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IMPACT OF HEALTH SECTOR SERVICES FUND ON THE QUALITY OF MATERNITY SERVICES AT HEALTH CENTRES IN KISII SOUTH SUB-COUNTY

J. O. OKATCH, Y. A FRANE and A. NYAGUARA

ABSTRACT

***Background*: The Ministry of Health used to disburse funds to the sub-counties through the sub-county treasury. However, there were operational difficulties and challenges for the health facilities in accessing these funds. It is against this background that the Ministry of Health came up with a more innovative approach in 2005 in which funds are credited directly into health facility accounts thereby bypassing the sub-county treasury. The direct funding innovation was first piloted in the Coast Province in 2005 and in 2010 it was rolled to the rest of the country. Since then no further evaluation has been carried out to assess the impact of this funding scheme in other sub-counties.**

***Objectives*: To assess the impact of the direct funding on the quality of deliveries in maternity units of health centres in Kisii South Sub-county.**

***Design*: Descriptive study.**

***Setting*: The three health centres in Kisii South Sub-county namely, Nyamagundo, Riana and Riotanchi.**

***Subjects*: Secondary data from the maternity registers and interviewing staff working in maternity units.**

***Results*:There was statistically significant (p=0.05) increase in the number of deliveries in all the three health centres with Nyamagundo having 131%, Riana 114% and Riotanchi 103%, 33% of the facilities were conducting outreach services and purchasing medical supplies. However, the medical supplies and staffing challenges were still there in all and the structural barriers to quality maternity services were identified in all the facilities.**

***Conclusions*: The recommendations are that the funding should be enhanced and it should be workload or output based as the challenges vary among the facilities and other service delivery indicators should also be evaluated, besides rolling it to the other sub-counties in the same category.**

INTRODUCTION

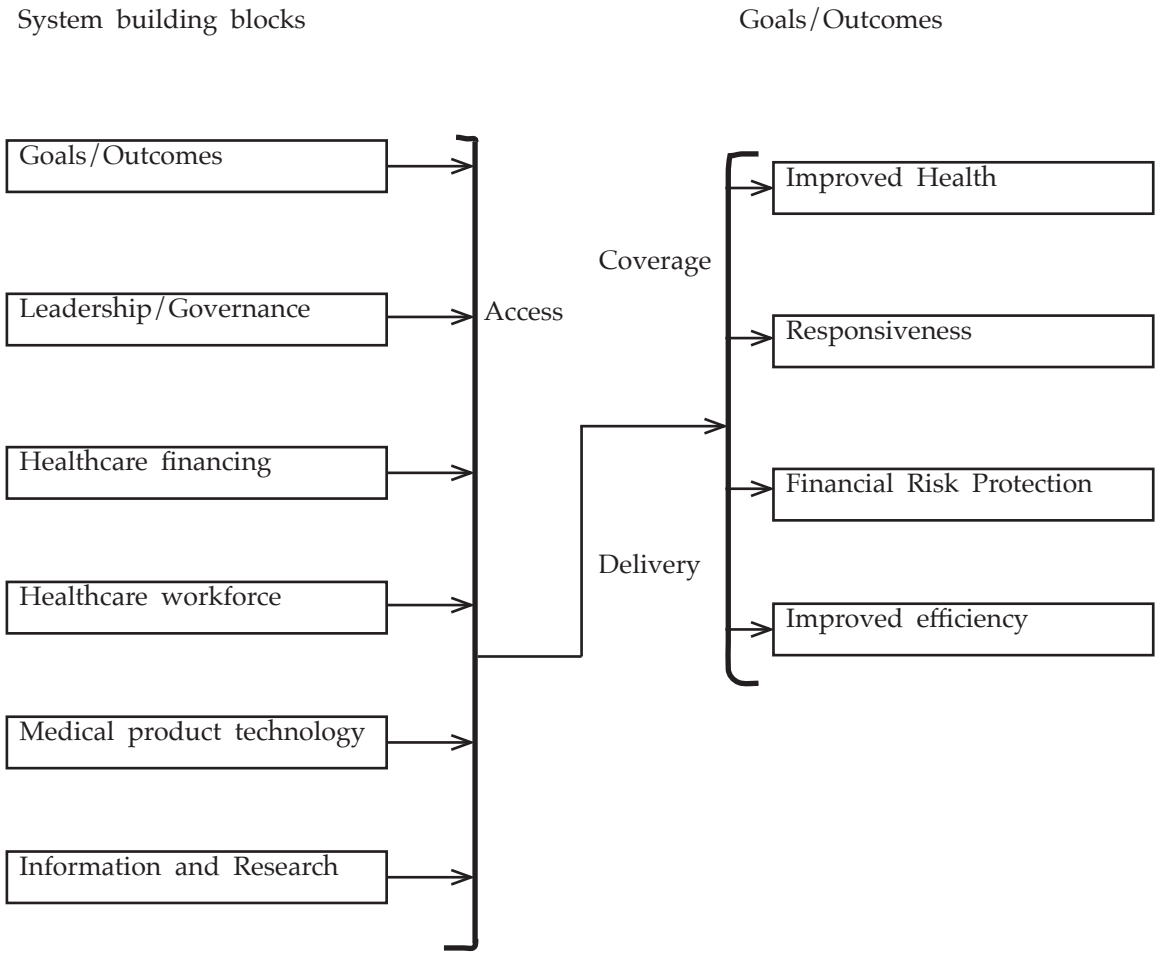
Health financing involves collection of revenue, pooling resources and purchasing goods and services. For most countries that have the administrative and economic capacity to raise taxes, establish an efficient network of providers and capacity to target the poor, National Health Service is the most suitable, as general government revenues represent the main source of health care expenditure in 106 of 191 countries belonging to the WHO (1). In most low- and middle-income countries the Ministries of Health act as National Health Service for a substantial segment of the population, and community based health care, out-of-pocket or user fees, private insurance and social health insurance cater for the other segment. In Kenya the Ministry of Health is the main financier of National Health Services and its main sources of funds are the National Treasury, External donors and the National Hospital Insurance Fund (NHIF). Upon receipt of funds it would do allocation and then issue Authority to Incur Expenditure (AIE) to the sub-counties through the Sub-county Treasury. The funds were then managed by the Sub-County Health Management Teams and the Sub-County Accountant. However, there were operational difficulties and challenges for the health facilities in accessing these funds through the sub-county treasury. In 2008 the Public Expenditure Tracking Survey (PETS) indicated that only 67 % of the allocation as per the AIEs was received at the sub-county level, and in addition the AIEs were more often received late (2). Furthermore,

