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PERFORMANCE-BASED FINANCING IMPROVES HEALTH FACILITY PERFORMANCE AND PATIENT CARE IN THE DEMOCRATIC REPUBLIC OF THE CONGO

In recent years, the Democratic Republic of the Congo (DRC) has increasingly focused on strengthening its health system and improving health outcomes for its 79.8 million people.¹ In 2006, through its Strategy for Reinforcing the Health System (*Stratégie de Renforcement du Système de Santé*), the Ministry of Health (MOH) began decentralizing the health sector and introduced an Essential Package of Health Services at health centers and referral hospitals to improve equitable access to reproductive, maternal, newborn, and child health (RMNCH) services.²

Despite this progress and steady investment by foreign donors into the health system, access to quality health services remains limited, particularly among those living in hard-to-reach areas and the estimated 1.7 million persons internally displaced by conflict.³ Health facilities frequently lack essential drugs and commodities and there are not enough qualified health workers to effectively meet the population's needs, especially in rural areas.⁴ With minimal domestic funding for health care, government health facilities rely on out-of-pocket payments by patients, which are considered a major barrier to accessing services.^{5,6}

Performance-based financing (PBF) is considered a key strategy for increasing the provision and quality of health services. Unlike traditional payment mechanisms, PBF directly rewards health care providers with financial incentives according to achieved results based on predetermined performance targets.⁷ The strategy has been used to strengthen health systems, improve provider and facility efficiency, and ensure accountability.⁸ Moreover,

PBF can help to address common challenges among health care providers, including low motivation, insufficient empowerment, and attrition.⁹

Performance targets are typically based on the numbers of health services provided, quality indicators assessing the management and operations of the health facility, and scores measuring patient satisfaction. Results are regularly verified (e.g. quarterly) by an independent agency. Upon verification, health facilities receive payment according to the performance-based criteria and a sliding pay scale that is linked to the level of achievement of agreed-upon targets. The funds earned by the health facilities are used for direct financial bonuses to individual health care providers, reinvestment to improve the quality of the facility, or for savings.

Integrated Health Project Plus in the Democratic Republic of Congo



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DRC-IHP Pilot PBF Program (2013-2016)

In November 2013, the United States Agency for International Development (USAID) Integrated Health Project (IHP), led by Management Sciences for Health (MSH) in collaboration with the MOH, launched a pilot PBF program.¹⁰ The goal was to increase the quality, access, and availability of the Essential Package of Health Services at 118 health centers and seven referral hospitals while improving overall health leadership among seven health zone management teams in four provinces – Kasai Occidental, Kasai Oriental, Katanga, and Sud Kivu.

PBF Performance Indicators

DRC-IHP established performance-based contracts with the MOH in each of the participating health zones, referral hospitals, and health centers. PBF indicators focused on increasing the utilization and quality of priority health services, strengthening management and operations practices, and achieving greater patient satisfaction (Table I). Referral hospitals and health centers were both assessed according to a FOSACOF¹¹ score which measures nine criteria focused on infrastructure, equipment, essential medicines and supplies, personnel, continuing education, community outreach, community support, clinical quality, and management. Among health centers, the FOSACOF score contributed to 30% of the total PBF score while other

indicators were weighted according to their severity, priority, costs, level of effort, and more.

Verification of Results

Each quarter, the DRC-IHP PBF pilot program conducted a three-stage results-verification process to ensure the accuracy of reported data, detect and correct misreporting, identify potential cases of fraud, and assess community satisfaction with the health services provided. The steps were as follows:

1. Prior to the external evaluation, all health facilities conducted an internal self-evaluation to estimate their own performance scores (according to predetermined performance indicators) and identify both strengths and weaknesses.
2. Trained personnel from DRC-IHP and regional MOH offices conducted external technical verification visits to validate all reported data and determine performance according to the predetermined target indicators.
3. Trained personnel from two contracted community service organizations conducted household interviews with a randomly selected sample of health center patients to confirm that the patients actually visited the health center and to determine their level of satisfaction. If health facility personnel included fictitious patients and services in the health facility registers (for the purpose of increasing the quantitative indicators and the corresponding performance-based payments), health facilities would be penalized and corrective actions would be taken.

