Community performance-based financing to improve maternal health outcomes: Experiences from Rwanda

World Health Organization
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Contents

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An earlier draft of this case study was included in a special collection of global experiences on intersectoral actions which was widely disseminated during the World Conference on Social Determinants of Health held in Rio de Janeiro, Brazil in 2011. At the country level, the review process leading to the finalization of the case study generated multi-stakeholder policy and strategy discussions on implementing intersectoral actions to address social determinants of health.

The final product is a result of collective efforts of many individuals and organizations. However, the drafting team included Dr James Humuza, Lecturer and Head of Department of Health Policy, Economics and Management, National University of Rwanda; C.M. Mugeni, Ministry of Health, Community Health, Rwanda; J.B. Gasherebuka, WHO Rwanda; Dr Felix Masiye, Lecturer, Head of Department of Economics, University of Zambia; F. Ngabo, Directorate of Maternal and Child Health, Ministry of Health, Rwanda.

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Executive summary

The objective of this paper is to illustrate Rwanda's experience on how the innovative approach of empowering Community Health Workers (CHWs) and incentivizing mothers through community performance-based financing (CPBF) has improved maternal health indicators that include mainly coverage of antenatal care, assisted deliveries and postnatal care.

Before 2006, the majority (80%) of the Rwandan population (DHS, 2005), who live mainly in rural areas, did not access primary health care services due to lack of financial and geographical accessibility (Paxton et al., 2005) and due to lack of sufficient and qualified health workers (Rwanda HSSP II).

As DHS data show (Box I), Rwanda has consistently been facing the problem of shortage of human resources for health (HRH) for years. The HRH distribution is very low in rural areas: only 17% of nurses serve the rural areas whereas Kigali city, with only consistently 10% of the total population, is served by 75% of doctors and 60% of nurses (Basinga, 2009), leaving only 25% of doctors to serve the remaining 90% of the population. Studies have revealed that the limited HRH was also unmotivated (Basinga et al., 2010). The lack of morale among health providers has limited the progress in the health sector (Basinga, 2010) despite the development of community-based health financing and substantial development aid that saw the expansion of several health centres to provide appropriate health services.

The gap in HRH triggered a rapid response and, in 2005, the Ministry of Health (MOH) introduced a policy on community health workers that strengthened CHW activities. Despite the CHW's presence, improvements in maternal and child health indicators remained modest (Basinga et al., 2010). In 2009, inspired by the success of clinical performance-based financing (CPBF)[1], the MOH initiated CPBF as a way to motivate CHWs. During the same period, targeting women, a demand-side incentive strategy was introduced to the purposefully selected 31 of Rwanda's poorest health centres in 30 sectors as a pilot intervention. Three key maternal and child health indicators were selected and monitored over a year; within this programme, an evaluation research component was included. In 2010, after nine months of implementing the demonstration pilot project, the improvements observed during the preliminary evaluation prompted the MOH to scale up the programme. This paper presents the results and the lessons learned from the pilot phase. The implementation of the national programme is ongoing and a more rigorous impact evaluation could not be shown in this report as it is ongoing. The comprehensive results and impacts of the national scale up of this programme will be finalized in 2013.

A preliminary assessment showed that 86% more women accessed antenatal services for the first nine months in 2010 compared to the same period in 2009; and antenatal care was exceeded by 26%. In 2010, 16% more women delivered at health centres compared to 2009. The postnatal consultations increased almost threefold. Available

[1] Paulin Basinga, MD, PhD. Tulane University, 2009. Thesis: Impact of performance-based financing on the quantity and quality of maternal health services in Rwanda.

results demonstrated that access to maternal care is being achieved and set targets are being exceeded. These preliminary results suggested that the demand-side incentive strategy targeting women for the first one year had encouraging results; however, the assessment of the impacts are to confirm the suggestions considering other factors. In case these rough estimates from the pilot are confirmed with the impact assessment to come, the big challenge will remain the improvement of the organization and the financial sustainability of the programme; the CPBF may then be one of the policies that can be replicated in other developing countries where suitable adaptation to different contexts should also be considered.

1. Introduction

With a population of close to 11 million and a population density of 436 persons/km2, Rwanda is the most densely populated country in Africa (IDHS, 2007-2008). Rwanda consists of four provinces plus the city of Kigali. The four provinces make up the 30 districts that are considered as local administrative units; each district is divided into sectors. Each sector is divided into numerous cells and each cell is further sub-divided into villages (a village consists of 50 to 150 households). Following a clearly set criteria, Community Health Workers are elected at village level where they perform most of their activities.

Six years ago, about 80% of the Rwandan population constituting the informal sector and mainly located in rural areas lacked access to primary health care services due to geographical accessibility and financial constraints (Paxton et al., 2005), plus the insufficient number, quality and motivation of health workers (Basinga et al., 2010). Geographical accessibility to health centre was one of the most important challenges reported in the preliminary assessment; most women were not willing to spend time away from their households or to travel long distances (MoH, 2011b). In addition, women were not willing to incur out-of-pocket expenses for transportation when they did not consider themselves in urgent need of health care.

