

Original Article



The factors that influence performance-based financing in primary health care provision in Muramvya province, Burundi

Yandemye Innocent ,¹ Sunjoo Kang ,² Kennedy Diema Konlan ^{3,4}

¹Healthcare Provision, Ministry of Health and the Fight Against Aids, Bujumbura, Burundi

²Department of Global Health, Graduate School of Public Health Yonsei University, Seoul, Korea

³Mo-im Kim Nursing Research Institute, College of Nursing, Yonsei University, Seoul, Korea

⁴Department of Public Health Nursing, School of Nursing and Midwifery, University of Health and Allied Sciences, Ho, Ghana

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Correspondence to

Sunjoo Kang

Department of Global Health, Graduate School of Public Health Yonsei University, 50-1 Yonsei-ro, Seodaemun-gu, Seoul 03722, Korea.
Email: ksj5139@hanmail.net

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ORCID iDs

Yandemye Innocent
<https://orcid.org/0000-0002-6748-7381>

Sunjoo Kang
<https://orcid.org/0000-0002-1633-2558>

Kennedy Diema Konlan
<https://orcid.org/0000-0002-1994-3792>

Conflict of Interest

The authors declare that they have no competing interests.

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ABSTRACT

Background: Many health experts have considered Performance-Based Financing (PBF) a pillar of strengthening the Burundi health system. At the same time, some evidence suggests possible adverse effects associated with PBF, which could weaken the health system. This study aimed to assess the factors that influence PBF satisfaction among health professionals in primary health care professionals in Burundi.

Methods: Conducted a cross-sectional study among 143 health care providers working in the Muramvya province in Burundi. Using a questionnaire gathering socio-demographic characteristics and PBF-related items. Participants completed a google form sent to them through email or social media by trained data collectors. The data were analyzed through SPSS (version 25) into descriptive statistics and the χ^2 test of the factors influencing PBF.

Results: Participants (n = 126) were above 30 years (67.5%), male (66.7%), and married (72.2%). Age was significantly associated with satisfaction with PBF incentive payment ($\chi^2 = 8.674$, $P = 0.013$), and marital status was significantly associated with health professional satisfaction on “Health facility accessible to the patient” ($\chi^2 = 8.194$, $P = 0.017$). The health-facility level was related to professional perception with the increase of the volume of services provided because of PBF ($\chi^2 = 9.500$, $P = 0.009$) and the increase of availability of health care workers ($\chi^2 = 9.679$, $P = 0.046$). Also, education level was significantly associated with health workers’ satisfaction with payment level for non-maternal-child health care services ($\chi^2 = 7.734$, $P = 0.021$).

Conclusion: There is a need for equity assurance in health workers distribution and PBF benefit services selection, increase health work numbers, improve health worker training on PBF, increase staff motivation for implementing PBF, and increase health care access.

Keywords: Community-based health insurance; Health financing; Health service; Quality of health care

INTRODUCTION

Despite the tremendous efforts to advance toward Universal Health Coverage (UHC), the accessibility to health care services in developing countries remains a primary public health

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concern, making the World Health Organization (WHO) and World Bank report that 400 million people lack essential health services.^{1,2} Household health spending pushed 6% of people in low- and middle-income countries into extreme poverty, including Burundi, in 2017.¹ Burundi achieved only 42% of the essential health services coverage, including maternal-child health care (MCHC), infectious disease control, non-communicable disease prevention and management, and services capacity access, with a service capacity access of 13% in 2019.² A national survey on household expenditure found that among 56.3% of Burundians, poverty was an important barrier to health service access.³ The health financing system is vital in advancing UHC, especially in low-resource settings.^{4,5} An assessment of 47 countries members of the WHO found a positive relationship between primary health services accessibility and health expenditure.⁶

Different health financing mechanisms are implemented by governments supported by international organizations and donor health-related aid funds.^{7,8} Under the goal of improving health service quantity and quality by rewarding health providers for health services and quality improvement, different performance-incentive schemes have been implemented worldwide.⁹ Several governments in low- and middle-income countries are implementing Performance-Based Financing (PBF), mainly in Africa, using evidence from many initiative programs.¹⁰

