

Contribution of Results-Based Financing in Quality Improvement of Health Services at Primary Healthcare Facilities: Findings from Tanzania Star Rating Assessment

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Abstract

Background: Performance-based financing (PBF) is an important mechanism for improving the quality of health services in low- and middle- income countries. In 2014, Tanzania launched a countrywide quality approach known as Star Rating Assessment (SRA) which aims to assess the quality of healthcare service delivery in all Primary Health Care (PHC) Facilities in the country. Furthermore, by 2018 (2015-2018), the country rolled out RBF initiatives into eight regions in which PHC facilities were paid incentives based on their level of achievement in SRA assessments. This study aims to compare performance in quality between PHC facilities under RBF regions and non-RBF regions using the findings from the two-phases SRA assessments; baseline (2015/16) and follow-up (2017/18).

Methods: Analysis of performance of SRA indicators in the SRA service areas were identified based on the star rating tool that was used. The star rating tool had 12 service areas. For the sake of this implementation study, only seven service areas were included. The purposive sampling of the areas was used to select the areas that had direct influence of RBF in health

facilities improvement. We used a t-test to determine whether there were differences in assessment star rating scores between the regions that implemented RBF and those, which did not at each assessment (both baseline and reassessment). All results were considered significant at $p < 0.05$. The 95% Confidence Interval was also reported.

Results: The mean value was found to be 61.26 among facilities exposed to RBF compared to 51.28 among those not exposed to RBF. The study showed the mean difference score to be 10.79, with a confidence interval at 95% to be -1.24 to 22.84, suggesting that there was (no) a significant difference in the facilities based on RBF exposure during baseline assessment. The p-value of 0.07 was not statistically significant. Overall, there was an increment in facilities scoring the recommended 3+ stars and above by 17.39% between the assessments, the difference was significant ($p=0.0001$). When the regions were stratified based on RBF intervention; facilities under RBF improved in 3+ stars by 10.63% higher compared to those that were not under RBF; however, the difference was not statistically significant ($p=0.06$)

Conclusion: Improvement of Health services needs to adhere to all six WHO building blocks and not to a sole financing. The six WHO building blocks are

1. Service delivery
2. Health workforce
3. Health information systems
4. Access to essential medicines
5. Financing
6. Leadership/governance.

Probably, RBF found not to influence star rating because other blocks were not considered in this intervention. We need to integrate all the six WHO building blocks whenever we want to improve health services provision.

Keywords: Result Based Financing, Star Rating Assessment, Quality improvement plan, Primary Healthcare Facilities, Quality Improvement.

Key Messages

Implications for Policy Makers

- RBF is worth to continue as a way to improve health services in developing countries
- RBF implementation should take on board all six WHO building blocks for improving health services
- RBF should be scaled up to all regions in primary healthcare facilities
- Developing countries should look for funds that will be used to implement RBF as sustainability mechanism.

Implications for Public

This research intended to find out the gaps related to implementation of RBF to come up with solutions that will improve the intended purpose of RBF in primary health facilities. If RBF will be implemented based on WHO six building blocks, then there will be a lot of benefits to the public, that include: increased availability of health supplies (including medicine) at health facilities, increased health care utilization in primary health care facilities, quality health service provision from the primary facilities, gains in health care providers' productivity and efficiency in service delivery, higher quality data that is used for evidence-based decision-making as well as health management teams, MSD, facility governing committees and quality improvement teams will be more accountable and responsive.

Background

Performance based payment models (commonly referred to as performance-based financing (PBF) or results-based financing

(RBF)) are an important mechanism for helping to improve the quality of health services in low- and middle- income countries (LMICs) [1]. PBF quality tools used in verification of facility performance are more focused on structural quality and availability of resources, with few processes of care. This has called for a need to improve the tools to focus more on the quality-of-care processes [2]. Effect of performance-based payment interventions depend on its design, additional funding, supportive components such as technical support, and the context in which it is implemented [3]. Based on lessons from implementation of PBF in several countries in LMICs, the need for ensuring that the quality components in PBF is adapted to a country context has been noted [4].