Table I. Performance indicators and quarterly payments by health system level

Health System Level	Performance Indicators	Quarterly Payment ^a
Health zone	Twenty indicators assess the supervision and management function of the zonal health office and the performance of supervised referral hospitals and health centers.	\$2,400 (maximum) ^b ■ Personnel incentives (70%) ■ Investments (20%) ■ Operations (10%)
Referral hospital	One composite indicator, based on the FOSACOF assessment tool, measures the quality of services according to nine criteria. The composite score does not include any measurement of service delivery or health outcomes.	\$12,054 (maximum) ■ Staff incentives (60%) ■ Investments (30%) ■ Functioning of the health facility (10%)
Health center	Twenty total indicators assess the delivery of priority health services, compliance with Health Management Information System (HMIS) reports, and the composite FOSACOF indicator. In addition, health centers were assessed based on patient satisfaction surveys.	\$910 (maximum) ■ Staff incentives (60%) ■ Investments (30%) ■ Functioning of the health facility (10%)

^a Maximum quarterly payments are based on the achievement of all targets.

^bUSD

Payment of PBF Incentives

Upon completion of the verification process, DRC-IHP and MOH personnel validated the results and, according to the performance scores, distributed payments to all seven zonal health management teams, seven referral hospitals, and 118 health centers. Among all health facilities, performance payments were capped at a ceiling of 120% of the set target. This helped to ensure that service providers could not claim an exorbitant payment for excess achievement and DRC-IHP could operate within a budgeted ceiling. Shared funds for investments and operations were used at the discretion of health facility personnel, community health committees, and other stakeholders. Health facilities used these funds to improve their infrastructure, purchase equipment, and pay for training on leadership and management, among other initiatives.

Results

The following program results are based on two years (eight quarters) of PBF implementation (2013 to 2015) according to the performance targets, which were negotiated each year between DRC-IHP and the MOH.

Zonal Health Management Team Performance

Zonal health management teams demonstrated marked improvements in key areas, such as workplan development,

reduction of stock-outs of tracer medicines, on-time quality reporting, increased supervision, and support to community health committees. Between baseline and quarter 8, the percentage of health facilities without stock-outs improved from 23% to 74%; on-time reporting to the provincial level improved from 18% to 71%; and the proportion of supervision visits conducted increased from 57% to 82%.

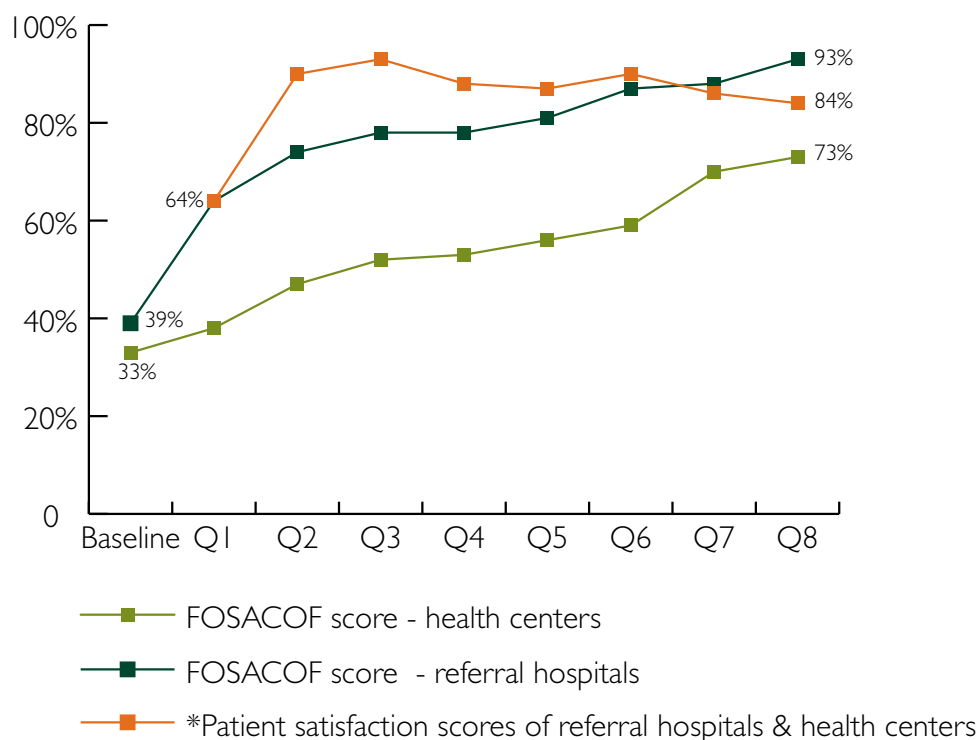
The overall performance of zonal health management teams largely improved due to the higher scores achieved by the referral hospitals and health centers they supervised. With the increased availability of fuel and financial incentives, zonal supervision visits to health facilities increased, reinforcing higher standards of facility care.

