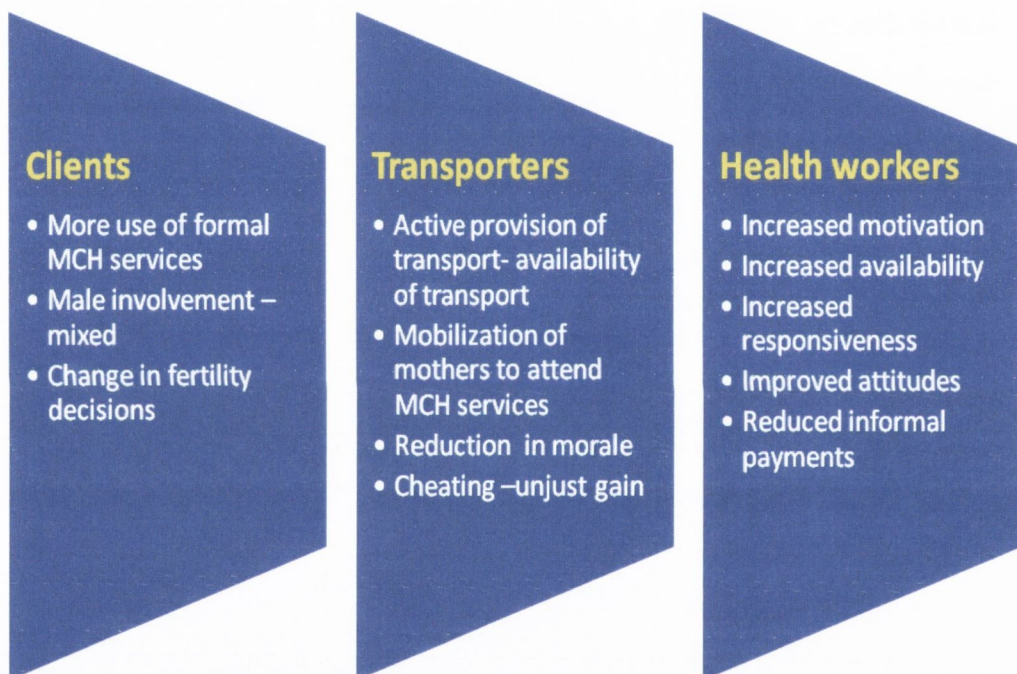
- The main incentives that changed for the providers in both public and private facilities included an increase in allowances; improvement in the skills required for providing care for pregnant women and improved working conditions. The increased allowances and the improvement in working conditions, stemmed from monetary incentives received from the service vouchers and the equipment and supplies provided by the project. The improvement in skills was mainly attributed to the increased diversity of clients seeking care and the training provided.
- The transporters experienced an increase in their earning and increased social status and recognition.

5.2 Responses to the Incentives

As indicated in the conceptual framework, the responses to the incentives for the clients were expected to lead to increased demand and utilization of

maternal health services, the responses among the transporters were expected to lead to increased availability of transport services, while it was anticipated that the responses among the health workers would result in improved quality of maternal health services. This chapter outlines the key responses among these groups. An analysis of their effects on the utilization and delivery of maternal health services is presented in chapter 8. Figure 5.7 highlights the responses to the incentives among the different groups. Each of them is further expounded.

Figure 5.7: Summary of the responses to the incentives among clients and providers



5.2.1 Responses by the Clients

It was anticipated that responses by the clients would lead to increased demand and subsequently utilization of maternal health services. The expected response among the clients was improved health seeking behaviour. The unexpected responses were male involvement and a change in fertility decisions. These findings are presented in the following sections. The results

were drawn from focus group discussions with women and transporters as well as key informant interviews with community leaders.

5.2.1.1 Health Seeking Behaviour

One of the main responses by the clients was seen as a change in their health seeking behaviour for MCH services. Many of the clients started seeking formal MCH services in larger numbers than before the project. During the pilot, this resulted in a huge attendance in ANC sessions, while during the implementation phase when vouchers and incentives for ANC, were stopped, it was mainly observed in the increase in institutional deliveries attendance. Results for the facility utilization of ANC, PNC and delivery services are presented in chapter 5.3.1 however qualitative evidence that reflects the change in health seeking behaviour was drawn from quotations such as the one below.

“Another role we have played is, before the project, the number of mothers who were delivering from the health centre or hospital was very low, but since the project started, all mothers now deliver from the health centre. All women now know that health centres are safe and this has reduced on maternal deaths.” FGD Transporters Pallisa (FGD held after 6 months of implementation)

According to the qualitative interviews, attendance of services such as immunization also increased although there were no incentives or vouchers for this service. It was not possible to collect utilization figures to confirm these assertions. This could be attributed to the increased awareness about MCH services and the free transport for PNC. In two focus group discussions, two women affirmed how beneficial the free transport for PNC was. They said that they were unable to ride bicycles immediately after giving birth and sometimes didn't have enough strength to walk. The project was meant to benefit only those who had complications within the first week after delivery, however, it was difficult to enforce this and so many mothers utilised the opportunity to bring their children for immunization. This is reflected in the quotation below.

“And even for polio we used to wait for these people who come to the village for immunization like for us who stay in the village far away from Kidera, we had to wait for them to come. Few people used to care to come to the HC for immunization but when you introduced this service, Kidera has been so busy with mothers.” FGD Women Kamuli (FGD held after 12 months of implementation)

5.2.1.2 Male Involvement

One of the unexpected responses observed was the involvement of men in maternal health issues.

As presented earlier (chapter 5, 1.1.6) before the intervention, it was reported that the men generally neglected their wives prior to the start of the project.

“Men were not mindful, a man would go to drink and leaves the women at home in labour pains, men didn’t care about the up keep of the pregnant women.” KI Community leader Kamuli (FGD held after 12 months of implementation)

During the intervention, the response among the men was mixed. In four out of twelve focus groups and nine out of sixteen key informant interviews, it was felt that their response was more positive. A mixed picture was reported in four out of twelve focus groups and one out of sixteen key informants. Many of them responded by showing their wives more support and care during the pregnancy period for instance some would offer to help with activities such as digging. On the other hand it was acknowledged in four out of twelve focus groups and six out of sixteen key informant interviews that other men seemed to have responded negatively by giving up all their responsibilities and leaving them to the “*boda boda men*¹¹” and the health workers, with a minority giving absolutely no encouragement to their wives to seek skilled attendance during delivery and labour. These contrasting views were expressed in quotations such as those below.

¹¹ Local term for the transporters who ride the motorcycles locally known as boda boda

“Even our husbands were not caring before this project came. Now they are caring. And even when you come with your husband to hospital to deliver, he will be sensitized by the nurses on the need to buy requirements for the baby. In fact we mothers have a lot of joy as a result of this project. I now know that when it is time to deliver, I have to rush to hospital because my husband will buy me the requirements for the baby and myself unlike previously when you deliver from home.” FGD Women Kamuli (FGD held after 12 months of implementation)

“.....now days it is the boda bodas who bring their women. For them they are not concerned. After the woman delivers, you call boda bodas to take back. The men do not contribute” KI Health Worker Pallisa (FGD held after 12 months of implementation)

5.2.1.3 Fertility Decisions

Some of the possible unintended consequences of the project included reports that suggested a change in fertility decisions. In four focus group discussions and three key informant interviews conducted during the project period, it was reported that women had decided to have more children because the costs incurred by the households had been reduced.

“For us nowadays, we have been given a name for example “Emuria ko liai” which means that you are encouraging people to produce children, since there is safe delivery project.” FGD Transporters Pallisa (FGD held after 6 months of implementation)

“Madam for me I had taken 11 years (without conceiving a child), but when I heard about this project I decided to conceive and delivered my child. Initially we were producing for men but these days we are producing for the government, because the government¹² is providing you transport when you are going to the facility, it is providing fees for the child, for me I will produce until the eggs get

¹² Some of the community members though that the project was funded by the government

finished from the womb.” FGD Women Kamuli (FGD held after 12 months of implementation)

It is only in one FGD where one respondent acknowledged that the project was assisting mothers to meet the costs around the time of birth, but they needed to deliver children whom they can cater for.

“If it continues to support us, we shall continue to deliver, but we should deliver children that we can cater for.” FGD Women Kamuli (FGD held after 18 months of implementation)

5.2.2 Responses by the Transporters

The responses by the transporters were supposed to lead to increased availability of transport services. The anticipated response was active provision of transport services. The additional responses that were observed during the pilot and the implementation of the project included advocacy for maternal health, provision of social support to mothers, reduced enthusiasm to provide transport services as well as attempts to cheat. These responses by the transporters are summarized in table 5.9. These results were drawn from focus group discussions with women and transporters, as well as key informant interviews with community leaders.

Table 5-9: Responses by the transporters

Response by transporters	Quotations from interviews
<p><u>Active provision of transport</u></p> <p>During the pilot period, the transporters responded by increasing the supply of transport services. There was more investment in the business both in terms of riders and also in terms of motorcycles. The result was an increase in the availability of transport to the community.</p>	<p><i>“I want to thank this project very much because since it started I actually see an increase of motorcycle boda boda in Agule and this shows that they are getting something from it.”</i> FGD Transporters Pallisa (FGD held after 6 months of implementation)</p> <p><i>“Before this project I was badly off but I have now managed to secure another motorcycle out of this project.....”</i> FGD Transporters Kamuli (FGD held after 12 months of implementation)</p>
<p><u>Advocates for maternal health</u></p> <p>In the process of marketing their services, the transporters became advocates for maternal health. They actively mobilized clients to attend ANC services and to deliver in health facilities using a variety of methods.</p>	<p><i>“The boda, bodas look for pregnant women and tell them in case they have labour pains, they call them immediately.”</i> KI Community Leader Pallisa (Interview held after 6 months of implementation)</p> <p><i>“We have not experienced any problem with the boda bodas, these people (transporters) can even remind you the dates on which to go back to the facility.”</i> FGD Women Kamuli (FGD held after 12 months of implementation)</p> <p><i>“The first thing we did is when we were given posters, we put posters in all public places and we put all our phone numbers on</i></p>

Response by transporters	Quotations from interviews
	<p><i>those posters. Another role we played was, we went to our L.C. I (local political leaders) and L.C. II to tell them to help us in disseminating the information in their respective villages.”</i> Transporters FGD Pallisa (FGD held after 6 months of implementation)</p> <p><i>“We nowadays take trouble to go to churches to disseminate the information about the project and we also go to water points to sensitize women about the project”</i> Transporters FGD Pallisa (FGD held after 6 months of implementation)</p>
<p><u>Decreased enthusiasm in providing transport services and advocacy for MCH</u></p> <p>This enthusiasm was most marked in Kamuli during the pilot period. During the implementation period, when the project stopped providing transport for ANC and when the payment rates for the transporters were reduced, they started to lose morale in transporting mothers because it was no longer very lucrative. This was made worse by the hike in fuel prices. This change in attitude influenced access to transport services especially at night and for</p>	<p><i>“When this project had just started there were many boda bodas active in taking women but they are no longer taking these women..... they are no longer searching (mobilizing) for women from the villages as they used to do in the beginning.”</i> FGD Women Kamuli (FGD held after 18 months of implementation)</p> <p><i>“Also women had greatly improved when this project was there..... However, they now still call us but the project has deteriorated and we lost morale.”</i> FGD Transporters Kamuli (FGD held after 18 months of implementation)</p>

Response by transporters	Quotations from interviews
those who resided very far away from health facilities.	
<p><u>Support to mothers</u></p> <p>They also provided support to the mothers. For example they would help to call a relative if a mother was to be referred, or they would buy them tea or even some of the requirements required for delivery. In a few cases they even had to help mothers who delivered on the way to the hospital.</p>	<p><i>“The transporters can even volunteer and buy gloves in case we have not carried them. They can even buy small items like baby cloths such that when the husbands come to hospital, a refund is made to the transporters.”</i> FGD Women Kamuli</p> <p><i>“Transporters have no problem, even if it is at night they come for you; they even buy us tea.”</i> FGD Women Kamuli (FGD held after 18 months of implementation)</p>
<p><u>Cheating</u></p> <p>Some of the transporters tried to gain more money from the project, by obtaining vouchers from the mothers and submitting them for payment even if they had not transported the mothers</p>	<p><i>“He brought me but by the time I was discharged, the boda was not there and the nurse refused to give him the voucher. He came home wanting his voucher. He wanted both the voucher for bringing me to the health centre and the one for taking me back yet he did not take me back. He took both of them.”</i> FGD Women kamuli (FGD held after 18 months of implementation)</p> <p><i>“The main thing was photocopying. They would photocopy those vouchers so that they fill in themselves . “</i> KI Health Worker Kamuli (FGD held after 18 months of implementation)</p>

5.2.3 Responses by the Health Workers

In the conceptual framework, it was anticipated that the incentives provided by the project would evoke responses among the health workers that would result in improved delivery and quality of MCH services. The responses observed among the health workers mainly included increased motivation, improved availability for work, and improved attitudes and responsiveness towards clients. This was based on results of focus group discussions with women and key informant interviews with health workers and community leaders as illustrated in the quotations in table 5.10.

Table 5-10: Responses by health workers

Response	Quotations from interviews
<p>Increased motivation</p> <p>The health workers were more motivated to do their work because of benefits such as the allowances and the improved working conditions</p>	<p><i>“...and also it has helped in motivating us workers in form of allowances so you feel, you do work with your heart because of that allowance we are getting”</i> KI Health Worker Pallisa (FGD held after 12 months of implementation)</p> <p><i>“Like this money that we recently got I bought some scrubbing brushes, liquid soap, Jik and then moppers. I saw that it was encouraging the staff because we used to use hand brooms, compound brooms for scrubbing the ward.”</i> KI Health worker Pallisa (FGD held after 12 months of implementation)</p>

Response	Quotations from interviews
<p>Improved availability</p> <p>A mixed picture about the availability of health workers was reported before the intervention. However during the intervention more respondents reported improved availability compared to before the intervention (see section 5.1.1.5 for details)</p>	<p><i>“These days nurses attend to mothers even at night sometime ago nurses would remain indoors without coming out to help mothers”</i>FGD Kamuli (12 months after implementation)</p> <p><i>“The performance improved we gave our time to caring for our patients because we knew instead of going to the garden to look for sugar¹³ we knew there was Sugar and there was even soap.....”</i> KI Health Worker Pallisa (FGD held after 12 months of implementation)</p>
<p>Improved responsiveness</p> <p>Health workers also responded to clients more promptly according to nine out of ten focus groups and two out of three key informant interviews held during the intervention.</p> <p>However in one focus group, a mixed picture was reported and in one key informant interview it was reported that they were not responsive. The poor responsiveness in such cases was attributed to the huge number of patients and to the end of the</p>	<p><i>“Ever since the project started they respond very fast and keep checking on you”</i> FGD Women Kamuli (FGD held after 18 months of implementation)</p> <p><i>“The number of health workers is very small and yet we used to bring a big number of women and they used to take long attending to them.”</i> KI Transporter Kamuli (FGD held after 12 months of implementation)</p> <p><i>“When the project was still going on, the nurse was ever available but these days, she first digs; she doesn’t mind at all, so we request the project to come back and we get</i></p>

¹³ Looking for sugar is a local terminology used to express the need for money to meet basic needs such as sugar and soap

Response	Quotations from interviews
project.	<i>good services.</i> ” FGD Women kamuli (FGD held after 18 months of implementation)
<p>Improved attitudes</p> <p>During the interviews conducted prior to the project a mixed picture was presented about the attitudes of health workers.</p> <p>During the intervention in ten out of thirteen focus groups and two out of four key informant interviews it was reported that their attitudes were good. It is only in three out of the thirteen focus groups where a mixed picture was reported. In two out of the four key informant interviews poor attitudes were reported.</p>	<p><i>“The coming of the project helped us so much to improve on the health workers attitudes towards patients. They no longer shout at us and they give us good care”</i> FGD Women Kamuli (FGD held after 18 months of implementation)</p> <p><i>“There are health workers who improved greatly and there are those who even up to now are harsh towards the patients.”</i> FGD Women kamuli (FGD held after 18 months of implementation)</p>
<p>Improved community client relationships</p> <p>The relationship between the clients and the health workers is reported to have improved.</p>	<p><i>“We had no love for the hospital because of the nurses; we used to change from hospital to hospital, but ever since this project came , we have love for our nurses”</i> FGD Women Kamuli (FGD held after 18 months of implementation)</p>

Response	Quotations from interviews
<p>Increased team spirit and cooperation among staff</p> <p>The health workers were able to help each other with tasks that needed to be carried out in the health facility; this team spirit lightened the work load.</p>	<p><i>“We help on the side of antenatal because there are times when women may come to deliver like three or two a day. And then you find she can't attend to them and work in antenatal so for us we help her there.”</i> KI Health Worker Pallisa (FGD held after 6 months of implementation)</p> <p><i>“Yes like when (I was alone or if I got a problem or lost a family member), The others who are there would come and attend to our patients.....”</i> KI Health Worker Pallisa (FGD held after 12 months of implementation)</p>

Summary of Responses by Clients and Providers

According to the conceptual framework, the responses to the incentives for the clients were expected to lead to increased demand and utilization of maternal health services, the responses among the transporters were expected to lead to increased availability of transport services, while the responses among the health workers was expected to lead to improved quality of maternal health services.

Responses to the Incentives by Clients

- One of the main responses observed among the clients was a change in their health seeking behaviour for formal MCH services. Many of the clients started seeking for services in larger numbers than before the project resulting in increased attendances for ANC, delivery and

PNC services. Attendance of services such as immunization also increased.

- The response by the males was mixed. Some of them responded by showing their wives more support and care during the pregnancy period for instance some would offer to help with activities such as digging, while others seemed to have responded negatively by giving up all their responsibilities and leaving them to the boda boda men and the health workers.
- The unintended consequences included changes in fertility decisions. According to the qualitative interviews, some women made a decision to have more children because of the project support.

Responses by the Providers (Health Workers and transporters)

- The responses by the health workers mainly included increased motivation, improved availability for work, and improved attitudes and responsiveness towards clients.
- The transporters responded by providing transport services more actively, being advocates for maternal health and providing social support to the women.
- However when the payment rates for the transporters and their clientele reduced, they started to lose morale in transporting mothers and mobilizing them to attend services because it was no longer very lucrative.

5.3 Changes in Access to Maternal Health Services

As alluded to in the conceptual framework, incentives provided by the scheme were supposed to result in increased access to MCH services. Changes in access to MCH services were therefore explored. The dimensions of access that were assessed include utilization of maternal health services, geographical access, financial access and availability of supplies, equipment

and human resource. Some of the results about financial access and geographical access as well as perceived quality were presented under incentives for clients (see chapter 5.1.1.2, 5.1.1.3, 5.1.1.4 and 5.1.1.5).

5.3.1 Utilization of Maternal Health Services

Utilization of MCH services was assessed firstly by asking the women where they sought for MCH services. To ascertain if there had been a change in utilization, facility utilization data for the 8 case study facilities and 8 comparable control facilities were compared and presented as graphs. In addition, percentage changes of utilization during the intervention and prior to the intervention were also obtained. Information about beneficiaries from the program and on a reduction in deaths and complications is also presented. These results were drawn from structured interviews and focus group discussions with women as well as facility utilization data.

5.3.1.1 Facilities Where MCH Services Were Sought

During the structured interviews done during the intervention period, women were asked where they sought maternal health services. Almost all the women interviewed (98.4%) attended ANC at least once, 87% (166/189) delivered with a skilled provider (in a health facility) but only 36% (66/182) attended PNC. Table 5.11 provides details of the place of delivery.

Table 5-11: Place of delivery

Place of delivery	Frequency	Percent
Public hospital	19	10.1
Private hospital	16	8.5
Public Health centre	105	55.6
Private clinic	13	6.9
PNFP health centre	13	6.9
Home	15	7.9
Traditional birth attendant	3	1.5
Enroute to the health facility	2	1.0
Others	3	1.6
Total	189	100.0

This table shows that most women delivered with a skilled provider.

During the focus groups it was reported that more mothers were delivering in the health facilities. This was partly attributed to the free transport services and reduced costs at the health facilities.

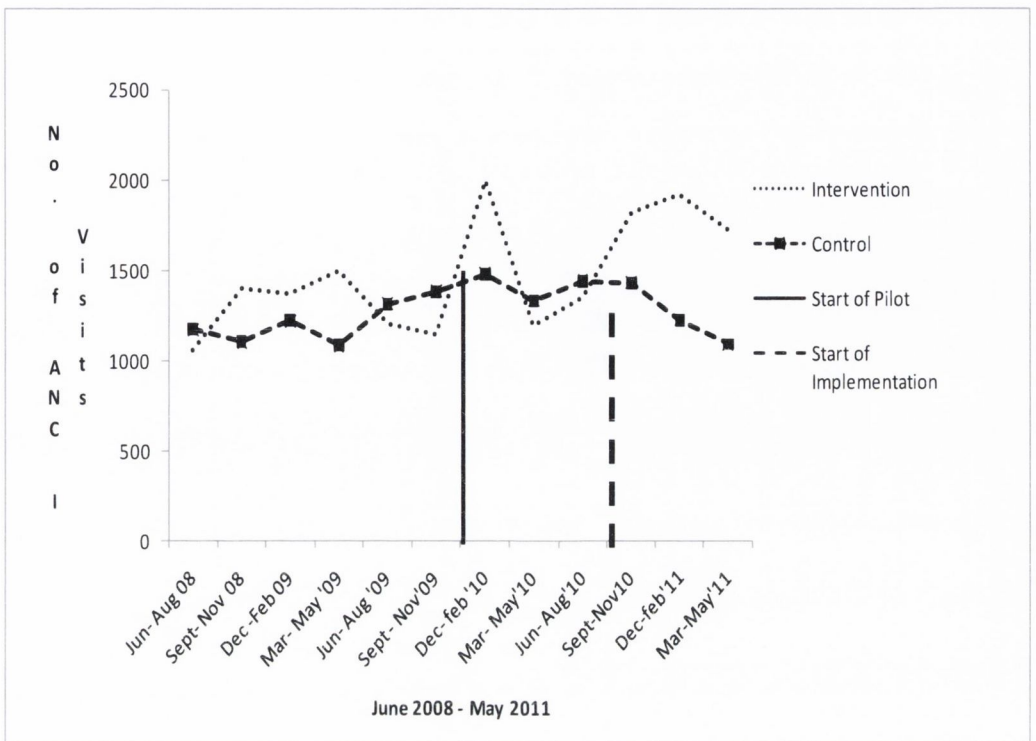
“It is because of the availability of transport for them and then the high charges they used to incur in the health centres. Since delivery is free now and transport is available women see no reason why they should deliver from the villages. Even those who deliver at night just call these boda-bodas by phone, and they come and take them to the facility.” KI Community leader Kamuli (Interview held after 12 months of implementation)

As noted earlier (see chapter 5.2.1.1) according to the qualitative interviews held, there was a slight increase in postnatal care services and immunization services as well.

5.3.1.2 Comparison of Utilization in the Intervention and Control

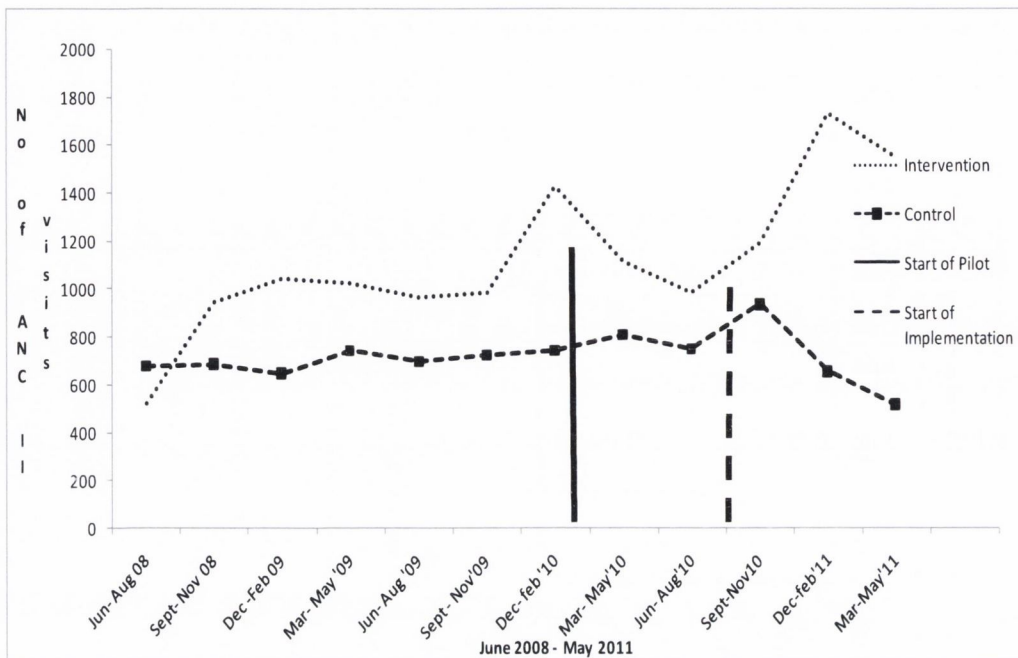
To ascertain if there was a change in the utilization of MCH services, facility utilization data for the period June 2008 to May 2011 was compared. Data from the 8 case study facilities and from 8 comparable control facilities are included to allow for comparison. The facilities in the control were comparable in terms of size, ownership and utilization of delivery care services. To reduce the monthly variation in the utilization the time is presented in quarters instead of months. The results are presented in figures 5.8 – 5.13.