WHO recognizes that to improve health outcomes in general and reaching the Millennium Development Goals (MDGs) in developing countries, addressing the human resources for health crisis is one of the priorities (Global Forum on HRH, 2011). In the past decades, Rwanda has been faced with a shortage of HRH as evidenced by the given ratios (Box I). The HRH crisis is worst in rural areas: only 17% of nurses serve in the rural areas whereas Kigali city, with only 10% of the population, is served by 75% of doctors and 60% of nurses (Basinga, 2009).

A Community Health Worker taking care of children suffering from Malaria.

The rapid response focused on untrained health workers who could provide needed services that do not necessarily need a nurse or a doctor. The Ministry of Health introduced a policy on CHWs who were first working as volunteers in their communities; but despite their presence, the improvements in health indicators were modest and an idea to provide incentives was discussed mainly due to the success of the community performance-based financing (CPBF)[2]. Therefore, the MOH initiated the CPBF as a way to motivate CHWs. The CPBF concept is based on the assumption that linking incentives to performance will contribute to increases in health care utilization and quality of services. It emphasizes output-financing mechanisms rather than relying solely on input-based financing. However, an evaluation showed that clinical PBF was more effective on services where the providers had more control and depended less on patients' decisions. This convinced the MOH to introduce CPBF with the aim of providing incentives to mothers and CHWs in order to ensure early follow up and transfer of women from the community to health centres. In view of the above, the case study will seek to document the three main social determinants of health, namely, social gradient, health system and transport, and how the CPBF programme has contributed to improving maternal and child health through these social determinants.

The objective of this paper is to illustrate Rwanda's experience in implementing an innovative policy aimed at empowering the CHW and incentivizing mothers to attend prenatal care and assisted deliveries. The CPBF has three intervention arms: supply-side, demand-side; both supply- and demand-side, and control. This case study will show how initial improvements in the demand-side[3] strategy have been achieved; however, the overall impact of the CPBF programme will be shown by a prospective "CPBF impact evaluation" which started in 2009 and is expected to end in 2013 when the implementation period currently planned also ends.

2. Context

As stated earlier, the rural area where 80% of the population lives was underserved in terms of HRH and, as a result, it was lagging behind in terms of maternal health indicators. The demographic health surveys (DHS) illustrate the gap between the urban and rural areas: in 2005, the total fertility rate (TFR) was 6.1 children in general, with 4.9 for urban women and 6.3 for rural women. While the use of modern contraceptive methods was estimated at 10% overall, with rural areas getting a coverage of 9%, the urban areas were covered with 21%. Children delivered by trained birth attendants were estimated at 39%, with rurals area served at 36% and urban areas at 63%. The lack of proper access to family planning and antenatal care for the majority of rural women was contributing significantly to the reduction but still significant maternal mortality ratio was estimated in 2005 at 750 deaths for every 100 000 live births (DHS, 2005). The Rwanda DHS 2010 shows an improvement in the social gradient among Rwanda's population but there are still significant gaps in the social gradients; for example, home births are twice as common in rural areas (31%) as in urban areas (16%). The result data on the above indicators are shown in Box I.

[2] Paulin Basinga, MD, PhD. Tulane University, 2009. Thesis: Impact of Performance-Based Financing on the quantity and quality of maternal health services in Rwanda.

[3] The available data are limited to the demand-side strategy.

Box I: Main Rwandan Health Indicators

Population and Medical Personnel

1) Total population: 10.4 million (DHS 2010, HMIS 2011)
2) Life expectancy: 55 years (DHS 2010, HMIS 2011)
3) Per capita utilization of health services: 85% (MoH 2011)
4) Doctors:1/17.240 inhabitants (DHS 2010, HMIS 2011)
5) Nurses:1/1.294 inhabitants (DHS 2010, HMIS 2011)
6) Midwives:1 / 66.749 inhabitants (DHS 2010, HMIS 2011)

Main Health Impact Indicators	**RDHS 2005**	**RDHS 2010**
Neonatal mortality (per 1000 live births)	37	28 (2007)
Infant mortality/1000 live births	86	50
U-5 Mortality/1000 live births)	152	76
Prevalence of stunting (Ht/Age)	51	44
Prevalence of wasting (Ht/Wt)	5	3
Children underweight prevalence	18	11
Maternal mortality/100,00 live births	750	487
Modern contraceptive prevalence	10%	45%
Total fertility rate	6.1	4.6

Main Outcome Health Indicators

TB case detection rate 27% (TRACPlus/WHO 2009)
% Births attended in health facilities 78% (RIDHS, 2010)
Contraceptive utilization rate (%): 49 (RIDHS, 2010)
% Population covered by CBHI: 91(RIDHS, 2010)
% of GOR budget allocated to health: 11.5 (RIDHS, 2010)

Rates of CBHI enrollment overtime:

2006=44%; 2007=75%; 2008=85%; 2009=86%; 2010=91%

Rwanda is determined to achieve Vision 2020 laid out in its development agenda, the Economic Development and Poverty Reduction Strategy (EDPRS). The EDPRS was designed to achieve both the Rwanda Vision 2020 and the MDGs, including maternal and child MDGs. Thus, the main objective of the CPBF programme was to address the huge HRH deficit through rapid mobilization of an important mass of health workers available at community level.

