Performance-Based Financing and Free Package of Health Services: The Evolution of Health Service Indicators in Burundi between 2011 and 2013

Dr. Emmanuel SEHEYE *(TU-PBF, Burundi),*
Mr. Richard SHUGUGU *(World Bank, Burundi),*
Dr. Thaddée NDINDURWAHA *(TU-PBF, Burundi),*
Dr. Jean KAMANA *(Coordinator of TU-PBF, Burundi)*

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ARV	Antiretroviral
CPA	Complementary Package of Activities
CSLP	Strategic Framework for Economic Growth and Poverty Reduction
DB	Database
FOSA	Health Facility
FP	Family Planning
HC	Health Center
HIV	Human Immunodeficiency Virus
ITN	Insecticide-treated mosquito Nets
IUD	Intra-Uterine Device
MDG	Millennium Development Goals
MPA	Minimum Package of Activities
MSPLS	Ministry of Public Health and for the Fight against AIDS
NHIS	National Health Information System
PBF	Performance-Based Financing
PMTCT	Prevention of Mother-to-Child Transmission
PNC	Postnatal Care
PNDS	National Health Development Plan
PVVC	Provincial Verification and Validation Committee
STI	Sexually Transmitted Infection
TB	Tuberculosis
TU-PBF	National Technical Unit for Performance-Based Financing
TV	Tetanus Vaccine

INTRODUCTION AND CONTEXT

In May 2006, the Government decided to provide a free package of health services targeting children under 5 as well as deliveries, including cesareans. In 2010, this package was extended to pregnancy-related illnesses. Faced with several challenges, including reimbursement delays, human resources demotivation and heavy workloads, medicine and equipment shortages, the MSPLS adopted a performance-based financing approach to finance the free package of health services. Piloted for four years, PBF was subsequently scaled at national level as of 1 April 2010 (see Box 1).

To better understand the dynamics and mechanisms after four years of implementation at the national level, the National Technical Unit for Performance-Based Financing (TU-PBF) proposes to analyze the evolution of some quantitative indicators subsidized by PBF between 2011 and 2013.

Box 1: **The efficiency of PBF in Burundi during the project's pilot phase**

Recently, several stakeholders carried out an evaluation of the impact of PBF on service utilization during the project's pilot phase (Bonfrer et al., 2013; Falisse et al., 2014). Findings indicate that the introduction of PBF in Burundi is closely associated with the completion of three antenatal visits; anti-tetanus vaccination during pregnancy as well as with institutional deliveries. They also show that there is no causal relation between the introduction of PBF and the number of curative visits; the number of postnatal visits, the number of vaccinations and the number of treated malaria cases.

In general, PBF indicators are increasing, with the exception of the distribution of insecticide-treated bed nets (ITNs) and that of child immunization. After the introduction of PBF, PBF indicators experienced an initial increase. After a few months, they however stabilized.

It was considered impossible to establish if PBF-related results were caused by either an increase in financial resources at the health facility level or solely by the PBF mechanisms. Similarly, it was deemed difficult to ascertain if observed results were cause by the free package of health services or by PBF.

METHODOLOGY

This analysis focuses on data from the PBF database (DB) as well as on a capitalization of the knowledge and PBF implementation experiences of the TU-PBF and the World Bank in Burundi. Using monthly data between January 2011 and December 2013, we calculated the number of annual services (declared, validated and verified) delivered in the context of the 22 indicators of the Minimum Package of Activity (MPA) and in that of the 24 indicators of the Complementary Package of Activity (CPA). We subsequently analyzed the evolution of indicators by calculating the number of services delivered in 2013 as a percentage of services provided in 2011. As the PBF database was being developed, formulas used to calculate trends may have been altered. In this context, we decided to use raw data, as entered at grassroots level. To increase the reliability of the data used, we chose to use verified data, despite the bias of this data in relation to January to August 2011 data that was only validated and not verified.

RESULTS

Chart 1 shows the evolution of the 22 MPA indicators (also see Annex 1): data indicates that 19 of these indicators evolved positively, with an increase ranging from 3% to 127% (see Annex 2). Among them, three (3) indicators evolved negatively: the number of new clients under ARV treatment; the number of clients under ARV treatment who are monitored quarterly; and the number of minor surgeries.

Chart 2 shows the evolutions of the 24 CPA indicators in Burundi between 2011 and 2013 (see Annex 1): 16 of them experienced a positive evolution, with an increase ranging from 12% to 187%. The eight (8) other indicators experienced a negative evolution during the same period. These indicators are the same as the ones at the level of the MPA: the number of new patients placed under ARV treatment; the number of clients under ARV treatment who are monitored quarterly; and the number of minor surgeries as well as the number of HIV positive women under ARV prophylactic treatment; hospitalization days for children aged 5 and above; new curative visits with a doctor for children aged 5 and above; new positive TB tests; and normal deliveries.

Antiretroviral (ARV) treatment

HIV voluntary counselling and testing increased significantly by 59% at the hospital level and by 92% at HC level. In parallel, the number of new cases under ARV treatment decreased by 11% at the MPA level and by 2% at the CPA, while the number of clients monitored quarterly diminished by 25% at the level of the MPA and by 13% at the level of the CPA between 2011 and 2013. Despite an increase in prenatal visits for pregnant women (especially at the hospital level) during that time, the number of HIV positive pregnant women under ARV prophylactic treatment decreased by 21%.