Burundi launched PBF in 2006 in three pilot provinces among 18 provinces following the recommendations from a general meeting on health (Les Etats Généraux de la santé) in 2004. Participants in the meeting pointed out many challenges that faced the Burundi health system, such as the high prevalence of infectious diseases and malnutrition, high mortality rate, lack of qualified staff, low quality and quantity of health-care services, and lack of leadership. In 2006, the government set a free health-care policy for pregnant women and children under 5.¹¹ As a result, the government reimbursed health-care bills for health services provided to pregnant women and children under 5. However, in 2010, various challenges related to the selective free health-care policy's implementation, such as delay in bill reimbursement by the government, excessive workload, shortage of medicines, and lack of adequate medical equipment and qualified providers, led to reconsidering that policy (**Table 1**). In response to the good results of PBF from pilot provinces in health service coverage and quality improvement, the government and its partners incorporated PBF nationwide extension, coupling the PBF scheme to a free health-care policy for pregnant women and under-5 children. Health financing shifted from input-based to output-based bills' reimbursement for services rendered to pregnant women and under-5 children, as well as contracted services provided to the non-maternal-child group on which the PBF pays a fixed amount to promote quantity and quality. The selection of contracted services for the non-maternal-child group depends on services with low coverage but a huge community impact.

Table 1. PBF overview in Burundi: from pilot period to nationwide extension

Year	PBF intervention province	Level	Service covered for MCHC	Service covered for non-MCHC	Quality incentive payment/ quality score
2006 ^a	Three provinces	Health centers and district hospitals	Reward health providers (payment of fixed amount) on MCHC provided at the health facility level (vaccination, antenatal visit, vaginal birth at the health center and caesarian at the hospital)	Rewarding health providers for contracted health services provided at the facility level (for example, adult visits at the health center and physician consultations, laboratory tests)	≥ 70%: Quarterly amount reimbursed on quantity of services
2009 ^a	Nine provinces				^b ×25%× quality score of health facility
2010 ^b	Whole country (18 provinces)	Health centers, hospitals (district, regional and national hospitals)	Payment of 100% of the cost of MCHC provided at all health facility levels (vaccination, Antenatal visit, vaginal birth)		50%–69.9%: No incentive ≤ 50%: punishment (Munis)

PBF = Performance-Based Financing; MCHC = maternal-child health care.

^aPBF pilot period; ^bPBF nationwide extension, coupling with the free health-care policy for pregnant women and under-5 children.

In this scheme, providers paid incentives for all contract services while promoting health facility autonomy on health revenue utilization. At the facility, incentives are shared between health providers using a PBF tool that considers education level, experience, hours worked, and work performance.¹⁰

All public health facilities are under a PBF contract, each with a catchment area. Private health facilities operating within that catchment area are eligible for a PBF secondary contract. Under that secondary contract, a private health facility accepts implementing a part of the public health facility responsible for that catchment area under certain conditions, such as providing each monthly report to that public health facility. The public health facility takes 5% of PBF payment on the services offered by that private health facility. Burundi applies a decentralized Ministry of Health and national hospitals at the national level, then 18 health provinces in 18 provinces, including Muramvya health province, and 47 health districts at the operational level. PBF scheme became a pillar of Burundi's health system development with a notable improvement in maternal and child health indicators.^{12,13} Similar findings in Rwanda showed that PBF led to facility-based births by 10% (and increased equity in under-five childcare by 45%).¹⁴

Little evidence of PBF effect on health worker outcomes showed that the design of PBF implementation influences job motivation and satisfaction.^{15,17} The perspective of health-care workers is instrumental in understanding the definite impact of PBF on UHC as the health workers play an essential role.¹⁸

This study assessed the factors influencing PBF satisfaction among health professionals in Burundi.

METHODS

Study design

A quantitative descriptive cross-sectional study was conducted among health professionals in public health facilities in Muramvya province of Burundi from September until November 2021. This was a one-time collection of data from health-care providers using a pretested questionnaire with no follow-up required.

Population and sampling

According to a 2020 report, Muramvya province had 369 health providers working in 26 public health facilities, including 23 health centers and 3 hospitals. The target population for this study was health-care providers working in public health facilities of the Muramvya province in Burundi. All health workers with at least a year of work experience were included in this study. Multistage sampling through cluster sampling among health facilities and then systematic random sampling. First, cluster sampling was used to select ten health centers from 23 public health centers and two hospitals from 3 hospitals. Then systematic random sampling was used to determine 143 participants from 225 health providers of the chosen health facilities. Data collection was conducted using a google questionnaire tool used to facilitate data management. Participants were randomly selected from selected health facilities. After getting consent, a questionnaire link was shared with each selected health professional.