Before 2006, CHWs were purely volunteers and although they were working hard, they were not delivering as expected. The MOH introduced CPBF for specific key indicators[4]. Thus, the subsequent step was to create a community-level governing structure that would allow CPBF funds to flow from the MOH and development partners to grass-roots mothers and community health workers to support existing efforts to improve health priorities envisioned in Rwanda's Vision 2020 and the MDGs.

The Community Health Desk within the MOH was established in 1995 in an effort to support the implementation of community health activities in order to improve access

[4] PWith the aim of accelerating the achievements of the MDGs, focus was laid on high-impact community-level health interventions. Several indicators were selected based on priority interventions and MDGs; among these are prenatal care, assisted deliveries and postnatal care

to primary health care (PHC) services. In working at reaching national and international goals, community health was further strengthened by the National Community Health Policy of 2008 and the Rwandan EDPRS of 2008-2012. In trying to make it more concrete, the Rwanda Health Sector Strategic Plan (HSSP) outlines concrete actions in community health. Currently, the MOH is implementing the HSSP II, 2009-2012, with key proven strategies. The external evaluation of the HSSP II was done and it provides evidence of the contribution of CPBF in improving key maternal health outcomes. Based on this evaluation, a new HSSP III, 2012-2017, has been developed taking into consideration the major components for the CPBF strategies.

3. Planning of the Community Performance-Based Financing

Once the decision to implement CPBF was approved in 2008, the planning process was begun. The MOH selected a Technical Working Group (TWG) composed of staff from the MOH and development partners to lay a foundation with basic principles[5], such as: (1) decentralization of CPBF funds to the sectors and health centres; (2) formation of a data verification committee at the sector level; (3) development of contracts between stakeholders; and (4) standardization of data collection tools and reports. The Government of Rwanda (GOR) set up an administrative model to ensure good governance of the CPBF programme. From the CPBF planning process, two phases were identified.

The pilot phase (demand-side incentives): This phase aimed at assessing the acceptability of a demand-side incentives strategy before scale-up; it was implemented in 2009 for a period of 10 months (between 2009 and 2010). This phase involved 31 health centres included in 30 sectors; each district selected the poorest sector within the district (Rwanda is made up of 30 districts and 416 sectors). Only one poorest sector had two health centres selected because it was a very large sector unusually containing two health centres. The MOH took advantage of the already selected Vision 2020 Umurenge Programme (VUP) as priority areas to introduce the programme. In selected VUPs, districts were asked to rank their sectors according to poverty level, using five criteria: (1) food security; (2) water access; (3) distance to education; (4) distance to health centre; and (5) level of village settlement. In mid-2010, an assessment of the impact of the pilot phase was made; the results showed a dramatic improvement in maternal health indicators that are presented in the next sections. The subsequent sections of this paper which provide details of the implementation, the evaluation of the impacts and the lessons learned will focus on this pilot phase because the implementation of the scaled-up programme is ongoing.

The scale-up phase: The dramatic improvements recorded in maternal health services utilization after the evaluation of the pilot phase led the MOH and donors to decide to scale-up the demand-side component. The challenges faced during the pilot phase persuaded the MOH and its partners to scale-up the demand-side components and at the same time introduce the supply-side components in the CPBF programme because motivated CHWs were needed. For the period 2010-2013 or 48 months, an impact

[5] Community PBF Handbook, February 2009, Ministry of Health.

evaluation was planned, nested in the CPBF programmes, with four intervention arms aimed at providing scientific evidence of the CPBF. It was planned that this period would mostly depend on the pace of the interventions and upon the satisfaction and approval by principal researchers that the intervention period had been enough to cause an impact on the ground. The CPBF programme and the prospective impact evaluation was initiated to further build evidences on what works and what does not work, and, of course, assess the cost of the interventions vis-à-vis the intended benefits. According to the 2011 baseline report of the CPBF commissioned by the World Bank, 200 health centres were randomly selected for impact evaluation purposes: 50 randomly selected centres received a demand-side intervention, 50 others received supply-side intervention, the next 50 health centres received both the demand- and supply-side intervention, while 50 did not receive any intervention and served as control.

(1) The demand-side intervention: It was initially designed to overcome the barriers that women in the VUP sectors were facing in accessing timely maternal and child health services. The purpose of the in-kind incentives, therefore, was to encourage women in rural areas to utilize essential maternal and child health services. The specific objectives of the demand-side model include:
   i) To increase the number of pregnant women consulting the health centre for timely prenatal care visits within the first four months of pregnancy.
   ii) To increase the number of women delivering in health facilities.
   iii) To increase the number of mother-child pairs receiving postnatal care at a health centre within 10 days of birth or discharge.

   To address the geographical and financial barriers women were faced with and to give them incentives as they make a trade-off between household work and early

A community maternal health worker (left) with a pregnant woman (right) for antenatal care at a health centre.

follow-up of their pregnancy, this intervention provided a market where *mothers sell* their time in fulfilling the MOH policy objectives related to antenatal, natal and postnatal care. Using both government and donor resources, the *health centre* is the *purchaser* of the services women will attend to, whereas the *sector steering committee*[8] acts as the *controller*. The budget is transferred from the central MOH level to the CPBF health centre sub-account and is used for buying maternal in-kind incentives and paying CHW.