problems had been in accessing these funds at the peripheral facilities due to bureaucratic and liquidity problems at the district treasury. Moreover, these funds were spent at the district level leaving the peripheral facilities with limited funds for operation and maintenance.It is against this background that the Ministry of Health with the support of Danish International Development Agency (DANIDA) came up with a more innovative approach to Health Care Financing known as Health Sector Services Fund (HSSF) in 2005. This is a type of innovation in which the Government and the Development Partners contribute to a central fund which is used to credit funds directly into approved health facilities maintenance bank accounts. The funds are then used at the facility for operations and maintenance to improve the quality of care and utilisation of priority services. The funds are managed by the Health Facility Management Committees (HFMC) that includes the community from the facility catchment population thereby strengthening community participation. The HFMCs are supported by the SHMTs and a regional accountant in the management of the funds according to the Financial Guidelines approves by the Ministry of Health. This direct funding innovation was first piloted in Coast the Province in 2005 and an evaluation in 2007/2008 by KEMRI-WELLCOME TRUST in collaboration with the RECYST(Resilient and Responsive Health Systems) group from London School of Hygiene and Tropical Medicine revealed that the programme was being implemented well and there was improvement in the quality of care and utilization of services offered (3). The Ministry then decided to roll it in all districts in October, 2010, starting with the Health Centres and Dispensaries a year later. The Health Centres are receiving Kshs.112,500 and dispensaries Kshs.27,500 quarterly irrespective of equity parameters such as accessibility and poverty index. The next phase will target the faith- based and community –based facilities benefiting from the funding. One of the performance indicators which informed the decision to change the health financing system is low delivery under skilled staff. Delivery at a health facility under a skilled attendant is one the strategies being used to reduce maternal mortality which is one of the major worldwide challenges. It is estimated that more than 500,000 women die every year in the world due to complications related to pregnancy or childbirth; half of these live in Sub-Saharan Africa. While a number of middle-income countries have made progress in reducing maternal mortality, less progress has been achieved in low-income countries particularly in Sub-Saharan Africa where the average maternal ratio remainsat500 maternal deaths per 100,000 live births (500:100,000) according to WHO,UNICEF, UNFPA and World Bank, (4).In Kenya the maternal mortality ratio has increased from 414:100,000 in 2003 to 488:100,000 in 2008/09 survey. The proportion of pregnant mothers delivering at the health facilities increased slightly from 40% in 2003 to 43% in 2008/09 (5).The direct funding was implemented in the year 2010, in which 722 health centres started receiving funds. In the same year 2010 a National Baseline Survey was done in 24 districts to assess immediate impact and readiness for full implementation. Since then no further evaluation has been carried out to find out if the implementation are still are on track and value for money is being achieved. The impact of the direct funding on quality of service delivery is the outcome indicator of prudent healthcare financial management and so if not done then it is not possible to tell whether the policy decision is working or not. The evaluation therefore will work as a guide on whether the policy need to enhanced, changed or maintained. The purpose of the research is to find out if there was an impact of direct funding on quality deliveries in the maternity units and utilisation of services offered in the health centres in Kisii South Sub-County because it is not part of the health facilities that were previously evaluated. The study will focus on deliveries since it is the most sensitive and expensive service to offer. It is heavily dependent on both human and financial resources. An improvement in quality of facility deliveries is a direct indicator of adequate funding and so can be used as an evaluation tool. The outcome of the study will inform the authorities on the way forward. It can make the funding to be enhanced, withdrawn, maintained or extended to other non-service delivery areas.