Measurements

The research variables were assessed using a closed-ended research questionnaire of 26 items. Research variables were socio-demographic characteristics (7 items), PBF components (6 items), health services coverage and volume (4 items), structural quality of services provided (5 items), and primary challenges in health implementation (4 items). These closed-ended questions were measured using a Likert-scale questionnaire (5 degrees). Participants' socio-characteristics were age, sex, marital status, education level, professional status, working health facility level, and experience. PBF implementation variables contained 11 variables, including six items for PBF tools-related components such as satisfaction with an incentive payment to health workers, health facility external evaluation, individual performance evaluation, autonomy in health facility revenue utilization, PBF payment level for MCHC services, and PBF payment level for non-MCHC services. Five structural quality component items include satisfaction with medicines and other medical consumables availability, referral system, knowledge and skills, working environment, and patient accessibility to health services at the health facility. PBF variables were chosen from the Burundi manual of PBF utilization and the World Bank's PBF tool kit.¹⁰

PBF effect variables contained 4 items: 1) Increased coverage in maternal services utilization, 2) Children under-5 years of age service utilization, 3) People more than 5-year age except for pregnant women service utilization (non-MCHC service coverage), and 4) Volume of health services provided. Among those four items, 2 were only for a group of the population for which PBF reimburses 100% of their bills (maternal health utilization and under-5 health services utilization). One for a group of people for which PBF pays an incentive for targeted services (group of people over the age of 5, except pregnant women health service utilization). PBF challenges chosen were 4 items payment level of domestic schemes, lack of health workers according to PBF tools, health facility capacity to survive on its revenue, and time allocated to PBF evaluation.

The data collection was done using a self-administrative questionnaire tool. A google form developed from the questionnaire was sent via email or any social media (social networking service) network to health-care providers who have consented to participate.

Questionnaire pilot test

Before data collection, the questionnaire was pretested among health professionals in Gitega province, which has a similar culture to Muramvya province, while both provinces share the borders. The questions were uploaded on a google questionnaire and distributed to 20 participants chosen by using convenience sampling. The tool was also reviewed by PBF experts working in the Burundi National Committee of the Ministry of Health in charge of PBF to validate and verify content validity. The overall items' content reliability was calculated using Cronbach's alpha (0.889). The Muramvya provincial committee of the Ministry of Health in charge of PBF validation and verification well appreciated the content validity of the questionnaire.

Data analysis

Data were downloaded from the google form into Microsoft Excel, cleaned, coded, and then analyzed using Statistical Package for Social Sciences (SPSS, version 25.0; IBM Corp., Armonk, NY, USA). The descriptive analysis described socio-demographic characteristics and participants' satisfaction with PBF implementation's effect on service coverage and volume. Socio-demographic variables were independent variables, PBF implementation variables, PBF effect variables, and PBF challenges were dependent variables. Participants' perceptions of

each item of PBF satisfaction among health workers were analyzed using the χ^2 test between socio-demographic variables and PBF components, PBF outcomes, and PBF challenges.

Ethics

A letter asking permission for data collection was sent to the health province authority of the Ministry, followed by approval for this survey. All the respondents were above the minimum age to give informed consent. Verbal consent was obtained from each participant individually after the purpose of the study was explained to each participant. No consequences were associated with any potential respondent who chose not to participate in the study. The study received approval (633-5/236/PSMUR/2021) by a research ethics committee (Institutional Review Board) constituted by the Director of the Muramvya health province in Burundi. This committee was responsible for reviewing and approving all research protocols to ensure that they abide by the ethical declarations enshrined during the Helsinki declaration for human subject studies in the Muramvya province.

RESULTS

Socio-demographic characteristics

One hundred twenty-six out of 143 responded to all questionnaire items (88.1%). Most of the participants were above 30 years of age (67.5%), male (66.7%), and married (72.2%), as shown in **Table 2**. Most participants had secondary or advanced diplomas (52.3%), and Nurses were the most represented (65.9%).