(2) The supply-side intervention: Many women do not have accurate health information and are often unaware of potential benefits at health facilities, e.g. free primary health care services, delivery, antenatal, family planning services, higher chances for their babies' delivery and survival, etc. (MOH, 2011a). To bridge the knowledge gap among women and to bring women from the community to the health centre where services are provided, informed community members were necessary to ensure the success of the demand-side intervention (MOH, 2011a). Because CHWs were available, providing them with incentives was critical if any rapid progress was to be made. CHWs are provided incentives through their cooperatives based on reporting and performance (quantity and quality of services rendered) on predetermined indicators.

(3) The demand-side and supply-side intervention: As discussed earlier, 50 health centres had both CHWs provided with financial incentives while mothers received in-kind incentives.

(4) The control region: These were 50 randomly-selected health centres which did not receive any intervention, but received average resources going to other intervention arms.

4. Implementation

The Government of Rwanda and its development partners, including the World Bank, the Global Fund on HIV and AIDS, TB and Malaria, the National Malaria and TB Programme and the USAID earmarked funds for a 3-year implementation period of the CPBF programme. These partners played a critical role (technical and financial support) during the planning and implementation phases. One poorest sector in each of the 30 districts was assigned to the first phase of the VUP programme[9], and was identified for the pilot of the CPBF demand-side intervention. CHWs played an important role in community sensitization using tools such as brochures, posters in public places, oral messages at strategic public gatherings like churches and outreach immunization programmes to ensure that women understood the CPBF programme. The first picture on the right shows one of the sensitization campaigns by CHWs to ensure that women turn up to use maternal and child health services at the right time; for example, pregnant women are required to fulfil the four standard visits before delivery; the most important visit is the first visit which takes place before the fourth month of pregnancy.

[8] The Sector Steering Committee is composed of the person in-charge of social affairs in the sector, the health centre delegates and other members of public institutions such as teachers and civil society organizations.

[9] The Ministry of Local Government (MINALOC) owns the VUP programme; the Ministry of Health joined the programme with the demand-side intervention.

Women during the sensitization campaigns.

The second picture illustrates the in-kind incentives given to mothers. CHWs do not work alone is mobilizing women; churches and local leaders[10] have also contributed significantly to mobilize mothers.

The baseline numbers for women expected for the three demand-side indicators were used to estimate the budget required for each of the incentive packages. For example, if a health centre expects 10 pregnant women in the first trimester, then the monthly budget was estimated as: 10 X US$5.30. For the quarterly budget, it will then be: 10 X US$5.30

This picture was taken during incentives distribution.

X 3. The same principle was applied for other indicators and incentive packages. As the size of the population changes and the number of women accessing maternal services increases, health centres implementing the demand-side strategy develop quarterly budgets and submit to the MOH for review and approval. The data generated from distribution is used to re-order incentive materials and to reconcile against the amount of money received from the central level to request further funding.

Table 1 summarizes the in-kind incentives offered to women accessing maternal and child health at the health facilities. A woman is eligible to receive up to three incentive packages depending on how many indicators she meets. The value of the incentives per indicator is also itemized in Table 1. In order to mitigate adverse behaviour of some beneficiaries, such as getting pregnant sooner than planned in spite a result of the material incentives, a woman is ineligible to receive incentives before three years after delivery.

Table 1: The in-kind demand-side incentives

Eligibility	Indicator	Incentive Package	Incentive Value ($) [11]	Payment Freq.
Women consulting health centre in the first 4 months	1. of pregnant women receiving prenatal care within first 4 months	Adult cloth[12], water treatment tablets, baby clothes	5.3	Once
Institutional delivery	2. of women delivering in health centres	Baby soap, cloth and bed sheet	7.0	Once
Mother & child pair consulting health centre within 10 days of delivery	3. of mother-child pair receiving postnatal care at health centre within 10 days of delivery	An umbrella and water treatment tablets or adult cloth	3.5	Once
Total			15.80	

Source: Ministerial Instruction on Community PBF, (MOH), July 2010

Health centres purchase and distribute incentive materials. The MOH gave this role to health centres because they have tender committees responsible for carrying out tender bid processes and ensuring that tendering procedures are carefully observed. The tender committees authorize the purchase of other commodities for health centres. To control the purchase and distribution of incentive materials, health centres use stock cards for every incentive item and a distribution registry to record women's complete physical address and incentives taken for easy identification and tracking. The distribution registry can also be used to verify the number of clients who consulted the health centre at a certain point in time, and this information can be matched with stock cards to see how many incentive materials were distributed and to how many women. A voucher system makes it possible to track incentive distribution and conduct verification and counter-verification. Each voucher has an original and two carbon copies: the original stays with the health care provider who consulted the woman, the second copy remains with the personnel in charge of CHW activities (person who distributes incentives), and the third copy belongs to the client (the woman).

[11] Rate of exchange US$1=568.55 Rwandan francs

[12] This is a typical African cloth for women. It is a common and liked cloth in Rwandan culture.

5. Hypothesis

This case study mainly focuses on documenting the progress made and early lessons learned following the implementation of the conditional in-kind incentive programme that provides incentives to mothers subject to their utilizing maternal and child health services. To assess this process, the following hypothesis was suggested:

1. Does CPBF improve access to maternal and child health services?
2. Do incentives to mothers contribute to the utilization of the maternal and child health services?