MATERIALS AND METHODS

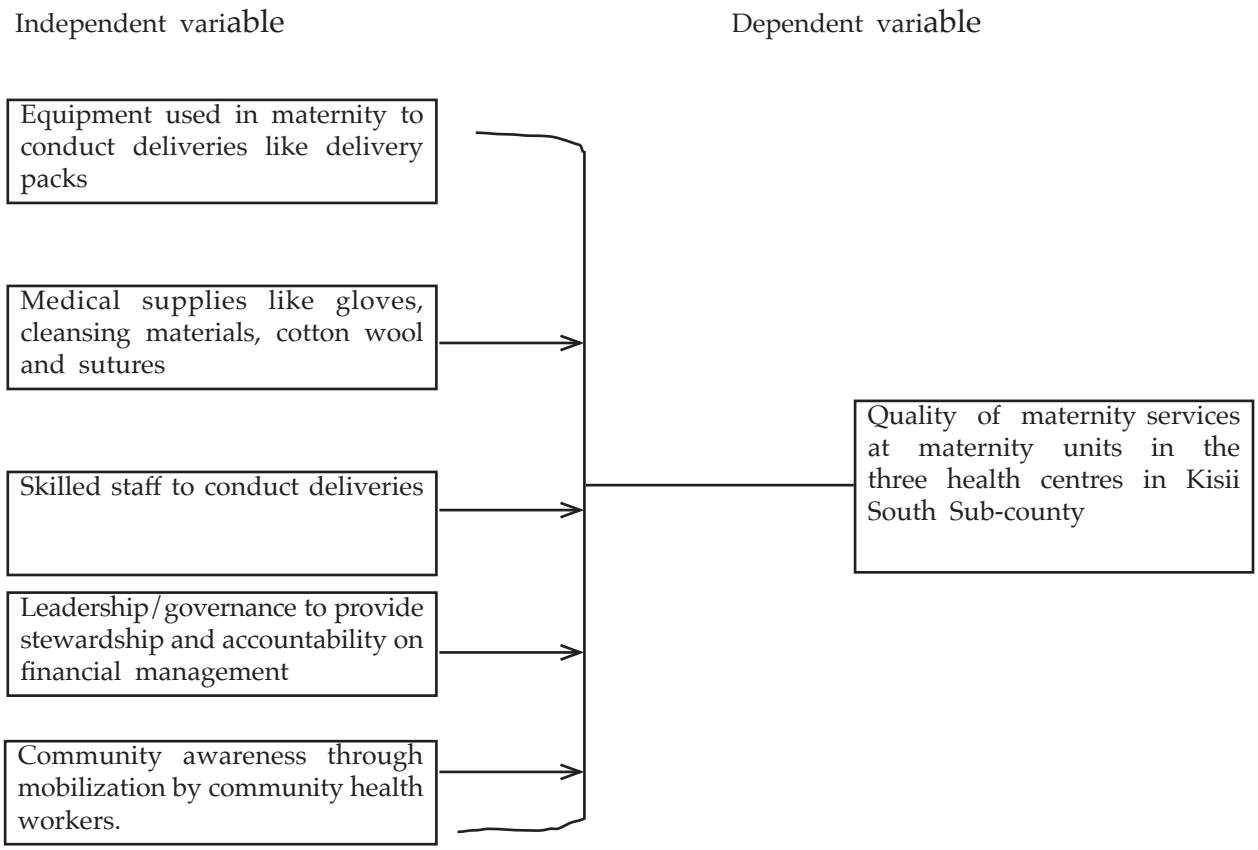
In the conceptual framework the study has borrowed heavily from the World Health Organisations' Health Systems Framework Model which presupposes that the Health Systems are made up of six building blocks which are independent but their main interest is to promote, restore or maintain health (14).Good health services are those which deliver effective, safe, quality personal and non-personal interventions to those who need them, when and where needed, with minimum waste of resources.

Framework 1
WHO health systems framework model



The building blocks are the key pillars of an efficient health care delivery system and all of them are interlinked. For example the link to quality health services requires a well- performing health workforce which works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given the available resources and circumstances. They must be available in sufficient numbers and mix. There is also need for a well – functioning health information system that ensures the production, analysis, dissemination and use of reliable and timely information on health determinants, health systems performance and health status. A well-functioning health system ensures equitable access to essential medical products and technologies of assured quality, safety, efficacy and cost-effectiveness. Finally the link to health financing is leadership and governance which ensures that strategic policy framework exists and combined with effective oversight, they provide accountability. Based on the above conceptual framework the study has been narrowed down to five thematic areas which are the independent variables in the study, the sixth building block which is health information is the one being used for the evaluation. These are Equipment, Staffing level, Medical supplies, and governance/leadership and community awareness. The quality of deliveries is linked to good governance/leadership to provide stewardship and accountability on financial management. It is also linked to the presence of adequate and well-motivated staff to conduct the deliveries, availability of equipment used to conduct deliveries, adequate stocks of medical supplies used during delivery and persistent community mobilization to create awareness and demand the services. These are shown in framework 2.

Framework 2
Conceptual Framework for the study



The research was carried out in all the three health centres in Kisii South sub-county namely, Riana, Nyamagundo and Riotanchi health centres. The facilities were sampled purposefully because they have similar characteristics like staffing level, infrastructure, medical supplies and equal funding. The sub-county hospital was not chosen because it does not receive direct funding. Their funding passes through the sub-county treasury. The dispensaries were left out because they have different challenges like different infrastructure, different staffing level and low funding and these makes it difficult to evaluate and compare their performance amongst themselves or with the health centres.

The records of all pregnant women who delivered at the maternity units of the selected health centres between 1st November 2008 and 30th October 2010, and between 1st November 2011 and 30th October 2013 were taken. The nursing officer in charge of the maternity units was interviewed to get additional information on the state of equipment, medical supplies, and nursing staff adequacy. The overall clinical officer in charge was interviewed to provide information on governance/leadership and community participation.

The research was a descriptive study that relied on secondary data generated between 1st November 2008 and 30th October 2013 from the study sites. That is two years before introduction of direct funding and two years after implementation with the intervening year being implementation period. Primary data was also collected by directly interviewing the health workers using structured questionnaire on the status of the other independent variables influencing the quality of service delivery.

Data on deliveries in all the three Health Centres in Kisii South Sub-County were extracted and included in the study. Key informants that included the clinical officers in charge of the facilities and the nursing officers in charge of the maternity units were interviewed. A total of six health workers were interviewed, two from each facility. The six were chosen purposively because they are the custodians of the administrative data which was relevant to the study.

Medical records and more specifically maternity registers were examined to establish the number of deliveries conducted in the maternity units during the study period. A structured closed ended questionnaire and a checklist was used to collect information of independent variables from the overall facility in-charge and the nursing officer in-charge of the maternity units. The interview was done in English. From the health workers information was collected on the name of the facility, whether the facility has been receiving the funds regularly since 2010, the state of

the medical supplies, the number of nurses assigned to work in maternity unit, the presence of health facility management committee and their level of education, and presence of a functioning community unit. All these were assessed on whether they conform to the Standards set by the Ministry of Health (16).