Figure 5.8: First ANC visits in intervention and control facilities



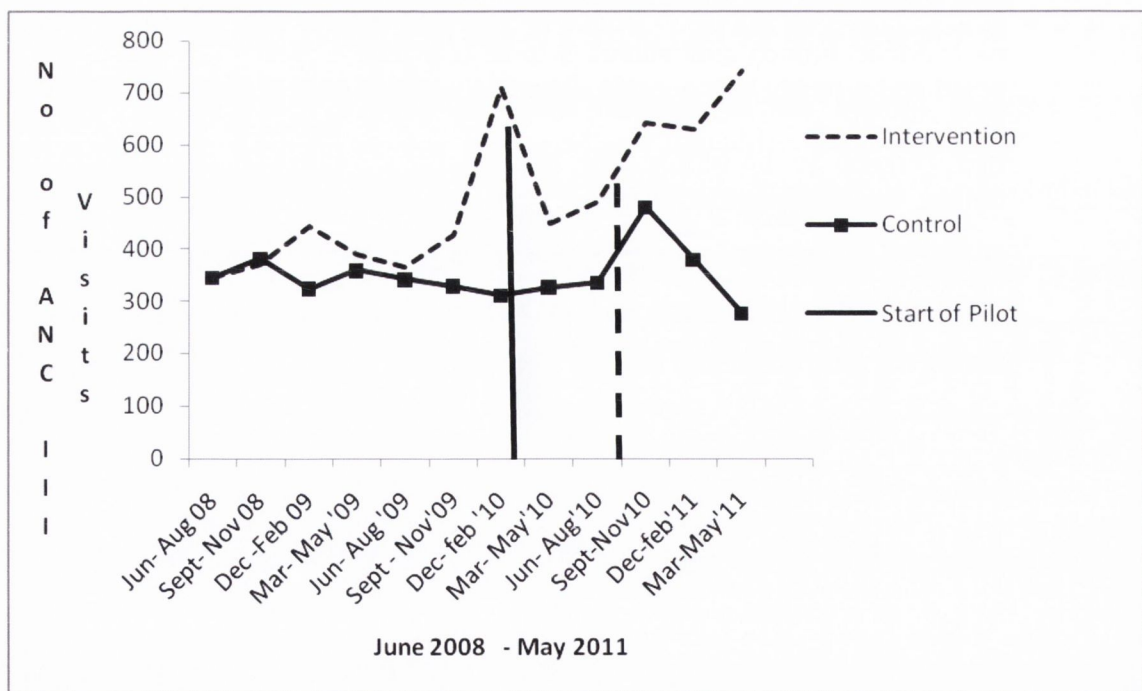
The first spike that is seen in the attendance of the first ANC services corresponds with the start of the 3 month pilot phase. After this, a decline is noted and a steady rise is again observed with the start of the implementation phase in June. Although vouchers were not provided for ANC attendance during the implementation phase, an increase was still noted. This was attributed to increased awareness about MCH services, some women came to get the delivery vouchers, and in Kamuli women who received vouchers during the pilot could still receive ANC services during the implementation.

Figure 5.9: Second ANC visits in intervention and control facilities



A similar trend is seen with the second ANC visits, with a spike immediately after the pilot and another after the start of the intervention.

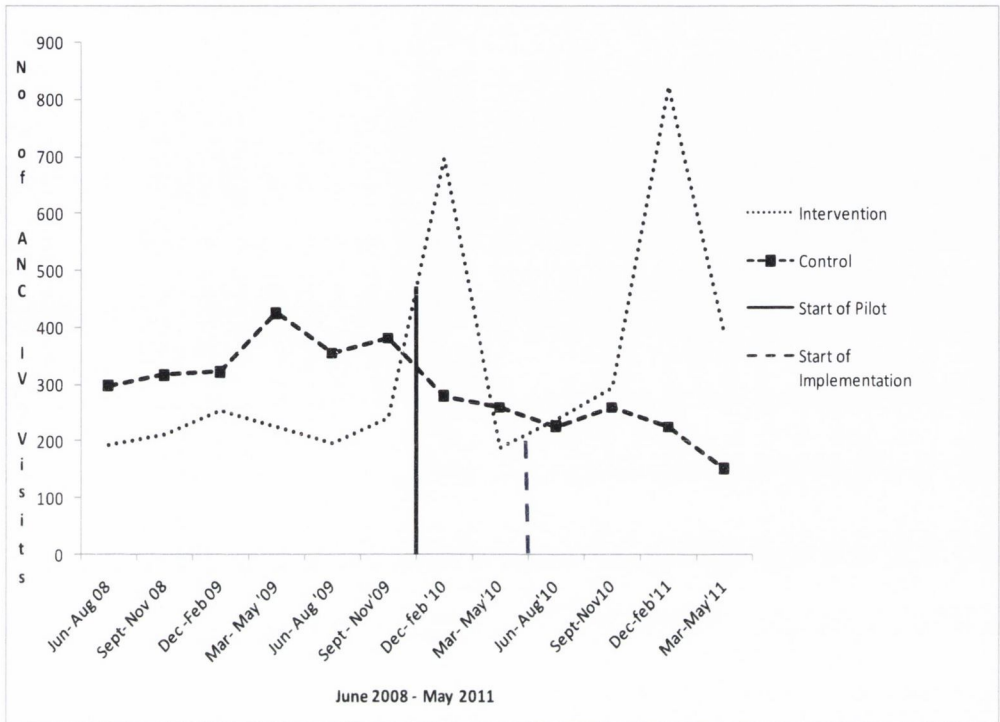
Figure 5.10: Third ANC visits in intervention and control facilities



The trend for the third ANC is similar to that observed for the first and second ANC. However it is worth noting that the initial baseline figure is much lower

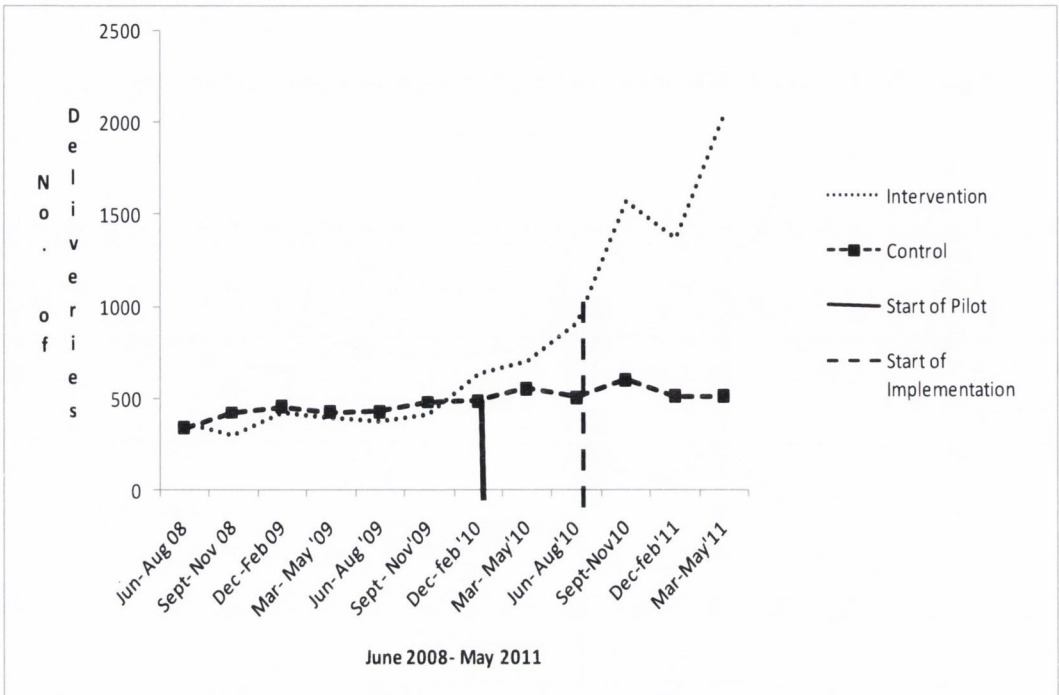
(400) in the intervention and control. The maximum increase noted (700) is also much lower than that observed for the first and second ANC (1800).

Figure 5.11: Fourth ANC visits in intervention and control facilities



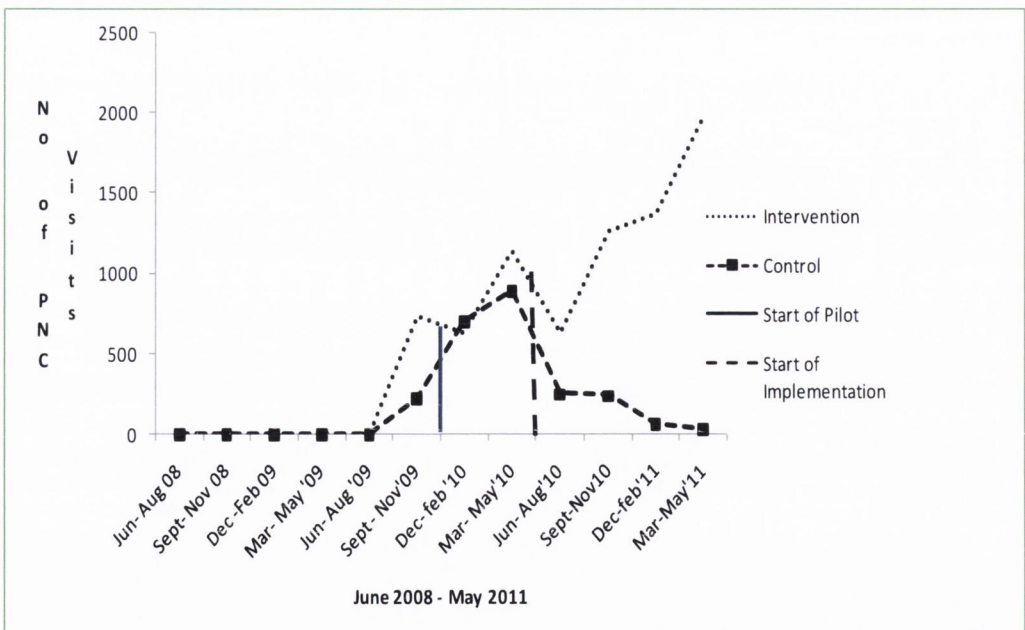
The trend is similar to what was observed for the previous ANC Visits. However it is worth noting that initially the control had a higher attendance of ANC when compared to the intervention.

Figure 5.12: Deliveries in intervention and control facilities



Initially the intervention and control had almost similar levels of delivery care attendance. A steady increase in deliveries is observed with almost a fourfold increase towards the end of the intervention.

Figure 5.13: PNC visits in intervention and control facilities

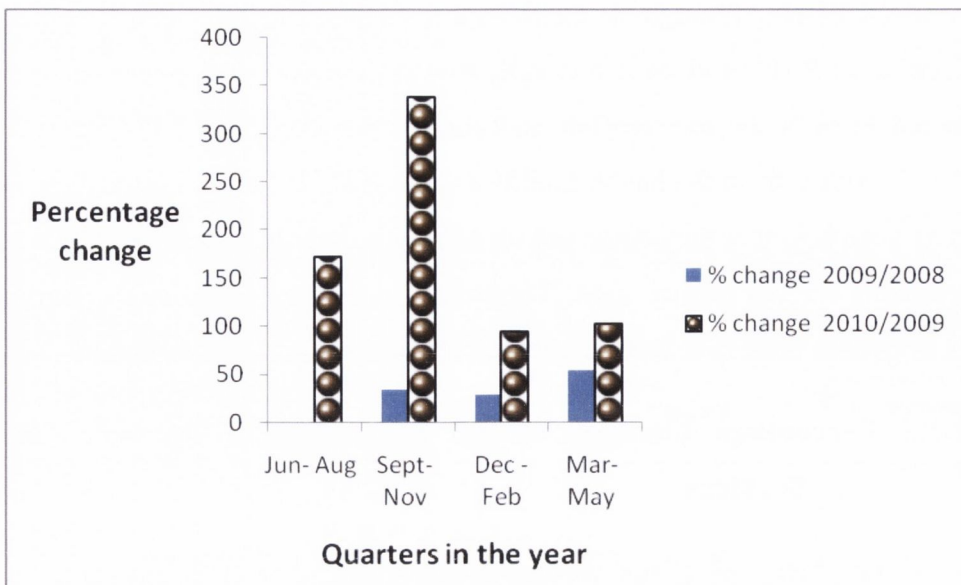


Initially there were almost no PNC visits recorded in both intervention and control facilities. Although all facilities are supposed to offer PNC services, utilization of PNC services is generally low in the country. A steady increase is noted in both the intervention and control between June 2009 and May 2010. Providers from the health facilities were asked if they could explain the picture seen however they could not identify any specific factors that could be responsible for the picture seen. Thereafter while attendance in the control area decreases there is a decline and then an increase in the intervention.

5.3.1.3 Percentage Changes in the Utilization of Delivery Care Services

One of the objectives of the voucher scheme was to increase utilization of maternal health services, by changing incentives for clients and providers. To ascertain if there was a change in the utilization of services, percentage changes before and during the intervention was obtained. Percentage changes in utilization would therefore reflect increased use of maternal health services. The utilization figures, for the 8 case study facilities were aggregated, and then a comparison was done for the four different quarters of the year. To cater for seasonal variation, the data has been analysed in quarters and percentage changes between the same quarters in different years used to assess the degree of change. In each case, utilization of delivery services in one quarter was compared with the utilization of delivery services in the same quarter of the previous year. Quarters from June 2009 to May 2010 were compared with quarters from June 2008 to May 2009. Similarly quarters from June 2010 to May 2011 were compared with quarters from June 2009 to May 2010. These results are presented figure 5.14 .

Figure 5.14: Percentage changes in the utilization of delivery care services



When results for 2009/2008 are compared it is noted that there is a large change between the first and second quarter, followed by a slight decline in the third quarter and then another large change in the fourth quarter. Percentage changes for 2010/2009 are much larger than those for 2009/2008 indicating large changes in the utilization of delivery care services especially in the first two quarters where the comparison is done during the intervention and before the intervention .

5.3.1.4 Beneficiaries of the Program

Respondents from thirteen out of thirteen focus groups reported that all women who were pregnant benefited from the program, although 1 respondent from one of the focus groups reported that she had not benefited from the program. In five out of five focus groups where the issue of benefits for disadvantaged groups such as the poor and disabled were discussed, respondents agreed that they had benefited from the program.

“I think those ones benefited most and indeed they appreciate, and they say if it wasn't for this programme, I wouldn't have managed to come here to get a safe delivery like this. They can even give a testimony that with their

previous pregnancies they have been delivering at home with complications.”

KI Health Worker Pallisa (Interview held after 12 months of implementation)

In most of the focus group discussions and key informant interviews, the respondents claimed that cultural norms no longer affected the utilization of MCH services. However one of the healthworkers in a key informant interview, mentioned some barriers that were linked to religion and social norms about preparing for unborn babies.

“For benefitting I would say most of the women benefited except for members of a religion which doesn't want a number and which doesn't even accept immunization. Those ones didn't benefit because I can gather from my transporters that the husbands managed to keep away the cards that if you are given a number when it comes to the last day you will go to hell straight away.” KI Health Worker Pallisa (Interview held after 12 months of implementation)

“The areas that have persisted as a problem that is preparation of mothers for delivery. Our people still believe that they do not need to prepare for the mother and the baby before the delivery. That if you buy clothes or keep money aside that it will turn up to be a bad omen.....” KI Health Worker Pallisa (Interview held after 12 months of implementation)

5.3.1.5 Decreased Deaths and Complications

There were anecdotal reports from the qualitative interviews that deaths and complications due to pregnancy also reduced as a result of the project. These reports could not be confirmed from facility data because the case study facilities only included lower level units while most deaths occur at the hospital, because women who are severely ill are usually referred there. This is illustrated in the quotation below.

“At first there were so many deaths because most families are poor, but they can produce, so when it comes to the time of delivery, the women will just deliver from home and in case of any complication, the mother dies. And this was very common in most families. But now since the inception of the safe

delivery project, we boda boda's now can pick any woman who is in labour to go to deliver in the health centre regardless of the poor state of that family So this has reduced the incidences of maternal deaths in families."
FGD Transporters Pallisa (FGD held after 6 months of implementation)

5.3.2 Geographical Access

Poor geographical access was identified as one of the barriers to the utilization of MCH services, the voucher scheme was supposed to increase geographical access by improving transport availability and affordability. As noted in chapter 5.1.1.3 geographical access to services was assessed by obtaining information about ease of accessing transport services during the intervention period. Results presented in chapter 5.1.1.3 showed that geographical access to services had improved. During the structured interviews and the focus group discussions, respondents reported that it was easier to access transport during the project period. However they also noted that some difficulties were experienced in some circumstances – at night, during referrals and for those residing far away.

5.3.3 Financial Access

According to the conceptual framework it was expected that the service and transport vouchers would lead to increased financial access to services. In chapter 5.1.1.2 and 5.1.1.4 financial access to services was assessed by obtaining information about pay for delivery services and affordability of maternal health services.

According to the focus group discussions and the structured interviews, financial access to services improved since the mothers were now able to access services at a lower cost. The results showed that pay for transport had decreased since the mothers no longer had to pay for the transport. Overall, the formal and informal costs for seeking services were reported to have decreased, although in a minority of cases, there were reports that clients still

paid money to the health workers. Detailed results about financial access were presented in section 5.1.1.2 and 5.1.1.4.

5.3.4 Availability of Supplies, Drugs, Equipment and Human Resource

One of the dimensions of access is availability. This relates to the availability of supplies, drugs, equipment and human resources. Changes in the availability of these attributes were assessed through the focus group discussions and key informant interviews, as well as through spot checks and support supervision visits. The results from the qualitative interviews and the spot visits are presented below. Results from the support supervision visits will be presented in chapter seven.

5.3.4.1 Availability of Supplies and Basic Equipment

The qualitative interviews portrayed a mixed picture regarding availability of supplies as presented in chapter 5.1.1.5. Regarding equipment, the health workers reported that they had been able to acquire some of the basic infrastructure required for delivering services.

“Our windows did not have curtains but now we are shining we have curtains..... We managed to buy some equipment for disinfecting, and then we bought a wall clock. (Then we have a screen for maintaining the privacy of patients)” KI Health Worker Pallisa (Interview held after 12 months of implementation)

Supplies such as gloves and mackintosh (polythene paper laid on the delivery bed) however, were not always available. The government and the project were not able to provide sufficient supplies for the clients. So sometimes the patients were required to buy or bring some of the supplies as noted in the quotation below.

“Here we don't pay since we are in a government hospital; we just buy gloves or polythene paper (Mackintosh) in case they are not available.” KI Community leader Kamuli (Interview held after 18 months of implementation)

Even with the project in place, it had been agreed that mothers who could afford should continue to buy some of the requirements for delivery. During a meeting with stakeholders, health workers expressed concern that the project wanted to ask mothers to stop buying supplies such as gloves and yet the project was going to meet these needs for only a year and then the providers would have to go back to the status quo. The health workers and the project team discussed and agreed that important behaviours that had been established in the community should not be eroded, because of a short term project; except if long term change was expected.

5.3.4.2 Availability of Human Resources

Availability of all staff that can work in maternity (including nursing aides) and only qualified Staff (excluding nursing aides) was assessed in all the health facilities during spot-checks at three different periods in the study. A comparison of the actual staff who were found in all the health facilities and those who are expected to be there was done, and the figures presented as a percentage. The results are presented in table 5.12.

Table 5-12: Staff availability in the case study facilities

Overall Availability	First visit	Second visit	Third Visit
Actual staff	15	8	12
Potential (all staff)	20	20	21
% Available	70%	40%	50%
Actual qualified staff	9	6	8
Potential (qualified staff)	14	14	14
% Available	60%	40%	50%

The highest number of qualified and non qualified staff were found at the first spot visit. The qualitative results were contrary to the results observed in the spot checks. (ten out of eleven focus groups and four out of eight key informant interviews reported that they were available and only one out of

eleven focus groups and three out of eight key informant interviews reported that they were not available. The response from one key informant was mixed). The health workers started to adjust their duty rosters so that a health worker was always available to serve the clients. However in facilities where there was only one staff, this was not always possible.

The difference between the spot checks and the qualitative interviews is probably because spot checks reflect only what is observed in a few instances. As explained in the methods section this may not be a full reflection of health worker availability throughout the week. It is however useful as a method for obtaining additional evidence about a topic of study.

Although the midwives were noted to be more available, the health workers reported that they were overworked since they had several programs to run and yet they were few. This was more evident during the pilot period when mothers flocked the facilities for ANC services. This caused the mothers to spend long hours at the facility, in some cases, they even went back without being attended to. The experience of mothers during busy ANC clinic sessions is illustrated in the quotation in the text box below.

Text Box 5-3: A very busy ANC clinic

“ but these women complain that when they go to the health facilities, they are always in big numbers and they spend long hours in the facility feeling hungry the whole day because health workers are very few. They can’t handle the number of clients who have come for the services and some mothers end up going back home when they have not got the chance of seeing the health worker.....but they don’t get tired; they go back the following day until they see the health worker. KI community leader kamuli

(Interview held after 12 months of implementation)

This problem was reduced later on in the program since the one year implementation didn't include ANC. Problems of workload were reported especially in the large facilities that receive a lot of clients, and offer multiple services, and also in smaller facilities that were extremely understaffed.

Summary of Results on Changes in Access to Maternal Health Services

According to the conceptual framework, it was expected that the incentives provided by the project for clients and providers would reduce the direct and indirect costs of seeking care, lead to improvements in the quality of maternal health services and subsequently increased utilization of maternal health services. A summary of the results on changes in access to maternal health services is presented below.

- Analysis of the facility utilization data for the period June 2008 to May 2011 showed that there was increased utilization of maternal health services. The increase was marked during the pilot phase (Dec 2009 to Feb 2010) and the implementation phase (June 2010 – June 2011). Results from the qualitative interviews and the facility utilization data revealed that there was increased utilization of antenatal, delivery and postnatal care services. There were also qualitative reports that utilization of immunization services increased.
- There was anecdotal evidence that deaths and complications during labour decreased.
- Geographical access to services increased, since the transporters were now available and able to transport mothers to health facilities. The mothers reported that previously it was very difficult to get transport to the facility.
- Financial access to services also improved since the mothers were now able to access services at low cost because their costs for transport and services were catered for by the project. However in some facilities, informal payments still persisted.

- The qualitative interviews portrayed a mixed picture regarding availability of supplies. Although sometimes they were available and so they didn't have to buy them, at times they were required to buy or bring some of the supplies required for service delivery.
- In terms of human resource, the results revealed increased availability of health workers and increased responsiveness towards clients needs. However in facilities where there was only one staff, delays in receiving services were occasionally reported, most especially during the pilot period. During the implementation period, it was a problem especially in facilities that were understaffed.
- Although the midwives were noted to be more available, the health workers reported that they were overworked since they had several programs to run and yet they were few. This was more evident during the pilot period when mothers flocked the facilities for ANC services.

Chapter 6

6.0 Health Worker Survey

This chapter provides additional information about incentives provided for health workers and their responses to the incentives. It was expected that the incentives for the providers would lead to motivation of the health workers. The first section of the chapter contains socio demographic characteristics of the health workers, as well as descriptive statistics of the health facilities where they work and their work conditions (e.g. salary earned, occurrence of dual practice). This information provides a foundation for understanding the working environment of health workers. The rest of the chapter comprises of results about changes in motivation among the providers, their perceptions about motivation as well as motivation indicators such as absenteeism and motivation determinants. The information presented was obtained from a survey that was carried out among health workers before the intervention and at the end of the intervention. The survey was done among providers from the intervention and from the control in order to allow for comparison.

6.1 Socio Demographic Characteristics

The socio demographic characteristics of respondents are presented in order to provide a better understanding of the type of health workers who provide services in the study area.

The health workers survey was done with 118 (52.4%) health workers from Kamuli and 107 (47.6 %) health workers from Pallisa. 176 (78.6%) of the respondents were female and 53(23.4%) of them were male. The socio demographic characteristics of the health workers are displayed in table 6.1.

Table 6-1: Socio demographic characteristics of health workers

Socio demographic characteristic	Frequency	Percent
Marital status		
Married	141	62.1
Divorced	9	4.0
Separated	9	4.0
Widowed	27	11.8
Single	37	16.3
Others	4	1.8
Total	227	100
Age		
	Frequency	Percent
Below 20	8	3.5
21-30	95	41.8
31-40	51	22.4
41-50	41	18.0
51-60	32	14.1
Total	227	100
Educational level attained		
	Frequency	Percent
Primary level	3	1.3
Ordinary Level	54	23.8
Advanced Level	8	3.5
Tertiary Level	158	69.6
University	4	1.8.
Total	227	100
Professional Titles of Health workers		
	Frequency	Percent
Clinical Officer	24	10.5
Registered Nurse	3	1.3
Enrolled nurse	16	7.0
Registered Midwife	13	5.7
Enrolled midwife	61	26.8
Registered Comprehensive nurse	6	2.6
Enrolled comprehensive nurse	13	5.7
Nursing aide	91	40.3
Total	227	100

Most of the health workers interviewed were between the ages of 21 and 30. Their mean age was 35.4. The majority had attained at least tertiary level of education. Nursing aides were the commonest cadre, followed by enrolled midwives.

6.2 Description of Work Schedule, Terms and Conditions

In this section, a description of the work schedule, terms and conditions of work for the health workers is presented. This provides a background for understanding and explaining the responses to the incentives provided by the scheme.

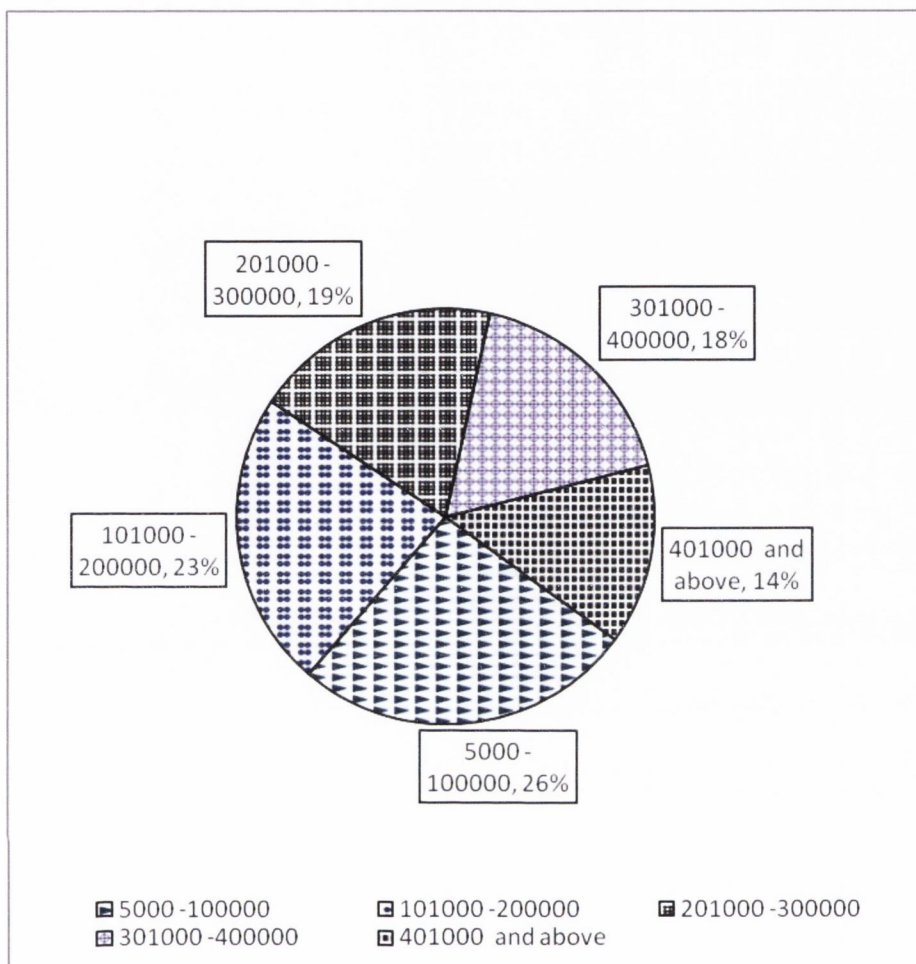
Most of the health workers (68.3%) are employed in facilities that are owned by government. 29.5 % (67/227) are employed in PNFP units and 2.2 % (5/227) in private for profit units. The majority of health workers were from HC III (72.7%).