Small surgeries

With regard to small surgeries, findings show a reduction in HCs between 2012 and 2013 (-38% between 2011 and 2013) as well as a decrease starting in 2011 (53% between 2011 and 2013).

Children aged 5 and above: new curative visits and hospitalization days

At the CPA level, new curative visits with a doctor and hospital days are the most frequently reported services. However, new curative visits with a doctor in a hospital for patients aged 5 and above show a decrease of 29% between 2011 and 2013. Hospitalization days at this level also experienced a decrease (5%) between 2011 and 2013, with a modest increase in 2011 which was followed by a decline between 2012 and 2013. The dynamic is different for hospitalization days of children under 5: this indicator increased by 24% at CPA level. In parallel, at HC level, both indicators increased respectively by 52% and 54 %.

Fight against tuberculosis

We note that the monthly detection of positive TB cases increased by 12% and the number of TB cases treated and cured each semester increased by 20% at the MPA level. Conversely, at CPA level; TB detection decreased by 13%.

Normal deliveries and family planning

Between 2011 and 2013, the number of normal births at the level of the MPA experienced an increase of 18%. Since 2011, this indicator decreased by 12% in hospitals.

Two indicators related to family planning declined between 2012 and 2013, although the total over three years was positive. This concerns the number of new and current family planning users at the MPA level and the number of surgical contraception cases (tubal ligation and vasectomy).

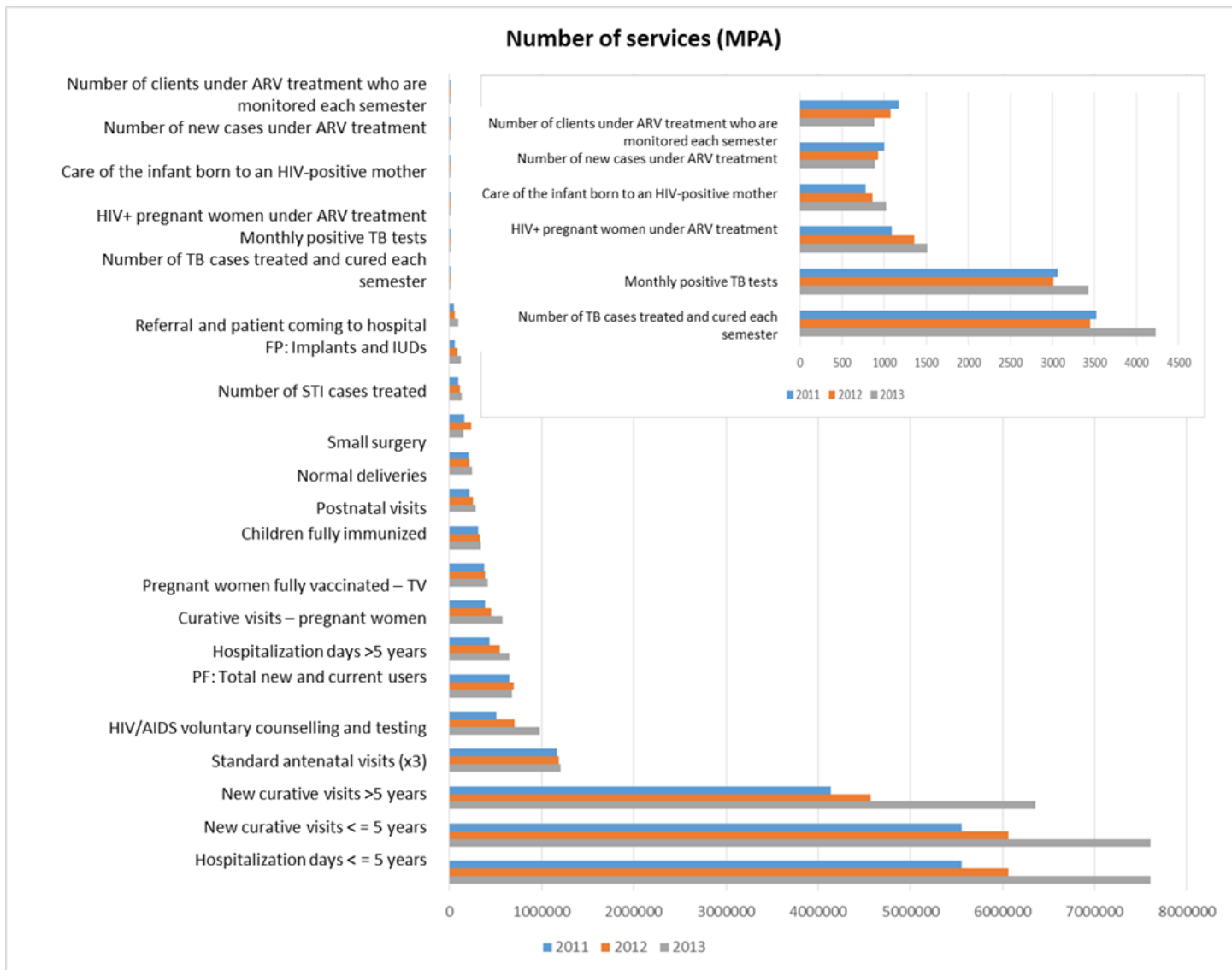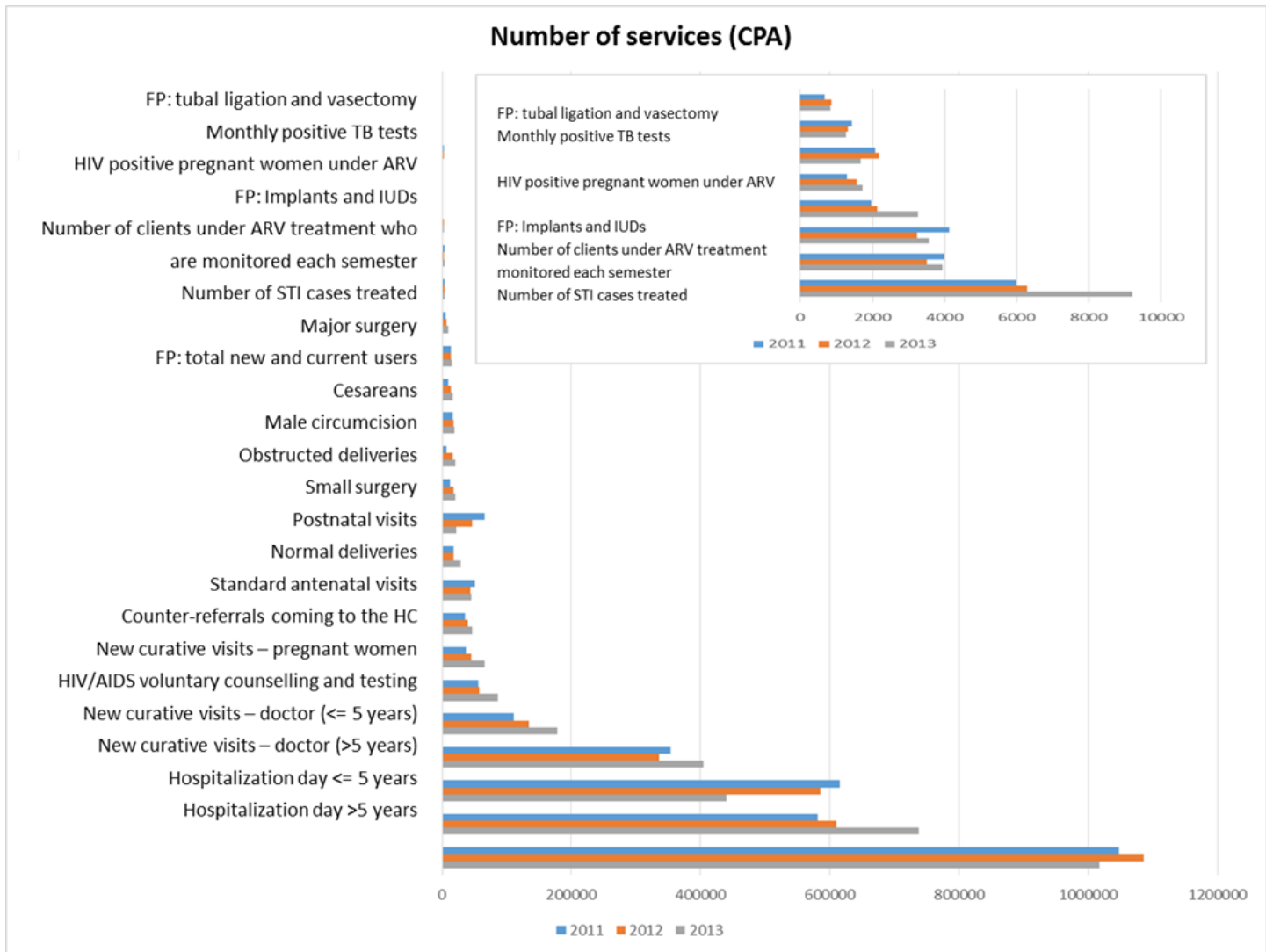**Chart 1:** Number of services declared, validated and verified at the MPA level