The study protocol and consent forms were reviewed and approved by the Ethical Review Committee of Jaramogi Oginga Odinga Teaching & Referral Hospital as in appendix III. Written informed consent forms were signed by the participants after the study had been explained to them.

SPSS version 16.0 licenced to TEAM EQX on 16th birthday 1337 was used to do the analysis. The data sets of deliveries before and after HSSF were entered into the data editor the means compared using paired sample-t test at 95% Confidence Level. The non-parametric data was analysed using frequency tables.

RESULTS

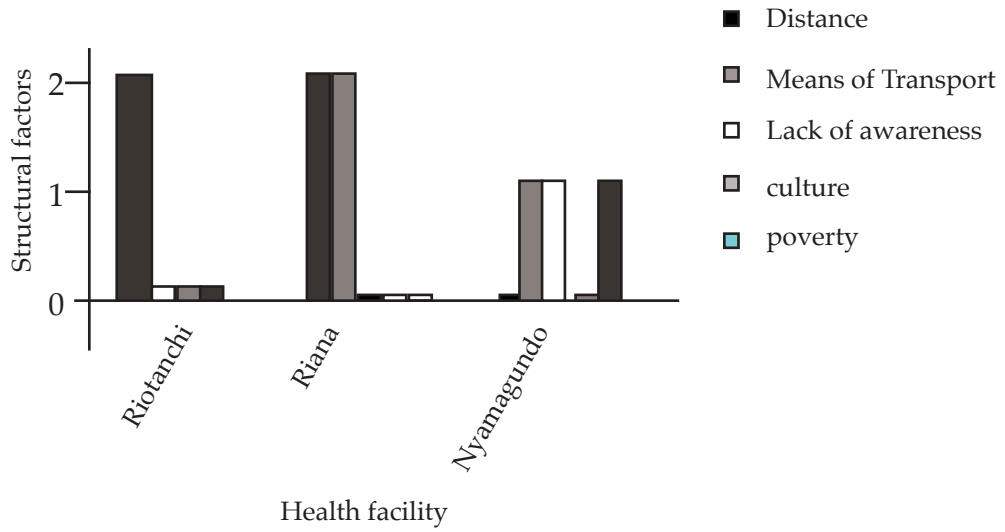
Upon review of the records of the maternity units the numbers of deliveries before and after introduction of HSSF were obtained. Two years before introduction of HSSF, Riotachi health centre had 139, Riana 284 and Nyamagundo 206 deliveries. Two years after introduction of HSSF, Riana had 283, Riotanchi 533, and Nyamagundo 477 deliveries. Statistically this was significant as the mean of number of deliveries before HSSF was 195.667 (CI=95%, sd=54.373, df=2) and after HSSF 429.000 (CI=95%, sd=120.457, df=2). Overly there was increase in number of deliveries in all the facilities with Riotanchi recording 103%, Riana 114% and Nyamagundo 131%. These are as shown in table 1.

Table 1
Number of deliveries

Health Facility	Number of deliveries at maternity units		
	Before HSSF N=%	After HSSF N=%	Total N=%
Riotanchi	139 (33%)	283 (67%)	422(100%)
Riana	248 (32%)	533 (68%)	781(100%)
Nyamagundo	206 (30%)	477 (70%)	683(100%)

Fators hindering access to health care were identified and they include structural factors like distance from the village to the health facility for some pregnant mothers and lack of means of transport at night to the facility in case of a mother going into labour when there are no regular means of transport. Other challenges are lack of awareness that the health facilities offer maternity services at night and poverty which makes some mothers not able to afford the cost of transport to the facility to deliver. These were cross cutting for all the health centres. These are as shown in figure 1.

Figure 1
Structural factor hindering access to the facility



Distance:

Riotanchi and Riana said that distance is a factor while Nyamagundo it is not a problem to them.

Means of transport: This was a problem to Riana and Nyamagundo. Riotanchi said this is a non-issue to them.

Culture:

This was found not to be a barrier in all the facilities.

Lack of awareness of the services offered:

Only Nyamagundo said that this is one of the factors hindering patients from accessing services at the facility. Riotanchi and Riana saidthat this does not affect them.

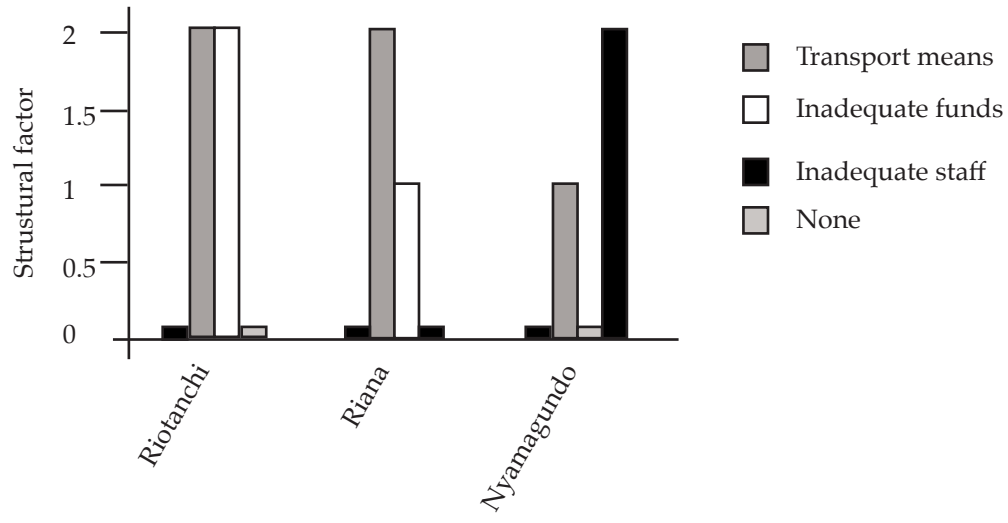
Poverty:

Only Nyamagundo said that poverty prevents patients from accessing the services at the facility. Riotanchi and Riana stated that this is a non-issue to them.