Most of the health workers (61%) had worked in the health facilities for at least 3 years. 200/227 (88 %) of the health workers are employed in the health facility full time. Regarding private practice only 20/227 (8.8 %) respondents mentioned that they had a private practice. There was no significant difference between the baseline and the end line.

6.2.1 Salary of Health Workers

The health workers were asked how much salary they earn. Their responses are summarized in figure 6.1.

Figure 6.1: Salary earned by health workers



Their salary is generally low with about 48% of health workers earning about 83 USD or less per month (Exchange rate 2400 Ug sh - 2012). The salary contributes at least 75% of the household income for 61% of the respondents. This salary is comparable with what health workers in Ghana were earning . In work done by Agyepong, Anafi et al (2004) health workers in Ghana were earning between 21 USD and 231 USD with a mean salary of 66 USD. It is generally acknowledged that health workers earn very low salaries especially in developing countries (Agyepong, Anafi et al 2004, Franco Bennet et al 2002, Kyaddondo and Whyte 2003). An independent t test was done to assess differences between the intervention and control and the baseline and end line survey. The t test of the mean salary earned during the baseline survey and

during the end line survey was not significant (Pr =0.14). Similarly the t test between the intervention and control was not significant (Pr=0.32). The majority of health workers worked in government owned units. Salaries are usually determined by government in public facilities and therefore a change would not be expected. In PNFP facilities salaries may be more flexible.

6.3 Results on Motivation

In this section results about motivation are presented. According to the conceptual framework, it was expected that the incentives would lead to increased motivation among the health workers. This section contains results that illustrate what health workers perceive motivation to be as well as their self reported motivation levels. In addition, absenteeism as an indicator of motivation, and results about the determinants of motivation are also presented.

6.3.1 Health Workers Understanding of Motivation

The health workers were asked to explain what motivation meant to them. Their responses are presented in Table 6.2.

Table 6-2: Meaning of motivation

Meaning of motivation	Frequency	Percent
Appreciation	82	27
Interest/ willingness to do their work	56	18
Salary increase	38	13
Allowances	34	11
Working environment/supplies	24	8
Training	18	6
Support supervision & feedback	15	5
good relations with staff	10	3
refresher courses/workshops	8	3
don't know	8	3
Timely salary	6	2
Job security	3	1
Accommodation	2	1
Total	304	100

Multiple responses were allowed.

The majority of health workers associated motivation with being given some sort of reward (motivator) such as a salary increase or allowances, or training or with the presence of particular conditions such as good working conditions or support supervision. Only 18% related it with interest in their work/willingness to do their work.

6.3.2 Motivation levels

Motivation levels of staff in 2009 and 2011 were assessed. Similarly motivation between the intervention and the control was assessed. Motivation was initially assessed under 5 categories, 1 represented very low motivation and 5 very high motivation. These were eventually collapsed into 3 categories in order to avoid the problem of having very small numbers during the sub analysis. These results are presented in table 6.3 and table 6.4.

Table 6-3: Levels of motivation between the baseline (2009) and end line survey (2011)

Levels of motivation	Baseline survey(2009) Freq (%)	End line survey (2011) Freq (%)	Total Freq (%)	P value
Low motivation	36 (50.7)	35 (49.3)	71 (100)	0.57
Moderate motivation	47 (54.6)	39 (45.35)	86 (100)	0.11
High motivation	24 (36.3)	42 (63.64)	66 (100)	0.02**

A test of proportions of probabilities was used to assess differences in the motivation levels between the baseline and end line survey. There was a significant difference in the health workers reporting high motivation, with

more health workers reporting high motivation during the end line survey (P value 0.02). This could be partially attributed to the interventions implemented during the intervention (Training, support supervision, provision of basic resources). These interventions were implemented in both the intervention and the control areas and so this could have contributed to the changes seen in the end line survey. The perception of health workers about the meaning of motivation could have influenced these results as well. Although a common definition of motivation which refers to the intrinsic willingness to perform ones job was used when asking this question, responses could still have been linked to a perception where motivation is seen more as a motivator.

Table 6-4: Motivation levels between the intervention and the control

Levels of motivation	Intervention Freq (%)	Control Freq (%)	Total Freq (%)	P value
Low motivation	34 (48.5)	35 (51.4)	71 (100)	0.59
Moderate motivation	39 (45.3)	47 (54.6)	86 (100)	0.76
High motivation	30 (45.4)	36 (54.5)	66 (100)	0.82

The test of proportions of probabilities was used to assess differences in the motivation levels between the intervention and control. There was no significant difference in the levels of motivation between the intervention and the control. Further analysis to test for associations between the intervention and control was done separately for the baseline survey (Pearson chi 2(2) = 3.03, P=0.21) and the end line survey (Pearson chi 2 (2) = 2.4, P=0.28). There was still no significant difference. This was probably because some of the interventions such as provision of basic supplies and equipment, training, support supervision were done in both the intervention and the control. As alluded to above, the results could also have been influenced by the health workers perception about the meaning of motivation.

6.3.3 Absenteeism by Health Workers

One of the objectives of the study was to find out if health workers were more available at their places of work during the intervention period than before, as an indicator of motivation change. Self reported absenteeism was therefore assessed during the survey. 51/227 (22%) of those surveyed reported that they were absent at least once in the week prior to the survey. One of the limitations of this method is that staff may not report that they were absent. A multinomial logistic regression analysis was run to explain the relationship between the levels of absenteeism (measured using the number of days staff were absent) and being in the intervention and control, and between 2009 and 2011. Additional variables that could confound the results were also included in the regression model. Variables such as ownership, and the level of the facilities were not included in the model because of the small sample used in this sub analysis (49). The results are displayed in table 6.5.

Table 6-5: Relative risk ratios for multinomial logistic regression for absenteeism

Base category = Low absenteeism (Absent for 1 day)

Number of obs = 49 Prob > chi2 = 0.12				
Level of absenteeism	RRR	SE	P value	95% C.I
Moderate absenteeism (Absent for 2 days) relative to low absenteeism				
Sex	0.69	0.62	0.68	0.11 - 4.07
District	2.58	2.36	0.29	0.43 -15.51
Age	1.11	0.04	0.00**	1.03 – 1.20
Qualified staff	0.75	0.64	0.74	0.14 -4.01
2011	1.09	0.89	0.91	0.21 -5.45
Intervention	0.67	0.55	0.63	0.13 -3.35
High absentism (Absent for 3 days or more) relative to low absenteeism				
Sex	1.55	1.56	0.66	0.21 -11.24
District	0.92	0.88	0.93	0.14 - 6.03
Age	1.06	0.04	0.11	0.98 – 1.15
Qualified staff	0.84	0.78	0.85	0.13 -5.17
2011	0.33	0.29	0.21	0.05 -1.85
Intervention	0.21	0.19	0.08*	0.03 1.24

RRR is the relative risk ratio, SE is the standard error, C.I is the confidence interval

*** Significant at 5% level of significance. Significant at 10% level of significance.*

When moderate and high absenteeism was compared with low absenteeism, the likelihood of being absent increased with age. When high absenteeism was compared with low absenteeism, there was a 79% reduction in absenteeism among those in the intervention compared to those in the control. These results should be interpreted with caution because the sample size was small (N=49) and these particular results were significant at the 10% level but not the 5% level.

The respondents who were absent were asked to explain why they were absent. The reasons that they gave are summarized in table 6-6. Some of the respondents did not respond to this question.

Table 6-6: Reasons for absenteeism

Reason for absenteeism	Frequency	Percent
Illness	13	34.1
Domestic work	4	10.5
Burial	5	13.1
Official duty	12	31.5
Other	4	5.2
Total	38	100.0

The most common reasons for being absent were being on official duty and illness of either the health worker or their child. There was no difference in the reasons given between the intervention and the control or between the baseline and end line survey.

6.3.4 Motivating Factors for Health Workers

In an attempt to understand what motivates the health workers, they were asked to mention what motivates them, and then asked to select two of the factors that motivate them the most out of what they mentioned. The results are presented in table 6.7.

Table 6-7: Motivating factors for health workers

Motivating factor	Frequency	Percent
Good working conditions/Availability of resources	90	24
Salary	59	16
Training	39	10
Allowances	36	10
Timely salary	29	8
Support supervision& feedback	21	6
Appreciation	21	6
Saving lives	15	4
Community involvement	12	3
Promotion at work	12	3
Patient satisfaction with services	11	3
Accommodation	8	2
Job security	7	2
More staff	6	2
Professional Ethics	3	1
Extra responsibilities	3	1
Gaining experience	2	1

In this environment, the four factors that were considered as having the ability to motivate most included good working conditions (availability of resources), salary, training and allowances. Three of the four variables were included in the conceptual framework except for salary. It is worth noting that factors such as saving lives which were identified as potential factors for encouraging health workers to exert more effort under the expectancy theory were also mentioned.

6.3.5 Multivariate Analysis for Motivation

Ordinal logistic regression was done in order to understand the predictors of motivation among the health workers based on commonly known predictors of motivation, while controlling for confounding. This provided information on the factors that were likely to lead to motivation of the health workers. For each variable that was presented (See table 6.8 for the list of variables), the health workers were asked to give a score that indicated whether they associated the variable with high motivation (Score of 3 or 4) or low motivation (score of 1 or 2). These scores were then changed into values of 1 (for scores of 3 or 4) and a value of 0 (score of 1- 2) before the regression analysis was done. All the variables identified as potential predictors of motivation according to the literature were included in the model. Secondly the model had a better fit when all the variables were included. In addition other possible confounding factors such as age, sex, district, level of the health facility, ownership of the health facility, and the qualification of staff were also included. The results are presented in table 6.8.

Table 6-8 : Odds ratios for the ordered logistic regression for predictors of motivation

Number of Obs =206 Prob>chi2=0.000				
Motivation (Low, moderate, high)	OR	SE	P value	95% C.I
Salary	0.83	0.32	0.64	0.38 - 1.799
Additional allowances	0.47	0.16	0.02**	0.23 -0.92
Good working conditions	2.38	0.99	0.03**	1.05- 5.39
Opportunities for training	1.43	0.51	0.31	0.71 -2.88
Social status	1.15	0.50	0.74	0.48 - 2.73
Pension rights	1.32	0.46	0.41	0.67 -2.61
Opportunity to serve community	0.51	0.22	0.12	0.22 -1.20
Increase patients for private practice	0.63	0.22	0.19	0.32-1.25
No better options	0.60	0.18	0.11	0.33– 1.11
Career growth	2.74	1.24	0.02**	1.13 – 6.65
Good supervision	1.27	0.73	0.67	0.41 – 3.90
Good leadership & management	0.95	0.53	0.92	0.31 -2.85
Job security	2.28	1.07	0.07*	0.90 – 7.73
Female sex	1.95	0.68	0.05*	0.98 - 3.90
Health centre III	1.19	0.68	0.765	0.38 - 3.65
Health centre IV	1.47	0.96	0.55	0.40 - 5.33
Private not for profit	1.23	0.47	0.58	0.58 -2.61
Private for profit	7.74	9.2	0.08	0.74 – 80.34
Pallisa district	6.04	2.25	0.00**	3.58 -13.03
Age	1.02	0.19	0.01**	1.06 - 1.82
Qualified staff	0.92	0.21	0.94	0.67 - 1.53
2011	2.16	0.66	0.04**	1.03 - 3.82
Intervention	0.97	0.26	0.58	0.45 - 1.55

OR= Odds ratio, SE= Standard error, C.I = confidence interval

***= Significant at 5% level, * significant at 10% level*

Health centre II was used as a comparison for the health facility variable and government ownership was used as the comparison for the ownership variable.

The factors that were significant predictors of motivation at the 5% level were additional allowances, good working conditions, career growth, age, belonging to Pallisa district and being in the end line survey (2011). These results show that the odds of having high motivation compared to moderate and low motivation was 2.3 times higher among those who associated good

working conditions with high motivation compared to those who associated it with low motivation. Similarly these results show that the odds of having high and moderate motivation compared to low motivation was 2.3 times higher among those who associated good working conditions with high motivation compared to those who associated it with low motivation.

The results also showed that the odds of having high motivation compared to moderate and low motivation was 2.1 times higher among those who did the survey in 2011 compared to those who did it in 2009. Similarly the results also showed that the odds of having high and moderate motivation compared to low motivation was 2.1 times higher among those who did the survey in 2011 compared to those who did it in 2009.

It was however surprising that additional allowances had a negative relationship with motivation indicating that the odds of having high motivation compared to moderate and low motivation was 53% lower among those who associated additional allowances with high motivation compared to those who associated it with low motivation. Similarly, the odds of having high and moderate motivation compared to low motivation was 53% lower among those who associated additional allowances with high motivation compared to those who associated it with low motivation.

These results imply that for the intervention to provide more motivation, for the health workers, it needed to address or influence these factors. According to the conceptual framework it was expected that working conditions would improve, it was also expected that additional allowances would provide more motivation for the health workers. The negative relationship seen with financial allowances above could be related to the low level of financial allowances for health workers in rural areas. Those who associated high motivation with financial allowances therefore perhaps required an environment with a much higher level of financial allowances in order for the allowances to be a positive motivator. Career growth was also not directly identified in the conceptual framework since career growth is controlled by different factors that were not likely to be influenced by the study within the

brief implementation period. In addition age and the district in which the health worker was located were also likely to influence motivation levels. This finding is not surprising since it was noted in the conceptual framework that other external factors could influence the work environment and subsequently motivation of health workers.

It is also worth mentioning that the intervention variable is not able to capture all the complexity that exists within it. This is largely because the intervention itself is capable of influencing some of the independent variables. For example the intervention may improve working conditions or it may improve the quality of supervision. At the same time these very independent variables could also influence the impact of the intervention. For example if a facility has good supervision, the intervention could have a greater impact or the level of the health facility could influence the impact of the intervention. Consequently one of the limitations of this model is that it is not able to capture this simultaneous complex situation.

Influence of Changes in the Working Environment on Motivation

The intervention altered working conditions in the intervention and the control areas. Further analysis was done in order to assess the influence of changes in the work environment on motivation. For each variable that was included in the survey (See table 11.3 in appendix III for the list of variables included), the health workers were asked to give a score that indicated the strength of existence of the variable at their work place (for example to what extent do you find supervision useful) or the influence of their work on the variable (for example to what extent does your job meet your career interests and goals). A score of 3, 4 or 5 indicated high existence/ high influence and a score of 1 or 2 low existence/low influence. These scores were then changed into values of 1 for high existence/high influence (scores of 3, 4,5) and values of 0 (scores of 1,2) for low existence/influence. The Ordinal logistic regression model was employed to determine the influence of working conditions. Bivariate analysis was done between motivation and each of the independent variables (see table 11.3 in appendix III). Those that were

significant were considered for inclusion in the ordinal logistic regression model. In consideration of the complex simultaneous process discussed above variables that were part of the intervention were dropped. These included usefulness of supervision, financial allowances and provision of resources for work. Furthermore an interaction was created between the level of the health facility and the intervention variable. Lastly, other possible confounding factors such as age, sex, district, level of the health facility, ownership of the health facility, and the qualification of staff were also included.

Table 6-9: Odds ratios for ordered logistic regression for motivation determinants

No of Obs= 214 Prob>chi2 = 0000				
Motivation (Low, moderate, high)	Odds ratio	SE	P value	95% C.I
Meeting career interests and goals	1.79	0.63	0.09*	0.89 – 3.57
Improving professional status	1.36	0.54	0.44	0.61 – 3.00
Job security	1.37	0.42	0.30	0.75 – 2.52
Salary meeting expectations	1.92	0.59	0.03**	1.04 – 3.52
Job satisfaction	1.50	0.53	0.25	0.74 – 3.03
Female Sex	2.11	0.71	0.02**	1.08- 4.11
Age	1.01	0.01	0.26	0.98 -1.04
Qualified staff	0.79	0.22	0.42	0.44 -1.39
Pallisa District	5.82	1.96	0.00**	3.00 -11.3
2011	1.94	0.57	0.02**	1.09 -3.4
Intervention	1.33	1.20	0.75	0.22 -7.89
Health centre III	0.91	0.60	0.88	0.24 -3.33
Health centre IV	1.00	0.76	0.99	0.22 -4.41
Intervention implementation at HC III	0.52	0.50	0.50	0.07 -3.45
Intervention implementation at HC IV	2.07	2.38	0.52	0.21 -19.65
Private not for profit	1.08	0.37	0.81	0.54 – 2.14
Private for profit	5.96	7.01	0.12	0.59 – 59.76

**= Significant at 5% level, * significant at 10% level

HC II was used as a comparison for the health facility variable and government ownership was used as the comparison for the ownership variable. The factors that were significant determinants of motivation at the 5% level were salary meeting expectations, female sex, belonging to Pallisa district and

doing the survey in 2011. These results show that the odds of having high motivation compared to moderate and low motivation was 94% higher among those who did the survey in 2011 compared to those who did the survey in 2009. Similarly these results showed that the odds of having high and moderate motivation compared to low motivation was 94% higher among those who did the survey in 2011 compared to those who did the survey in 2009. Although the odds of having high motivation compared to moderate and low motivation was 33% higher among those in the intervention compared to those in the control, these results were not significant. The significant results seen in those who did the survey in 2011 compared to those who did the survey in 2009 could be attributed to the fact that part of the intervention package was implemented in both the intervention and the control (training health workers, support supervision, provision of supplies and equipment). This could also contribute to the lack of significance seen when the intervention and the control are compared. During the implementation of the project basic supplies and equipment were provided to both the intervention and the control.

Other factors such as sex (female) and the district (Pallisa) were also significant predictors. Local variations within the two districts could have contributed to this difference. Facilities in Pallisa were generally less busy, so the midwives were not as overworked as those in Kamuli. The district also had a smaller population with a lower growth rate. Lastly evidence from the literature shows that gender may influence motivation.

The positive prediction associated with salary meeting expectations could have been linked to the additional financial allowances provided by the project in the intervention area since in some PFP and PNFP facilities this was used to top up salaries. When implementation of the intervention was compared at health centre III level compared to HC II and Health centre IV level compared to health centre II in both cases the results were not significant, although the odds ratio for implementation at health centre IV tended to be higher.

Summary of Results from health workers survey

The health workers survey provided information about the working conditions of health workers, their perceptions about motivation, as well as changes in their motivation levels and determinants of motivation. The highlights of the results were;

- The majority of the health workers understood motivation as the presence of a “motivator” such as salary increase or allowances, or training or with the presence of particular conditions such as good working conditions or support supervision. Only 18% related it with interest in their work/ willingness to do their work.
- In an attempt to understand what motivates the health workers, they were asked to mention what motivates them, and then asked to select two of the factors that motivate them the most out of what they mentioned. The four factors that were considered as having the ability to motivate most included good working conditions (availability of resources -24%), salary (16%), training (10%) and allowances (10%)
- Ordinal logistic regression was done in order to understand the predictors of motivation among the health workers based on commonly known predictors of motivation, while controlling for confounding. The factors that were significant predictors of motivation at the 5% level were good working conditions, additional allowances, career growth, district in which health worker was located, age and being in the end line survey.
- The intervention altered working conditions in the intervention and the control areas. Further analysis was done in order to assess the influence of changes in the work environment on motivation. The Ordinal logistic regression model was employed. The factors that were significant determinants of motivation at the 5% level were salary meeting expectations, female sex, belonging to Pallisa district and doing the survey in 2011.

Chapter 7

7.0 Cross Case Analysis

The case study approach allows in depth study of a particular group of cases, thus providing an opportunity to understand the cases in greater depth and to explain the phenomenon that is the main topic of study. This thesis seeks to explain how the changes in incentives for clients and providers have influenced access to maternal health services. The main variable that I have used as a proxy to analyse access to maternal health services is the utilization of delivery care services. In the cross case analysis I seek to get more insight about how the voucher scheme influenced incentives for providers and clients, and how this influenced access to maternal health services from a more context specific angle using 5 case studies.

Although the study originally had 8 case study facilities, this analysis is done in five case study health facilities that had sufficient data. The facilities included were also the main facilities used by focus group participants for delivery (see table 11.1 in appendix III). This was an important consideration since the participants were one of the key sources of information for this thesis.

The key questions that I seek to answer are;

- 1 How and why utilization of maternal health services changed in the case study facilities during the intervention
- 2 How clients perceived the quality of services offered to them before the intervention and how this changed during the implementation period as well as the reasons for the changes or lack of change seen.
- 3 How providers assessed their capacity to offer services before the intervention and how this changed during the implementation period as well as the reasons for the changes/lack of change seen above.

Additional information about the availability of health workers, availability of supplies and equipment and the use of the financial resources provided by the

scheme are presented in the upcoming sections. This is followed by a case specific analysis of the questions posed at the start of this chapter. The additional information presented is useful for providing additional background material for the case specific analysis. The five case studies include KHC, KAHC, BHC, IHC and KASHC. A brief description of the key features of the case study facilities was provided in chapter 4.2.1 (table 4.2). The data presented arises from both quantitative and qualitative sources and relate to;

Quantitative

Facility utilization data

Support supervision data

Project records on use of financial resources

Qualitative

Focus group discussions with women and transporters

Key informant interviews with health workers and community leaders

7.1 Availability of Health Workers

Availability of health workers was assessed based on facility records of staff who were employed in the maternity department and spot visits. Table 7.1 displays the number of staff who were stationed in the maternity unit of the 5 case study facilities during the implementation period.

Table 7-1: Staff in maternity units of case study facilities

Staff recruited	Enrolled midwife	Enrolled nurse	Enrolled comprehensive nurse	Nursing Assistant/Aide
KAHC	1	1	0	1
KASHC	1	0	0	2
IHC	3	0	0	0
KHC	2	0	0	1
BHC	1	0	0	1

In KAHC the second enrolled nurse joined midway through the program. In KHC during the pilot, volunteers were also available at the health unit however these volunteers were later sent away. In most of the units, staff who were not officially in the maternity unit could also assist in the maternity unit, when the midwife was absent. In BHC, an enrolled nurse was recruited in the unit midway through the program but the staff was transferred after a few months. Towards the end of the program another nursing assistant was recruited. In KASHC, the midwife who was at the unit originally used to reside away from the unit, but after the project started, the project managers requested the in charge of the unit and the health unit management committee to ensure that the midwife resides at the health unit. Availability of all staff that can work in maternity (including nursing aides) and only qualified Staff (excluding nursing aides) was assessed in all the health facilities during spot-checks at three different periods in the study. The results are presented in table 7.2.

Table 7-2: Availability of health workers in case study facilities during spot checks

Health facility	First visit (Sept 2010)		Second Visit (Dec 2010)		Third Visit (Mar 2010)	
	All staff	Qualified staff	All staff	Qualified staff	All staff	Qualified staff
KAHC	1/3	0/2	1/3	0/2	1/3	1/2
KASHC	2/3	1/1	1/3	1/1	1/3	1/1
IHC	1/3	1/3	1/3	1/3	2/3	2/3
KHC	2/3	1/2	1/3	1/2	2/3	1/2
BHC	0/1	0/1	(0/1)	0/1	1/1	0/0

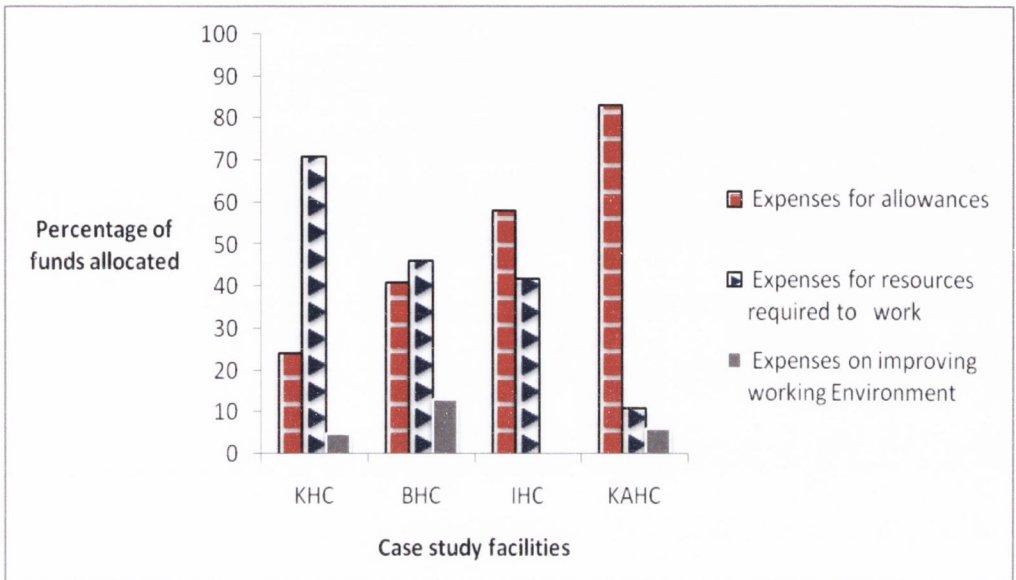
When only qualified staff were considered, BHC had the poorest staff availability during all visits. No qualified staff was available during all the spot visits. KAHC health centre also had poor qualified staff availability at two visits. Results from spot visits are useful for corroborating evidence obtained through other methods; however they need to be interpreted with caution since they only reflect staff availability at one point in time and are therefore not indicative of staff availability throughout the week. Secondly in some facilities absence of the midwives is not equivalent to inability to receive a service since the midwives can be called from home. Other limitations of the method were outlined in the methods chapter (4.3.3).