Factors associated with health professionals' satisfaction with PBF scheme implementation

Results revealed that age was significantly associated with satisfaction with PBF incentive payment among health professionals ($\chi^2 = 8.674, P = 0.013$). The most satisfied were health professionals aged above 30 years (75.3%) against professionals aged 30 years or below (51.2%). However, marital status was significantly associated with health professional satisfaction on "Health facility accessible to the patient any time" ($\chi^2 = 8.194, P = 0.017$). Those married were the most satisfied (93.4%), against single (77.1%). Moreover, education level was significantly associated with health workers' satisfaction with payment level for non-MCHC services ($\chi^2 = 7.734, P = 0.021$). The secondary and advanced diploma (under-first level) were the most satisfied, with 53% against 31.7% for the undergraduate diploma (first

Table 2. Socio-demographic characteristics

Items	Categories	Frequency	%
Age (years)	≤ 30	41	32.5
	> 30	85	67.5
Sex	Female	42	33.3
	Male	84	66.7
Marital status	Single	35	27.8
	Married	91	72.2
Education level	Secondary and advanced diploma	66	52.4
	First degree	60	47.6
Profession	Nurses	83	65.9
	Physicians	10	7.9
	Technicians and others	33	26.2
Facility level	Health center	51	40.5
	Hospital	75	59.5
Working experience	1-5 years	68	54.0
	> 5 years	58	46.0
Total		126	100.0

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Table 3. Factor that influences satisfaction on PBF implementation

Factors	Categories	Disagree	Neutral	Agree	χ^2	Cramer's V	P
Incentive payment to health workers	≤ 30 years	12 (29.3)	8 (19.5)	35 (51.2)	8.674	0.262	0.013
	> 30 years	9 (10.6)	12 (14.1)	64 (75.3)			
Facility accessible to patient any time	Single	3 (8.6)	5 (14.3)	27 (77.1)	8.194	2.550	0.017
	Married	4 (4.4)	2 (2.2)	85 (93.4)			
Payment level for non-MCHCs	Secondary and advanced diploma	23 (34.8)	8 (12.1)	35 (53.0)	7.734	0.248	0.021
	First level	24 (40.0)	17 (28.3)	19 (31.7)			
	Secondary and advanced diploma	6 (9.1)	9 (13.6)	51 (77.3)			
Drugs and other medical consumables availability	First level	15 (25.0)	11 (18.3)	34 (56.7)	7.188	0.239	0.027
Working environment	1–5 years	13 (19.1)	13 (19.1)	42 (61.8)	6.090	0.220	0.048
	> 5 years	4 (6.9)	7 (12.1)	47 (81.0)			

Values are presented as number (%) not otherwise specified.

Table 4. Factors influencing health professionals' satisfaction with service

Factors		Disagree	Neutral	Agree	χ^2	Cramer's V	P
Health facility level	Volume of health services provided	5 (9.8)	10 (19.6)	36 (70.6)	9.500	0.275	0.009
	Health centers Hospitals	4 (5.3)	3 (4.0)	68 (90.7)			

Values are presented as number (%) not otherwise specified.

level). Results also revealed that the education level was the factor significantly associated with health professional satisfaction on drugs and other medical consumables availability ($\chi^2 = 7.188$, $P = 0.027$) with high joy for under-first level (77.3%) against (56.7%) for the first level. However, the working experience was significantly associated with health professional satisfaction ($\chi^2 = 6.090$, $P = 0.048$) as 61.8% were more than 5 years (Table 3).

Factors associated with health professional satisfaction on service coverage and volume

Results revealed that health-facility level was associated with professional satisfaction on the increased volume of service provided by PBF ($\chi^2 = 9.500$, $P = 0.009$). However, the Hospital level had high satisfaction (90.7%) against health centers with 70.6% (Table 4).

Factors associated with health professionals' perception of PBF's challenges

Results revealed that education was the factor influencing health professionals' perception of the availability of health workers and was significantly associated with education level ($\chi^2 = 6.971$, $P = 0.031$). The first level was the most dissatisfied (41.7%), against (22.7%) for the under-first level (Table 4). However, the profession was the factor significantly associated with professional satisfaction in the availability of health workers ($\chi^2 = 9.679$, $P = 0.046$). Most dissatisfied were physicians with 60%, technicians and others (26.5%), and nurses 26.5%. Moreover, the working experience was the factor significantly associated with professional satisfaction in the availability of health workers ($\chi^2 = 7.204$, $P = 0.027$). Health professionals with experience between 1–5 years were most dissatisfied (35.3%), against 27.6 for health professionals with more than 5 years of experience (Table 5).