Structural factors hindering health facilities from conducting outreach services.

From the interview of the health workers it was found that not all the health centres were conducting outreach services to hard to reach areas. This was due to the challenges such as inadequate funds to purchase fuel and inadequate staff to carry out the exercise. These are as shown in figure 2.

Figure 2



Lack of means of transport: This was a non-issue in all the facilities

Inadequate funds for purchase of fuel: Riotanchi and Riana said that they don't have adequate funds to purchase fuel for outreach services. Nyamagundo said this is not a problem to them.

Inadequate staff to go for outreaches: Riotanchi and Riana said that they don't have enough staff to carry out outreaches, while Nyamagundo said that this is not a challenge to them.

No challenge in conducting outreach services: Only Nyamagundo said that they don't have any challenge in conducting outreach services.

Other findings:

All facilities (100%) had health facility management committees in place. This is as shown in figure 3

Figure 3
Presence of HFMC

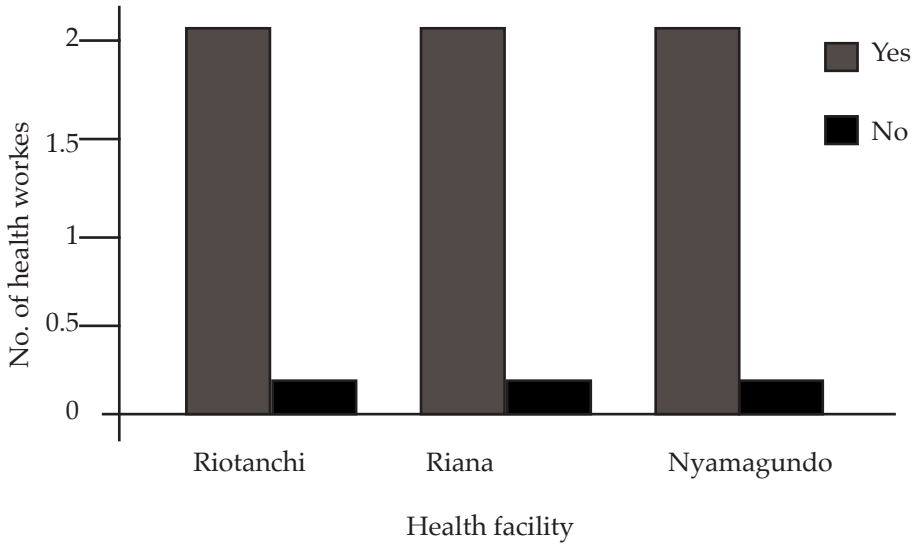
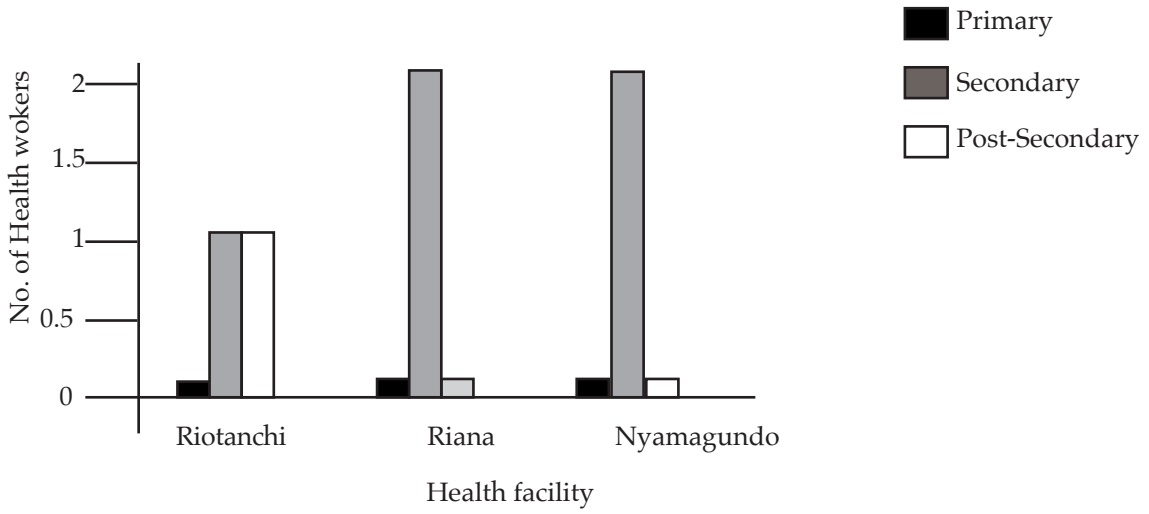


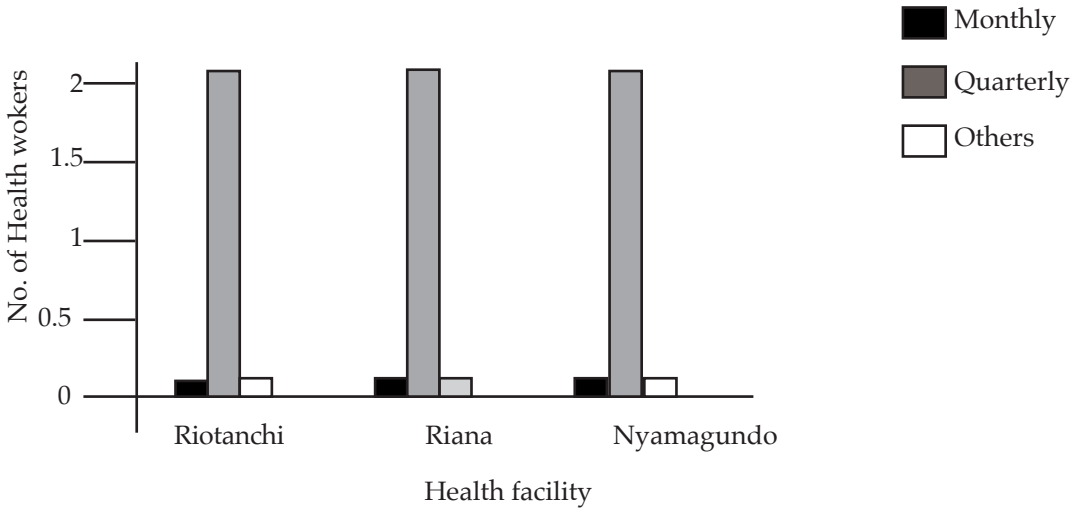
Figure 4
Education level of HFMC members