7.2 Use of Financial Resources from Vouchers in the Case Study Facilities

Use of the financial resources by the facilities is important for explaining how these additional resources could have impacted on maternal health service delivery. Figure 7.1 displays the expenditure across the three main areas allowances, resources for work and work environment for the 5 facilities

included in the cross case analysis (See chapter 5.1.3.1 for a description of components included). These results are obtained from project records.

Figure 7.1: Expenditure of resources across the 3 main subareas



These results should be interpreted with caution because the results presented above, do not include all the financial resources that were received by the facilities from the project, since some records were not available (KHC- 5 rounds of payment, BKC-7 rounds of payment, IHC- 3 rounds of payment, KAHC-5 rounds of payment).

Most of the financial resources in KAHC and IHC were spent on allowances, while KHC spent most of their funds on resources for work. BHC spent almost equal amounts on resources for work and allowances. All the facilities generally spent very little on improving the working environment. Records from KASHC were not available for this analysis.

Variation in the use of resources could have arisen from differences in local needs. Some facilities are less busy and so may have required fewer supplies. Others such as KHC already had good basic infrastructure and so perhaps they did not need to spend a lot of money on the work environment. In addition, for the work environment once initial expenses have been met there

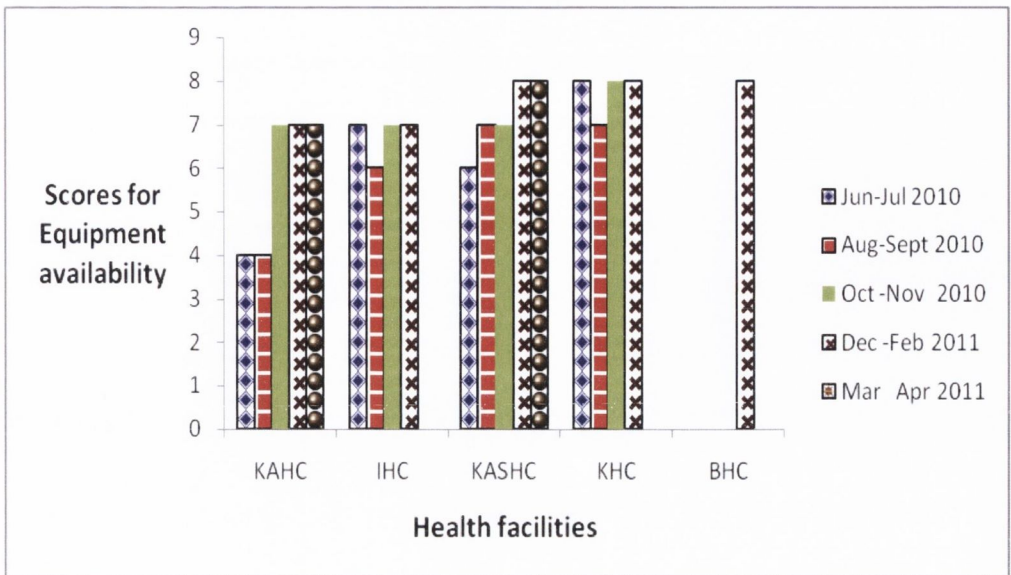
is no need for more investment immediately. On the other hand some of the work environment requirements needed very large amounts of money, which could not be provided by the voucher scheme. Facilities that relied more on the support of staff outside the maternity wing such as KAHC may also have spent more money in allowances because of the need to facilitate the staff that they were working with. Furthermore facilities in kamuli received more money than those in Pallisa because of the additional revenue from the mothers who joined the project during the pilot period. Hence the expenditure on allowances in facilities in kamuli (KHC, IHC and BHC) when compared to expenditures in Pallisa (KAHC) may appear smaller because of the large amount of the revenue.

7.3 Availability of Equipment

The availability of equipment was important for providing an enabling environment for health workers to perform their duties.

Figure 7.2 provides additional information about the availability of basic equipment based on the support supervision visits. The equipment that were assessed included presence of a fetoscope, baby and adult weighing scale, watch/timing scale, delivery sets, lighting source, steriliser and speculum. If the equipment was available, a score of one was given; if it was not available a score of zero was given. The maximum score that a facility could get was eight.

Figure 7.2: Availability of essential equipment



In KAHC and KASHC, a gradual improvement in the availability of equipment is noted, during the support supervision visits, which were held approximately every two months since the start of the implementation phase of the project. According to the qualitative interviews, money obtained from the project was used to purchase missing equipment, so it could have contributed to improved availability, in addition basic equipment was also supplied by the project. In the other facilities, most of the basic equipment were available at the 1st visit (Jun-July 2010), some fluctuations in the availability of equipment is noted in the subsequent visits, but the levels still remain quite high. In Bukungu records were available for only 1 support supervision visit.

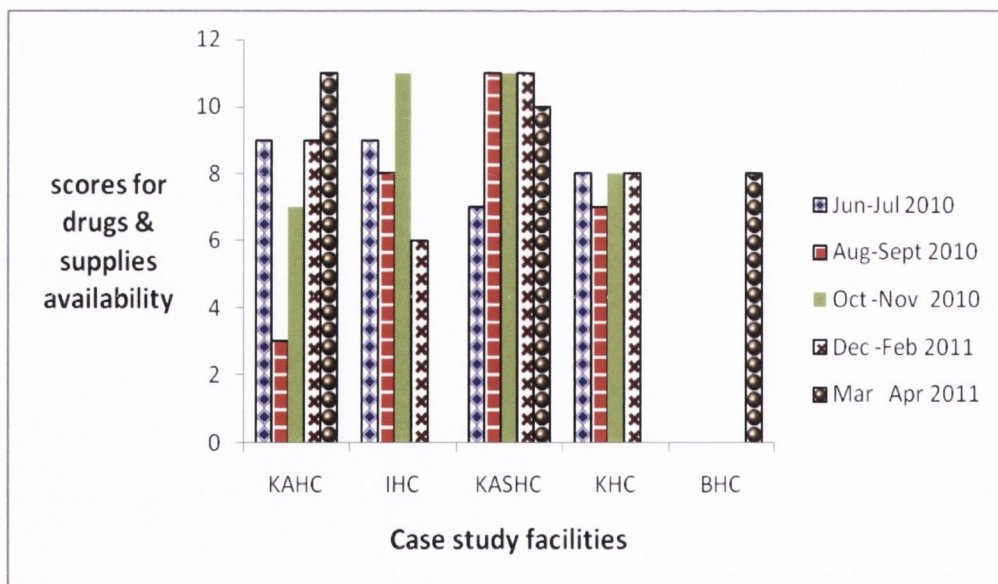
7.4 Availability of Supplies

According to the conceptual framework, availability of supplies had a key role to play in motivating health workers and providing an enabling environment for them. Secondly it could also influence the demand of services. One of the reasons why clients avoid using formal health services is the inadequate availability of supplies which they are often required to buy or bring when they seek care from formal health facilities.

In this work, changes in the availability of supplies across the 5 case study facilities is assessed using data from three sources: Qualitative reports from clients about availability, the support supervision data and lastly analysis of mothers who had to pay money for supplies. The results based on qualitative interviews are presented for each case study facility in chapter 7.6, while the results based on the support supervision data and interviews with women of reproductive age are presented below.

The availability of supplies and drugs as assessed during the support supervision visits, is displayed in figure 7.3. The supervisors checked for the presence of basic drugs required for maternal health service delivery such as ergometrine/ pitocin, iron and folic acid, lignocaine, amoxyl, paracetamol and metronidazole. The supplies include cotton wool, sterile gloves, non sterile gloves, normal saline and 5% dextrose. If the item (supplies and drugs) was available, a score of one was given; if they were not available a score of zero was given. The maximum score that a facility could get was eleven.

Figure 7.3: Availability of essential supplies and drugs



Compared to the availability of equipment, there were more fluctuations in the availability of supplies and drugs. KASHC and IHC had the highest

average availability of drugs. It is important to mention however that although these drugs and supplies were available at the health facility, it doesn't imply that clients were always given drugs and supplies when they required them. Government provision of drugs and supplies is often inadequate, so sometimes health workers ration the drugs and supplies and use them only for emergencies, or for clients who are too poor to afford to buy them.

7.5 Informal Payments

In this thesis, I expected informal payment for services to reduce. Cross case analysis was therefore done to find out the extent to which the different facilities were involved in informal payments. This was assessed using qualitative interviews and results from the structured interviews with women. Results from the qualitative interviews are presented on a case by case basis in chapter 7.6.

During the structured interviews done with women during the intervention period, they were asked if they paid for delivery services. The results presented previously (see section 5.1.1.4), showed that a fair percentage of women paid some money at health facilities. Most of the payment was used either to purchase delivery supplies or given as a delivery fee. In government facilities clients are not expected to pay delivery fees, so it could be interpreted that this money was either taken as a bribe or used by the health worker to purchase supplies. These results need to be interpreted with caution, the women interviewed may not have known what the money was to be used for so I cannot say with absolute certainty that this money was taken as a bribe. However it still indicates that mothers paid informal fees at the health facilities.

It was not possible to get case facility specific results and so the sub county in which the case study facility is located is used to capture results on the prevalence of informal payments. Most women who participated in the structured interviews used the case study facilities except in Bukungu and Irundu, where a few used private facilities (see table 11.1 in appendix III).

Table 7.3 and 7.4 presents the results of payments that were made to pay for delivery supplies and as a delivery fee by Sub County.

Table 7-3: Payment for delivery supplies by Sub County

Payment for delivery supplies(Ug sh and USD)	Bukungu (BHC)	Irundu (IHC)	Kamuge (KAHC)	Kasodo (KASHC)	Kidera (KHC)
0	12	9	16	13	29
1000-5000 (0.41 - 2.08\$)	1	1	3	8	1
5100-25000 (2.12- 10.41 \$)	1	0	12	3	1
Total	14	10	31	24	31

The sub counties which had the highest prevalence of paying for delivery supplies were Kamuge (48%) and Kasodo (45%) where KAHC and KASHC are located. In the other 3 facilities, a much smaller percentage of women reported payment for delivery supplies (Bukungu -BHC14%, Irundu - IHC 10% and Kidera KHC- 6%). It is important to note that in Bukungu and Irundu a few women used private facilities so the payment could have been formal.

Table 7-4: Payment of delivery fees by Sub County

Amount (Ug sh and USD)	Bukungu (BHC)	Irundu (IHC)	Kamuge (KAHC)	Kasodo (KASHC)	Kidera (KHC)	Total
0	12	10	22	11	26	144
1000-5000 (0.41 - 2.08\$)	1	0	9	13	0	33
5100-50000 (2.12 – 20.83\$)	1	0	0	0	5	12
Total	14	10	31	24	31	189

With regard to payment for delivery fees, again the highest number of women who paid delivery fees were from Kamuge (KAHC – 29%) and Kasodo (KASHC- 54%) sub counties. In Irundu no payment for delivery fees was reported. In KHC fairly high amounts of money were paid. Since KHC is a referral facility, this money may have been used to treat severely ill patients.

7.6 Cross Case Analysis

In each of the case studies that follow, changes in the utilization of delivery care services is assessed. This was done firstly by obtaining percentage changes in the utilization of delivery care services between June 2008 and June 2011. Secondly, qualitative interviews were conducted to obtain views about utilization prior to the project and during the project. This is followed by a description of changes in perceived quality before and during the intervention and reasons for these changes. Lastly constraints faced by health workers in the delivery of MCH services before and during the intervention are also presented.

Percentage Changes in Utilization of Delivery Care Services

One of the objectives of this thesis was to assess changes in access to maternal health services. Utilization of delivery services is used as a proxy variable for measuring the changes in access. This was done by making comparisons of percentage changes for delivery services in each of the case study facilities for the period 2008 June to June 2011. A detailed explanation of how this was done is given in chapter 5.3.1.

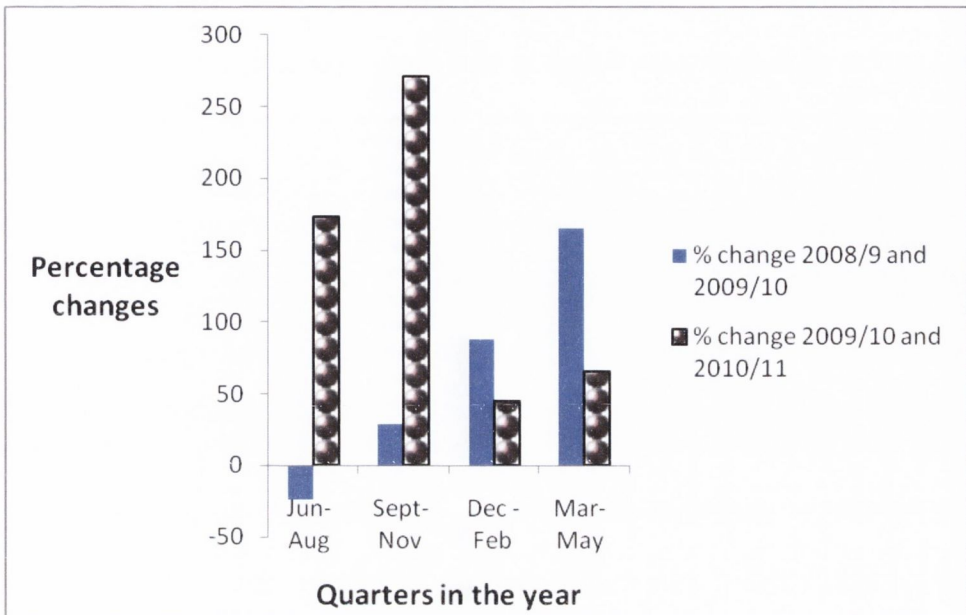
This analysis allows the comparison of changes before and during the intervention period. It was done only for delivery services because it was one of the two services that were targeted during the implementation period. Comparisons were not done for PNC because of poor data availability, especially before the intervention. Utilization of PNC services was very poor prior to the start of the project and so record keeping also tended to be poor in most facilities.

7.6.1: Case 1 KHC

KHC is a busy health centre IV with reasonably well developed infrastructure. It serves as a referral facility for other lower level units that surround it.

Figure 7.4 displays the percentage changes in the utilization of delivery care services in KHC.

Figure 7.4: Percentage changes of utilization in KHC



Comparisons before December 2009 reflect the period before the intervention. The three month pilot was started in Dec 2009. Benefits continued until the full implementation of the project started in June 2010. Comparisons after June 2010 reflect changes during the intervention period.

KHC had rather small changes before the pilot of the intervention in December 2009, in Jun –Aug (2008/9 and 2009/10) the change was actually negative implying a reduction in utilization. During Dec – Feb and Mar – May the intervention had already started in both periods that are compared and we see a fairly large increase in 2008/9 and 2009/10. In 2009/10 and 2010/11 much larger changes are noted in Jun-Aug and Sept _ Nov. These large changes may be because the comparison periods reflect the period after the project and before the project, highlighting the increased utilization that occurred after the project. This is followed by a decline in the percentage change. This may be attributed to the fact that in this case the comparison was done between two quarters during the intervention, and so the changes are smaller. Secondly it may also reflect the fact that initial efforts to increase productivity have reached their maximum level and so much smaller changes would be expected.

According to the key informant interviews done with two health workers at the facility before the intervention, utilization was low mainly because of difficulties in accessing transport, low male involvement, and lack of awareness about MCH services and inadequate availability of supplies at the health facility. While during the intervention, the increased utilization was attributed mainly to the availability and affordability of transport as well as increased sensitization about MCH services.

Perceived Quality Before and During the Intervention

Health workers were reported to be available both before (two key informant interviews) and during the intervention period (three FGD's and one KI). However it was reported that they were not responsive to client needs before the intervention (one FGD and one KI). During the intervention an improvement in responsiveness was reported (two FGD's). Opinions about their attitudes were mixed. One community opinion leader interviewed before the intervention reported both good attitudes towards clients and poor attitudes. Participants in one FGD also reported poor attitudes. Once the intervention was underway, both women (one FGD) and key informants (one) reported an improvement in the attitudes of the health workers.

Respondent: *“Ahhh by this time they would have gone (01:20 pm) and when you come with your wife when they have gone home, they will tell you that I have not eaten anything so it will be hard for you to get them from home. We had to pay them something for them to leave.”*

Interviewer: How much were you paying them to come and work?

Respondent: *“You would give them whatever you had . Either 1000 or 2000 whatever you have.”*

Interviewer: Why do you think they never cared?

Respondent: *“We don't know whether it was poor pay or they did not want to work but once their pay improved, I think they also improved but we really don't know what the reason was.”* KI

Community leader Kamuli (Interview held after 12 months of implementation)

Regarding the availability of supplies, before the intervention and during the intervention, there was a mixed picture with some of the respondents reporting that supplies were available and others that they were not. Three key informants reported that supplies were not available before the intervention, while one key informant reported a mixed picture. During the intervention period, one key informant reported that supplies were available while respondents in one focus group discussion said that supplies were not available. During the support supervision visits KHC was found to have a high availability of both supplies and equipment. Informal payments were reported to be present both prior to the intervention and also during the intervention (end line) although a reduction was reported during the intervention period. As explained earlier these informal payments are made for several reasons. If supplies were not available in adequate quantities some of it may have been required to purchase supplies.

Possible Reasons for the Perceived Quality

Availability of Health Workers

The availability of midwives before and during the intervention could have been because previously KHC was benefiting from the services of both volunteers as well as a nursing aide. These volunteers were later sent away. Secondly there was a house for a midwife nearby so the midwife could be called when a client came. They also had a duty room where they could sleep while on night duty. In addition there were at least 2 midwives in KHC all through the intervention.

Improved Responsiveness and Attitudes

The improved attitudes and responsiveness of health workers were attributed to increased availability of supplies and increased motivation. During one of the key informant interviews one of the respondents mentioned that prior to

the intervention the health workers were rude because they lacked supplies to use and yet mothers could not afford to buy these supplies.

“They were very rude reason being that they had no essential needs like gloves, razorblades yet pregnant women had no money at all to buy these basic needs.” KI Community Leader Kamuli (Interview held after 18 months of implementation)

During the key informant interviews with health workers they reported that now they were able to work more happily because of the financial incentives from the scheme, and also because of the supplies which were now more available for them to use.

KHC spent a fairly large proportion of the resources that they got from the vouchers on resources for work (70%). This may have contributed to improved availability of supplies and equipment hence providing a conducive atmosphere for the health workers. As reported earlier in the results, even with support from the project supplies were unlikely to be sufficient in busy public health facilities (KHC is a health centre IV with a catchment population of 100,000), partly because government tends not to provide enough supplies).

In one of the interviews held with the health workers before the intervention started they reported that sometimes when the drugs are not enough, they decide to keep the little that they have for the pregnant mothers. This implies that even among the pregnant women they may give those who are unable to buy rather than giving the little that they have to everyone. This may explain why clients reported that often they were still asked to buy or bring their own supplies.

Use of Resources From the Scheme

KHC spent most of its funds from the scheme on resources for work. The least expenditure was on the work environment. KHC is a fairly large health centre with most of the basic infrastructure that they require in place; perhaps that is why they didn't spend a lot of money on the working environment.

It was reported that initially the financial allowances brought some tension in the facility. Other staff within the health unit also wanted to benefit and yet they were not helping the staff in maternity. The money was also being managed by the in charge of the facility and not the in charge of the maternity unit. These conflicts were later resolved by using the same payment for staff who have similar responsibilities e.g. in charges and transferring management of the money to the in charge of the maternity unit.

Management Support

The management of the facility was also fairly good. The health facility was always clean and during the interviews some evidence of steps that were taken by management to improve conditions were reported. Management of time was also demonstrated by reorganization of the provision of services so that all services could be provided. For instance during the pilot phase because of the large number of patients, staff were failing to go for immunization outreach services. So the management decided to allocate specific days in the week for ANC provision.

They also reported having to reorganize their duty roster so that a health worker was always available to serve the mothers. However the health workers complained about being overworked. As a HC IV, they were required to offer several reproductive health services and so their workload was heavier than that for other lower level facilities. This was demonstrated in quotations such as the one below;

“Yes because the activities are many before this project begun we had not started PMTCT (Prevention of mother to child Transmission). We started providing PMTCT services this year in April. We now have many services, PMTCT, pre and post test counselling etc. You are one mid wife to counsel the same mid wife to do the rapid testing, to palpate, to record, to register so the work is still a lot.” KI Health Worker Kamuli (Interview held after 12 months of implementation)

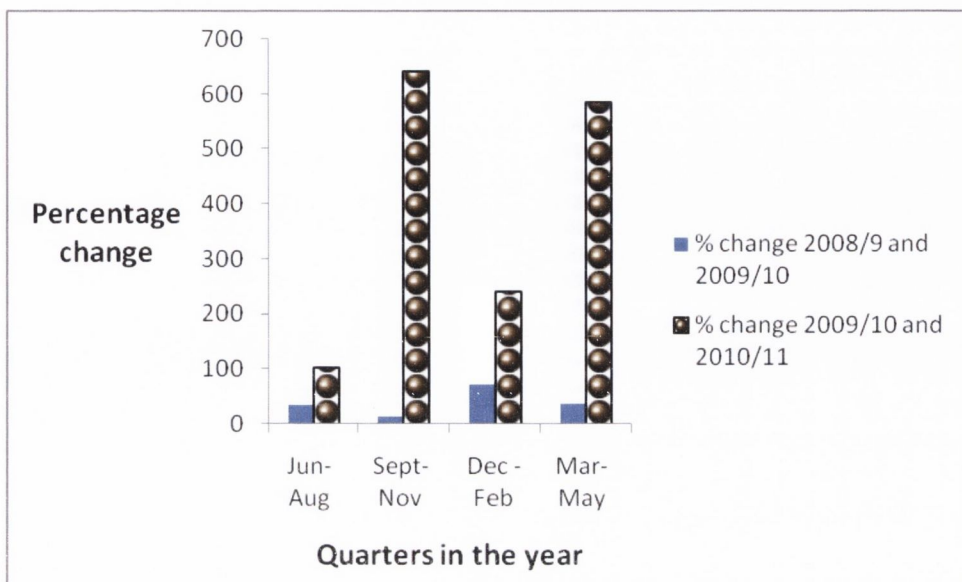
Key issues drawn from this case study are summarised below

- Increased utilization during the intervention was attributed to the availability and affordability of transport services, as well as increased awareness about MCH services, improved attitudes and responsiveness of providers.
- The responsiveness and attitudes of the health workers are reported to have improved during the intervention. This was attributed to the improved working conditions and allowances from the project.
- Although supplies and equipment were available during the support supervision visits, clients reported that supplies were largely not available with the minority reporting increased availability. The supplies available at the health facility were probably used mainly during emergencies and so they were not available to all clients who were generally asked to purchase some basic requirements, but in cases of emergency they were available.
- Availability of health workers before and during the intervention was attributed to presence of two mid wives, with volunteers and nursing aides for part of the program, as well as residence of the midwives close to the facility.
- The financial incentives initially brought some conflict in the facility however this was managed by reviewing the criteria for payment.

7.6.2 Case 2: KAHC

KAHC is a fairly large health centre III, with well developed infrastructure. The percentage changes in the utilization of maternal health services is presented in figure 7.5.

Figure 7.5: Percentage changes in the utilization of maternal health services in KAHC



Comparisons in 2008/9 and 2009/10 reflect the period before the project (the project started in June 2010 in KAHC) while comparisons in 2009/10 and 2010/2011 reflect changes before and during the intervention. Before the intervention started (% change in 2008/9 and 2009/10) the percentage changes were relatively small, except in Dec when it was slightly higher than the other times. The facility had only one midwife throughout this period and she could not recall any unique events that could be responsible for the slight increase seen in Dec- Feb.

During the intervention (% change in 2009/10 and 2010/11), we see a fairly large increase in Jun - Aug when the intervention started and then a much larger change in Sept – Nov. Thereafter the change decreases in Dec- Feb and then increases again in Mar- May. These positive changes reflect increases in the utilization of delivery care services during the intervention period. In KAHC, the intervention was implemented for only one year. Sometimes interventions/ projects take time to be taken up and may be subject to changes before they stabilise so these fluctuations may be related to that.

Prior to the intervention it was reported that utilization of services was low. This was attributed to lack of transport, inability to buy the supplies required at the facility, as well as social problems like having no one to leave at home with the young children while seeking services. Presence of a religious cult that stopped mothers from attending services was also reported. During the intervention the increased utilization was attributed to the increased availability and affordability of transport services. They also reported that delivery kits received from the government also encouraged utilization; however the delivery kits were few in number and irregularly provided.

Perceived Quality Before the Intervention and During the Intervention

It was reported in one focus group discussion that although health workers were available they often needed to be called from their houses when there was a client. KAHC also had poor qualified staff availability at two spot visits, although the nursing aides were available. This health centre was served by only one midwife supported by two nursing assistants. Another enrolled nurse was recruited to support the maternity unit towards the middle of the project. During the intervention it was reported that health workers were available during interviews with one key informant and during one focus group discussion. Their attitudes and responsiveness to clients was poor prior to the intervention (one FGD). Once the intervention started they became more available and their attitudes (two FGD's and one KI) and responsiveness (one FGD) also improved.

Availability of supplies was reported to be poor before the intervention (one FGD). During the intervention a mixed picture was reported, with the minority reporting an improvement but the majority reporting that supplies were still not available (one FGD reported a mixed picture and one KI reported that supplies were not available). The support supervision visits revealed fair availability of supplies (71%). A gradual improvement in the availability of equipment was also noted, during the support supervision

visits, which were held approximately every quarter since the start of the project.

Although it was reported that informal payments were present both before and during the intervention, during the focus group discussions a decrease was reported during the intervention period. According to the results of the structured interviews with women, Kamuge Sub County which is served by KAHC was one of the sub counties where 50% of patients paid some money at the health facility. 48% of the patients reported to have paid this money as a delivery fee.

Reasons for Perceived Quality

Improved Responsiveness and Attitudes

Improved responsiveness and attitudes was attributed to improved motivation stemming from improved working conditions, as well as the allowances from the project.

The spot visits showed poor staff availability; however the clients reported improved availability. As noted earlier, this facility was served by only one midwife. If she was to have some time off it may not have been possible for her to be available to serve clients all the time, hence she was not present during the two spot visits. Team work in the facility with other cadres of health workers coming in to support the maternity wing could therefore have contributed to the improved availability and responsiveness noted. Secondly the midwife resided close to the HC so she was often called if her services were required.