DISCUSSION

This study was conducted after 15 years of PBF implementation in Burundi on health workers of Muramvya province in October 2021. Most participants were secondary and advanced diplomas (52.4%) and experienced less than 5 years (59.5%). The factors associated with health professionals' satisfaction with PBF implementation revealed that age was significantly associated with satisfaction with PBF incentive payment among health

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Table 5. Factors associated with health professionals' perception of PBF's challenges

Factors	Disagree	Neutral	Agree	χ^2	Cramer's V	P
Education: Availability of health workers				6.971	0.235	0.031
Secondary and advanced diploma	15 (22.7)	16 (24.2)	35 (53.0)			
First level	25 (41.7)	16 (26.7)	19 (31.7)			
Profession: Availability of health workers				9.679	0.196	0.046
Nurses	22 (26.5)	22 (26.5)	39 (47.0)			
Physicians	6 (60.0)	40 (40.0)	0 (0.0)			
Technicians and others	12 (36.4)	6 (18.2)	15 (45.5)			
Experience: Availability of health workers				7.204	0.239	0.027
1–5 years	24 (35.3)	22 (32.4)	22 (32.4)			
> 5 years	16 (27.6)	10 (17.2)	32 (55.2)			

Values are presented as number (%) not otherwise specified.

professionals ($\chi^2 = 8.674$, $P = 0.013$). It is parallel to the results found by Manga et al.¹⁹ in Cameroon, who found that age was an essential factor influencing incentive satisfaction of health workers under the PBF scheme. However, other studies found the educational level the most associated with remuneration satisfaction.²⁰ In Burundi, the PBF program has introduced a system of rewarding health workers on health services quantity and quality using an indices tool that guides managers of health facilities on revenue utilization, including incentive allocation to health workers in transparency.¹⁰

Education level was significantly associated with health workers' satisfaction on PBF payment level for non-MCHC services ($\chi^2 = 7.734$, $P = 0.021$) and with drugs and other medical consumables availability I ($\chi^2 = 8.198$, $P = 0.017$). It can be explained by the complexity of the PBF strategies in choosing contracted services, especially for non-MCHC services, and its relationship with other health financing schemes. Indeed, PBF contracted services are frequently changing according to donor funds availability and priorities. Moreover, PBF reimburses one part of the non-MCHC service cost while other health financing schemes cover other parts. Moreover, these findings can be explained by a lack of qualified staff in the Burundi health system and regular training sessions on PBF scheme implementation.

Health financing has many health insurance schemes, including assistance medical card operating in public health facilities. However, many health experts have criticized these insurance schemes for being weak in the organization and inefficient.²¹ In Nigeria, a study found a lack of knowledge of PBF components among health workers.²²

Marital status was significantly associated with "health service access to the patient" ($\chi^2 = 8.194$, $P = 0.017$). A difference in health-care service accessibility between recipients of maternal-child and non-MCHC services can explain these findings. Married are the most recipients of MCHC that PBF covers at 100%. Evidence shows PBF improves health services accessibility of contracted services.^{23,24}

Health professionals' satisfaction with the PBF increase in service quantity was associated with health facility level ($\chi^2 = 9.500$, $P = 0.009$). Under PBF schemes, hospitals apply for both primary and secondary health care, while health centers apply only for primary health care. In Cameroon, evidence showed PBF satisfaction among health workers was positively associated with the type of health center,¹⁹ while PBF was associated with increased services.²⁵ It can be explained by the attention of primary health services in PBF contracted services. In America, Glickman et al.²⁶ and in Rwanda, Basinga et al.²⁷ found that PBF had no potential to increase structural quality in terms of drugs and equipment availability. In Burundi, the