To substantiate or refute the proposed hypothesis, the following questions will guide us:

1) Does in-kind incentives to mothers contribute to the increase in prenatal service consultation?
2) Does in-kind incentives to mothers increase facility delivery?
3) Do material incentives lead to the mother-child pair returning to the facility for postnatal care?
4) Does CPBF contribute to the improvement of maternal and child health service utilization?

6. Methodology

Study design

This case study involves a process evaluation of the performance of CPBF in Rwanda with a view to documenting progress that has been achieved against the set targets in maternal and child health indicators. The study involves a comparison of indicators of maternal health utilization in sectors that have been implementing CPBF before and after its implementation. The study combines qualitative and quantitative data in order to inform evaluation of what progress has been made since CPBF was implemented. The case study utilizes the data from two previous process evaluations (one done in January 2011 and another in July 2012) for CPBF (improvements in service delivery, changes in work culture, quality of care, perceptions of CPBF from community, etc.). In addition, the research involved a review of reports on CPBF in Rwanda.

Data source

Data for the three indicators were collected from the following sources:

- Facility records related to the three indicators: registers, community, monthly and quarterly evaluation reports, etc.
- Unpublished reports on CPBF evaluations (e.g. the two previous evaluations have provided more information to showcase in this case study).

7. Results

As discussed earlier, a programme evaluation was nested within the CPBF programme; and the Rwanda School of Public Health and the World Bank are the major evaluating

institutions. The findings presented below are coming from the analysis of the pilot study of the 2009-2010 demand-side intervention, *the Community Performance-Based Financing (CPBF) Program in Rwanda: Initial Lessons from the Demand-Side Incentive Model (Pilot).* This will be supplemented (where possible) by another evaluation on the demand-side strategy conducted in July 2012. Additionally, the *Preliminary Results of the 2010 Demographic Health Survey (DHS, 2010)* showcase the contribution of the programme to rapidly improve maternal and child health in Rwanda. Finally, the recent *Mid-term Evaluation of the Health Sector Strategic Plan II* done in August 2011 shows results consistent with the initial evaluation of the pilot phase[13]. The final impact evaluation will illustrate the real impact of the CPBF and is expected to be available before the end of 2013.

The total catchment population for the 31 health centres in 2010 was 720 408[14]. Of these, 4.1% (29 537) were expected to be women in need of maternal health services per annum. The antenatal care indicator (visit before or during 4th month of pregnancy) was targeted to reach at least 30% of women in 2010 or 738 women per month. The indicator on delivery was targeted to achieve 85% of women delivering in health facilities. The postnatal indicator was targeted to reach 15% of women in 2010. It took several months of training and sensitization before the programme was capable to be run effectively. Data verification was a key component of the planning, implementation and evaluation processes. Health centres keep registers with information on women accessing services for each of the indicators. Data from registries are aggregated monthly and presented on a data collection form sent to districts. The district supervisors collect, verify and report on the three demand-side indicators. The data manager at the central level compiles data, checks for quality and validity and analyses before dissemination. The central level staff conduct regular supportive visits to health centres and pick up inconsistancies in data for verification and improvements. Discrepancies found in the data are addressed accordingly.

According to the two process evaluations in January 2011 and May 2012, there was a general improvement in all the three indicators targeted: antenatal care, assisted deliveries and postnatal care. The *"CPBF Program in Rwanda: Initial Lessons from the Demand-Side Incentive Model, Jan 2011"and Evluation du processus du modele d'incitations du cote de la demande au Rwanda, May 2012* show the results of the CPBF programme as follows:

Qualitative results:

- Health centre staff involved in the programme affirmed that women found the quantity and choices of demand-side incentives satisfactory. However, a considerable number of beneficiaries and some health centre staff thought health centres would attract more beneficiaries if improvements in the quality of incentive items were made.

- Health centre directors were concerned that the infrastructure and staff available were not well prepared to care for the increasing number of women coming for maternal

[13] The Mid-term Review (MTR) of the Rwanda Second Health Strategic Plan was done by an external evaluation team.

[14] 2009 population obtained from SISCom and increased with a projection rate of 2.6552% for 2010 population.

health services. There was a need for improvement in infrastructure (particularly maternity and consultation rooms), equipment and HRH.