Number of services (MPA)

Chart 2: Number of services declared, validated and verified at the level of the CPA

Number of services (CPA)

HYPOTHESES THAT COULD EXPLAIN RESULTS

We note that the majority of indicators at both MPA and CPA levels evolved positively, with an average increase of approximately 30% between 2011 and 2013.

Positive evolution

The capitalization exercise enabled the identification of several hypotheses that could explain the positive evolution.

PBF contributes to behavioral change

Among the four indicators experiencing the highest increases between 2011 and 2013, there are (i) the number of referrals carried out by HCs (patients who then went to hospitals) and the number of counter referrals carried out by hospitals (patients who then went to HCs). These indicators respectively increased by 103% and by 76%. This evolution underlines that a referral and counter referral system was made operational, entailing that beneficiaries no longer go to hospitals without being referred by health centers.

Double payment increases the quantity of services provided

Male circumcision experienced the highest increase with 187%. Such an increase is the result of advocacy campaigns organized by the "Program for the Intensification and the Decentralization of the Fight against AIDS" (PRIDE).   Funded by the Global Fund to fight AIDS, Tuberculosis and Malaria, PRIDE was implemented in all hospitals between 2010 and 2014 by the Government of Burundi. It reimbursed male circumcision; results were reported in the context of the CPA of PBF and as such benefited from double payments (PRIDE and PBF) in February. Similarly, the number of tubal ligations and vasectomies increased between 2011 and 2012. They subsequently decreased as we excluded data linked to services provided and reimbursed by PRIDE.

Private sector involvement increases the quantity of services

In 2013, the number of curative visits of children under 5 exceeded that of previous years. This could be explained by the fact that three private hospitals and several private practices signed secondary contracts with national hospitals, thereby exponential increasing the quantity of services.