PBF scheme is more likely associated with improvement. Regarding PBF implementation challenges, the health professionals' perception of the availability of health workers was associated with education level ($\chi^2 = 6.971$, $P = 0.031$), profession ($\chi^2 = 9.679$, $P = 0.046$), and working experience ($\chi^2 = 7.204$, $P = 0.027$). It may also be explained by a lack of equity in human resources distribution and experienced staff caused by a permissive movement of professional job change among health-care professionals. Focusing on health professionals in health financing improved health service outcomes.^{28,29}

The study has demonstrated the perspective of health professionals on implementing the PBF in Burundi. However, the key challenge was using people who have practiced just over a year, and this limit allowed for the inclusion of people who could be regarded as not having full knowledge of PBF. Also, future qualitative studies will detail health workers' perspectives that could not be captured through a questionnaire-based survey like this one. However, we are optimistic that this study is the beginning point to consider the challenges and impact of the PBF after 15 years of implementation in Burundi.

In conclusion, the results revealed education level influences health professionals' satisfaction with the PBF scheme, such as satisfaction with payment level of non-MCHC services, availability of drugs and other medical consumables, and health workers' availability. Then, results revealed experience as the second factor associated with satisfaction in health workers' availability and happiness in the working environment. Also, the facility level was related to health professionals' satisfaction with the increased health services provided by PBF. Further, professional and working experience were factors related to satisfaction with the availability of health workers, and age was associated with satisfaction with incentives. Also, marital status is associated with patient satisfaction with health service access. Results suggest a need for regular training on the PBF scheme and Burundi health financing system among health workers and a need for qualified and experienced health workers. Therefore, there is a need for the motivation of health workers to face a high level of brain drain in health workers in Burundi.

REFERENCES

1. Ghebreyesus TA. All roads lead to universal health coverage. *Lancet Glob Health* 2017;5(9):e839-40. [PUBMED](#) | [CROSSREF](#)
2. World Health Organization. *Primary Health Care on the Road to Universal Health Coverage: 2019 Global Monitoring Report*. Geneva, Switzerland: World Health Organization; 2021.
3. Dunia P, Bukuru L. *Evaluation de l'Économie Informelle du Burundi au Moyen d'Une Enquête Auprès des Ménages (ECVMB-2014)*. Addis Ababa, Ethiopia: United Nations Economic Commission for Africa; 2014.
4. Jowett M, Kutzin J, Kwon S, Hsu J, Sallaku J, Solano JG. *Assessing Country Health Financing Systems: The Health Financing Progress Matrix*. Geneva, Switzerland: World Health Organization; 2020.
5. World Health Organization. *Tracking Universal Health Coverage: 2017 Global Monitoring Report*. Geneva, Switzerland: World Health Organization; 2017.
6. Sambo LG, Kirigia JM. Investing in health systems for universal health coverage in Africa. *BMC Int Health Hum Rights* 2014;14(1):28. [PUBMED](#) | [CROSSREF](#)
7. Eichler R. *Can "Pay for Performance" Increase Utilization by the Poor and Improve the Quality of Health Services?* Washington, D.C., USA: Center for Global Development; 2006.
8. Ifeagwu SC, Yang JC, Parkes-Ratanshi R, Brayne C. Health financing for universal health coverage in Sub-Saharan Africa: a systematic review. *Glob Health Res Policy* 2021;6(1):8. [PUBMED](#) | [CROSSREF](#)
9. World Health Organization. *The World Health Report: Health Systems Financing: The Path to Universal Coverage: Executive Summary*. Geneva, Switzerland: World Health Organization; 2010.