Analysis of data from Burundi, Lesotho, Senegal, Zambia and Zimbabwe have shown that PBF had no effect “on neonatal health outcomes, health care utilization or quality”, which indicates a need to relook at PBF if they are effective [5]. However, a study by Brenner and colleagues on implementation of RBF in Malawi has shown that it has potential for improving “effective coverage” for obstetric services [6]. In Zimbabwe, analysis of Demographic and Health Survey data between 2005 and 2015 was done to check for the effect of RBF implementation on health outcomes (neonatal, infant and under five mortality) and their analysis based on socio-economic groups. The findings have shown some positive effects on health outcomes but influenced by socio-economic status [7].

In Tanzania, PBF (in the name of pay for performance – P4P) intervention was introduced in Pwani Region in 2011 [8,9]. Its imple-

mentation was shown to be influenced by the following “*contextual factors*”: *salary and employment benefits; resource availability including staff, medicines and functioning equipment; supervision; facility access to utilities; and community preferences* [10]. Other studies on its implementation found improvements in seven areas as follows. First, it improved accountability mechanisms in particular internal accountability mechanisms; external accountability mechanism improved in some aspects such as attitude to patients but did not influence functionality of Health Facility Governing Committees [11]. Second, it reduced stock out of essential drugs in particular oxytocin; increased health care workers kindness at delivery; and enabled supportive supervision visits to be implemented within planned timeframes [12]. Third, it improved availability of essential medicines and supplies, but had no effect on availability of functioning equipment [13]. Fourth, it was found to have potential for ensuring equity in accessing health services among the poor and in rural districts [14]. Fifth, it was found to have potential for influencing efficiency in particular in public facilities but it requires further improvement in its design for this to be realized [15]. Sixth, it produced some sustained improvements in user (patient) experience of care such as kindness [9]. Seventh, it showed potential for reducing women bypassing a nearby health facility [16]. Given, its high costs in its implementation especially management costs and costs involved in performance data generation and verification, it was suggested to consider its integration in routine health systems to make it more cost-effective [17].

Several studies looked at the way the P4P intervention in Tanzania was designed. A study by Songstad and colleagues on assessment of health care workers performance expectations with the P4P in comparison with the Open Performance Review and Appraisal System (OPRAS) found that the studied health care workers showed positive expectations towards P4P implementation, although the link between OPRAS and P4P was unclear [18].

However, the design was noted to be influenced by politics especially the influence of external actors in setting the agenda [19]. Another study by Chimhutu, et al. found that the modality of distribution of bonuses in the P4P scheme was unfair and that it affected staff motivation, teamwork, as well as social relations at health facilities; which could ultimately affect the quality of health care services [20]. Binyaruka and colleagues found that the design of how incentives are provided in P4P and some health facility characteristics influenced inequalities in health facilities performance [21]. A study by Cassidy and colleagues observed that the roles of Health Facility Governing Committees were not included in the design of the P4P despite their key roles in enabling proper management of resources in health facilities and also linking with the community served [22]. It was further found that apart from the potential for improving some aspects of experience of care, the way the P4P was designed with focus on certain services only, limited the generalizability of their gains in a whole health facility [23].

Implementation of the P4P pilot in Pwani Region took place from

2011 to 2013 and thereafter, preparation for rolling on its improved version named RBF was started in which its pilot was done in two councils in Shinyanga Region in 2015 and rolled out to the whole region in 2016. The program was then rolled out to other regions as follows: Pwani, and Mwanza (2016); Geita, Kagera, and Kigoma (2017); Simiyu, and Tabora (2018) [24]. The RBF implementation in Tanzania gives payment to PHC facilities on quarterly basis based on their level of achievement that has been verified in which 75% of the payments is allocated for facility improvement and 25% is for incentivizing the staff [25]. By 2019, RBF was implemented in 8 regions of Tanzania: Pwani, Mwanza, Shinyanga, Tabora, Simiyu, Kagera, Kigoma, Geita [24,25]. The RBF implementation was envisaged as a strategy that can help to reform the health sector resulting in improvements in “*service delivery, leadership and governance, human resources, health management information system, medical supplies, vaccines, equipment, and health care financing in order to improve accountability, efficiency, and equity*” [24].