“Nowadays health workers are available and they even get out at night. I will give an example where there was some time women used to go to the health centre at night and the nurses would remain indoors without coming out to help the mothers. But these days, I am told the nurses attend to mothers even at night, so I don’t know whether because of the sensitization or because of the safe delivery

project. KI Community leader Pallisa (Interview held after 6 months of implementation)

They are available, but very few staff like in Kamuge there is only one midwife who works throughout day and night, so she also gets tired. So there is need to increase staff for the program.” KI Community leader Pallisa (Interview held after 6 months of implementation)

Use of Resources from the Voucher Scheme

Most of the funds from the vouchers were spent on allowances and a little bit on resources for work. In KAHC the funds were shared with all the other health workers hence more funds could have been spent on allowances. During one of the key informant interviews, the midwife reported that because everyone benefited from the funds, they all handled maternity patients well.

Furthermore, facilities in Pallisa didn't receive as much money as facilities in Kamuli, because of the changes in the project package and payment amounts so this could partly reflect why they seem to have spent more on allowances. The amount of funds received from the voucher scheme also influenced how the funds were spent. At the start of the project the payment rates were very low (see table 1.4). During the KI interviews, the in charge reported that the amount was very low and so it was difficult to use the money to meet all the expected objectives. In response to these complaints the amount of the service voucher was later increased.

The improved availability of equipment, could have resulted from use of the project funds. According to the qualitative interviews, money obtained from the project was used to purchase missing equipment, so it could have contributed to improved availability of equipment, in addition basic equipment was also supplied by the project.

Management Support

The in charge of the health unit appeared to have good management skills. She prioritised the use of resources to buy the main items that were lacking in the health facility. She also used the resources to pay off electricity bills that had been pending for long. This demonstrates how giving the health facility managers some flexibility in deciding what they want to use the money for is useful because sometimes facilities have different local priorities. However some guidance in the allocation of the money is still useful. The pleasant environment at the facility was captured at one of the spot visits as presented in text box 7.1.

Text Box 7-1: Clean organized health facility

I reach KAHC, and I am greeted by a smiling nursing assistant who is soon followed by the in charge of the maternity unit. The health unit compound has been swept clean and it is free of any litter. As I visit the labour ward I am struck by the clean neat environment. In the spacious maternity ward, mosquito nets and bed covers cover an array of beds. Mothers who gave birth the previous night are lying on their backs reclining and comfortable.

This is an example of one of the health units that are benefiting from the project. They have good responsible leadership. An enrolled midwife who has been practising midwifery for several years.

Key issues from this case study

- During the intervention the increased utilization was attributed to the increased availability and affordability of transport services. Delivery kits received from the government also encouraged utilization; however the delivery kits were few in number and irregularly provided.
- The facility had inadequate qualified staff. The use of incentives in a manner that promotes team work helped improve staff availability, attitudes and responsiveness towards clients.

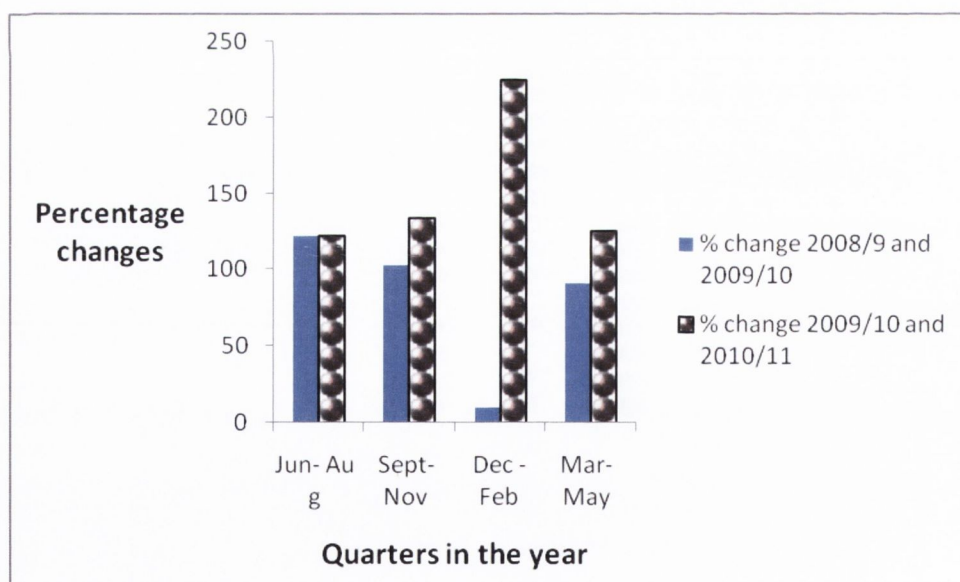
- Allowing the facility some flexibility in the use of financial resources allocated to the health unit helped them meet their priority needs.
- Improvements in working conditions with provision of the resources required for work contributed to staff motivation.
- Although a slight reduction in informal payments was reported, the practise still persisted in the health unit.

7.6.3 Case 3: IHC

IHC is a fairly large health centre, with well developed infrastructure that serves a sparsely populated remote area.

Fig 7.6 shows percentage changes in the utilization of delivery care services in IHC.

Figure 7.6: Percentage Changes in IHC Health Centre



The picture seen in IHC is different from the picture seen in other health facilities. Before the intervention, fairly large percentage changes were seen between June and August. The changes were partly attributed to changes in staffing, prior to 2009 the facility had only nursing aides for some time. The

graph shows a steep decline between December and February. This was a result of incomplete data for Jan 2010.

The low utilization of maternal health services, prior to the project period, was attributed to lack of awareness about MCH services, long distances to the health facility and difficulty in accessing transport, inability to afford the requirements demanded at the health facility, as well as preference for TBA's who provided herbs that were believed to quicken the process of labour. Once the intervention was underway, increased utilization was attributed to increased availability of transport services, increased availability of supplies. The government also provided a few delivery kits which were used to encourage male involvement.

Perceived Quality Before and During the Intervention

In IHC, it was reported that health workers were available both before the intervention (two KI's) and during the project period (three FGD's). In two FGD's held before the intervention it was reported that their attitude was poor while in two FGD's held during the intervention (midway through the intervention and at the end) it was reported that their attitudes had improved. Their responsiveness to clients which was noted to be poor before the intervention (one FGD) also improved during the intervention (two FGD 's).

Before the intervention it was reported that supplies were not available (two KI's), while during the project period a mixed picture was reported (two FGD's). The support supervision visits revealed that supplies, drugs and equipment were available in the health unit during the intervention period. Informal payments were reported to be present prior to the intervention and largely absent during the intervention period.

Reasons for Changes in Perceived Quality

Improved Availability Attitudes and Responsiveness

The improved attitudes and responsiveness of the health workers was attributed to improved motivation of the health workers. The facility had at

least two midwives throughout the intervention. They also used to get the support of the other health workers when they had very high client numbers. Before the project started both general clients and maternity clients were combined however when the project began and the client numbers increased the waiting time became very long. When another midwife joined the facility, the maternity patients were separated from the other clients so as to reduce the waiting time. In addition during the busy days of the week (Monday – Wednesday) all the staff worked and offs were taken only later in the week. This demonstrates some degree of managerial oversight.

The midwives complained of work overload and said three midwives are not enough for a busy health facility. For instance, one may fall sick while the other is on maternity leave, besides often both of them have to work during the day because of the large patient volumes. They reported that even if they appreciated the incentives, they also needed time to rest and relax. The quotation in the text box expresses the frustration of one of the midwives with the work overload that they experience sometimes.

Text Box 7-2: Work overload in busy health centres

“.....for example today I am alone, I worked the whole night, very early in the morning I started off with these ANC mothers still I will be the one on night duty, then tomorrow again.....(so it becomes tiresome for me. Sometimes I even loose interest in work , and yet you can not do anything about it.) you have to work upon them but after i have rested again I start working. Since it is our profession we have nothing to do and we can't blame this on the mothers when they come we have to work on them.” KI Midwife Kamuli

Midwife expresses her frustration about the work overload in the facility

Use of Financial Resources from the Voucher Scheme

In this facility during one of the project monitoring visits, it was reported that the money from the project was not being used for the intended purposes. Receipts to account for the use of project funds had been provided without actually purchasing the items. Thereafter a decision was made for the money

to be received by the maternity in charge, who was more interested in ensuring that the maternity unit benefits. This shows the importance of strict accountability in the use of such funds. At the beginning of the project when the plans were discussed with the district, the district suggested that the facilities should provide accountability for the money received. District staff also accompanied project staff to pay the money to the health units. Later this practise was stopped, largely because it was difficult to implement it since the payment process would take long and project staff would be doing other activities as well in the process. Continued involvement of the district may have been more useful in ensuring that the money was used appropriately since they are more familiar with the problems of the facility.

The facility used the money that they received from the project mainly for allowances and for the purchase of resources. They also used this money to renovate a house within the facility that hadn't been in use for a long time because there was no money to repair it. This again demonstrates the use of funds to meet local needs.

“Work has been easy for us. Jik is also there, Liquid Soap, everything is now in plenty. We buy, we use so we have not been having problems.” KI Health Worker Kamuli (After 18 months of implementation)

Key issues from the case study

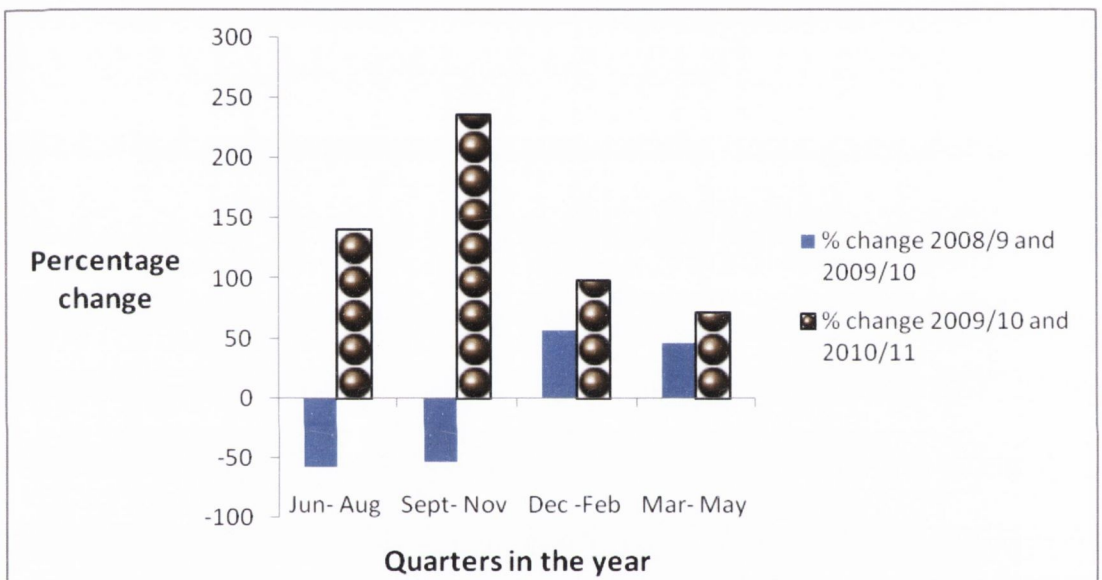
- Three midwives are not enough to provide 24 hour coverage of the maternity unit in busy facilities. The midwives end up over worked. A team work approach may also not work in this situation because often the other units are also busy.
- Flexibility in the use of financial resources was useful for meeting local priorities however strict accountability of voucher funds paid to health facilities is required to avoid misuse of funds.

7.6.4 Case 4: BHC

BHC is a small health centre II that serves a remote area close to the lake. It had one midwife during the intervention period.

Percentage changes in utilization of delivery care services in BHC are displayed in figure 7.7.

Figure 7.7: Percentage changes in utilization of delivery care services in BHC



Initially negative percentage changes are noted in the first two quarters when utilization in 2008/9 and 2009/10 are compared this is followed by a positive change in Dec- Feb when the pilot started. These positive percentage changes are observed throughout 2009/10 and 2010/11. They are smaller in the last two quarters (Dec Feb and Mar May) perhaps because the period of comparison reflects changes during the intervention in both years.

The low utilization prior to the implementation was attributed to poor availability of the midwife, lack of transport, as well as cultural factors – the midwife reported that the tribe in the area generally prefers to deliver at home. During the intervention period, increased utilization was mainly attributed to increased availability of transport services. However, this sub

county had the highest number of home deliveries during the structured interviews more women also used private facilities, perhaps because of the poor availability of the midwife.

“The changes I notice is that the pregnant mothers have really become active when it gets to coming to the health centers for maternal services especially delivery services. However this has been affected by lack of health workers for instance here in Bukungu we have only one midwife and there are times when she is not around so even when the bodaboda men bring the women to the health center it doesn’t help and the women end up going back to their homes because there is no one to attend to them.” KI Community leader Kamuli (12 months of implementation)

Changes in Perceived Quality Before and During the Intervention

Before the intervention it was reported that health workers were not available (one KI). During the intervention, in a focus group discussion held with women, it was reported that since there was only one midwife she was not always available at the health facility. Their attitudes (one FGD) and responsiveness to clients (one FGD and one KI) was also reported to be poor prior to the intervention. An improvement in the attitudes (one FGD) and responsiveness (one FGD and one KI) of the health workers was reported during the intervention.

In BHC, an enrolled nurse was recruited in the unit midway through the program but the health worker was transferred after a few months. Towards the end of the program another nursing assistant was recruited. During all the 3 spot visits that were made the midwife was not at the facility. She was away either at a workshop or for a burial. In some cases there was no health worker at the health facility and so no one could be asked.

During the qualitative interviews, the availability of supplies was reported to be poor before the intervention (one FGD and one KI), but an improvement was reported during the project period (two FGD’s and one KI) . The support

supervision visits also showed poor availability of supplies at the one visit that was done. The average availability was 45%.

While informal payments were reported to be present during the baseline, they were not reported during the interviews done midway through the intervention. The analysis of the results of structured interviews however showed that some women paid some money at the facility. 84% of the women who paid the money said it was a delivery fee. In BHC the women who answered the structured interviews delivered from both public and private facilities. It is therefore not possible to tell with absolute certainty whether this payment was at the case study health facility or at another health facility.

Reasons for Changes in Perceived Quality

Availability, Attitudes and Responsiveness of Health Workers

This health centre had only one midwife, during the course of the project another nurse was posted there but she left after a short period. The nursing aide who was at the unit mentioned that he did not conduct deliveries and would refer the women to another unit if the midwife was not there. During the focus group discussions it was reported that this discouraged women from seeking services at the facility.

Management Support

The management of the health facility was also deemed to be rather poor. More use could have been made of the resources from the voucher scheme. For instance they could have improved some aspects of the work environment with minimal resources (e.g. painting the health facility). Expenditure of resources for the program showed that more money had been spent on resources for work, followed by allowances and the least amount had been spent on the work environment. They could also have improved the staffing situation through various arrangements. There was no evidence of team work among the different staff unlike what was seen in the other facilities.

At one of the spot visits, the facility was found to be very disorganized. Its general appearance remained poor throughout the intervention. As captured in the text box below.

Text Box 7-3: Poorly organized health facility

After a long drive on a dusty winding road I arrive at BHC. The facility is small and dilapidated with old dirty walls. Patients are sitted in a corner waiting for a practitioner to see them. Only one nursing assistant who was recently recruited is available in the facility. She is busy doing the consultations, dispensing drugs and carrying out any other procedures that need to be done. The in charge of the health unit who is the only midwife at the facility went for a workshop one and a half weeks ago and has not returned. The desk in the consultation room is strewn with all sorts of equipment – an ANC register, stethoscope, gloves and cotton all thrown about irresponsibly.

One of the facilities in the voucher scheme

Key issues:

- Increases in the utilization of MCH services were mainly attributed to increased transport availability and affordability, however the poor availability of the midwife discouraged mothers from seeking MCH services.
- One midwife is not enough to provide 24 hour coverage for the facility. The frequent absence of the health worker discouraged women from attending maternal health services at the health facility.
- The midwife in this facility didn't seem particularly bothered by the financial incentives. She didn't appear to be putting in extra effort to improve services at the facility. She works in a very remote environment. Could be a case of burn out, or simply the fact that she has accepted the hard conditions in which she has to work.

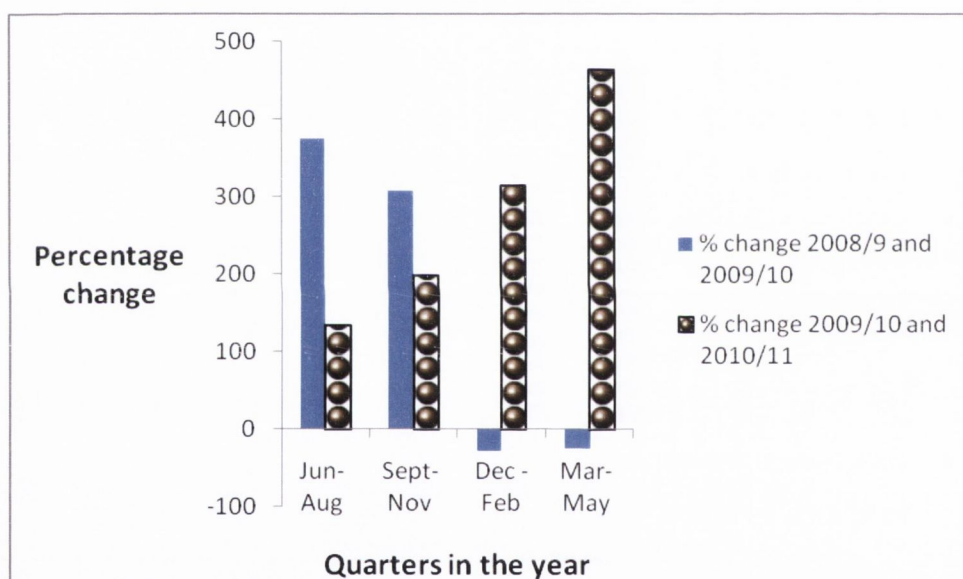
- This facility had poor management. The financial resources provided by the scheme did not result in significant improvements in staff availability or in major improvements in the work environment.

7.6.5 Case 5: KASHC

KASHC is a small health centre located close to Pallisa town. It is served by one midwife and two nursing aides. It generally has poor infrastructure, with one building that has no ward specifically dedicated to the maternity unit.

Percentage changes in delivery care services are presented in figure 7.8.

Figure 7.8: Percentage changes in delivery services in KASHC



Comparisons in 2008/9 and 2009/10 reflect the period before the project (the project started in June 2010) while comparisons in 2009/10 and 2010/2011 reflect changes before and during the intervention. In KASHC, in the first two quarters there were very large percentage changes. It was not possible to ascertain the reasons for these changes. In the last two quarters the changes were actually negative. When the intervention started, a steady increase was noted, by the end of the one year intervention, the increase was still

continuing. By the end of the one year implementation (Mar- May) an increasing trend was still being observed. This could be attributed to the short one year implementation and the delayed involvement of transporters in the project. During the mid term interviews, it was noted that most of the women were not aware of the project and so they were not accessing services. This could have contributed to a delay in attaining full implementation of the program. It also demonstrates the key role that transporters played in mobilising women to attend services.

During the qualitative interviews it was reported that before the project started, the utilization of maternal health services was low because of several factors which included lack of awareness about MCH issues, long distances to the facility coupled with difficulty in accessing transport services as well as lack of a health worker at the facility. During the project period, increased utilization was attributed to the free transport, provision of supplies at the facility and increased awareness about MCH issues.

Changes in Perceived Quality Before and During the Intervention

During one of the FGD's held before the intervention, a mixed picture was reported about the availability of health workers. However during the project period, availability was reported to be poor (one KI). There was a mixed picture about the attitudes of health workers with some respondents reporting poor attitude and others good attitude (one FGD). Those who reported a poor attitude said health workers abuse them that they are dirty and lazy.

The responsiveness of health workers was reported to have been poor before the intervention. During the intervention a mixed picture was reported, with some respondents reporting good responsiveness and some reporting that responsiveness was good only for MCH services because of the expected allowances but poor for other services.

“On the side of ANC and delivery, they really care about us because they know they will be paid well when they care about us but when you go there with another type of problem, sincerely no Health

Worker bothers.” They just keep on harassing you.” FGD Women Pallisa

Regarding availability of supplies, prior to the intervention, it was reported that the supplies were not available (one KI and one FGD), whereas during the interviews done midway through the intervention, one of the health workers reported that supplies were available. Support supervision visits had also showed a fairly high availability of supplies. However as mentioned availability of supplies in the unit doesn't indicate that the supplies are fully available to the clients. In Kasodo, a gradual improvement in the availability of equipment is noted, during the support supervision visits visits, which were held approximately every quarter since the start of the project.

Informal payments were reported both before the intervention and during the intervention. Results from the interviews with women also showed that a high proportion of them (62%) had paid delivery fees at the health facility.

One of the other problems reported in this health facility was the inadequate infrastructure.

“The negative part I have found is that we have now become very many mothers going to deliver and space is not enough, so we squeeze up ourselves in one small room where there is no privacy and before you get enough rest after delivery, you are sent home or discharged and all this results from the lack of space to accommodate mothers.”

FGD Women Pallisa

Reasons for Changes in Perceived Quality

Availability and Motivation of Health Workers

One of the other problems in this health centre was that there was only 1 midwife who would work with 2 other nursing aides. At the beginning of the project the midwife used to reside away from the health facility, but after the project managers spoke to the in charge of the health unit, the health unit management committee ensured that she started residing at the health facility.

During the interviews it was reported that to increase 24 hour coverage at the facility other health workers within the health unit would also provide support to the maternity unit. The allowances from the scheme facilitated the team work since the other health workers also benefited from the financial allowances.

Use of Resources from the Voucher Scheme

At the beginning of the scheme the money was very little and not sufficient for purchasing equipment and supplies required at the health facility as well as providing allowances. Following these complaints the amount of the voucher was increased.

“Like now we work 3 in maternity now when you bring that money we have to get something for our allowance, then other things that are not there. We don't have enough instruments , so we have to purchase and the money is not enough, other staff are complaining you want to eat the money alone that is the problem, we try to buy things they think we are just eating the money.” KI Health worker Pallisa (Interview held after 6 months of implementation)

During the interviews it was also reported that the increased client numbers provided an opportunity to acquire more skills and reduced redundancy at the health facility so the health workers felt that their jobs were more enriched. KASHC is located close to Pallisa hospital, so before the intervention, with the poor conditions at the health facility (inadequate supplies, poor infrastructure, absence of a midwife), most clients went straight to the hospital and by - passed the health centre hence they had few clients. The health workers also reported that the training and support supervision had contributed to improvement in their skills for example the use of the partograph.

Poor Community Client Relations

The midwife at the health facility also felt that the community did not understand the problems in the facility and tended to perceive things

negatively. For instance she said that the community reported that she was not present at the facility and yet most times she was available although in some cases she was at her home located within the health facility compound and required to be fetched when there was a patient. The quotations below expresses the contrasting opinions of one of the community members interviewed and a health worker from the facility.

“The health workers most of the time are not in the health centre. Recently, the health unit management sat and forced the midwife to come and reside in the health unit but still she is not readily available hence at night when the midwife is not around, women rush to pallisa hospital.” KI Community leader Pallisa (Interview held after 6 months of implementation)

“Okay the program has helped us because it has increased the number of deliveries in the health center but the problem is that at times the boda bodas have been given false information that when ever they bring the mother they find no health workers which is not true.” KI Health Worker (3 months after implementation)

Management Support

The in charge of the health centre was also away from the centre pursuing further education during most of the program implementation, it is therefore likely that managerial oversight was lacking in the facility, and some of the problems above could be attributed to this.

Key issues in this facility.

- The poor attendance before the mobilization of transporters shows the key role that transporters played in mobilising women to attend services.
- This facility had a generally poor performance compared to the other facilities. Lack of managerial oversight could be one of the reasons for this poor performance.

- Poor community health worker relations were noted in KASHC.
- Money from the voucher scheme was initially too little for it to achieve the desired objectives, however the amount was later increased.

Summary of key Issues from the Case Studies

- Although increases in utilization of maternal health services were noted in all facilities both before and after the intervention, the largest increases were noted after the start of the intervention in all facilities. The percentage increase in utilization varied in all the facilities. It started off with an increase and then a fall in facilities where implementation lasted 18 months (including pilot period). In facilities where the intervention didn't last 18 months it appeared that after one year the increase was still continuing.
- Increases in the utilization of services was mainly attributed to the increased transport availability and affordability, improved health worker attitudes and responsiveness.
- An improvement in availability, attitudes and responsiveness of health workers was reported in almost all health facilities. This was attributed to the increased motivation of health workers stemming from the improved availability of resources required for work and financial incentives. However in KASHC and BHC complaints about availability of health workers persisted to some extent.
- Facilities used funds from vouchers to meet local priority needs.
- Understaffing was a big problem in many of the health facilities. The larger centres had two or three midwives and the smaller ones one midwife. They relied heavily on nursing aides for support and also staff from other departments. In busy facilities, the other staff were also busy and so they were often unable to help.
- Health facilities generally had the basic equipment required for

maternal health service delivery. Although supplies were available in most of the units, the supplies were not always given to all the patients. This was probably because such supplies are rationed so that they can be used in cases of emergency. Clients however didn't understand this and thought the health workers were simply refusing to give them supplies and drugs. Such misunderstandings could be resolved through community dialogues.

- During pilot phase the very busy facilities such as KHC and IHC received a very high number of clients and could not cope with the increased number of clients especially for antenatal care services. This implies that when voucher schemes create demand the health system needs to have the capacity to meet the increased demand.
- Informal payments reduced during the intervention period in most of the facilities; however it was not completely eliminated in most of the facilities.

Chapter 8

8.0 Discussion

This work seeks to answer two main questions. *How does a voucher scheme for maternal health services alter incentives for providers and clients? How does the change in incentives influence access to maternal health services? The findings presented earlier detailed the changes in incentives and responses from the clients and providers, as well as changes in access to MCH services.* This first part of the discussion will focus on analysing how the incentives influenced access to MCH services giving possible explanations for the responses seen.

8.1 The influence of the Incentives on Access to MCH Services

According to the conceptual framework and propositions, it was expected that specific incentives would give rise to certain key responses which would influence maternal health service delivery. In the results presented in chapter five the incentives and responses were outlined. Explanations of why they turned out to be successful are provided. In some cases, some of the responses were not observed and possible explanations are proposed. The analysis and explanations of how the incentives have influenced access to MCH services has been guided by the propositions for the thesis, which are highlighted below.