Patient Satisfaction and Quality of Health Services

The perception of the quality of services provided improved significantly, as evidenced by a 20% increase in reported patient satisfaction at referral hospitals and health centers from baseline.¹² Based on facility surveys, the FOSACOF composite indicator scores at referral hospitals and health centers also demonstrated increases of 54% and 40% from baseline, respectively (Figure 1).

Moreover, between baseline and quarter 8, the average FOSACOF composite indicator score for the seven referral hospitals increased from 7,051 to 16,882, reflecting

Figure 1. Patient satisfaction and FOSACOF scores in referral hospitals and health centers (2013-2015)



*Patient satisfaction scores were not assessed at baseline, but nevertheless demonstrate an improvement from the first quarter of PBF implementation.

improvements in the nine criteria measuring facility quality (Figure 2). The improvement in FOSACOF scores was largely due to supportive supervision from zonal health management teams, the self-evaluation process conducted

by health facilities to identify strengths and weaknesses, and both the involvement of all stakeholders in designing strategies to achieve performance targets and competition among health facilities in achieving those targets.

Figure 2. Average FOSACOF scores among seven referral hospitals (2013-2015)

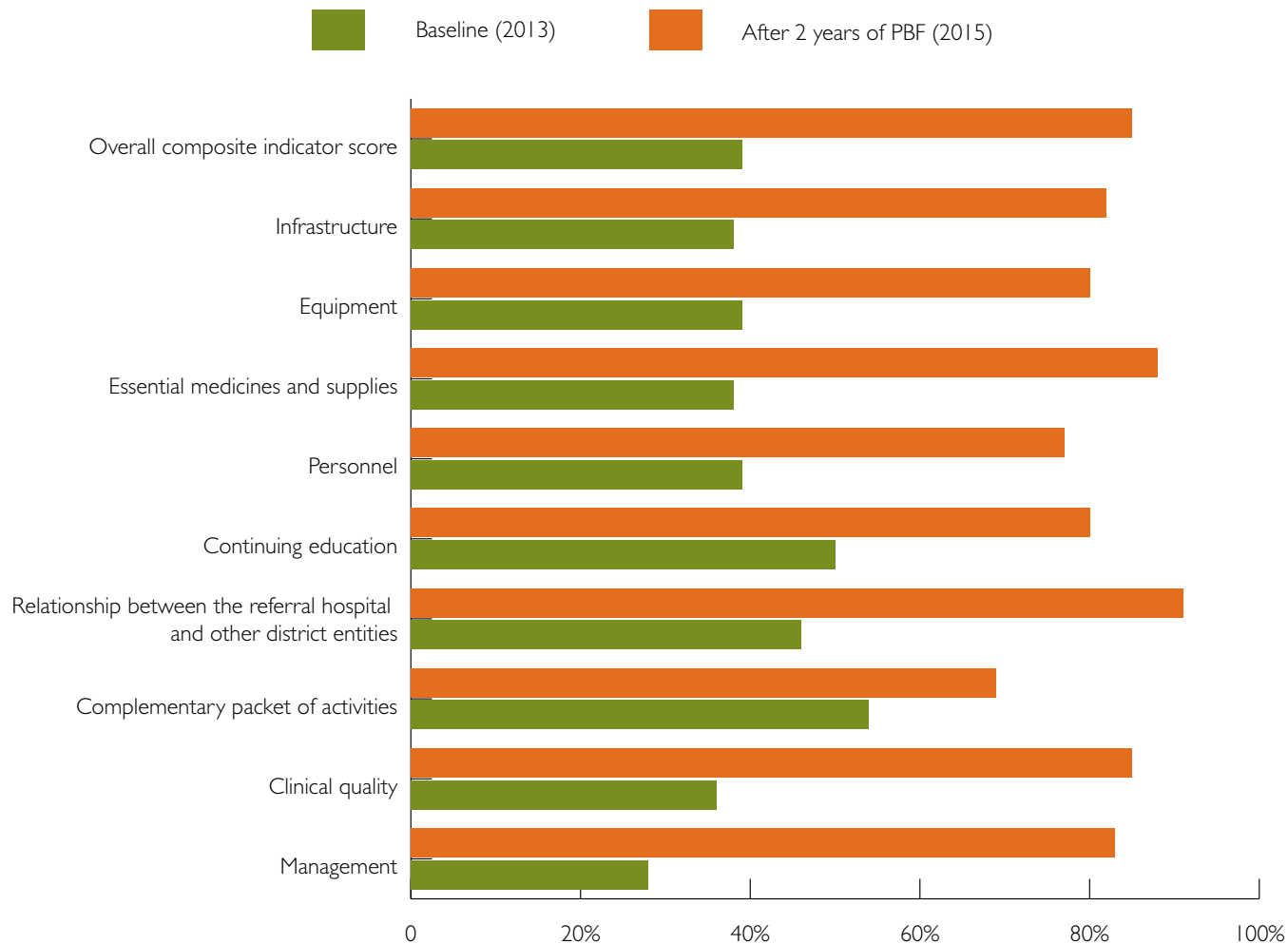


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Figure 3. Provision of health services among targeted health centers (2013-2015)



Provision of Health Services

The utilization of curative services at health centers more than doubled, from 21% at baseline to 43% of the target indicator in quarter 8. Other priority health services also increased considerably (Figure 3). For example, between the first and eighth quarter, first antenatal consultations increased from 7,034 to 8,563; fourth antenatal consultations increased from 2,116 to 5,283; referrals for at-risk pregnant women increased from 556 to 1,053; and assisted deliveries increased from 5,525 to 7,168.

A number of factors contributed to the increased rate of curative services provision, including reduced attrition of health center personnel, improved patient reception, the availability of essential drugs and user-friendly patient registers, as well as supportive supervision provided by zonal health management teams. Increased awareness among pregnant women on the importance of early antenatal visits contributed to higher rates of first and fourth antenatal consultations as well as referrals for at-risk pregnant women.

Financial Incentive Payments Received

The majority of performance scores improved following PBF implementation as did the amount of financial incentive

payments received. Over the course of two years, each zonal health management team earned an average of \$14,976 in performance incentives, while referral hospitals each earned an average of \$84,619, and each health center earned an average of \$5,369.

A number of health facilities used these funds to complete construction and renovations which further improved their FOSACOF scores: 59 health centers constructed new buildings, 28 health facilities re-constructed exterior walls, and 23 facilities completed renovations.

Impact Evaluation¹³