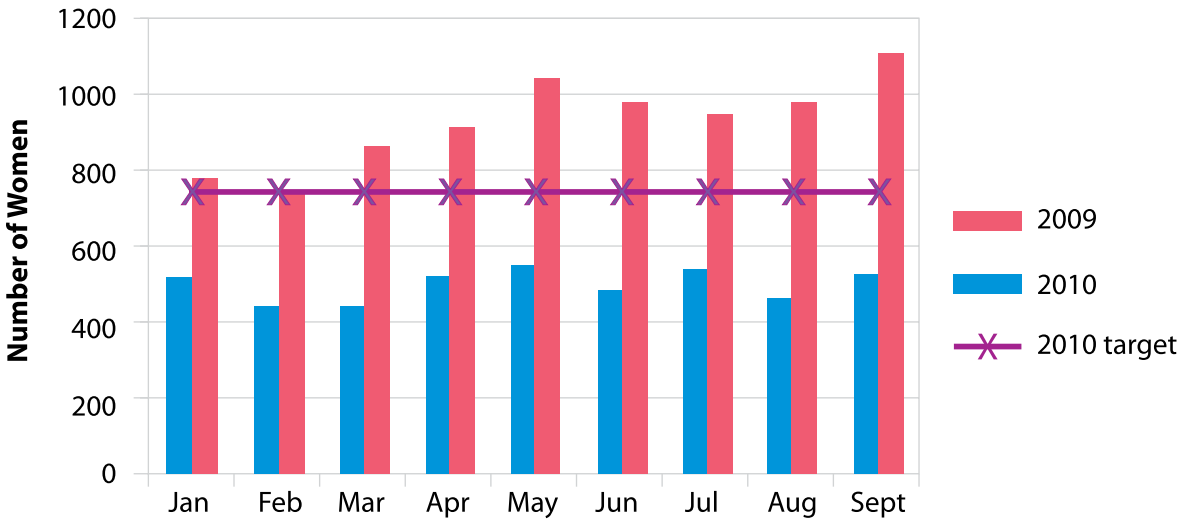
- All providers who were interviewed on the implementation of the demand-side programme, a score between 1 and 10 was given for each of the four specific questions related to the tender process, authorization by the sector steering committee to purchase inputs, in-kind incentives delivery to women and inputs availability and management. The overall mean score of satisfaction ranged between 8.0 and 9.0.

- The reported average stock-out period for facilities without material to provide to women was 158 days. By identifying the main causes of stock-out, delays to provide funds to purchase materials was the most common reason mentioned (in 83% of cases). 85% of centres had steering committee report documents, reports that describe the approval made by this institutional entity and allowing health centres to purchase materials. 69.2% of centres had documents describing the tender process for material purchase, and 77.5% presented the contract with the supplier for delivering material (*Evluation du processus du modele d'incitations du cote de la demande au Rwanda, May 2012*).

Quantitative results:

- Visit within the first four months of pregnancy
  - During the first 9 months of the pilot phase, the average monthly antenatal visits in the 31 health centres were 30 visits compared to 17 visits during the same period of the previous year, representing a 77% increase.
  - In 2010, the 31 poorest health centres or VUPs reached 38% of the population, exceeding the target of reaching 30%.
  - Figure 1 illustrates what has been said above; however, we cannot attribute all this increase to CPBF since other health centre activities have not been accounted for; the CPBF impact study under way will demonstrate comprehensively the impact caused by the demand-side incentive model.
  - By September 2010, 1110 women attended services in the 31 health centres. When the third quarter (July to September) data of 2009 is compared to the same period in 2010, a 98% increase was noted (512 ANC visits in 2009 compared to 1013 visits in 2010).
  - All clients were identified in the community. Of all the clients who were interviewed, (N=107), 98% confirmed that they had visited the facilities in the corresponding period. There was 97% uniformity between having visited the correct service and date of consultation for the clients. For women who consulted one of the three reproductive health services, 97.8% declared having received in-kind incentives for women and/or babies (Evluation du processus du modele d'incitations du cote de la demande au Rwanda, May 2012;).

Figure 1: Number of women who received prenatal care in health centres within the first four months of pregnancy



- Institutional deliveries
  - Approximately 16% more women than in the previous year delivered at the 31 health centres. However, the target was not reached; it was expected that 67 deliveries will be done per health centre per month but the average number of deliveries per health centre per month was 35 in 2009 and 39 in 2010. This shows that more work is needed to increase the number of assisted deliveries. The impact evaluation will also illustrate current efforts to address this challenge.

- Postnatal care
  - Postnatal care is a new indicator introduced along with the demand-side initiative in 2009. This indicator aims to increase the number of mothers and babies (mother-child pair) receiving postnatal care at the health centre within 10 days of birth or discharge. In 2010, on average, there were 24 mother-child pairs per health centre per month or 736 pairs for all the 31 health centres. Since there was no history or baseline for this indicator, the target was set low at 15% per health centre per month for subsequent monitoring; overall, the 15% increase expected was exceeded. Figure 3 illustrates an encouraging trend in 2010 from what was expected, using rough estimations from DHS.