Level of education of HFMC members:

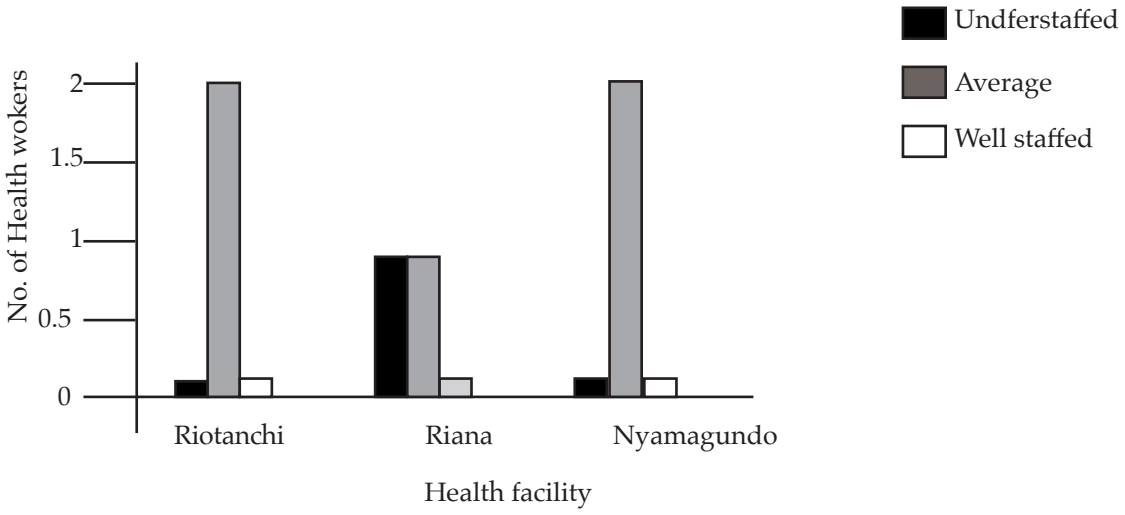
All the facilities (100%) said that their HFMC members have secondary and above as level of education. This is as shown in figure 4.

Figure 5
Schedule of HFMC meetings



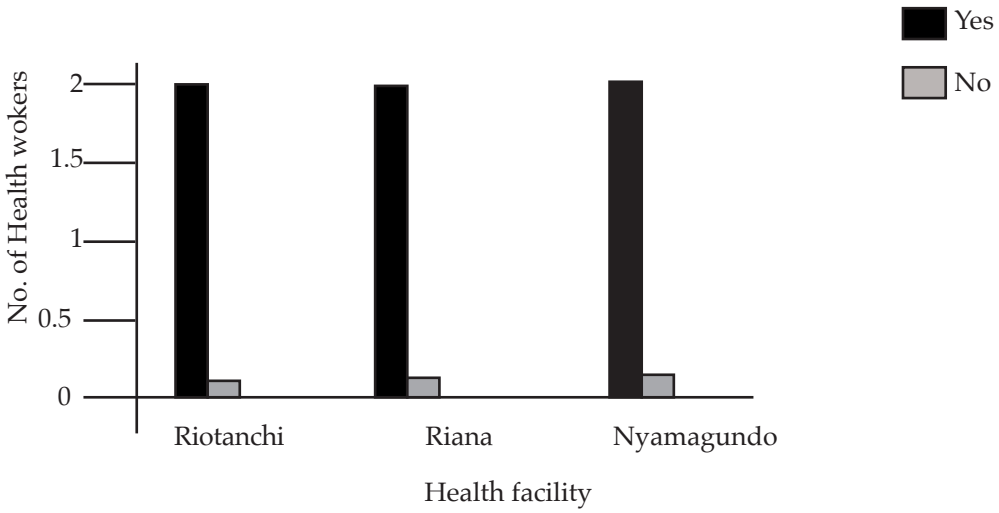
Schedule of HFMC meetings: All the facilities (100%) said that they have regular quarterly HFMC meetings. This is as shown in figure 4.5.