According to an independent USAID-funded impact evaluation,¹⁴ the DRC-IHP PBF pilot program contributed to an increase in the quantity of certain health services, improved facility operations and management, and more frequent supervision. Specifically, the evaluation showed:

- Health facilities demonstrated increased rates of growth and development monitoring for children under five years of age; children who received diphtheria, tetanus, and pertussis (DTP1 vaccine); modern contraceptive use; referral services among pregnant women for obstetric complications; and malaria testing.¹⁵

The PBF incentives earned by health facilities facilitated improvements and provided health care providers with opportunities for financial bonuses.

- Health facilities reported improved availability of medications and contraceptives, water supplies, (rainwater cisterns or wells), electricity (solar panels), and transportation (bicycles), most likely due to the autonomy of facilities to reinvest PBF incentives for facility improvements.
- Among referral hospitals implementing PBF, FOSACOF scores assessing the overall quality of services improved by 87% compared to 57% in the control group.
- Staff supervision frequency also improved significantly in facilities in the PBF program, with a 99% compliance with quarterly visits. Moreover, the evaluation found that technical verification visits provided an opportunity for the supervisor to help health care providers understand best practices, including adherence to national protocols.

Among the intervention and control groups, similar results were reported in several key areas, suggesting that PBF may have had no particular effect on certain outputs. These included a significant increase in health center service

utilization and an improvement in mothers' reception of family planning advice from a health worker. Moreover, the average number of children receiving full immunization did not show any significant changes; prevention of mother-to-child transmission of HIV services declined, as did the presence of a skilled birth attendant during childbirth; and stock-outs of vaccines remained low and unchanged.

Several limitations of the impact evaluation methodology could have affected the reported results. For instance, the intervention and comparison groups were statistically different in terms of their sociodemographic profiles, including employment status and place of residence, which could have impacted the reported results of health facilities and the responses to the household questionnaires. The limited time period (two years) of the PBF pilot program also may have been insufficient to demonstrate marked changes in other indicators.



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Discussion

Successes

The DRC-IHP PBF pilot program demonstrated a marked increase in the utilization and quality of priority health services while also contributing to the increased engagement of community members in conducting health facility improvement projects and community outreach.

Patient perceptions of the quality of services showed improvements, while supportive supervision visits also increased and served as an opportunity for supervisors to help health care providers understand best practices and institute corrective actions to address health facility weaknesses.