Poor positive evolution

Conversely, some indicators at the level of the MPA experienced a relatively small increase (less than 10%) or have evolved towards stagnation. Several hypotheses could explain these negative tendencies.

Poor evolution for services with a good coverage

The slight increase (9%) in the number of pregnant women fully immunized with the tetanus vaccine can be explained by the high coverage rate (90%) experienced by this indicator. Given this level of coverage, increasing the number of clients is not easy. A similar situation is observed with the number of fully immunized children – which experienced a 9% increase – as well as with antenatal and postnatal visits. Formerly delivered by HCs, these services benefited from high coverage rates. In the case of prenatal visits, the coverage rate increased rapidly at hospital level in 2010, as soon as the two indicators were introduced in the PBF package. It must however be noted that these two indicators were withdrawn from hospitals in 2014 (see Box 3), resulting in antenatal and postnatal visits to only be financed by PBF at the level of the MPA.

Changing FP methods is easier and more cost-effective that increasing the number of users

The use of implants and intra-uterine devices (IUDs) increased in health facilities (FOSA) offering the MPA as well as in FOSAs offering the CPA. However, findings indicate that this increase concerns FP users who changed methods rather than new FP users: the increase in FP use is less pronounced than the rate of adoption of implants and IUDs (see Annex 1 and 2). Annex 3 shows that payments for implants and IUDs are more attractive than the payments for new FP users.

Negative evolution

Among the 46 indicators, 11 experienced a negative evolution. Several hypotheses could explain these negative tendencies.

Stock-outs prevent an increase in declared services

Generally, services linked to ARV treatment have declined at all levels. There are however two exceptions: care for infants born from HIV positive mothers at both the levels of the MPA and of the CPA; and number of HIV positive pregnant women placed under ARV prophylactic treatment at the level of the MPA. Decreases can be explained by the existence of stock outs, although they do not explain increases in the Prevention of Mother-to-Child Transmission (PMTCT). The underlying causes of this evolution are unknown.

Decentralization decreases the number of declared services at the CPA level

At HC level, hospitalization days of children aged 5 and above increased by 52%. A portion of this increase occurred to the detriment of hospitalization days at hospital level, experiencing a decrease of 5% (with a slight increase in 2011 followed by a decrease between 2012 and 2013). Between 2011 and 2013, the number of normal deliveries at the HC level increased by 18%. A fraction of this increase seems to have been to the detriment of normal deliveries at hospital level where this indicator experienced a decrease of 12% since 2011. It seems that, as foreseen by the PBF-free healthcare approach, hospitals increasingly care for obstructed deliveries (63%) and for deliveries requiring a cesarean (16%). Similarly, services linked to the fight against tuberculosis (TB) diminished at the CPA level, indicating that the TB decentralization policy – advocating for ambulatory treatment of HCs and of specialized treatment in hospitals for drug resistant TB – was realized at FOSA level.

Conversely, care of infants born from HIV positive mothers increased at both HC and hospital levels. This increase was however larger at hospital level, showing that the phased decentralization of PMTCT services is not occurring as planned. The reason of this is unknown.

Changes in indicators and PBF-related costs influence the quantity of services

A new definition of what constitutes small surgeries caused some services to be excluded in 2012, resulting in a decline in small surgeries of 38% in HCs and 53% in hospitals between 2012 and 2013. It must be noted that small surgeries at hospital level had already experienced a decline between 2011 and 2012. The reason for such a decline is unknown.

In the context of curative visits in hospitals for children aged 5 and above, we can observe a reduction starting in 2012 and intensifying in 2013. This indicator was withdrawn from national hospitals' indicator list, with a price reduction occurring in January 2013 at the CPA level (see Annex 3).

DISCUSSION

Performance-based financing provided financial resources required to cover operating costs, the purchase of medical drugs and the provision of incentives, thereby improving working conditions, stabilizing personnel and enhancing service quality. In general, our analysis indicates a general positive trend at the MPA and CPA levels. Moreover, it also underlines that the population increasingly visits health centers first. Hence, the PBF mechanism strongly influences services provided by health facilities.

Limits of the analysis: what works, how and for whom?

PBF buys strategic results: it requires regular reviews of incentivized indicators to understand their evolution at different levels of the health pyramid. Additional information is also required to shed light on the mechanism through which PBF reaches results. For example, the hypothesis according to which decentralization reduces the number of services provided at the level of the CPA indicates that the PBF database does not allow a comprehensive assessment of the implementation of this decentralization. It could be explained through various mechanisms:

1) The decentralization policy of the MSPLS or lack of access to non-incentivized services at the national hospital level: PBF incentives could be used to improve access for the poor. Indeed, as withdrawing an indicator from PBF entails that patients have to cover direct costs (thereby no longer benefiting from free healthcare), they increasingly visit HCs to benefit from free healthcare.

2) Another explanation could be that HC quality is higher. Quality improvements in HCs at the level of the MPA increasingly attracts clients to HCs. A similar trend was found in the DRC, where it was observed that PBF led to (i) a reduction in the direct costs covered by patients at FOSA level; (ii) equivalent or higher service quality; and, (iii) better care quality (Soeters et al., 2011). Although an assessment of quality could not be carried out in the context of this study, it could help confirm or reject this hypothesis. The results of the PBF impact analysis indicated that the introduction of PBF led to some improvements with regard to the use of maternal health services and to FOSA quality scores. However, although the general quality of FOSAs increased by 45% during the course of the study, results also show that PBF had no effect on quality as perceived by beneficiaries (Bonfrer et al., 2014).