Figure 6
Staffing level in maternity units



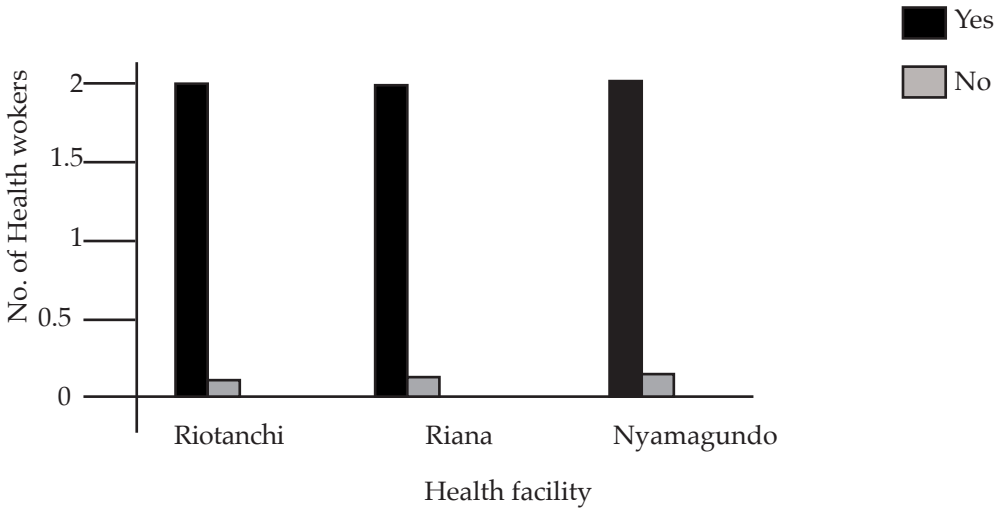
Staffing level in maternity units: Riotachi and Riana (66%) reported that their maternity units are under-staffed while Nyamagundo (33%) had adequate staffing level as per the standard set by the Ministry of Health. This is as shown in figure 6.

Figure 7
Presence of a functional CU



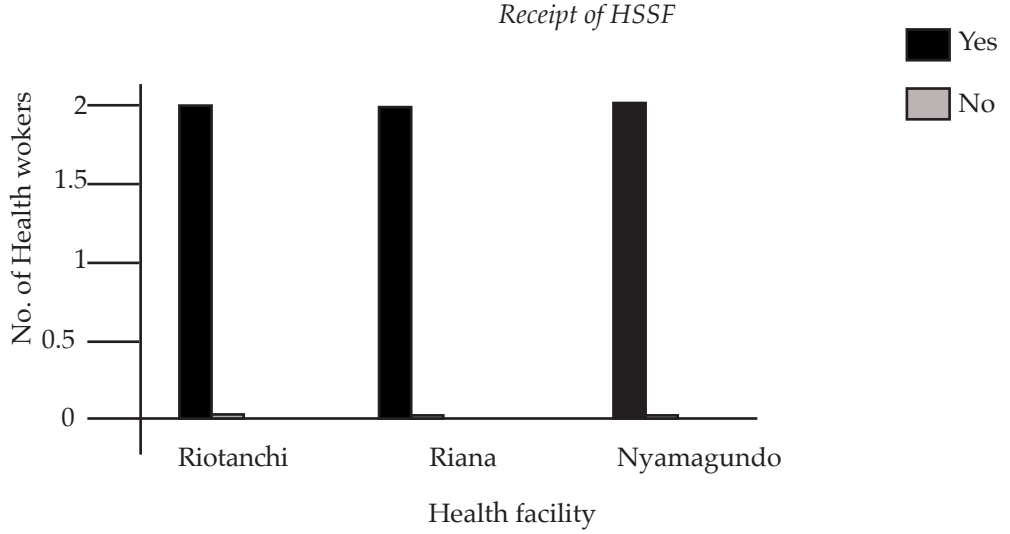
Presence of a functional CU: All the facilities (100%) reported that they have a functional community unit (CU). This is as shown in figure 4.7.

Figure 8
Schedule oh CU meetings



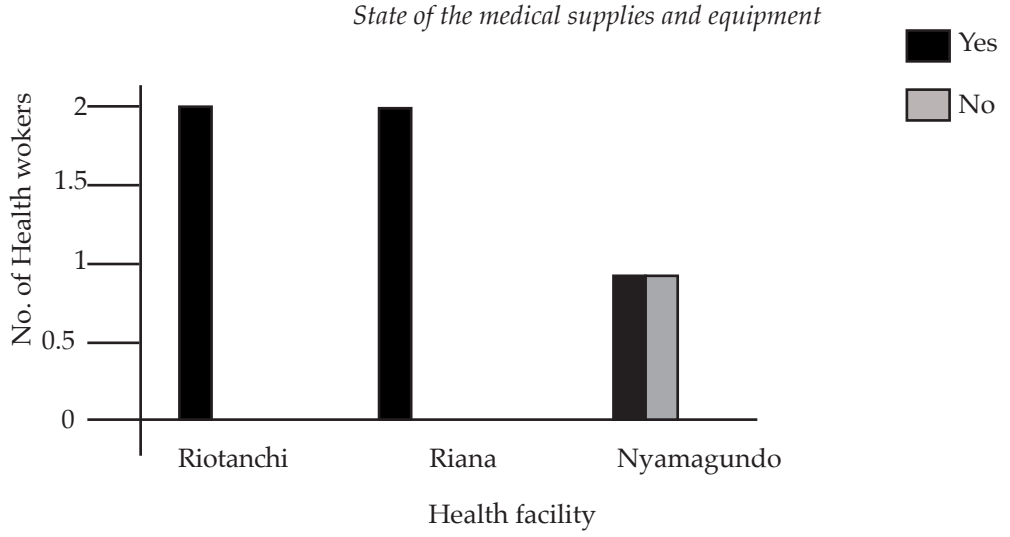
Schedule of CU meetings: All the health facilities (100%) said they have functional community units which were meeting monthly regularly. This is as shown in figure 8.