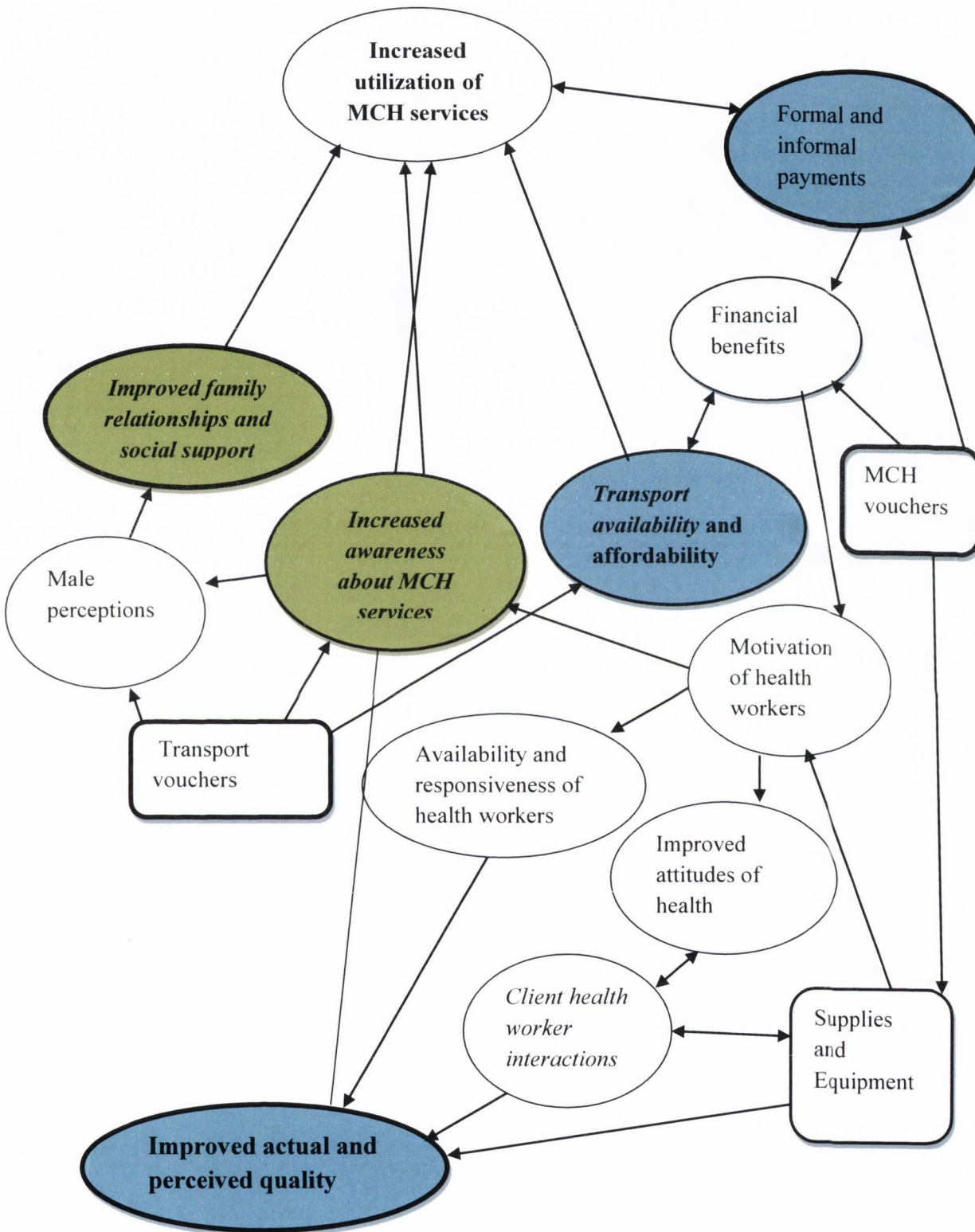
- It was anticipated that the direct cost of transport and formal and informal fees at health facilities would decrease as a result of the transport and service vouchers. Furthermore, by reducing the cost of seeking care demand for MCH services and utilization of the services would be increased.
- It was expected that the scheme would provide both financial incentives – additional allowances and non financial incentives (improved provision of supplies, equipment, sundries, training, and

support supervision) that would bring about the following changes:

- Improved management within the facility that would create a conducive enabling environment for health workers.
- Provision of adequate supplies and drugs, resources that would be necessary for service provision.
- Motivation of health workers, so that they deliver quality services.

As discussed in the introductory parts of the thesis, access to maternal health services has been assessed in terms of utilization of services, perceived quality of services, financial accessibility to services, and geographical accessibility to services. In some cases these dimensions also influenced each other. Figure 8.1 shows how the different incentives interacted and how this finally influenced access to maternal health services. In the figure for purposes of simplicity, utilization of MCH services has been used as the main proxy for access to MCH services. The figure was derived based on findings from the thesis. It brings together key components of the conceptual framework that was originally derived in addition to other variables that were found to be important during analysis. This figure will provide the foundation for the discussion.

Figure 8.1: Influence of incentives on access to maternal health services



The factors that were additional to the original conceptual framework have been presented in italics. The project inputs have thicker margins while the outcomes are in bold. This framework contains the factors that were very

prominent during the qualitative analysis, and so it does not include all the factors that contributed to improved access to maternal health services during the implementation period.

According to the figure above several factors directly influenced utilization of maternal health services. These include improved actual and perceived quality of maternal health services, transport availability and affordability, increased awareness about MCH services, improved family relations and support as well as formal and informal payments. Each of these factors was in turn influenced by a different set of factors. All these factors were originally in the conceptual framework except for increased awareness about maternal health services, improved family relations and support, improved client health worker interactions which were additional to the conceptual framework. In the sections below, I focus on the factors that directly influenced utilization of MCH services.

8.1.1 The Increased Awareness about Maternal Health Services and the Voucher Scheme

According to the three delays model (Thaddeus and Maine 1994), the first delay in seeking maternal health services is a delay in the decision to seek care. This decision making process is influenced by issues such as the knowledge that the woman and other significant people have about maternal health care services, both in relation to when to seek care and also where to seek care (Thaddeus and Maine 1994; Amooti-Kaguna and Nuwaha 2000; Kyomuhendo 2003). The results of the study showed that there was increased awareness about MCH services; this was one of the additional incentives which were not previously included in the conceptual framework. Awareness about MCH services was considered both an incentive and a facilitating factor.

As an incentive it induced positive health behaviours. Lack of awareness about the importance of seeking MCH services is one of the reasons advanced for low utilization of MCH services in developing countries (Nabukera, Witte et al. 2006; Waiswa, Kemigisa et al. 2008; Mrisho, Obrist et al. 2009). Prior

to the implementation of the scheme some women and men didn't fully understand the importance and benefits of seeking antenatal, delivery and postnatal care from skilled providers. Awareness about these issues therefore facilitated their decision making about whether and whom they should seek care from. According to the health belief model, beliefs about the severity of a health condition and perceived benefits can lead to positive health behaviours (Janz and Becker 1984).

Increased awareness about MCH services, combined with awareness about the alternative processes of seeking care in relation to the availability of project transport and actual services at the facility was a facilitating factor that influenced the decision making process about whether and how to seek care. Quotations such as the one below were illustrative of this.

“These days they advise us that when you get any complication with the baby for example if the umbilical cord is bleeding or if the mother is feeling some pain in her abdomen a few days after delivery, you call the boda boda and they take you to the hospital and the project pays for the transport. Initially we didn't know what to do.” FGD Women Kamuli. (FGD held after 12 months of implementation)

The increased awareness about MCH services was influenced mainly by more health education from the health providers and the transporters as well as the audio media (radio spots and talk shows). Using several channels was useful for reinforcing the messages. It is important to point out that perhaps more sensitization should have been done about family planning. Since there were indications that some families had decided to change their fertility decisions and to have more children. This work did not investigate these allegations however it brings to light the importance of ensuring that families are aware that they should have children whom they can support, since the project provides support only around the time of birth. Concerns that voucher schemes could lead to increased fertility were expressed in the MHVS scheme in Bangladesh as well (Ahmed and Khan 2011b).

This increased awareness alone may not have been sufficient to increase

utilization of MCH services, without the improved family relations and social support that mothers received.

8.1.2 Increased Family and Social Support

Another incentive which was additional to the conceptual framework was the increased psychosocial and material support for women in labour. The men (husbands and transporters) were reported to be more involved in ensuring women had the requirements required for delivery, in addition they were also more active in providing good nutrition and other requirements such as food and clothes for the baby and mother at the time of delivery. The fact that this encouraged the utilization of MCH services is in agreement with the literature since one of the reasons cited for not delivering in a health facility is lack of required materials e.g. clothes for the baby or even the mother (Amooti-Kaguna and Nuwaha 2000; Kyomuhendo 2003; Waiswa, Kemigisa et al. 2008). This was reiterated by one of the members of a focus group discussion.

“Formerly women could fear to go to the facility because of the things which used to ask in the facilities like mackintosh, gloves such things. For us we were used to the bark cloths those dirty, dirty clothes which could even infect the baby with tetanus. But if you go to the facility you fear to take there those dirty things.” FGD Women Kamuli (FGD held after 12 months of implementation)

The men and the transporters also provided more psychosocial support for women in labour. For instance the findings show that husbands were more active in encouraging their wives to seek appropriate care, calling the transporters and escorting their wives to the facilities.

The improved family relations and support were mainly attributed to changes in male perceptions about maternal health services, the reduced financial burdens on the family and support from the transporters as well. According to the interviews the men were previously stressed about the financial responsibilities that they had. With the support from the project they were able to relax and to encourage their wives to attend services and to support

them in various ways as explained above. One of the key informants likened the support from the project to a person trying to put a pot on their head. In Ugandan villages pots are commonly used for collecting water from the well and they are usually carried on the head. This quote indicates that when some support is provided, an individual is able to accomplish the task at hand.

“They feel when you are given support; it is like us people in the village, when you are carrying a pot. You can carry it up to the knee then they can support you to carry it up to the head. So with these vouchers it is supporting them to carry the pot up to the head.” KI Health Worker Pallisa (Interview held after 6 months of implementation)

It is however important to mention that as acknowledged earlier, some men developed apathy instead and gave up all forms of responsibility because of the support that they were receiving. These were however in the minority.

8.1.3 Reduced Cost for Transport and Increased Availability

Availability and Affordability of Transport Services

The second delay, which is the delay in actually getting to the health facility, was influenced through the increased availability and affordability of transport services. The results showed that transport services were largely more affordable and available to the mothers both during the pilot phase, and the implementation phase; although there was decreased availability during the implementation phase because of the changes in the structure of the program which led to a reduction in profits for the transporters. This confirms findings in other studies that have shown that improving access to transport services improves the utilization of maternal health services (Lee, Lawn et al. 2009). In Uganda households incur most of the costs for transportation. Whereas government attempts to cater for emergencies by providing ambulances, access to ambulance services is usually limited since the

vehicles break down very often, and when they are not broken down, households have to pay for the fuel, and most of them can't afford to do so.

The results also showed that the transport services were utilized more for delivery care compared to ANC and PNC. This was mainly a result of the project design. Transport for ANC was only provided during the pilot period, so during the implementation phase only mothers who had received ANC vouchers during the pilot period benefited. Secondly although women received transport vouchers for both delivery and PNC, the delivery transport voucher was given during the ANC sessions and so it may have been easier for them to negotiate with transport providers, while the PNC voucher was often given at the clinic on attendance of a PNC session, except for mothers or newborns who had complications or danger signs at birth. The above reasons notwithstanding, it could also be a result of the fact that mothers are usually in pain during labour and so walking for long distances is more uncomfortable compared to walking during the antenatal or postnatal period. Although walking long distance during late pregnancy or immediately after delivery is also difficult. Labour often occurs without warning leaving little time for planning for transport, while for ANC and postnatal care more planning can be undertaken.

Quality of Transport Services

Apart from the availability and affordability of the transport services, the quality of transport services was also acceptable to the mothers. The transporters treated their clients with respect, they didn't charge them any extra fees, and whenever their clients needed help they were willing to offer help. They rode the motorcycles quite responsibly; no accidents were reported in the project area although most of them did not have safety wear such as helmets and reflective jackets, and riding licenses. They mentioned that they were not able to acquire this equipment because of their high costs.

8.1.4 Reduced Formal and Informal pay

Reductions in Informal Payments

High costs are one of the factors that hinder utilization of maternal health services (Amooti-Kaguna and Nuwaha 2000; Kyomuhendo 2003; Ensor and Ronoh 2005; Nabukera, Witte et al. 2006; Waiswa, Kemigisa et al. 2008; Mrisho, Obrist et al. 2009; Poku-Boansi, Ekekpe et al. 2010). It was expected that a reduction in informal costs would arise from increased availability of supplies at the facility and decreased incidences of health workers demanding for outright bribes.¹⁴ In some facilities such as KHC and IHC there was evidence that some of these expectations were met but only partially. In KHC during the support supervision visits, the availability of drugs and supplies was found to be high, analysis of their expenditure of funds from the vouchers also showed that they spent more money on the purchase of resources such as drugs. However although a decrease in informal payments was reported the practise was still present. While in IHC, there was some improvement in the availability of supplies and drugs, and they spent a fair amount of their funds on the purchase of resources, and no informal payments were reported.

In some facilities however, such as KASHC and KAHC, informal payments were still a major issue. Although the support supervision visits showed that supplies were available (more in KASHC than KAHC) the clients had reported poor availability of supplies. It was not clear whether these supplies were used mainly for emergencies such that clients had to provide money for

¹⁴ *The project had provided some supplies such as gloves, Jik and essential drugs such as ergometrine or pitocin; secondly the facilities were also asked to use money from their service vouchers to purchase some of these items. These materials were also provided by government and if the supplies were not out of stock they would be available at the facility. As a result it was expected that fewer patients would be asked to buy these materials. Since health workers were now earning a little more income from the scheme; it was expected that they would not ask for outright "bribes" from patients.*

the purchase of supplies required for their use. In KAHC the expenditure for resources was also very low, more priority was given to the health workers' allowances.

Some of the informal payments reported above could have been used to purchase supplies, as noted in the findings, even with support from the program supplies and drugs were not adequate. Furthermore there was also the local culture of giving a token of "*appreciation*" to the provider. Although this kind of payment was considered voluntary it may also have become "*mandatory*" in a sense, in some health facilities such that every client was required to give some "*sugar*"(Allin, Davaki et al. 2005). The dividing line between an appreciation and an outright bribe was not clear; all such payments were considered informal payments in the report. This reflects the diversity of type of informal payments and is consistent with the literature (Ensor 2004b; Allin, Davaki et al. 2005; Stringhini, Thomas et al. 2009) . Informal payments were also reported in the BMHVS (Schmidt, Ensor et al. 2010).

In facilities where these habits were deeply entrenched in the culture of the organization, it may have been difficult to eradicate it without persistent specific actions. There is evidence that health workers especially in low income countries engage in this activity as a means of improving their incomes (McParke, Asimwe et al. 1999; LerbergheConceicao et al. 2002; Kyaddondo and Whyte 2003; Stringhini, Thomas et al. 2009). According to Lerberghe et al (2002) this is a problem which has no easy clear cut solution although several measures could be tried including improvement of working conditions and providing opportunities for training and career growth as a way of eventually improving earnings, as well as publicly condemning the practises, especially those that impact on service delivery negatively (LerbergheConceicao et al. 2002).

Reductions in Formal Payments

A reduction in formal payments was also expected. In private facilities where previously clients would have paid for services, this cost was supposed to be

met by the project, but in some cases, mothers were still charged. In one of the PNFP facilities, it was reported that some of the nurses were not aware of the program and so they continued to charge the clients. This highlights the importance of clear communication when implementing interventions (Franco, Bennett et al. 2002).

8.1.5 Improved Perceived Quality of Services

The incentives for health workers were supposed to result in an improvement in the technical quality of services delivered. This improved perceived quality is likely to have influenced the first delay which is the decision to seek services. It is likely that the improved perceived quality was a result of some improvement in the technical quality of services. During the intervention health workers received training and support supervision which was aimed at improving the quality of services offered to the women. The increased responsiveness and increased availability of resources for work that was reported also suggest that the needs of mothers were handled more appropriately. Consequently, the third delay which is the provision of appropriate services may also have been influenced positively.

Increased Motivation of Health Workers

The improved motivation of health workers was attributed to the improved working conditions (including availability of resources), additional allowances, job enrichment, job satisfaction and useful supervision. This increased motivation may have led them to behave in the positive manner described below. Evidence from Bangladesh revealed that health workers were motivated to provide higher quality care as a result of the incentives provided by a voucher scheme (Ahmed and Khan 2011).

The text box below also describes some of the factors that health workers considered motivating.

Text Box 8-1: Motivating factors for health workers

“Also the paying of the electricity bills because we were in darkness. There at least getting the lighting was from safe Delivery, so that motivated them..... (And also for Maternity patients, sometimes you need to refer them but you have no way of referring. So when there is transport and you refer, and the patient goes to hospital and gets attention then you get feedback that the patient you referred is okay and the baby is okay then you feel motivated) And also in the labour ward when you have to cater for a mother and then you have supplies like gloves, cotton wool, umbilical code tapes you do your work without waiting. (You don’t have to send the husband to the shops to buy requirements). You feel like you are motivated and you do your work quickly.” KI Health Worker Pallisa (Interview held after 12 months of implementation)

A health worker describes factors that motivate him/her

In this work most of the main factors that were identified as motivating factors in the qualitative interviews and the health workers survey are described by Herzberg as hygiene factors or satisfiers (Hertzberg, Mausner et al. 1959). According to Herzberg, when these factors are absent, health workers can be dissatisfied, but these factors themselves don’t motivate. However it is also acknowledged that if these hygiene factors are missing then staff may concentrate on trying to look for these factors instead of meeting their job requirements (Franco, Bennett et al. 2002; Kyaddondo and Whyte 2003). Indeed the quotations where the health workers mention that they go to work instead of going to dig is in line with this.

Le Grand discusses the issue of health providers generally being considered as knights whose good intentions could be corrupted by a dependence on financial incentives as a motivating factor (Le Grand 1995). This work portrays health workers as having some characteristics of knights for example

when they work long hours, in poor work environments moreover with low pay. However they also seemed to have some characteristics of knaves when they reported that they were now dedicating more time to their clients instead of spending time in their gardens. This may imply the turning of “knaves into knights”. It has been argued that financial incentives can erode this knight spirit in health workers, however it should also be acknowledged that health workers have personal needs that need to be met. Hence their working hours and remuneration should allow them to meet their basic needs.

The absence of the commonly described motivating factors such as career growth may be related to the fact that this was a short term project, which could not influence aspects that are often controlled by government regulations and procedures. Although factors such as recognition and appreciation could have been achieved under this project, the poor human resource management could have affected the extent to which this was achieved. The influence of poor human resource management is discussed further in the upcoming chapter (chapter 9.2.3).

Improved Availability of Health Workers

Improved health worker availability was reported at all the four health facilities included in the cross case analysis, except KASHC. The quantitative findings also showed that health workers were absent for fewer days in the intervention compared to the control (see table 6.5). The increased availability could be attributed to the fact that health workers spent less time trying to look for alternative ways of improving their welfare and increasing their earnings, among other reasons. Findings from the health worker survey showed that 48% of health workers earned about 83 USD or less (Exchange rate 2400 Ug sh) and yet for 61% of respondents their salary contributed to meeting 75% of their household costs. This assertion is supported by previous studies which report that where the income of health workers is inadequate to meet their basic needs, they may spend considerable time trying to supplement their income hence reducing the time that they spend with patients (Franco, Bennett et al. 2002; LerbergheConceicao et al. 2002;

Kyaddondo and Whyte 2003). In rural areas health workers often supplement their earnings, by engaging in agricultural activities. Private practise is also common but more in urban areas than rural areas (LerbergheConceicao et al. 2002; Kyaddondo and Whyte 2003). According to the findings only 8.8% reported to be engaged in private practise.

“.....because with our salary you have to pay for fees, you have to care for the children, and you have to care for the family. But with this extra income from safe delivery instead of going to the garden very early in the morning and you leave your patients there , instead you would come clean the place, stay with your patients you know you are not badly off.” KI Health Worker Pallisa (Interview held after 12 months of implementation)

Improved Responsiveness and Attitudes Towards Clients

In facilities which were very busy, it was not always possible for the health workers to be responsive. For example during the pilot period in KHC and IHC, the women would wait for very long during ANC sessions and at times they would not even receive the services. When they were not able to receive drugs this also discouraged them from coming to the health facility for the next visit. This points to the fact that when demand is created, the supply side must be able to respond to the created demand if full benefits are to be realized.

Relationships between the health workers and the clients also improved, this is likely to have led to patient satisfaction with services and a more pleasant working environment for the health workers. Previously health workers would get upset if mothers went to the facility when they were very dirty but, through the project, mothers received sensitization about how to take care of themselves when pregnant. Hence they were more presentable when they went to the facility.

The fact that mothers also had their requirements for delivery also helped to improve relationships between them and the health workers. In the event that

mothers didn't have the requirements, at least the health workers now had the emergency supplies e.g. of gloves or paraffin for lighting at night. These views were expressed in quotations such as those ones below.

“They were very rude reason being that they had no essential needs like gloves, razorblades yet pregnant women had no money at all to buy these basic needs.” KI Community Leader Kamuli (Interview held after 18 months of implementation)

In the next part of the discussion, I discuss theories that could explain the responses and their effect on MCH service delivery. The three theories that were originally proposed include the expectancy theory, the will do and can do theory and the demand and supply theory.

8.2 Theoretical Explanation of Responses

8.2.1 Expectancy Theory and its Relevance in the Thesis

Some of the responses that were seen can be explained through the expectancy theory. According to the expectancy theory for a particular phenomenon to have an effect three conditions need to be met; the individual should be confident that;

- If they exert effort it will result in a particular level of performance (expectancy)
- Secondly they should have an assurance that this performance will lead to a specific reward (Instrumentality)
- Lastly this reward should be valuable to them (valence)

During the data collection and analysis, an effort was made to collect data that would be used to investigate whether the above conditions were met. For both transporters and health workers the study findings show that they put in a certain amount of effort with the expectation that they would get certain rewards. The transporters responded by providing transport both during the pilot and the implementation phase. There was the expectation that if they transported women they would get paid for their services. The pay was therefore the main reward that they expected. However they also provided

support to the mothers and the reward in this case, was the satisfaction of helping a woman in labour. As long as they were receiving pay that they were happy with, they continued to provide services and to mobilise clients, when the payment conditions changed and the fuel prices escalated the business was no longer very profitable for the transporters, the reward was not worth it anymore and so their level of effort in the project activities also decreased.

The community reported that the health workers availability, attitudes and responsiveness towards clients had improved in most of the health facilities. The interviews that were conducted with health workers revealed specific actions that were taken by the health workers to bring about these effects. Drawing from the interviews they were able to put in more effort, because they expected to receive a reward and this reward was the financial incentives that they got from the project and the satisfaction of saving the lives of mothers and babies.

The section below provides additional explanations of how this theory was used to explain the responses seen among the providers.

Expectancy

The transporters needed to believe that a certain amount of effort would lead to a specific outcome. The effort that they put in included mobilizing clients, providing information about the project and about maternal health, circulating their mobile phone numbers to the health facilities and the mothers. These actions ensured that they had clients to transport to the health facilities.

The health workers were able to put in more effort and to get a specific level of performance because of the enabling environment. The project had ensured that basic resources required for service delivery were present and the health workers had the basic skills required for service delivery.

Instrumentality

According to the expectancy theory achievement of a specific outcome

should be able to lead to a certain reward. For the transporters, transporting a mother needed to result in a specific amount of payment. The transporters were hesitant to trust the program initially for fear that they might be cheated. Hence for the transporters to believe that their effort would be met with an appropriate reward certain preliminary actions had to be undertaken by the project. The project established trust between the transporters and the project by involving them in dialogue, considering their opinions in the design of the project, involving their own leaders whom they trust and signing contracts with pre agreed amounts of payments for transport services. They also received a voucher from the mother which was to be redeemed in exchange for cash. Thereafter the project had to abide by what was agreed, or explain any deviations whenever they occurred.

There was a direct relationship between the achievement of some level of effort and the financial reward for health workers. In the public facilities all health workers who participated were able to get rewards; this was usually decided in a fairly transparent manner with members of the unit having a meeting to discuss how the resources should be used. The size of the bonus also mattered. After the pilot the amount paid for the various services was reduced, and during a feedback meeting with stakeholders, they reported that the amount was now so little that it would be difficult to use it to achieve the desired objectives (purchasing supplies and providing allowances), the team then negotiated with them an amount that they felt would be more realistic.

According to Sengooba (2009) when the bonus is too little it may not be sufficient to achieve the desired results. In IHC health centre when the financial incentives were controlled by the in-charge of the health unit, priority was not being given to the needs of the maternity unit and the rewards obtained may not have been commensurate with the effort put in. Again during a stakeholder meeting this issue was raised and it was resolved that the in-charge of the maternity unit should be in charge of the funds. This again helped those who put in the most effort to have the most leverage over how the finances were used. Indeed it has been acknowledged that ensuring

that there is instrumentality “*requires policies or formal organisational structures and rules that link the reward to expected performance*” (Sengooba 2009). In most facilities, a team approach was used for the distribution of the financial rewards since everyone in the facility had a contribution to make towards improving maternal service delivery. This helped to promote team work rather than to promote conflicts about who gets the reward and who doesn't. The multitasked nature of health care requires a team approach (Scott and Farrar 2002).

However in one of the PNFP facilities effort was not directly linked with a benefit. The employees had little control over how the money that they got from the project was used. It was largely their managers who decided how these funds were used. In contrast in the public facilities meetings were held and attended by all staff who contributed to deciding how the money would be used.

Valence

For the theory to work, the reward should be valuable to the individual putting in effort. This pay was valuable to the transporters because they were able to use the money to meet personal needs and to invest in their business. This applies especially to the transporters who were active during the initial period of the pilot and also for those who remained active throughout the scheme. The quotations in table 8.1. lend support to the ideas suggested above.

Table 8-1: Links in the transporters data with the expectancy theory

Quotation	Relation to expectancy theory
<p><i>“I want to thank this project very much because since it started I actually see an increase of motorcycle boda boda in Agule and this shows that they are getting something from it.”</i> FGD Transporters Pallisa (6 months after implementation)</p>	<p>Level of effort linked with rewards arising from the business</p>
<p><i>“when my phone rings I abandon what ever I am doing because the project money is a sure deal the money will be paid.”</i> Transporters FGD Kamuge (6 months after implementation)</p>	<p>Demonstrates assurance that they will get paid for the service rendered (instrumentality)</p>

According to the expectancy theory, some level of effort may be put to achieve certain activities simply because of the benefit that individuals derive from it. The results showed that the transporters used to assist the mothers to do certain things that they were not able to do for instance buying requirements and buying food. These are activities that they were not paid to perform in fact in some cases they even spent some of their own money but they seemed to derive satisfaction from it.