The considerable increase in male circumcisions carried out in hospitals experienced a bias due to double payments. As a result, the question is what mechanisms cause these effects? What is the impact of PBF on the quality of care and on the health status of the population? Is PBF impact linked to the increase in health facilities' financial resources; to the fact that out of pocket payments have diminished for the population; to PBF itself; or are there other biases at play? Similarly, it is also not known to what extent impact is due to free healthcare or to PBF (Falisse et al., 2014). How does the population perceive the new dynamics that exist at health facility level? What are the perceptions and feelings of healthcare personnel and health facility managers with regard to these new dynamics? What strategies did they develop to respond to PBF incentives? Does the introduction of PBF-free healthcare imply a risk of neglect on the part of healthcare personnel or a drop in coverage compared to non-PBF-free healthcare services at a moment where Burundi eradicated polio, neonatal tetanus and controlled measles? To better understand the impact of PBF on the quality and the utilization of services as well as on population health, it would be necessary to know what is in the "black box" of PBF: what explains the relationship of the PBF approach and attained results. These questions could be answered through an in-depth qualitative study on "what works, how and for whom?"

Strategic issues identified

The goal of paying high level indicators (immunization, curative visits) at the level of the MPA is to help maintain attained coverage levels and to facilitate utilization (to avoid what happened with the withdrawal of "curative visits for people aged 5 and over at the level of national hospitals"), which underlines that PBF was introduced to purchase strategic results. One of the available solutions to fill the financing gap of PBF- free healthcare, which is currently at 45%, would be to reduce the unit cost of indicators to reinforce financial sustainability. We could also consider establishing a ceiling for PBF payments when targets have been achieved.

A similar issue exists for services linked to the fight against HIV/AIDS. If stock outs explain the relative decrease in the number of pregnant women with HIV under prophylactic ARV treatment (at the level of hospitals); the number of new patients placed under ARV treatment and the number of clients under ARV treatment who are monitored each semester, is it strategic, efficient and even ethical to incentivize voluntary counselling and testing during pregnancy? Wouldn't it be more efficient to reallocate funds to the improvement of ARV supply at health facility level?

Currently, the change in FP method is easier to implement and provides more value for money than an increase in the total number of FP users. The fact that this dynamic is linked to Government results or objectives or whether it requires a more strategic use of the PBF tool should be discussed.

Another question linked to strategic use concerns the payment of PBF incentives for the number of services provided at the level of tertiary hospitals. Initially, the PBF design in Burundi did not take national hospitals into account. But because of the absence of district hospitals in the health province of Bujumbura Mairie which constitutes the first level of reference, we have been compelled to include them in PBF, especially since they accepted to also implement the policy for free healthcare for children under 5 and for pregnant women. Initially, the model was the same at district hospital level and at tertiary hospital level. However, complaints were made concerning the loss in earnings experienced by national hospitals threatened by closure. This led to studying service costs. This study showed that service costs were under-estimated. As a result, in 2013, the cost of indicators benefiting from the free healthcare policy was readjusted at all levels and particularly at the level of tertiary autonomous hospitals (see Annex 3). The other indicators not concerned by the free healthcare policy were withdrawn in tertiary hospitals. Therefore, the payment of indicators linked to free healthcare in tertiary hospitals enters in the framework of expenditures incurred through PBF which benefits from data verification mechanisms awaiting the effective implementation of district hospitals in Bujumbura Mairie which constitute first level of referral. Once this level is implemented, Burundi could consider abandoning the payment of indicators linked to quantity at the level of national hospital and only incentivize quality indicators. Meanwhile, we could review norms and make them stricter with regard to the quality of service provided by hospitals, so as to only pay for quality of care.

CONCLUSION

The analyses of the evolution of indicators enables the detection of deviations (home care cases – and not in a health service with a potential for double payment – or outside health facilities through mass campaigns), fraud attempts (latrine construction, mosquito net distribution, etc.) and escalating budget consumption. This analysis of the evolution of indicators seems to indicate that:

- The change in indicators and in PBF costs impacts the quantity of services
- Double payment introduces a bias with regard to the quantity of services reported
- PBF contributes to behavioral changes compared to the reference system
- The involvement of the private sector increases the quantity of declared services
- Decentralization reduces the number of services declared at the level of the CPA
- The evolution of quantitative indicators is relatively small for services with good coverage
- Changes in FP methods are easier to implement and represent better value for money than an increase in the total number of FP users
- Stock outs prevent an increase in declared services

The PBF approach provides the regulator with an instrument capable of insuring that services at the health facility level align with national policies. Examples show how analyzing indicators compelled the TU-PBF to review definition (male circumcision, small surgery, pregnancy-related conditions, etc.) or to withdraw some indicators (ITNs, latrines; see Box 3). In Burundi, PBF operates as a strategic buyer: we change arrangements and we find changes that do not match the expectations or objectives of the government.

This analysis of quantitative indicators underlined the following strategic questions:

- Changes in FP methods are easier to implement and represent better value for money than an increase in the total number of FP users: does an incentive influence the supply of services at the health facility level and does this incentive align with Government objectives?
- How can the PBF approach be used in national hospitals in decentralized and primary healthcare contexts? Burundi could consider abandoning the payment of indicators linked to quantity at national hospital level and use incentives only on the basis of quality indicators. Meanwhile, we could review norms and make them stricter with regard to the quality of hospital services to only pay quality services.
- To reduce the financing gap of 45%, should we reduce the unit cost of some PBF indicators or establish a ceiling for the payment of PBF services for which objectives have been reached,

However, there is a lack of information concerning the mechanisms through which PBF attains results. To better understand the impact of PBF on service quality and service utilization and be capable to better use PBF as a strategic tool, an in-depth analysis should be carried out, using a qualitative method, to uncover "what works, how, and for whom" with the objective of uncovering PBF's "black box", explaining the relation between the PBF approach and attained results.