The PBF incentives earned by health facilities also facilitated improvements (as evidenced by construction and renovation projects) and provided health care workers with opportunities for financial bonuses. Prior to the implementation of PBF, most health facilities relied on user fees to pay for facility operating costs and staff bonuses, as many personnel do not receive a regular civil service salary.

Challenges

Despite the successes of the PBF pilot program, several challenges must be addressed in order to improve health services outcomes. The two most common reasons for not visiting a health facility were the inability to pay for services and the distance from a health center.¹⁶ The presence of untrained health care providers, frequent stock-outs of drugs and commodities, and infrequent water and electric supplies also negatively impacted the quality of health services.

While the PBF pilot program has received widespread support from the Government of the DRC, it still largely depends on external funding, which calls into question its long-term sustainability and impact. The total budget for the PBF pilot for seven zones was \$6.3 million over the two-year period.

Recommendations and Conclusions

Based on the independent impact evaluation, it is recommended that PBF be continued and scaled up to additional health facilities in the DRC.¹⁷ PBF has the potential to achieve measurable results, strengthen core health system functions, and increase both the value for money and the overall accountability of the health system.¹⁸



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To ensure its sustainability and extended impact, there must be a long-term commitment for PBF funding, while ensuring its integration into the existing function of the government health system. Moreover, to address low utilization rates at participating health facilities, key demand-side barriers, including the presence of user fees, must be addressed, as should supply-side barriers such as the frequent stock-outs of drugs and commodities. Lastly, to complement efforts of the existing PBF pilot program and improve the quality of health services, the use of non-financial incentives for health care providers, such as trainings and mentorship, should be reinforced. ■

PBF has the potential to achieve measurable results, strengthen core health system functions, and increase both the value for money and the overall accountability of the health system.

Endnotes

1. Population Reference Bureau. 2016 World Population Data Set. Available at: <http://www.prb.org/pdf16/prb-wpds2016-web-2016.pdf>
2. Wright, J., Health Finance & Governance Project. July 2015. Essential Package of Health Services Country Snapshot: The Democratic Republic of the Congo. Bethesda, MD: Health Finance & Governance Project, Abt Associates Inc.
3. Internal Displacement Monitoring Center: Global Internal Displacement Database. June 2016. Accessed September 2016. Available at: <http://www.internal-displacement.org/database/>
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6. Maini, R., Van den Bergh, R., van Griensven, J., Tayler-Smith, K., Ousley, J., Carter, D., ... Zachariah, R. (2014). Picking up the bill - improving health-care utilisation in the Democratic Republic of Congo through user fee subsidisation: a before and after study. *BMC Health Services Research*, 14, 504. <http://doi.org/10.1186/s12913-014-0504-6>
7. The AIDSTAR-Two Project. The PBF Handbook: Designing and Implementing Effective Performance-Based Financing Programs. Version 1.0. Cambridge: Management Sciences for Health, 2011.
8. PBF is commonly referred to as “pay-for-performance,” “results-based financing,” and “output-based financing.”
9. The AIDSTAR-Two Project. The PBF Handbook: Designing and Implementing Effective Performance-Based Financing Programs. Version 1.0. Cambridge: Management Sciences for Health, 2011.
10. The pilot program was launched through the USAID DRC Integrated Health Project which is referred to in French as *Projet de Santé Intégré (PROSANI)*. The IHP Plus Project began in June 2015.
11. FOSACOF refers to *formations sanitaires complètement fonctionnelles* (fully functional service delivery point).
12. Patient satisfaction scores were not assessed at baseline, but nevertheless demonstrate an improvement from the first quarter of PBF implementation.
13. United States Agency for International Development (USAID). Impact evaluation: results-based financing in the Democratic Republic of Congo. March 20, 2016.
14. The evaluation, by International Business and Technical Consultants, Inc., included measurements taken at baseline (2013), midline (2014), and endline (2015). One comparison zone was selected for each of the seven intervention zones and a total of 167 health centers and 14 referral hospitals at baseline in 2013 and 172 health centers and 14 referral hospitals at endline. More than 3,000 respondents (users and non-users of health services) completed the household questionnaires.
15. The most common contraceptive methods were male condoms (61%), injections (20%), pills (13%), and long-acting methods (1%).
16. United States Agency for International Development (USAID). Impact evaluation: results-based financing in the Democratic Republic of Congo. March 20, 2016.
17. United States Agency for International Development (USAID). Impact evaluation: results-based financing in the Democratic Republic of Congo. March 20, 2016.
18. United States Agency for International Development (USAID). Impact evaluation: results-based financing in the Democratic Republic of Congo. March 20, 2016.