The financial incentives were valued by the health workers because it helped them to meet their basic needs such as food and paying school fees among others. However in some cases the project resulted in extremely huge workloads for health workers. In situations where the workload was overwhelming and the staffing low it is likely that, even with the financial incentives, health workers would not have been able to produce sustained effort. When a decision was made to remove ANC from the benefit package after the pilot, it was to ensure that the health workers were not too overworked. The quotations in the table lend support to these ideas.

Table 8.1 Links in the health workers data with the expectancy theory

Quotation	Link with expectancy theory
<p><i>“You would go (to the garden) because with our salary you have to pay for fees, You have to care for the children, and you have to care for the family. But with this extra income from safe delivery instead of going to the garden very early in the morning and you leave your patients there, instead you would come clean the place, stay with your patients you know you are not badly off.”</i> KI Health Worker Pallisa (Interview held after 12 months of implementation)</p>	<p>Staff dedicated time to caring for patients instead of looking for a means of survival, because they knew they would earn an extra income (Linking effort-performance – reward)</p>
<p><i>We get some allowance that was really motivating for us to work hard. Because at least you can say today am not going to cook because you have some little in the pocket, you will buy a soda and chapatti and you eat and you continue with work.</i> KI Health Worker Kamuli(KI held after 18 months)</p> <p><i>“I think they were really doing it by reporting early and then doing the cleaning then attending to the clients appropriately (no complaints from the clients) I felt they were putting in extra effort.”</i> KI Health Worker Pallisa (Interview held after 12 months of implementation)</p>	<p>Shows how allowances motivated them to put in extra effort</p>
<p><i>“But at least when there is transport you refer, the patient goes to hospital gets attention then you get feedback that the patient you referred is okay and the baby is okay then you feel motivated whether referred or had an operation but the mother is alright and the baby is alright their you feel really motivated”</i> KI health worker Pallisa (Interview held after 12 months of implementation)</p>	<p>Demonstrates satisfaction derived from knowing the life of a mother and baby has been saved</p>

However some situations could not be explained by the expectancy theory. The reactions in the public and some PNFP facilities were different. In the PNFP facilities the health workers, already used to exert a lot of effort and used to attend to the patients politely, ensure that they are available on duty etc, so their behaviour didn't really change because of the incentives. Their salaries were in some cases even lower than that of the public sector workers. The behaviour seen in the PNFP facilities could probably be linked to being driven by ethical and professional obligations rather than other factors such as financial incentives (Le Grand 1995). In this scenario perhaps the approaches that advance for the use of institutional interventions such as leadership skills development, building norms and values for aligning worker interests and organizational goals provide a more fitting explanation (Goddard, Mannion et al, 2000).

One other unique situation was seen in BHC. This health centre was located in a hard to reach area and run by a single midwife, who had stayed there for over a decade in spite of the harsh conditions. Other staff who were brought there, stayed for a short time and requested for transfer. This particular health centre and midwife also seemed immune to the effects of the financial incentives; she was often absent, away at a burial or a workshop, leaving the clients with no one to attend to them. She also didn't demonstrate any particular interest in trying to improve conditions at the facility in order to benefit more from the incentives. Unlike in other facilities that had only one midwife, team work to fill in the human resources gap was not demonstrated since often the new nurse who was employed was also not there.

Another difference in the application of this theory was seen between professions bound by their ethical obligations such as health workers and those who are not bound to provide services such as transporters. According to this theory the motivational force is a product of the three key components, implying that if any component has a zero value this will result in zero motivational force and therefore no effort is put into the work. When the financial incentives decreased, implying that the reward was no longer valued some of the transporters stopped providing services. This aspect of the theory

was therefore applicable to them. However for the health workers even when the financial incentives were decreased, they continued providing services. And when asked what they would do after the project seized the common response was that there is nothing they can do because they are under obligation to provide the services.

Interviewer: Earlier on you said you find the allowances motivating what if the allowance was not there would you still put in the same effort?

Respondent: *“Yes because it is our work you can’t just leave mothers there. Even if the money is not enough we shall still work.”* KI Health Worker Kamuli (18 months after implementation)

The findings above suggest that there are conditions under which even with additional financial incentives, a change in behaviour as expected under this theory may not be observed. These include;

- Facilities where ethical and professional regulations are strictly enforced. In two of the PNFP facilities, ethical rules are generally abided to and staff are required to abide by standard procedures and to treat patients courteously. To a large extent where this was already adhered to additional financial incentives did not seem to result in a huge change in behaviour.
- Where the organizational factors allow little room for change (for instance where staffing is severely limited e.g. only one midwife and no other staff to assist, or two midwives in a very busy facility) or where regulations don’t allow a direct link between the improved performance and the benefit for example in PNFP facilities where the financial resources are combined with the rest of the facility income and administered by the facility management.
- Facilities where there is poor managerial oversight, which does not

exploit the existing conditions innovatively in order to improve the performance of staff, and to increase rewards obtained.

- Health workers, as professionals, are bound to provide services by their ethical obligations and will continue to provide services even with a very low motivation. On the other hand professions such as transporters can stop providing services if they are not motivated to do so.

8.2.2 Will Do and Can Do Theory

According to this theory, motivation can be affected at three levels, individual, organizational and community level; eventually affecting the extent to which health workers agree with organizational objectives (will do component) and the extent to which they mobilize their own resources to meet organizational objectives (can do component). At individual level there was minimal evidence that the scheme affected individual level determinants, the discussion will therefore focus more on the organizational level changes and the community related effects.

Organizational Factors Affecting the Can Do Component of Motivation

Provision of Basic Resources

Most of the positive effects seen at organizational level that provided motivation for the health workers to mobilize their own resources to improve their performance (can do) was mainly through improved working conditions and in a few facilities through management support. There was evidence that the health workers' working environment had improved and they had most of the basic resources required to provide maternal health services. For instance if a mother started labour unexpectedly, instead of shouting at her they were able to help her but only because they had the gloves to deliver her baby who had arrived earlier than expected.

“At least drugs are there when you have your patient and drugs are there, you feel everything is okay.you want to clean the wards soap is there, Jik is there, for us in maternity when there is no jik everything is a mess blood will smell, the ward will smell and you will get disgusted. When you clean with jik the place will have a good scent and you will be interested in entering the place. Gloves are there everything is there and you will be interested in working on the mothers.” KI Health Worker Kamuli (Interview held after 18 months)

Financial Allowances

Another organizational factor reflecting improved working conditions was related to increased financial allowances or benefits from the project. In public facilities the health workers received additional allowances while in PNFP facilities the money was at times used to pay salaries. Results from the study showed that the health workers were able to dedicate more time to caring for their patients because they knew they had some additional income.

Management Support at Facility level

The other organizational factor was management support. In a few facilities such as one of the PNFP facilities, in-charges reported providing regular support to their staff and having meetings to discuss key issues. Reorganization of services to meet the challenges of the high numbers during ANC was also reported by one of the in-charges in KHC and IHC.

Most other benefits that could have been realized at organizational level were not realized perhaps because of weak leadership. During the interviews very limited management support was reported. Although during the key informant interviews, health workers reported that they discussed how to improve MCH service delivery, evidence of managerial decisions taken to improve quality of MCH services was largely lacking in the minutes of management meetings held in the maternity unit, the discussion dwelt mainly around how to spend the money with little emphasis on how to improve service delivery. Continuous inability to enforce key practices such as regular

and correct use of the partograph confirms this. The surveys done also didn't report useful inspiration from seniors. Managers of maternity units are often midwives with limited management training. One PNFP facility was even managed by a nursing aide who did not have the appropriate management skills. In this particular facility when the in charge was there she was rarely present and would only show up to collect the money from the scheme. The project also adopted a hands off approach and didn't invest significant time into strengthening management practices at facility level and this could have affected performance.

Community level Effects

There was evidence that community relations between the providers and the health workers had improved and this had a positive effect on the delivery of maternal health services. Health workers value receiving appreciation from the community (Kyaddondo and Whyte 2003). During the health workers survey 6% of the health workers mentioned community involvement and patient satisfaction with services as one of the factors that motivate them. The availability of resources appears to have improved the attitudes of health workers such that they were able to befriend the mothers and to provide them with better services than what they received before. The health workers appeared to have become more patient with the mothers for instance if a mother didn't have the requirements for delivery they would give her the required supplies and then ask her to buy or pay for these supplies later on. This demonstration of kindness to patients was largely absent prior to the study. The clients were also more responsible, it was reported that mothers would come to the health facility clean and they would try to bring the requirements that were expected of them.

As alluded to above the will do and can do theory was useful for explaining changes in motivation stemming from changes in the organizational and community level environment. It is also important to mention that more incentives could have been obtained for the health workers with more extensive implementation of organizational and community level initiatives.

Changes in individual level determinants however were largely not observed. This was probably because changing individual level determinants requires more focused actions from the facility and district management as well as increased financial investment.

8.3 Demand Theory

The main theory that was used to explain the responses among the clients was the demand theory. According to this theory when the cost of a good decreases, other factors being constant, the amount of the good consumed increases. The study findings showed that the direct and indirect costs of seeking services decreased and so the clients were able to consume more services. In all the health facilities increases in utilization of maternal health services was observed. It is worth noting that this theory cannot work in isolation and it needed the other components such as the increased linkages with social networks, increased awareness about MCH services as well as improved quality of MCH service delivery for its successful execution.

The results from this work showed that other factors other than price had a significant influence on the utilization of maternal health services. These include factors such as the perceived quality of services, awareness about maternal health services, the influence of significant others such as family members. Consequently this implies that theories that are more holistic could have been used to explain the behaviour of clients in this work. These include theories such as the health belief model and the four A's model. According to the health belief model, an individual is motivated to perform a particular action because of the negative consequences of not taking the action (Janz, Becker 1984). With respect to this work, one of the possible consequences could be death at the time of child birth. The model has 6 main key concepts that explain behaviour these include; perceived susceptibility of suffering from the condition at hand, perceived severity of the condition and its consequences, perceived benefits of the proposed actions in solving the problem, perceived barriers to taking the recommended actions, strategies for

taking the desired actions and the individuals confidence in their ability to take the desired action (Janz, Becker 1984).

In the fours A's model, utilization of health services is explained by the four A's. Affordability of the charges for utilising health care, availability of the resources required for service delivery, geographical accessibility to the service point and acceptability of the services provided (Andersen, 1995).

Chapter 9

9.0 Improving Service Delivery through Voucher Schemes

The literature suggests that voucher schemes could be used to increase access to services for specified groups. In the sections that follow evidence from the findings in this thesis are drawn together to answer two main questions that could contribute to the existing literature on voucher schemes and on the motivation of health workers.

- *What lessons can be learnt about the design and implementation of voucher schemes that are aimed at improving maternal health service delivery?*
- *How can voucher schemes contribute to the motivation of health workers?*

9.1 Lessons learnt

Key lessons can be learnt from the factors that influenced the capacity of the scheme to provide the planned incentives for clients and health workers. These included addressing key demand and supply side constraints, Involvement of local stakeholders, increasing awareness using a multisectoral approach, constant review and adaptation of implementation methods, implications for sustainability of the initiatives, targeting of beneficiaries and the benefit packages as well as local contextual issues. Each of these factors is elucidated in turn in the following sections.

9.1.1 Addressing key Demand and Supply Side Constraints

The incentives provided by the project were successful in increasing the utilization and delivery of maternal health services, because the project identified key problems that affect maternal health services utilization and

delivery, and designed incentives that were targeting those particular problems. In general detailed discussions about how supply side constraints have been addressed in voucher schemes is largely lacking, although the importance of both supply and demand side initiatives has been acknowledged (Ensor 2004a; Schmidt, Ensor et al. 2010; Ahmed and Khan 2011b). Most of the voucher schemes aim at reducing financial barriers and address some supply side constraints largely through three main ways. Firstly through the funds provided by the voucher scheme (Ahmed and Khan 2011b). Secondly through the combination of funds from the scheme and the voucher management agencies. These agencies are responsible for accreditation of providers who join the scheme. In addition they offer training for providers and ensure quality standards are maintained (Agha 2011; Bellows 2012). Lastly through other interventions that are occurring within the same intervention area. In Cambodia for example the voucher scheme was implemented alongside health equity funds as well as a performance based incentive program for health workers, while in Bangladesh investments in maternal health such as training of skilled birth attendants and upgrading of emergency obstetric care services were also going on at the same time, in addition to seed funds that were provided for public facilities within the scheme (Ir, Horemans et al. 2010; Schmidt, Ensor et al. 2010).

The key problems that were identified for the clients included difficulty in accessing transport services, high cost of seeking care due to high transport costs, formal and informal pay as well as poor attitudes of health workers. Studies done elsewhere have shown that subsidization of maternal health services including transport, can contribute to reducing financial barriers to seeking maternal health services especially among the poor (Ahmed and Khan 2011a; Ahmed and Khan 2011b).

Motivated health workers are essential for the delivery of quality maternal health services (Franco, Bennett et al. 2002). The project identified some of the key problems that affect the motivation and performance of health workers such as low pay for the health workers, inadequate resources for service delivery and inadequate skills (Amooti-Kaguna and Nuwaha 2000;

Lerberghe, Conceicao et al. 2002; Manongi, Marchant et al. 2006; Mathauer and Imhoff 2006; Willis-Shattuck, Bidwell et al. 2008). Financial and non financial incentives recommended in the literature were then used to address these problems (Bidwell, Thomas et al. ; Franco, Bennett et al. 2002; Mathauer and Imhoff 2006; Willis-Shattuck, Bidwell et al. 2008).

The health workers received training in maternal health service delivery through hands on workshops. The provision of practical sessions enabled the health workers to acquire skills, hence improving their self efficacy (Franco, Bennett et al. 2002; Kyaddondo and Whyte 2003). However not all health workers were able to attend the training. The training was also done as a one off exercise and so there was a need to reinforce what was taught during the training. This was done through the provision of support supervision.

Although the incentives above were planned and partially achieved in most cases, the project also faced several challenges that influenced the successful use of these incentives as expounded below.

Implementation Challenges in the Transport Voucher Scheme

One of the key challenges was the increased fuel prices which made it necessary to increase transport rates. Yet the project couldn't do this because it had a limited budget and so some transporters dropped out and consequently access to transport services was reduced. Delays in payment of the transporters were also a common problem that may have led to more drop outs of transporters. Transportation at night was also often difficult because of fear of robberies in the night, so access to transport at night was also a major impediment to accessing services at night. In some cases, inability to provide transport for emergency obstetric care may also have led to inadequate access to emergency obstetric care.

Implementation Challenges for the Health Systems Component

Support supervision is one of the human resource management tools that can provide critical support during service delivery (Franco, Bennett et al. 2002; Mathauer and Imhoff 2006). However, this did not often come up

spontaneously as a benefit during the key informant interviews, although usefulness of the supervision was acknowledged after some probing. Perhaps this was because of some of the shortcomings of the supervision exercise. The support supervision was done by different persons each time. Records of supervision visits were not left at the facility so follow up and continuity was difficult. In addition, the supervision visits were often done for a rather short time which may not have been adequate for addressing all areas thoroughly. The recommendations made by the supervisors were often not followed up by local management or the supervisors. The facilities also lacked proper mechanisms of ensuring that quality standards are met e.g. through effective reviews meetings. Although feedback meetings for supervisors were introduced by the project towards the end, they were not effectively operationalised. Similar problems related to support supervision were reported in a study in Tanzania (Manongi, Marchant et al. 2006; Mathauer and Imhoff 2006). Similar challenges were also reported in the BMHVS where it was noted that the local DSF committees which were responsible for providing oversight were not meeting regularly and designated providers were not maintaining service standards (Schmidt, Ensor et al. 2010).

Additional allowances were received by health workers. However payment to the facilities was rather irregular towards the end of the project. Although the facilities were meant to receive the money on a monthly basis, this was possible only in the first 6 months of the implementation. Towards the end, payments were delayed because of changes in donor funding streams for the project. Delays in reimbursement were also reported in the BMHVS (Schmidt, Ensor et al. 2010).

During the health workers' survey, salary and allowances was mentioned as one of the determinants of motivation. It was also mentioned during the key informant interviews as one of the factors that motivated providers. However financial allowances were not a significant predictor of motivation during the

intervention in the health workers' survey¹⁵. There are several possible reasons for this. One is the irregularity mentioned above. Another is the fact that the survey did not specifically ask about financial allowances linked to the safe deliveries study, but rather about financial allowances for extra tasks. Lastly the survey included all the health workers in the health facility not only those in maternity who may have had the greatest benefits.

9.1.2 Involvement of local Stakeholders

During the design and implementation of the project, there was involvement of the local stakeholders. This was important for obtaining buy-in for the project and for the acceptability of the program. This was achieved by continuous dialogue and involvement of local stakeholders throughout the design and implementation of the project. The opinions of the stakeholders were sought and considered during the design phase, so the program and the incentives planned were relevant and sensitive to local values. In addition the active involvement of transporters allowed the development of trust which was essential for the success of the transport component. Trust was developed and maintained between the community and the transporters on one side and the project and the transporters on the other side. Norms were set and largely abided to. Prior to the start of the project the transporters had been cautioned about their behaviour and any misconduct was punished by the project. This resulted in withdrawal of the project ID from some transporters and this put an end to their working with the project. All these efforts promoted the acceptability of the program and minimized resistance to the project. This highlights the importance of setting standards for providers of voucher schemes and consequences for failing to meet these standards (Schmidt, Ensor et al. 2010).

The above mentioned efforts demonstrate the importance of building trust and early communication when setting up interventions. Research done in Zambia

¹⁵ Although it was significant at bivariate analysis, when multivariate analysis was done it was not significant.

and Zimbabwe showed that late and inadequate communication about health sector reforms contributed to the resistance manifested by the health workers towards suggested changes (Mutizwa-Mangiza, 1998). Similarly, according to a study that was done to assess the effect of decentralization on health workers in Uganda, health workers had a rather negative opinion of decentralization partly because there are aspects of it that were not explained clearly to them (Kyaddondo and Whyte 2003).

Active participation of the stakeholders was considered important for developing ownership. During the implementation phase in the health facilities, the in-charges were given a fairly wide decision space and allowed to use the resources obtained from the vouchers according to their own discretion. Although this may have had some disadvantages, it promoted ownership and the health facilities largely considered the project as “*their project*”. Secondly active participation allowed problems to be identified discussed and resolved amicably for example the issue of clients bringing supplies to the facilities, amount of pay for transporters etc. When there was no solution, or when there were unexpected problems e.g. delayed payment, this was also explained to the participants e.g. the transporters and they accepted it without disorganising the project.

9.1.3 Multisectoral Approach for Creating Awareness

The project employed a multisectoral approach for increasing awareness about MCH services and the voucher scheme in general. The increased awareness about MCH services and the voucher scheme was important for ensuring that clients knew when to seek care, and how to benefit from the services provided by the scheme. During some of the interviews done midway through the project the majority of women in one Sub County had not benefited because there was very little awareness about the scheme. This is in keeping with other voucher studies where the importance of increasing awareness about the voucher scheme has been acknowledged as one of the factors necessary for successful implementation of the schemes (Mushi and Schellenberg 2003; Schmidt, Ensor et al. 2010).

9.1.4 Constant Review and Adaptation

The project attempted to identify and solve challenges as implementation progressed. These changes were essential for the delivery of the planned incentives. This was demonstrated in the changes that were implemented after the pilot period, in order to reduce the cost of the project, but also to allow delivery by the existing health system. It was also demonstrated in the constant review and adjustment of payment rates for transporters and health workers, although eventually it was not possible to satisfy the demands of the transporters. Lastly it was observed in the changes made in the handling of financial resources at the facility. However perhaps more could have been done in relation to reviewing how the financial resources were used and allocated to ensure that maximum benefit was obtained from them.

Although technical quality was not assessed, there was some evidence that suggested that quality standards were not met satisfactorily. For instance partographs were not used to monitor mothers consistently in most of the case study facilities. More could also have been done in assessing the extent to which quality was met and linking voucher payments for health workers not only with volume but also with quality of services. It has been shown that when performance based pay only measures volume output, output may be increased without ensuring that quality is maintained (Goddard, Mannion et al, 2000).

9.1.5 Contextual Issues

Local contextual issues are also likely to affect the extent to which these schemes can provide the required incentives.

Poor Human Resource Management at Facility level

Additional non financial incentives for the health workers could have been achieved with better human resource management at the health facility level. The literature shows that in many developing countries this is a poorly

developed area (Mathauer and Imhoff 2006). The project didn't focus adequate attention to this issue. This was probably because the project design followed the hands off design model that is commonly used in PBF projects and also in voucher projects where it is expected that the financial incentives and the resulting competition will be enough for setting off certain changes within the facility that will lead to efficiency gains and improved quality of service delivery. Where there is limited or no competition, these changes have not been forthcoming (Ensor 2004a; Bhatia, Yesudian et al. 2006; Soeters, Habineza et al. 2006; Schmidt, Ensor et al. 2010; Ahmed and Khan 2011b). A more hands on approach is needed to build skills within developing countries and to ensure that facilities can actually be able to bring about changes in the facilities.

Organizational Culture

The different facilities had different organizational cultures. The literature shows that organizational culture can influence the way different organizations work (Franco, Bennett et al. 2002). To a large extent it may influence the success of an intervention in each facility. For example in the PNFP facilities the work ethics were generally different and staff were expected to be on duty when it was their turn. While in many government facilities this expectation was largely lacking. The failure to eradicate informal payments that were taken as a bribe for the personal gain of health workers could also be linked to organizational culture. In such facilities, this practice could have been considered as generally acceptable. This is in agreement with research on informal payments, which have revealed that it is not easy to eradicate the problem of informal payments (Lerberghe, Conceicao et al. 2002; Allin, Davaki et al. 2005; Lewis 2007).

Poor Staffing

Staffing levels were generally inadequate in most of the health facilities; consequently this affected the delivery of maternal health services. Most small facilities had only 1 midwife and the larger ones had two, so 24 hour coverage by a midwife was impossible. Facilities could not recruit new health

workers because government regulations don't allow them to do so, but also funding from the project was irregular and for a very short period of time. Nursing aides were useful in covering this gap in most of the facilities. Some facilities also used volunteers, whose pay was supplemented by the project while it lasted. However the use of staff who are not qualified may result in poor quality service delivery.

Inadequate Resources

Many of the facilities didn't have the resources that were required for their smooth running. The health budget in the country is not sufficient for meeting the needs of the health sector, so stock outs of drugs and supplies is a very common problem in the public health facilities (Mugisha and Nabyonga-Orem 2010). In addition, practises such as drug leakage may lead to further depletion of the already depleted resources (Kyaddondo and Whyte 2003). The additional financial resources provided by the project were useful for improving availability of these resources but they were not adequate. This raises questions about whether a larger investment in terms of financial

resources using a supply side approach could have had a similar effect as this DSF project. Further research is required to answer this question, however the findings from this work suggest that if such additional financial resources are used to provide the resources required for service delivery such as equipment and supplies then they could influence the motivation of health workers to some extent. However, in relation to the availability and performance of health workers increased financial resources only may not be adequate. In the DSF model the money follows the patients and so health workers have to treat patients well in order for them to seek services from specific facilities, this requirement therefore encourages the health workers to behave well. In the absence of such a mechanism under the supply side approach stronger enforcement of regulations would be required to ensure that staff perform as expected. In most developing countries enforcement of such regulations as well as human resource management is generally weak

(Mathauer and Imhoff 2006) and so it would be difficult to achieve such an effect under the current system.

9.1.6 Targeting of Beneficiaries and Benefit Packages

In this voucher scheme geographical targeting was used and all women who were pregnant in the study area were eligible to receive support for ANC, delivery and PNC during the piloting of the scheme. However during the implementation phase although all the pregnant women were still eligible they were to receive support for only delivery care and PNC services for women who had complications. The literature reviewed earlier showed that several schemes used a variety of methods to target the poor with varying challenges (Futures Group International 2010; Agha 2011; Ahmed and Khan 2011a). Geographical targeting in this project did not present difficulties in identifying the pregnant beneficiaries who were to benefit from the ANC and delivery care package; however the cost of the program was finally prohibitive because of the huge number of beneficiaries. It was more difficult to identify the beneficiaries for the PNC package. The PNC package was supposed to benefit only women and newborns who had complications; confirming that the mother or newborn had a complication, prior to their transportation to the facility was not possible so even those without complications benefited. This is in keeping with the literature on voucher schemes which show that correct identification of beneficiaries can pose a challenge during implementation (Futures Group International 2010; Agha 2011; Ahmed and Khan 2011a).

9.1.7 Implications for the Sustainability of Initiatives

Huge sums of money are spent on piloting programs and some of them come up with successful initiatives which are never taken to scale. This leads to immense wastage of resources (Gruen, Elliott et al. 2008). In this project the incentives provided for clients and providers were able to improve the

utilization and delivery of MCH services. The sustainability of these incentives beyond the project period is however questionable. The implementation of the project was done by a small external team. Increasing program coverage using the same approach would have required a larger team and hence high administrative costs. An approach that relies more on local leaders and managers is recommended. This would have been useful for providing more oversight; secondly it would have been cheaper, if those selected were already conducting these activities as part of their daily duties.

Thirdly the clients could have been involved in contributing money for the transport voucher scheme, this could have reduced dependence on the donor funding which could not be sustained beyond the life of the project. Some of the voucher schemes that have been implemented required part payment from the beneficiaries (Mushi and Schellenberg 2003; Agha 2011; Bellows 2012). As mentioned in the findings some of the male partners developed apathy about meeting their responsibility. Getting them to contribute to maternal health service delivery later is therefore likely to be more difficult, than if the initial design had included partial contribution from the clients.

On the other hand this would limit access to services for the very poor who may not be in position to contribute (Mushi and Schellenberg 2003). Provision through externally funded voucher schemes could therefore be made to benefit such vulnerable groups (Ensor 2004a; Bhatia, Yesudian et al. 2006).