REFERENCES

Igna Bonfrer, Robert Soeters, Ellen Van de Poel, Olivier Basenya, Gashubije Longin, Frank van de Looij and Eddy van Doorslaer. *Introduction Of Performance-Based Financing In Burundi Was Associated With Improvements In Care And Quality.* Health Affairs, 33, no.12 (2014):2179-2187.

Jean-Benoit Falisse, Juvenal Ndayishimiye, Vincent Kamenyero and Michel Bossuyt. *Performance-based financing in the context of selective free health-care: an evaluation of its effects on the use of primary health-care services in Burundi using routine data.* Health Policy and Planning 2014;1–10.

Longin Gashubije (2014). *De la fragmentation à la couverture sanitaire universelle : un chemin long mais possible au Burundi*. Blog published on the site of Harmonization for Health in Africa on 22 December 2014.

Soeters R, Peerenboom PB, Mushagalusa P, Kimanuka C. *Performance-based financing experiment improved health care in the Democratic Republic of Congo*. Health Aff (Millwood). 2011; 30(8): 1518–27.

FOR MORE INFORMATION: www.fbpsanteburundi.bi

ANNEX 1: THE EVOLUTION OF MPA AND CPA INDICATORS BETWEEN 2011 AND 2013 (ABSOLUTE NUMBERS)

Table 1: Evolution of MPA indicators between 2011 and 2013 (absolute numbers)

No	PBF indicators	Number of services		
		2011	2012	2013
1	FP: Implants and IUDs	52946	81217	120308
2	Referral and patient coming to hospital	46716	59419	94803
3	HIV Voluntary counselling and testing	508834	703638	978352
4	New curative visits (> 5 years)	4135882	4570521	6359732
5	Day of Hospitalization > 5 years	429883	548803	652829
6	New curative visit - pregnant women	386574	448814	571939
7	Number of STI cases treated	90485	116133	133401
8	Day of Hospitalization < = 5 years	5553796	6066051	7604730
9	HIV positive pregnant women under prophylactic ARV treatment	1094	1357	1510
10	New curative visits (< = 5 years)	5553796	6066051	7604730
11	Care of the infant born to an HIV-positive mother	779	863	1024
12	Postnatal care	216058	257287	279655
13	Number of TB cases treated and cured each semester	3519	3445	4229
14	Normal deliveries	207635	218639	245006
15	Monthly positive TB tests	3066	3010	3423
16	Pregnant women fully immunized – anti-tetanus vaccine	375581	388670	410759
17	Children fully immunized	309013	332906	337263
18	FP: total of new and current users	652125	698805	679123
19	Standard prenatal visits (3x)	1165019	1184963	1204826
20	Small surgery	159853	236720	147449
21	Number of new cases under ARV treatment	1001	931	894
22	Number of clients under ARV treatment who are monitored each semester	1175	1074	880

Table 2: Evolution of CPA indicators between 2011 and 2013 (absolute numbers)

No	PBF indicators	Number of services		
		2011	2012	2013
1	Male circumcision	6838	15947	20193
2	Counter-referrals coming to the HC	36903	44955	66121
3	FP: total of new and current users	9710	14298	16151
4	FP: Implants and IUDs	1972	2123	3265
5	Obstructed deliveries	12304	17479	20382
6	HIV Voluntary counselling and testing	111128	134384	178341
7	Treated STI cases	5990	6290	9206
8	New curative visits – pregnant women	56547	58147	86670
9	Postnatal visits	17813	18198	28802
10	Standard antenatal visit	35972	40236	46389
11	Care for infant born from HIV positive mother	1283	1554	1728
12	Hospitalization day < = 5 years	581341	610417	737496
13	FP: tubal ligation and vasectomy	688	868	825
14	Cesarean	16786	18459	19830
15	Major surgery	13503	14090	15708
16	New curative visit – doctor (< = 5 years)	353566	336287	403888
17	Number of new cases under ARV treatment	3999	3523	3951
18	Hospitalization day >5 years	1047260	1086073	1017477
19	Normal deliveries	50546	44139	45044
20	Monthly positive TB tests	1421	1333	1260
21	Number of clients under ARV treatment who are monitored each semester	4130	3241	3574
22	HIV positive pregnant women under prophylactic AVC treatment	2082	2192	1666
23	New curative visits – Doctor (> 5 years)	615919	586107	440635
24	Small surgery	66221	46363	22091

Table 1: Evolution of MPA indicators between 2011 and 2013 (relative numbers)