Figure 9
Receipt of HSSF



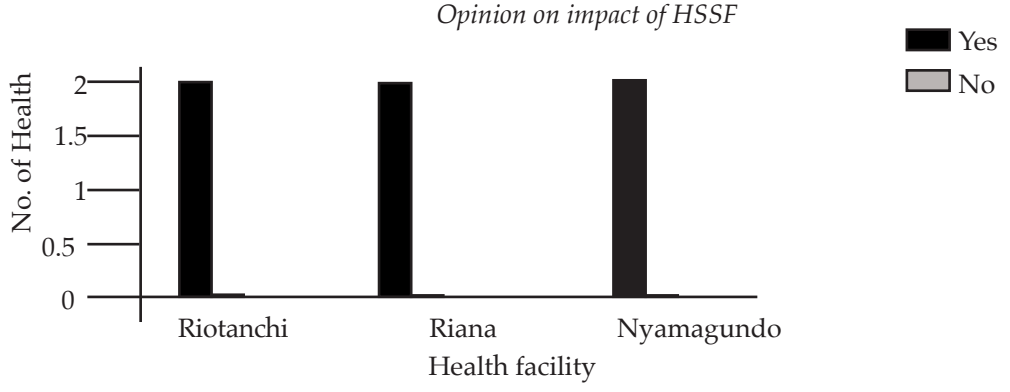
Receipt of HSSF: All the facilities (100%) confirmed that they have been receiving HSSF regularly since October 2010. This is as shown in figure 9.

Figure 10
State of the medical supplies and equipment



State of the medical supplies and equipment: Riotachi (33%) said they have adequate, Riana (33%) inadequate and Nyamagundo (33%) had divided opinion on whether their socks were adequate or not. This is as shown in figure 10.

Figure 11
Opinion on impact of HSSF



Opinion on the impact on HSSF: All the staffs (100%) said there had been a positive impact of HSSF on service delivery and more particularly the number of deliveries at the maternity units. This is as shown in figure 4.11

DISCUSSION

The number of deliveries in the maternity units increased by over 100% and further statistical analysis found this to be statistically significant. Before the introduction of HSSF the health facilities did not have adequate stocks of medical supplies and so the mothers were either coming with theirs or paying for the same at the facility. This was discouraging them and many were opting for home deliveries under unskilled care. With the introduction of HSSF the health facilities were able to have adequate stocks of medical supplies thereby making maternity services free. This motivated mothers to come to the health facilities to deliver and hence the resultants increase in the number of deliveries. In addition the funding enabled the HFMCs to hire additional staff on temporary basis to make the health facilities operate at night. Thisgave the mothers opportunity to come for deliveries at night. However, it was reported that not all mothers were coming to the facilities to deliver due to some structural barriers. Structural barriers on the quality of maternity services on the demand side included distance, means of transport, ignorance and poverty.

These can be attributed to the terrain of the area. On the supply side the health centres are not able to overcome the structural barriers by carrying out outreach services due to inadequate funds to purchase fuel and pay staffs subsistence allowance, inadequate staffing. The presence of HFMCs, with secondary education, which was meeting regularly every quarter, is as stipulated in the Financial Management Guidelines developed by the Ministry of Health (12). The same findings were reported by Opwora, *et al*.,(13) during piloting and implementation in the former coast province, Opwora, *et al*., (2) in the National baseline survey in selected health facilities in the former eight provinces, and Gandham, *et al*., (15) in their case study of the HSSF as a strategy for improving universal primary health care in Kenya by World Bank. The availability of HFMCs is an indicator of leadership/governance which is a requisite for prudent financial management and their education level is a measure of their competency.

The staffing level was average in only 30% of the facilities. This was in contrast to the National baseline survey which found the staffing level to be average in 80% of the facilities surveyed (2) and evaluation of implementation study by World Bank (15). The facilities have been receiving HSSF since October 2010, just like the ones which were evaluated by in the National Baseline Survey (2])and World Bank (15). All the facilities (100%) had functional community units (CUs) is in line with the Second National Health Sector Strategic Plan of 2005 (NHSSP II), (11) and their regular monthly meeting (100%) is as stipulated in the HSSF Financial Management Guidelines (5). This is in contrast to what was found by (Opwora, *et al*., 2011) where only 50% of the health facilities under their study had CUs and on up to 70% of them had regular monthly meetings. On the state of medical supplies 50% of the facilities had adequate stocks. In contrast to what Opwora, *et al*., (3) found that only 19.2% of the health facilities in their study had adequate stocks of medical supplies and World Bank report (15) found 100% of facilities having adequate stocks. The number of deliveries increased by a statistically significant level.

This is corroborated by World Bank report (15) on their review of the administrative data which they found that the utilisation of health facilities increased from 25.8 million in 201/2011 to 27.0 million in 2011/2012. This is further confirmed by the perception of the health workers that since the introduction of HSSF they have seen that there was an increase in number of deliveries at the maternity units. The structural barriers to access to health care were identified; however none of the previous studies had taken this into account. On outreach services only one facility (33%) was carrying out the services, and is the same as what was in the other study (3) where it was found that less than 50% of the facilities carried out the outreach services due to inadequate funding and staff shortage.

In conclusion, with the introduction of HSSF the health facilities were able to have adequate staff and medical supplies, governance/leadership, and social mobilisation strategy, which contributed to the improvement of the quality of services offered at the facility in general and maternity units in particular. This is manifested by the significant increase in the number of deliveries after introduction of HSSF. However, some challenges still persist both on the demand and supply side which needs to be addressed by the relevant authorities. From the results of this study the recommendations are: HSSF should be enhanced in order to address the unmet needs like insufficient medical supplies, staff and the mode of funding should be changed to be output based rather than uniform. In this case the facility which conducts deliveries receives more funding because their consumption rate of medical supplies is higher. This will make the facilities to have optimum medical supplies stock level, adequate staffing level, and be able to conduct outreach services.

1. The staffing level in health centres should be workload based and not standardised as is the practice currently.
2. The MoH should extend the evaluation to dispensaries and health centres in other sub-counties.
3. A customer satisfaction and community surveys should be carried out to find out what exactly motivated the pregnant women to come to the

facility to deliver and why the others are still not coming.

4. Other service delivery indicators like outpatient workload for clinicians, ante-natal attendance, family planning uptake, vitamin A and immunization coverage should also be evaluated.
5. The County Government should establish Community Ambulance referral system to take mothers from the community to the health facilities to deliver under skilled care.

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