Figure 2: Number of women with assisted deliveries in health centres

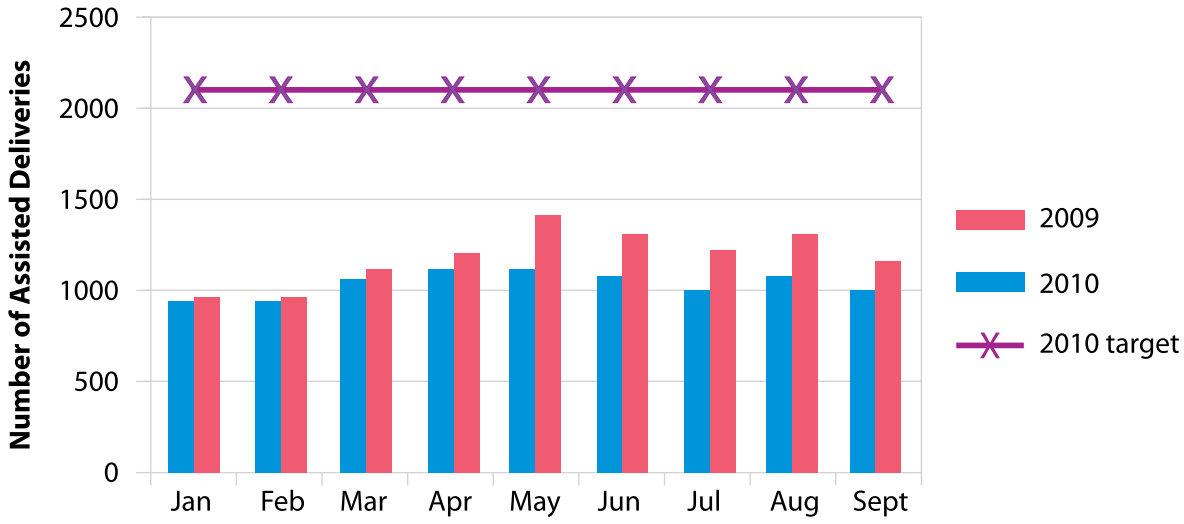
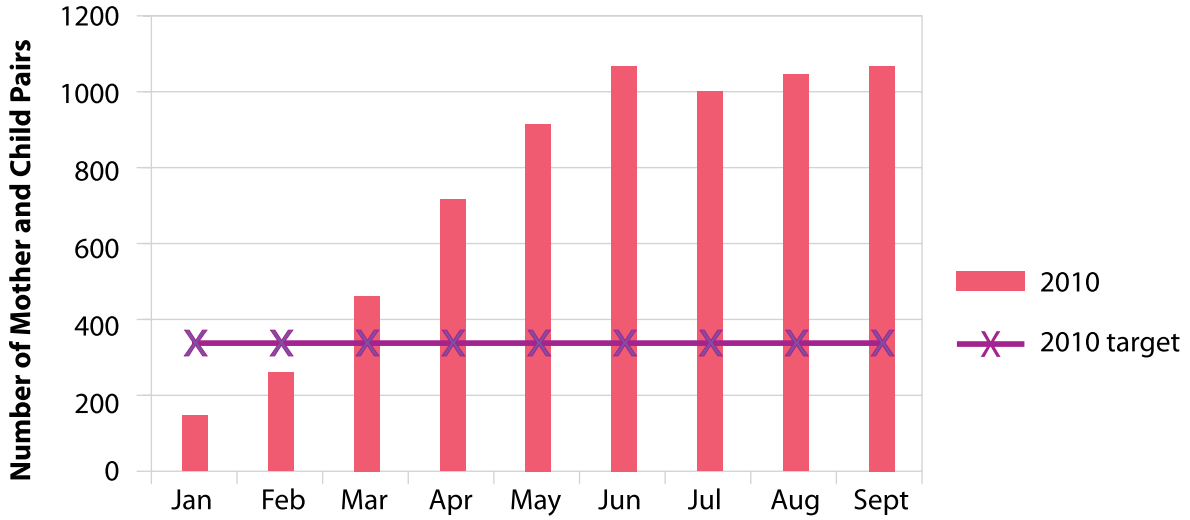


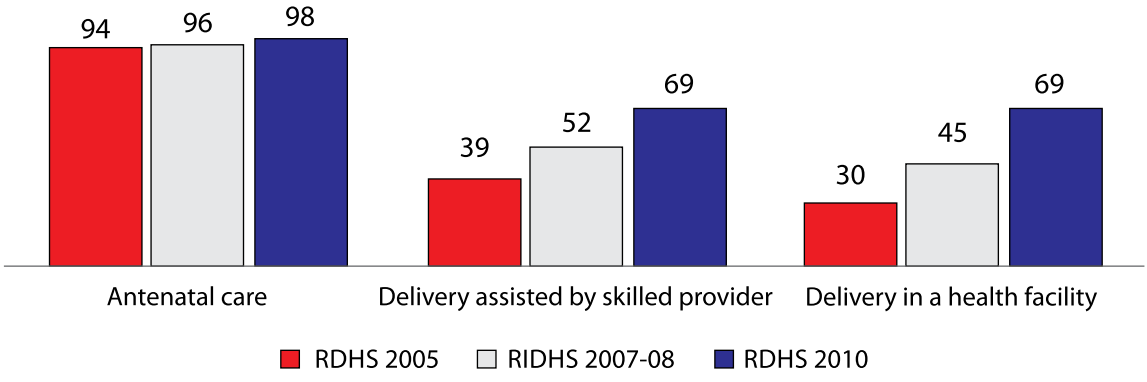
Figure 3: Number of mother-child pairs receiving postnatal care at health centre within 10 days of delivery



The mid-term review of Rwanda's Second Health Strategic Plan (external evaluation). The results are consistent with other documents predicting an impact of CPBF. It reports improvements in maternal indicators: antenatal visits increased from 24% in 2009 to 35% in 2010 and assisted deliveries from 45% in 2009 to 69% in 2011. Although the report cites CPBF as an important policy, it recommends that an impact evaluation is critical to assess the net contribution of CPBF to maternal and child health services.