No	PBF indicators	Relative evolution		
		Between 2011 and 2012	Between 2012 and 2013	Between 2011 and 2013
1	**FP: Implants and IUDs**	53%	48%	127%
2	**Referral and patient coming to hospital**	27%	60%	103%
3	**HIV Voluntary counselling and testing**	38%	39%	92%
4	**New curative visits (> 5 years)**	11%	39%	54%
5	**Hospitalization day > 5 years**	28%	19%	52%
6	**New curative visits – pregnant women**	16%	27%	48%
7	**Number of STI cases treated**	28%	15%	47%
8	**Hospitalization day < = 5 years**	36%	3%	39%
9	**HIV positive pregnant women under prophylactic ARV treatment**	24%	11%	38%
10	**New curative visits (< = 5 years)**	9%	25%	37%
11	**Care of infants born from an HIV positive mother**	11%	19%	31%
12	**Postnatal visits**	19%	9%	29%
13	**Number of TB cases treated and cured each semester**	-2%	23%	20%
14	**Normal deliveries**	5%	12%	18%
15	**Monthly positive TB tests**	-2%	14%	12%
16	**Pregnant women fully immunized – anti-tetanus vaccine**	3%	6%	9%
17	**Fully immunized children**	8%	1%	9%
18	**FP: total of new and current users**	7%	-3%	4%
19	**Standard antenatal visits (3x)**	2%	2%	3%
20	**Small surgery**	48%	-38%	-8%
21	**Number of new cases under ARV treatment**	-7%	-4%	-11%
22	**Number of clients under ARV treatment who are monitored each semester**	-9%	-18%	-25%

Table 2: Evolution of CPA indicators between 2011 and 2013 (relative numbers)

No	PBF indicators	Relative evolution PBF indicators		
		Between 2011 and 2012	Between 2011 and 2012	Between 2011 and 2013
1	Male circumcision	133%	23%	187%
2	Counter-referrals coming to the HC	22%	45%	76%
3	FP: total of new and current users	47%	12%	65%
4	FP: Implants and IUDs	8%	54%	65%
5	Obstructed deliveries	42%	14%	63%
6	HIV Voluntary counselling and testing	21%	32%	59%
7	STI cases treated	5%	45%	52%
8	New curative visits – pregnant women	3%	48%	52%
9	Postnatal visits	2%	40%	43%
10	Standard antenatal visits	12%	21%	35%
11	Care of the infant born to an HIV-positive mother	21%	10%	34%
12	Day of Hospitalization < = 5 years	5%	18%	24%
13	FP: tubal ligation and vasectomy	26%	-6%	19%
14	Cesarean	10%	5%	16%
15	Major surgery	4%	9%	14%
16	New curative visits – Doctor (< = 5 years)	-5%	18%	12%
17	Number of new cases under ARV treatment	-12%	12%	-2%
18	Day of Hospitalization >5 years	4%	-8%	-5%
19	Normal deliveries	-13%	0%	-12%
20	Monthly positive TB tests	-6%	-7%	-13%
21	Number of clients under ARV treatment who are monitored each semester	-22%	10%	-13%
22	HIV positive pregnant women under prophylactic AVC treatment	5%	-25%	-21%
23	New curative visits – Doctor (> 5 years)	-5%	-25%	-29%
24	Small surgery	-30%	-53%	-67%

ANNEX 3: EVOLUTION OF MPA AND CPA INDICATOR RATES BETWEEN 2011 AND 2013

Each province has its own rate for its MPA; it is established based on equity criteria contained in the procedure manual. The rate used to fill the table below represents the average of the sum of provincial rates used for PBF supply-side incentives.

Table 1: Evolution of the rates used for PBF supply side incentives between 2011 and 2013 at the level of the MPA

No	Service	Supply-side incentives (PBF)					
		2011		2012		2013	
		Jan-June	July-Dec.	Jan-June	July-Dec.	Jan-June	Jul-Dec.
1	FP: Implants and IUDs	8588	7029	7559	8459	13375	12647
2	Referral and patient coming to hospital	1718	1418	2047	2165	2463	2382
3	HIV Voluntary counselling and testing	1718	1429	1618	2500	1838	1765
4	New curative visits (> 5 years)	299	238	252	252	254	246
5	Hospitalization day > 5 years	513	385	385	445	424	416
6	New curative visits – Pregnant women	2585	2253	2835	4471	3488	3388
7	Number of STI cases treated	863	690	806	909	919	882
8	Day of Hospitalization < = 5 years	1021	844	841	926	901	879
9	HIV positive pregnant women under prophylactic ARV treatment	12941	11147	12588	13824	14688	14324
10	New curative visits (< = 5 years)	691	541	578	677	568	553
11	Care of the infant born to an HIV-positive mother	12941	11147	12588	13824	14688	14324
12	Postnatal visits	859	703	1203	2562	1794	1712
13	Number of TB cases treated and cured each semester	42706	33529	35471	36765	37250	36059
14	Normal deliveries	5971	5206	9059	13000	19375	18647
15	Monthly positive TB tests	17059	12412	14235	15353	15156	14382
16	Pregnant women fully immunized – anti-tetanus vaccine	1294	997	1135	1971	1156	1076
17	Children fully immunized	3024	2588	2859	3629	3338	3265
18	FP: total of new and current users	2603	2229	2800	3982	4688	4324
19	Standard prenatal visits (3x)	859	703	1203	2565	1794	1712
20	Small surgery	1282	962	1079	1182	2438	2365
21	Number of new cases under ARV treatment	12941	11265	12588	13824	14688	14324
22	Number of clients under ARV treatment who are monitored each semester	43059	36647	38706	40941	41344	39853

Each province has its own rate for its CPA; it is established based on equity criteria contained in the procedure manual. The rate used to fill the table below represents the average of the sum of provincial rates.