This study aims to compare performance of health facilities in RBF regions and non-RBF regions in terms of quality of health services as measured by the Star Rating Assessment (SRA) approach. The SRA approach to quality was introduced in 2014 with the aim of assessing quality of health services in all Primary Health Care (PHC) facilities in Tanzania. A baseline was conducted in the Fiscal Year 2015/2016 and reassessment was done in the Financial Year 2017/2018 [26,27].

Specifically, the objectives of this study were to determine:

- The difference in mean scores between the star rating service areas in regions that implemented RBF versus those which did not implement in the PHC facilities in financial year 2017/18
- Whether there was an overall increment in 3+star rating scores between (2015/2016) and follow up assessment (2017/2018) and whether there was difference in increment of 3+star rating scores among regions that were exposed to RBF and those that were not between the two assessments.

Methods

Study Design: This was both descriptive and analytical comparative study on contribution of RBF in quality of services in PHC facilities from findings of SRA conducted in the "Financial Year 2015/2016 and 2017/2018".

Study Setting: The study was conducted at PHC facilities of Tanzania that is located in East Africa. Tanzania Mainland has 26 regions and 184 Local Government Authorities (shortly referred to as councils). According to health system of Tanzania Mainland, there are facilities at primary level (dispensaries, health centers and hospitals at council level) and referral hospitals (hospitals at regional, zonal and national levels). As of 2020, the country had 9,813 health facilities in the following categories: Hospitals (*referral and council level*) 369, Health Centers 926, Dispensaries 7,163, others (including clinics) 1,276, and Maternity Nursing Homes 79 [28].

Population

Selection Criteria: All PHC facilities that were assessed during baseline (2016/17) and re-assessment (2017/18) were included in the study.

Sampling Procedure and Sample Size Estimation

Participating Regions: All eight (8) regions where RBF was implemented were included in this study. From the 18 remaining regions that were not implementing RBF; eight regions were sampled randomly by a simple random method in order to match the number of regions that implemented RBF. Before sampling, the name of each of the 18 regions was written over 18 pieces of papers then folded. Then eight papers were drawn one by one eight times to get the eight regions by providing equal chance of participation. The total PHC facilities in these regions were 2,214 during baseline and 2,143 during reassessment.

Performance Areas

Analysis of performance of SRA indicators in the SRA service

areas were identified based on the SRA tool that was used. The SRA tool had 12 service areas. For the sake of this implementation study, only seven service areas were included. The purposive sampling of the areas was used to select the areas that had direct influence of RBF in health facilities improvement.

The service areas included are: Service area 4-staff performance (4.1 staff performance appraisal system); service area 5-service provider charter (5.1 service provider charter, 5.2 client flow); service area 7-client focus (7.1 client service charter, 7.2 client satisfaction); service area 8-social accountability (8.2 functional facility governance committees or boards); service area 9-facility infrastructure (9.2 buildings); service area 11-clinical services (11.1 outpatient services; 11.2 Maternal, Neonatal and Child Health (MNCH) services); service area 12-clinical support services (12.1 pharmaceutical services). Table 1 shows the indicators for each service area that are presented in the analysis.

Table 1: Star Rating Service Area (SA) and the Indicators Included in the Analysis

SA No.	Star Rating Service area	Star Rating Indicator
4	Staff performance	
	4.1 Staff performance appraisal system	Staff performance methods in place
		Staff performance targets agreed
		Individual job descriptions
		Effective review of individual performance
		Staff satisfaction with performance review system
5	Service provider charter	
	5.1 Services provider charter	Facility name, working hours and on-call roster
		Service charter for core healthcare services
		Services, insurance benefits and charges are displayed
		Schedule for special clinics is displayed
	5.2. Client flow	Optimal client flow
		Client waiting time is monitored
7	Client Focus	
	7.1. Client Services charter	Client services charter displayed
		Client services charter is monitored
		Client feedback mechanism and complaints handling
	7.2. Client satisfaction	Clients satisfied with services provided
8.	Social accountability	
	8.2 Functional facility governance committees or boards	HFGC or HFB is active and well oriented
		HFGC/HFB voices community concerns
		HFGC/HFB gives feedback to the broader community
9.	Facility infrastructure	
	9.2 Buildings	Status of the buildings and repairs
		Functional improved toilets for male and female, and staff