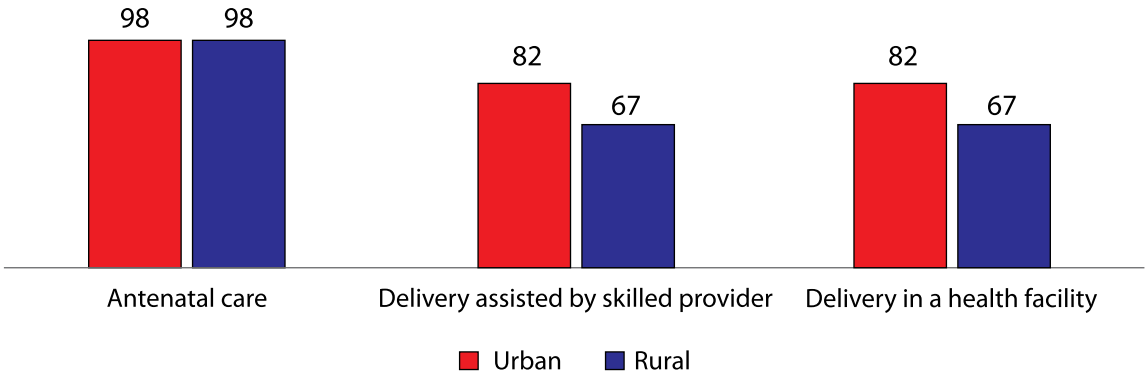
The preliminary 2010 DHS results show some of the major improvements in which CPBF has contributed.

Figure 4: Trends in maternal health services in terms of percentage covered (DHS, 2010)



The trend over time is showing improvement in maternal health indicators.

Figure 5: Maternal health indicators by residence (RDHS, 2010)



In 2005, the DHS of 2005 reported that 54% of women delivered with medical assistance in urban areas against 23.8% in rural areas. The 2010 results showed that Rwanda was closing the gap between rural and urban areas. With these results, the country can be sure of not only promoting equity in the access to health services but is also confident of reaching the MDGs by 2015. The net contribution of CPBF in reaching the targets will be presented in the comprehensive impact evaluation that is under way.

8. Analysis

The overall purpose of the demand-side incentive strategy was to improve access to and increase utilization of key maternal and child health services. Initial results from the 30 VUP sectors have shown promising results; the subsequent scale-up is showing an impact documented in different evaluations done so far and will be confirmed with the final impact evaluation of the programme expected in 2013. Available results demonstrate that access to maternal care is being achieved and the set targets are being exceeded. This programme should be sustained as long as women are located far from health centres and their capacity to get health information is still limited. The big challenge would be to sustain such a programme financially; however, both governments and donors continuously look for programmes with highest returns on their investment and CPBF seems to be the case in point (in case the impact evaluation confirms the preliminary results). The available data show that Rwanda is on track to reach the Abuja target of 15% government budget allocation to the health sector. The Demographic Health Survey and Mid-Term Review of the Health Sector Strategic Plan II have demonstrated this: [2005: 8.2% (DHS 2005); 2008: 9.1% (IDHS 2008); 2011: 11.5% (DHS 2010); and 2012: 12% (target)]. As the budget allocation for the health sector keeps increasing annually, it is expected that key health programmes that have shown a high impact will be continually scaled-up.

There are refinements and improvements to be done within the CPBF programme; hence, a combination of the impact of this programme accounting for other government policies should be considered. Some of the recommendations coming from the evaluation of the pilot phase provide a way forward:

- There is a need to set new projections (possibly to be achieved in 2013 depending on the budget). With these projections, the MOH should conduct an affordability and capacity analysis of the demand-side intervention.

- It is important to explore the possibility of expanding the current infrastructure at the point of service to ensure that the increasing number of clients does not compromise the quality of care through prolonged waiting time, insufficient staff (quality and quantity) and space.
- The contribution of the current use of mobile technology to transmit data should be explored.
- A robust data verification method is needed, particularly since incentives are offered according to the numbers reported.
- Additional staff at the central level is needed to collect, record and report on indicators.
- The communication channel is lengthy and most data can be lost in transition. The possibility of using cell phone/mobile technology to access messages via Internet should be explored. Considering the nature of this programme, regular assessments are needed to find out if beneficiaries still like the incentives.
- The level of knowledge of CHWs needs a review to document their ability and capacity to carry out different health activities at community level.

9. Conclusion

While waiting for the conclusive results of the nationwide impact evaluation, the preliminary results seem encouraging. Rwanda is steadily showing the path to improving access to and utilization of maternal health services, notably antenatal care, delivery and postnatal care. The CPBF is one of the policies that can be replicated within other developing countries; however, its adaptation according to different contexts should be considered. Some of the lessons learned show that:

- providing incentives to women can be considered as a reimbursement of their time spent at health centre and may convince both women and families that it is worth sacrificing the mother's time for early care and follow-up of her pregnancy;
- a transparent governing body of the programme is critical with different stakeholders taking different responsibilities;
- to replicate this programme in other countries, it is critical to assess interrelated policies in Rwanda on which the Community Performance-Based Financing has laid its foundation, such as CHW workforce, local administrative structures, the overall government development agenda policy, etc.

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