Table 2: Evolution of the rates used for PBF supply side incentives between 2011 and 2013 at the level of the CPA

No	Service	Supply-side incentives (PBF)					
		2011		2012		2013	
		Jan-June	July -Dec.	Jan-June	July -Dec.	Jan-June	July -Dec.
1	Male circumcision		15500	16941	18059	21588	21412
2	Counter-referrals coming to the HC	2205	2222	2385	2556	2653	2641
3	FP : total new and current users	3588	3286	3532	4294	5159	5141
4	FP: Implants and IUDs	11025	10417	11059	13235	14794	14706
5	Obstructed deliveries	7675	7658	9471	17353	21588	21412
6	HIV Voluntary counselling and testing	2205	2233	2403	3238	3659	3641
7	New STI cases treated	1103	1117	1209	1309	1459	1441
8	New curative visits – Pregnant women	5525	5475	5885	8553	12559	12471
9	Postnatal visits	1103	1108	1212	2388	2229	2212
10	Standard antenatal visits	1103	1108	1212	2388	2229	2212
11	Care of infants born from an HIV positive mother	16350	16333	17882	19118	20647	20471
12	Day of Hospitalization < = 5 years	3310	3539	3441	3618	4265	4247
13	FP: tubal ligation and vasectomy	44100	44889	46294	51588	63176	62824
14	Cesarean	66200	72889	84647	103353	143941	143412
15	Major surgery	32700	42000	43941	54353	37824	37647
16	New curative visits – Doctor (< = 5 years)	2205	2578	2671	2924	4806	4788
17	Number of new cases under ARV treatment	16350	16333	17882	19118	20647	20471
18	Hospitalization day >5 years	1323	2114	1050	1141	1021	1012
19	Normal deliveries	7675	7658	9471	17353	21588	21412
20	Monthly testing of positive TB cases	22050	22056	23588	24706	15706	15529
21	Number of clients under ARV treatment who are monitored each semester	55300	54833	57706	59765	58588	58412
22	HIV positive pregnant women under ARV prophylactic treatment	16350	16333	17882	19118	20647	20471
23	New curative visits – Doctor (> 5 years)	1323	2114	2188	2188	957	955
24	Small surgery	2205	2205	2374	2503	3276	3259

ANNEX 3: DEMAND-SIDE INCENTIVES: FREE HEALTHCARE MECHANISMS

Table 1: Free healthcare mechanism per indicator at the MPA level

No	PBF Indicator	Free Healthcare
1	FP: Implants and IUDs	Program for free reproductive healthcare
2	Referral and patient coming to hospital	
3	HIV Voluntary counselling and testing	Program for free HIV care
4	New curative visits (> 5 years)	
5	Day of Hospitalization > 5 years	
6	New curative visits – pregnant women	This does not concern HIV positive women : free healthcare targeting children under 5 and deliveries
7	Treated STI cases	Program for free HIV care
8	Day of Hospitalization < = 5 years	Free healthcare targeting children under 5 and deliveries.
9	HIV positive pregnant women under prophylactic ARV treatment	Program for free HIV care
10	New curative visits (< = 5 years)	Free healthcare targeting children under 5 and deliveries
11	Care of the infant born to an HIV-positive mother	Program for free HIV care
12	Postnatal care	Program for free reproductive healthcare
13	Number of TB cases treated and cured each semester	Included in the program for free TB care
14	Normal deliveries	If it concerns an assisted delivery: free healthcare targeting children under 5 and deliveries.
15	Monthly positive TB tests	Included in the program for free TB care
16	Pregnant women fully immunized – anti-tetanus vaccine	Free healthcare targeting children under 5 and deliveries
17	Children fully immunized	
18	FP: total of new and current users	Program for free reproductive healthcare
19	Standard prenatal visits (x3)	Program for free reproductive healthcare
20	Small surgery	If it concerns children under 5 : free healthcare targeting children under 5 and deliveries
21	Number of new cases under ARV treatment	Program for free HIV care
22	Number of clients under ARV treatment who are monitored each semester	Program for free HIV care

Table 2: Indicators of the free healthcare scheme at the CPA level

No	PBF indicators	Free Healthcare
1	Male circumcision	Free HIV program
2	Counter-referral arriving at the HC	
3	FP: total of new and current users	Program for free reproductive health care
4	FP: Implants and IUDs	Program for free reproductive health care
5	Obstructed deliveries	Free healthcare for children under 5 and deliveries
6	HIV Voluntary counselling and testing	Free HIV program
7	Treated STI Cases	Free HIV program
8	New Curative visits – Pregnant Women	This does not concern pregnant women living with HIV: free healthcare for children under 5 and deliveries
9	Postnatal visits	Program for free reproductive health care
10	Standard prenatal visit	Program for free reproductive health care
11	Care of infant born from an HIV positive mother	Free HIV program
12	Day of Hospitalization < = 5 years	Free healthcare for children under 5 and deliveries
13	FP: tubal ligation and vasectomy	Program for free reproductive health care
14	Cesarean	Free healthcare for children under 5 and deliveries
15	Major surgery	This concerns children under 5: free healthcare for children under 5 and deliveries
16	New curative visit – Doctor (< = 5 years)	Free healthcare for children under 5 and deliveries
17	Number of new ARV cases	Free HIV program
18	Day of Hospitalization > 5 years	
19	Normal childbirth	Free healthcare for children under 5 and deliveries
20	Monthly positive TB tests	Included in the free healthcare program for TB
21	Number of clients under ARV treatment who are monitored each semester	Free HIV program
22	HIV positive pregnant women under prophylactic AVC treatment	Free HIV program
23	New curative visit – Doctor (> 5 years)	
24	Small surgery	This concerns children under 5: free healthcare for children under 5 and deliveries