10. Fritsche GB, Soeters R, Meessen B. *Performance-based Financing Toolkit*. Herndon, VA, USA: World Bank Publications; 2014.
11. Minani I. *Programme d'Appui au Système de Santé à travers l'outil du Financement Basé sur la Performance—UE-PASS-FBP*. European Union: EU Publication; 2019.
12. Bigirimana E, Ntakarutimana L, Manirambona J, Basenya O, Minubona T. *Le Financement Basé sur la Performance: de la Phase de Projet Pilote à l'Intégration au Niveau du Système de Santé: Etude de Cas du Burundi 2004–2014*. Antwerp, Belgium & Geneva, Switzerland: Institute of Tropical Medicine & Alliance for Health Policy and Systems Research; 2016.
13. Peerenboom PB, Basenya O, Bossuyt M, Ndayishimiye J, Ntakarutimana L, van de Weerd J. Good governance in the Burundi health sector financial reform. *Sante Publique* 2014;26(2):229-40.
[PUBMED](#) | [CROSSREF](#)
14. Skiles MP, Curtis SL, Basinga P, Angeles G, Thirumurthy H. The effect of performance-based financing on illness, care-seeking and treatment among children: an impact evaluation in Rwanda. *BMC Health Serv Res* 2015;15(1):375.
[PUBMED](#) | [CROSSREF](#)
15. Shen GC, Nguyen HT, Das A, Sachingongu N, Chansa C, Qamruddin J, et al. Incentives to change: effects of performance-based financing on health workers in Zambia. *Hum Resour Health* 2017;15(1):20.
[PUBMED](#) | [CROSSREF](#)
16. Lohmann J, Houlfort N, De Allegri M. Crowding out or no crowding out? A Self-Determination Theory approach to health worker motivation in performance-based financing. *Soc Sci Med* 2016;169:1-8.
[PUBMED](#) | [CROSSREF](#)
17. Khim K. Are health workers motivated by income? Job motivation of Cambodian primary health workers implementing performance-based financing. *Glob Health Action* 2016;9(1):31068.
[PUBMED](#) | [CROSSREF](#)
18. World Health Organization. *A Vision for Primary Health Care in the 21st Century: Towards Universal Health Coverage and the Sustainable Development Goals*. Geneva, Switzerland: World Health Organization; 2018.
19. Manga LJ, Fouda AA, Mbida L, Mvogo CE. Performance based financing and job satisfaction in a semiurban health district in Cameroon. *J Public Health Africa* 2018;9(1):760.
[PUBMED](#) | [CROSSREF](#)
20. Grammatikopoulos I, Koupidis S, Moralis D, Sadrazamis A, Athinaïou D, Giouzeas I. Job motivation factors and performance incentives as efficient management tools: a study among mental health professionals. *Arch Hell Med* 2013;30(1):46-58.
21. The World Bank. *Etude sur le Financement de la Santé au Burundi*. Washington, D.C., USA: The World Bank; 2009.
22. Bhatnagar A, George AS. Motivating health workers up to a limit: partial effects of performance-based financing on working environments in Nigeria. *Health Policy Plan* 2016;31(7):868-77.
[PUBMED](#) | [CROSSREF](#)
23. Priedeman Skiles M, Curtis SL, Basinga P, Angeles G. An equity analysis of performance-based financing in Rwanda: are services reaching the poorest women? *Health Policy Plan* 2013;28(8):825-37.
[PUBMED](#) | [CROSSREF](#)
24. Skiles MP, Curtis S, Basinga P, Angeles G. *An Equity Analysis of Performance-based Financing in Rwanda: Are Services Reaching the Poorest Women?* Chapel Hill, NC, USA: The University of North Carolina at Chapel Hill; 2012.
25. Steenland M, Robyn PJ, Compaore P, Kabore M, Tapsoba B, Zongo A, et al. Performance-based financing to increase utilization of maternal health services: Evidence from Burkina Faso. *SSM Popul Health* 2017;3:179-84.
[PUBMED](#) | [CROSSREF](#)
26. Glickman SW, Ou FS, DeLong ER, Roe MT, Lytle BL, Mulgund J, et al. Pay for performance, quality of care, and outcomes in acute myocardial infarction. *JAMA* 2007;297(21):2373-80.
[PUBMED](#) | [CROSSREF](#)
27. Basinga P, Gertler PJ, Binagwaho A, Soucat AL, Sturdy J, Vermeersch CM. Effect on maternal and child health services in Rwanda of payment to primary health-care providers for performance: an impact evaluation. *Lancet* 2011;377(9775):1421-8.
[PUBMED](#) | [CROSSREF](#)
28. Njournemi Z, Fadimatou A. Performance-based financing for monitoring and evaluation of health system in Cameroon. *Afr Eval J* 2013;1(1):22.
[CROSSREF](#)
29. Semachew A, Belachew T, Tesfaye T, Adinew YM. Predictors of job satisfaction among nurses working in Ethiopian public hospitals, 2014: institution-based cross-sectional study. *Hum Resour Health* 2017;15(1):31.
[PUBMED](#) | [CROSSREF](#)