Although positive benefits such as improved attitudes and availability of health workers was noted, it is not clear whether they will persist beyond the life of the project. In one of the focus group discussions done towards the end of the project, it was reported that one of the health workers had already resorted to her old habits of going to dig before attending to clients. It was also not clear whether the increased male involvement would be sustained. However since low male involvement has been partly attributed to lack of awareness about maternal health, since they acquired more knowledge about maternal health, perhaps some of the benefits will be maintained.

9.2 Incentives for the Motivation of Health Workers

The literature is littered with evidence that a package of financial and non financial incentives are required for the motivation of health workers (Bidwell, Thomas et al. ; Manongi, Marchant et al. 2006; Mathauer and Imhoff 2006; Willis-Shattuck, Bidwell et al. 2008). The section below draws lessons from this work, that can be applied within voucher schemes in order to maximise the use of these incentives to increase the motivation of health workers.

9.2.1 Maximising the Use of Financial Incentives

Health workers and health facilities often end up as beneficiaries in voucher schemes because of the financial benefits that they receive for the delivery of maternal health services. These financial incentives were shown to have contributed to motivating providers in this work. The literature shows that financial incentives are important in settings where health workers are paid very low salaries, especially for certain cadres such as nurses (Bidwell, Thomas et al. ; Manongi, Marchant et al. 2006; Mathauer and Imhoff 2006; Willis-Shattuck, Bidwell et al. 2008). The way these financial incentives are applied to some extent determines the effects that they have. In this project the findings showed that the benefits were spread out to the entire team of health workers and support staff who provide services, rather than to only specific individuals. Secondly the distribution of specific amounts for each group of cadres was discussed in a fairly transparent manner through meetings attended by the staff. This promoted team work and cooperation among the staff rather than division.

Thirdly discussions were held with district management about the administration of the incentives and procedures that were acceptable to the district were selected. Constant discussions were also held with health facility managers to identify problems related to the incentives and to identify suitable solutions. The financial incentives were however given only based on outputs of delivery care, ANC and PNC, with no consideration of the quality

of services. It would have been important to include an aspect of quality. There is evidence that when payments are made only for specific outputs health workers can strive to increase the volume of services provided, with reduction in quality and sometimes manipulation of the records. Secondly other services that are not rewarded may suffer neglect (Scott and Farrar 2002; McPake and Normand 2008; Ahmed and Khan 2011b). Care must be taken to monitor these issues to ensure that these negative consequences do not result. Misuse of the resources and poor allocation of the resources is also possible especially if the facility management is poor. In the MHVS in Bangladesh, public facilities were allowed to retain 50% of the resources and the rest was put into a central pool that was managed more objectively (Ahmed and Khan 2011a). In contexts where management is weak, this may be a better approach.

9.2.2 Team Work Approach

Health systems in developing countries are plagued with problems such as staff shortages, high workload and inadequate skills which affect the motivation of health workers (Mathauer and Imhoff 2006). When voucher schemes create demand for services inevitably the workload for the already strained health workers increases. Voucher schemes could counter this problem by employing approaches that promote team work. Team work can help to reduce the workload on specific health workers who routinely provide maternal health services by providing extra help from other workers in the facility during peak periods. It can also help to provide 24 hour coverage in the health facilities through ensuring that at least one provider is available to provide services. This approach would require the integration of service provision and the ability to multi task. Additional on job training and stronger supportive supervision would also be required to enable the health workers perform their duties.

9.2.3 Maximising Benefits from Non Financial Incentives through Improved Human Resource Management

As reflected in the findings, benefits gained from voucher schemes could be enhanced by strengthening human resource management in health facilities. The main human resource management tools include supervision schemes, recognition schemes, performance management, training and professional development, leadership, participation mechanisms and intra- organizational communication processes (Mathauer and Imhoff 2006). These tools also work as non financial incentives to strengthen motivation (Mathauer and Imhoff 2006). Voucher schemes could therefore select some of them for inclusion in their supply side initiatives. This would help to ensure that both financial and non financial incentives are eventually provided within the scheme. Apart from directly influencing the motivation of health workers, they would help to ensure more efficient use of revenue generated from the scheme. It would also promote problem identification and solving, which can help to improve service delivery. The role of effective human resource and performance management is even more critical in scenarios where there is no competition, since in that case there is no stimulation of efficiency and quality improvements (Le Grand 1995; Ensor 2004a; Bhatia, Yesudian et al. 2006; Ahmed and Khan 2011b).

9.2.4 Community Involvement and Participation

Since voucher schemes tend to involve both the community and health workers, it provides an opportunity to increase the motivation of health workers by encouraging community participation. This can be done through encouraging the community to show appreciation for health workers. Health workers value appreciation by the community (Mathauer and Imhoff 2006). Patient satisfaction with services and community involvement was also mentioned as a motivating factor by respondents in the health workers survey. Community dialogues that can promote understanding between the health

workers and community are also recommended. As shown in this study often the community don't understand the constraints that health workers face for instance when there are no drugs they think the health workers have stolen them. Although drug leakage has been reported as one of the activities that health workers engage in to increase their income (LerbergheConceicao et al. 2002; Kyaddondo and Whyte 2003), it is also acknowledged that resources such as drugs are often supplied in inadequate quantities (Mugisha and Nabyonga-Orem 2010). Improved community behaviour can also be encouraged, this has been reported as one of the issues that frustrate health workers (Mathauer and Imhoff 2006).

Chapter 10

10.0 Conclusions and Recommendations

10.1 Conclusions

As alluded to in chapter five, I set out to test the key components of the conceptual framework. This was guided by the propositions for the study specifically I set out to test whether;

- The cost of seeking services reduced and whether this contributed to increased demand and hence utilization of maternal health services.
- There was a positive change in the motivation and performance of health workers, reflected in improved availability, responsiveness and attitudes of health workers.
- The changes among health workers improved the perceived quality of services resulting in increased utilization of maternal health services.

In addition, I also set out to understand the processes and theoretical explanations underlying the above changes.

I employed a longitudinal case study approach and utilized the demand theory, will do and can do theory, three delays model and expectancy theory in explaining the above expected changes. The key findings from the thesis are outlined below.

Incentives for the Motivation of Health Workers

- The findings from this thesis are in agreement with existing literature which shows that both financial and non financial incentives are required for the motivation and improved performance of health workers. The main motivating factors included improved working conditions, additional allowances, acquisition of skills required for service delivery through supervision, training and having a diversity of patients. Although most of these factors are considered hygiene

factors which cause dissatisfaction when absent and not motivators, in this work these factors were reported to motivate health workers and resulted in their increased availability, improved responsiveness and attitudes towards clients.

- Financial incentives that are awarded in a transparent manner and that promote teamwork are less likely to lead to conflicts within the organization. Flexibility in the use of the resources, allowed facilities to address local priorities. However for more efficient use of the resources some guidance is needed especially where management skills are poor.
- The non financial incentives such as recognition, participation, and supervision were not exploited maximally. This was attributed to poor human resource management and leadership. Maximum benefit from the non financial incentives required stronger human resource management investment.

Expectancy Theory

- The expectancy theory provides a useful explanation for changes that were seen in the project area especially in public sector facilities where regulations are not enforced giving health workers the leeway to meet their needs in ways that impact negatively on health care, for example by being absent from the facility. In such situations the health workers were able to exert more effort to meet their personal need in a manner that had a positive impact on service delivery.
- In facilities that already had ethical standards and strict regulations for obeying standards of practise, where organizational factors limit change, the expectancy theory in which the main reward was financial was not useful in explaining motivation and performance.
- The part of the theory that explains that some activities are undertaken because of the satisfaction achieved out of undertaking the activity was applicable for providers in both public and private facilities as

well as transporters.

- Some aspects of this theory are applicable among some professions and not among others. For instance according to this theory if any of the key components has a zero value this will result in zero motivational force and therefore no effort is put into the work. Whereas this was observed to be true among the transporters it was not entirely true among the health workers who as professionals are bound by their ethical obligations to provide services to those in need.

Will Do/Can-Do Theory

- Findings from the thesis were in keeping with this theory which suggests that organizational processes influence motivation of health workers and providing an enabling environment improves performance of the workers.
- Community level interactions with health workers were also considered important to health workers because the community gets to know what is expected and abides by it and health workers also do the best they can to improve service delivery.
- Individual level determinants were not very much affected perhaps because this was a short term project and there was insufficient interaction to bring about change in individual level determinants. More investment by project and facility management may have been required to bring about these changes in individual level determinants.

Insights from the Revised Conceptual Framework.

- Some of the additional factors that were added to the framework included – improved family relations and support, changes in male perceptions, increased awareness about MCH services, as well as improved client health worker relationships. These additional factors highlight the importance of social structures and appropriate knowledge in facilitating the use of maternal health services.

Methodological Insights and Challenges

- Triangulation was very useful because it provides an opportunity to have different views and perspectives. Conclusions are then drawn from a well informed angle. It also helps balance advantages and disadvantages of using the different methods. However it creates a huge data set to work with which can be challenging.
- Collection of data through the project and involvement in the project was useful and provided an opportunity to collect a large amount of data, and also facilitated participant observation. However at times it made it difficult to collect data that was only specific to the thesis. Secondly when several activities happened at the same time it was not possible to participate in all of them and so one had to rely on other project staff for supervision.
- The longitudinal approach used for data collection allowed collection of data in a manner that allowed both early and late responses to be captured and thus improved the quality of findings. Multiple case studies allow you to assess changes from different perspectives and provide an opportunity for replication in different contexts. But it also complicates data collection and analysis because of the large amount of data needed.

Increased Availability and Affordability of Transport Services

- Increased availability and affordability of transport services was achieved by using locally available transporters, creating trust between the clients, transporters and project team and negotiating payment with transporters.
- Some of the challenges that were encountered included delayed payments, lack of appropriate referral transport, fear of armed robbers at night, attempts by the transporters to cheat and increases in the price of fuel. The sustainability of this transport voucher scheme was limited by the high dependence on donor funds and reliance on an

external team of implementers.

- The geographical targeting method that was used was easy to implement, however it encouraged the inclusion of both rich and poor participants and hence raised the cost of the scheme, making its sustainability difficult.

Reducing the Cost of Seeking Services

- The reduced cost of seeking services as a result of the reduction in both formal and informal costs resulted in more women seeking health services. However it was not possible to eliminate informal payments from all the health facilities.
- This could be partly attributed to the causes of informal payments. These included purchasing supplies that were required for delivery, to obtain a faster service, as well as a token of appreciation to the provider. During the intervention period, facilities continued to experience shortages in the supply of drugs and supplies hence clients were asked to buy them whenever this occurred. Some aspects such as giving the money as a token of appreciation or demanding it as a “bribe” could be entrenched within the local cultures in the community and facilities; making it difficult to eliminate it without sustained effort.

Promoting Successful Implementation of Voucher Schemes

- Factors that can support the successful implementation of voucher schemes include the implementation of schemes that address key demand and supply side constraints using a multisectoral approach, active involvement of local stakeholders, current review and addressing of implementation challenges as well as good governance and regulation.
- In areas where there is no competition, financial incentives alone appear to be inadequate for ensuring improvements in efficiency and

quality. More targeted efforts with improved human resource management, performance management and strong leadership are required.

Influence of Contextual Factors

- Contextual factors such as shortages of staff and resources, poor leadership and organizational cultures that do not promote improved performance were found to influence the success of the incentives in achieving intended objectives. Care needs to be taken to address them during the design phase.

10.2 Recommendations

Based upon the above findings the following recommendations are drawn for policy makers, implementers of voucher schemes and maternal health programs as well as the academic community.

Recommendations for Voucher Schemes

The following recommendations should be considered during the design and implementation of voucher schemes;

- To achieve optimal utilization of services the schemes should address both the key demand and supply side constraints to seeking MCH services using financial and non financial incentives. To obtain maximum benefit from the non financial incentives human resource management in the health facilities should be strengthened.
- Local contextual factors that are likely to influence the success of the scheme should also be identified and addressed during the design of the scheme.
- Involvement of local stakeholders in the planning and implementation of the scheme is recommended. This can help to promote provision of appropriate incentives, reduce implementation costs and also build local capacity for managing the scheme. Local capacity would be very useful when coverage is increased. The local community should also

be encouraged to make financial contributions to the scheme so that schemes are not entirely donor dependent.

- Performance measures for providers that will not only assess volume output but also quality of services provided should be used. Regulations that will ensure that set standards of performance are met are also required.
- Measures for detecting and mitigating negative unintended consequences should be instituted. This includes early identification of possible unintended consequences and collection of monitoring data that can allow early detection, followed by corrective measures as well as strict validation of service provision before payment of providers.

Recommendations for Implementers of MCH Programs

To obtain sustained improvement in the delivery of maternal health services, the following are recommended;

- Motivation levels of health workers should be improved using both financial and non financial incentives. The financial incentives could include the introduction of performance related pay that will provide incentives for efficiency and quality. However the measurement of performance needs to be carefully worked out so that it rewards both improved performance and excellent performance. This pay could also have both an individual component and a team based component in order to promote team work at health facility level. It should also measure both volume outputs and quality.
- High workload at facility level could be reduced by promoting team work and integration of services. This requires that health workers are able to multi task and so their training both in service and on job should incorporate relevant topics into their training. In addition this calls for strengthening of support supervision by the facility and district managers.
- Human resource management is critical for the successful implementation of non financial incentives and for ensuring that

service delivery is effective. HRM tools such as supervision, leadership, participation, performance management and recognition should be prioritized.

- Increased community involvement and participation is also recommended as a means of improving relationships between health workers and communities. This can be done by promoting their participation in governance boards in health facilities and also community dialogues.
- Delivery of maternal health services should be strengthened by using a multisectoral approach for increasing access to MCH services with the involvement of families, providers, ministries of finance, transporters, local community leaders and other partners involved in maternal health service delivery.

To increase demand for MCH services the following are recommended;

- Multiple channels should be used to sensitize the community about MCH services. They should explore the potential of using groups such as transporters who are already in the community and accepted by the community to act as advocates for maternal health. Some of the social cultural issues that were identified as factors that hinder utilization of MCH services could be addressed by local cultural leaders.
- Managers of MCH programs should work with the transport sector to increase the availability and affordability of transport services. This can be done through partnerships between public and private sector stakeholders who are involved in the provision of transport services. Emphasis should also be put on ensuring that transport providers have the necessary protective gear and riding licenses should also be made more affordable for them by reducing the cost of obtaining licenses and also bringing the service closer to the community.
- Transport for referral should be given priority. Alternative forms of transport such as motorcycle ambulances could be used to transport

mothers from the community to the health centre and to referral health centres. Motorized ambulances should be provided between the referral health centres and the hospitals. The local community can take control of the management of the motorcycle ambulances, while government takes responsibility for the referral ambulances.

Recommendations for Policy Makers

Policy makers at national and district level in Uganda and other low income countries with a similar context should consider the following;

- Increased financial allocation to the health sector to deal with the problems mentioned above mainly shortages in staffing and resources as well as investment in human resource management. Additional resources can be obtained through negotiation with donors to promote increased investment in human resources and planned targeted use of resources rather than a project approach. However results and accountability must be strengthened.
- The problem of informal payments at facility level should be tackled in a stepwise manner by;
 - Addressing underlying factors such as frequent shortages of supplies and drugs and the low health worker remuneration.
 - Providing more opportunities for training and career development as a means of improving incomes.
 - Stronger enforcement of laws that prevent informal payments and public condemnation of the practise

Areas for further research include

- A cost effectiveness analysis to ascertain the costs and benefits of voucher schemes.
- Research to ascertain whether a supply side approach in which more funding is provided to health facilities is more effective than using a demand side approach.

- Effect of voucher schemes on motivation of health workers, efficiency, effectiveness and quality of service delivery.
- Intended and unintended consequences of demand and supply side incentives provided by voucher schemes on clients, providers and service delivery as well as their mechanisms of action.
- Investigation of the different reasons and perspectives about informal payments, as well as mechanism for addressing the practise.
- Investigation of immunization coverage rates for infants to establish if the project had some positive knock off effects.
- Further investigation of how effective the project was in increasing geographical access could be done by measuring distance more accurately and stratifying women respondents by distance.
- The sustainability of benefits such as increased male involvement, increased availability, attitudes and responsiveness of health workers.

Concluding Thoughts

In conclusion, this thesis has shown that just like many other voucher schemes, the SDS voucher scheme was able to lead to an increase in access to maternal health services by providing incentives that reduced the cost of seeking care, improving the perceived quality of care and activating social networks that facilitated positive health seeking behaviour. Health workers were motivated by improved working conditions, job enrichment, training, support supervision and financial incentives. However maximum use of the non financial incentives was limited by the poor human resource management. Informal payments also persisted to a small extent in most facilities. Central government and local governments should work together to strengthen human resource management and to provide adequate resources for health workers including improved remuneration packages that are partly linked to performance.

The unexpected additional factors (improved material and psycho social support, active mobilization by transporters, improved client health worker relationships) that proved useful for the successful delivery of the incentives highlight the importance of social networks in improving both the delivery and the utilization of maternal health services.

The use of the expectancy theory to explain the behaviour of health workers is closely linked with their ethical obligations. In facilities where ethical obligations and professional standards are observed, health worker performance was already good so the rewards did not significantly change behaviour. The multiplicative nature of the theory where absence of one precondition led to a zero motivational force, hence lack of service provision was observed among the transporters but not among the health workers who were ethically bound to continue providing services. For a reduction in service costs to lead to an increase in utilization as predicted by the demand theory, the quality of services delivered should be reasonably good; clients should have adequate knowledge about MCH services as well as social support.

The findings also show that involvement of local governance structures, continuous monitoring of implementation progress and effects and appropriate corrective action and regulation are important for successful delivery of intended incentives in voucher schemes. Where there is no competition, leadership and human resource management are critical for ensuring improvements in performance and quality of care.

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Appendix I:

Glossary

Health Care: A range of services and products whose end purpose is the preservation or enhancement of health

Medical Care: A component of health care. A process or activity guided by medical practitioners, in which certain outputs or factors of production are combined in varying quantities to yield an output (medical care services) or an outcome (health status)

Demand side financing approaches: Financing approaches which place purchasing power in the hands of consumers to spend on specific services.

Motivation: An individual's degree of willingness to exert and maintain effort towards organizational goals.

Access: The degree to which individuals are inhibited or facilitated in their ability to gain entry to and to receive care from the health system. Inherent within this definition of access is the revelation that access has several dimensions. These include geographical accessibility, availability, financial accessibility, utilization, quality and acceptability.

Availability: The extent to which the health care system provides facilities (structures) and services which meet the needs of the clients.

Utilization: Utilization refers to the actual use of services.

Incentives: A particular form of payment or activity intended to achieve some specific change in behaviour.

Organizational Structures: Refers to the internal structures of organizations reflect reporting hierarchies, level of worker autonomy, clarity of organizational goals, relative status of different workers and delegation of Responsibility and authority.

Organizational Processes: Interactions between clients and providers and between providers and providers, as well as actions that determine how work gets done.

Organizational resources: Facilities that are required to produce specific outputs e.g. drugs, equipment, supplies, personnel, buildings etc.

Providers: This term refers to health workers and transport providers

Valence: Valence is the personal attractiveness of different outcomes.

Instrumentality: the personal belief that first level outcomes will lead to second level outcomes.

Expectancy: Employees subjective belief that a given level of effort will lead to a first level outcome on the job.

Complex Intervention: A complex intervention is built up from a number of components which may act both independently and interdependently.

Complex system: A system that is adaptive to changes in its local environment, composed of other complex systems, behaves in a non linear fashion such that a change in outcome is not proportional to a change in input.

Context: Wider socioeconomic background, health service systems, prevalence or severity of condition under study and changes in these factors over time.

Performance: The accomplishment of specified tasks

Performance assessment: The measurement of an individual's ability to carry out a specific task.

Appendix II

Overview of the Safe Deliveries Voucher Scheme

Study Design and Area

The voucher scheme was implemented in two districts in the Eastern part of Uganda (Kamuli and Pallisa – see figure 11.1) over a three year period. The pilot for the voucher scheme was done in 1 HSD for three months (Dec 2009-Feb 2010). Full implementation during which vouchers were distributed was done for a one year period (June 2010- June 2011). The final six months were used to complete evaluations and payments for the vouchers (July – December 2011). The voucher scheme employed a quasi experimental study design (non- randomised control trial). Four Health sub- districts (HSD) participated in the study, two from each district. Each district had an intervention and a control arm.

The Intervention Package

This was a complex intervention with both demand and supply side components (Shiell, Hawe et al. 2008). The intervention comprised of financial incentives which were provided in the intervention arm and non financial incentives which were provided in both the intervention and control arms. The financial incentives included payment for quantity of maternal health services (vouchers for maternal health services), and payment for transport services (vouchers for transport). The non financial incentives included provision of essential supplies, drugs and equipment for maternal health services, refresher training of health workers, support supervision, provision of information about maternal health services.

Eligible Recipients

All pregnant women in the intervention area

Mode of Distribution

The vouchers were distributed during antenatal care (ANC). Attendance of at least one ANC session in Uganda is high (94%) so it was expected that this would allow contact with the eligible respondents.

Service Package

During the pilot period, the voucher for services entitled a pregnant woman to receive ANC sessions (4,3,2 or 1 depending on her gestation period), 1 postnatal care session (PNC) and delivery care services (including caesarean sections) in an accredited health facility located within the study intervention area regardless of the ownership. These included public, private not for Profit (PNFP) and private for profit (PFP) facilities. After the review of the pilot study results, the benefit package was revised in an attempt to minimise costs, and also in consideration of the capacity of the health facilities to handle the increased workload. During the implementation phase the voucher entitled a

woman to 1 delivery care session and 1 postnatal care session for mothers and newborns with complications.

The voucher for transport services entitled the pregnant woman to use locally available transport (motor cycle, bicycle, public taxi) to the health facility for four antenatal care sessions, one delivery care session and one post natal care session (return trip) during the pilot period. During the implementation period the vouchers covered 1 delivery care session and 1 postnatal care session for mothers and newborns with complications.

Women who were referred from a lower level facility to a higher level facility for a caesarean section received a special voucher for transport that allowed them to use a motorised vehicle (public taxi or ambulance).

A component of health system strengthening was done in both the intervention and the control site. It comprised of refresher training of health workers in obstetric skills and communication skills, support supervision as well as provision of essential drugs, supplies and equipment. The support supervision team comprised of members from the district health team and the department of Obstetrics and Gynaecology. The support supervision was supposed to be done every quarter. Essential drugs, supplies and equipment were provided to the health facilities as a one off activity at the beginning of the program.

Awareness about the scheme and use of maternal health services was done using several methods that included radio messages, posters as well as film shows.

Redemption of the vouchers

The vouchers for services were given to pregnant women who attended antenatal care and they were redeemed by the private and public facilities for cash reimbursements in direct proportion to the number of deliveries, ANC and PNC sessions conducted on a monthly basis. Reimbursement per service differed in public and private facilities since they receive different amounts of funding from the government for the provision of services. The vouchers for

transport were given to pregnant women who attended antenatal care. When women needed to travel to the health facility, they would contact a transporter who would transport them to the health facility. After transporting the woman, the transporter would receive a transport voucher which was used for determining how much the transporter earned. The transporter presented this voucher to the field coordinator who paid them for the services that they provided. Payment rates were agreed upon between the study team and the transporters. During the implementation phase, when it was suspected that there was some fraud, the project started a system of verifying the vouchers before payment was done. The verification was done by checking if the name of the woman transported had been recorded in the registers in the facility. This was used to confirm that the woman who had been transported to the facility had actually received the specified service.

The costs that were incurred by the program are summarised in table 11-1

Table 11-1: Program costs for the Safe Deliveries Study

Items	United States Dollars
Transport Voucher costs	
Payment of transporters	174,666.8
Field supervision (inc fuel, per diems, vehicle hire)	4,793.6
Identification cards for transporters	1,622.7
Printing of transport vouchers	3,809.8
Contingency costs	482.8
Subtotal	185,376
Service voucher costs	-
Payment to health facilities	87,680.0
Printing service vouchers	3,809.9
Transport costs to the field(inc fuel, perdiems, vehicle hire)	3,335.0
Contingency costs	241.0
Field supervision	800.0
Subtotal	95,866
Health System Strengthening	-
Drugs and medical supplies	59,095.0
Basic Equipment	42,727.0
Training of health workers	36,673.0

Items	United States Dollars
Support supervision	13,917.0
Training materials	616.0
Subtotal	153,028
Sensitization and Mobilization	-
Collective sensitization	16,079.0
Stakeholder workshops	16,023.0
Film van hire	1,749.0
Talk shows and Radio messaging	5,527.0
Posters	1,955.0
Documentary	-
Subtotal	41,334
Administration	-
Planning meetings	1,329.0
Communication	1,618.0
Field supervision(inc vehicle hire, fuels, per diems)	2,784.0
Field Coordinator	21,014.0
Team leader	15,080.0
Other field staff	8,044.0
Subtotal	49,869

Appendix III

Table 11-2: Distribution of facilities used by women in the structured interviews

Ownership	Kasodo	Kamuge	Bukungu	Irundu	Kidera
Public	18	30	3	7	24
Private	0	0	4	0	1
Private not for profit	1	0	1	3	3
Others	5	1	6	0	3
Total	24	31	14	10	31

Table 11-3: Payment for delivery services by Sub County

Payment for delivery	Bukungu	Irundu	Kamuge	Kasodo	Kidera
Paid	11	2	15	15	8
Did not pay	2	8	16	9	22
Total	13	10	31	24	30

Table 11-4: Bivariate analysis for motivation predictors

Motivation	Pearson chi square test	P value
Meeting career interests and goals	14.8	0.00**
Improving professional status	7.8	0.01**
Skills to perform required duties	0.4	0.78
Receiving supervision from superiors	1.5	0.46
Usefulness of supervision	11,7	0.00**
Receiving feedback from supervisors	1.8	0.40
Meetings to evaluate activities	3.4	0.17
Workload causing stress	4.0	0.13
Availability of resources for work	9.0	0.01**
Fair application of rules and regulations	3.7	0.15
Provision of job security	13.8	0.00**
Salary meeting expectations	11.7	0.00**
Financial allowances for extra responsibilities	9.0	0.01**
Non financial incentives	5.3	0.07
Juniors given opportunity to gain expertise	2.1	0.34
Job satisfaction	15.4	0.00**
Inspiration by colleagues	3.2	0.19
Inspiration by superiors	2.6	0.26
Sex	1.3	0.50
Ownership of facility	4.1	0.39
Level of facility	4.1	0.39
District	32	0.00**
Level of qualification	0.4	0.81
Age	94.6	0.24
2011	5.3	0.07*
Intervention	0.1	0.90