		Functional plumbing, drainage and sewerage system
		Patient privacy is ensured
		Availability of conducive waiting areas
		Health Facility rooms are well ventilated and well lit as per Health Facilities guidelines
		Disability-friendly facilities
11	Clinical Services	
	11.1. Outpatient Services	Outpatient register is correctly filled
		Outpatients are treated according to standard treatment guidelines
		Good patient-provider interactions
	11.2 Maternal, Neonatal and Child Health (MNCH) Services	ANC services follow guidelines
		Family planning services follow guidelines
		Immunization services follow guidelines
		The facility is performing BEmONC
		National guidelines available
		BEmONC training
		Partographs for mothers in labor are correctly filled
		The facility is performing death audit within 24 hours of maternal death
		Facility is offering child growth monitoring services according to the guidelines
12	Clinical supportive services	
	12.1 Pharmaceutical services	Qualified pharmaceutical cadre
		Good dispensing practice
		Availability of essential medicines and health products

ANC=Antenatal Care; BEmONC=Basic Emergency Obstetric and Newborn Care; HFGC=Health Facility Governing Committee; HFB=Hospital Advisory Board.

Data Extraction, Management and Analysis

Data Extraction and Data Management

After the identification of the performance areas was done, the next step was to extract data from the sampled regions. Secondary data of the SRA dataset of 2017/2018 were extracted and used to compare the performance of the RBF and non-RBF regions in terms of star level attainment and the scores in the assessed areas. The extracted data were checked for completeness, cleared, edited, coded and double entered in SPSS version 12 for analysis. Backup of the data was done by entering data in an excel sheet.

Data Analysis

Descriptive statistics were used to summarize the data in percentages. The total percentage score per performance area in a facility was computed from the sum of scores from those that scored “yes” divided by the sum for all indicators times 100%. The average percentage score of each performance area in a region was computed from percentage scores from each of the health facility in the region under the study. The final average scores for the regions that implemented RBF were developed by adding all scores of the regions divided by seven and the same was done for those that

did not implement RBF. We used a t-test for unrelated samples to determine whether there were differences in rating scores between the regions that implemented RBF and those, which did not at each assessment (both baseline and reassessment). The t-test for paired samples was used to determine whether there was an overall increment in proportions of facilities scoring 3+ stars between assessments. It was also used to compare if this difference was significant among the facilities that were exposed to RBF and those that were not. All results were considered significant at $p < 0.05$. The 95% Confidence Interval was also reported.

Results

Description of the Participating PHC Facilities

A total of 4,357 facilities were involved in this study; 4,168 at baseline and 4,357 at reassessment which is (189)4.34% more facilities than those which were involved in baseline. The increment of the facilities during reassessment was due to new facilities registered across the country. During both assessments, around 85% were dispensaries and the government owned 85%. Further description of the characteristics of the involved PHC facilities is presented in Table 2.

Table 2: Characteristics of the Facilities Involved in the Study

Variable	Baseline (N)		Reassessment	
Facility level	N	%	N	%
Hospitals	129	3.1	129	2.96
Health Centres	485	11.64	488	11.2
Dispensaries	3554	85.26	3740	85.84
Ownership				
Private Facilities	823	19.75	835	19.16
Public Facilities	3345	80.25	3522	80.84
Total	4168	100	4357	100

Average Score by RBF Regions during Assessment in the Financial Year 2017/2018

Table 3 shows the average score of the performance of the health facilities in the regions that had RBF support. The area for clinical services scored the highest (71.87%) while Clinical Support services scored the lowest (43.25%). The overall average score for all areas was 61.21%. The details of the scores are shown in table 3 below.

Table 3: Average Score by RBF Regions during Assessment in the Financial Year 2017/2018

Service Area Number	Star Rating Service area	Mwanza	Pwani	Geita	Kagera	Kigoma	Simiyu	Shinyanga	Tabora	Total	Average
4	Staff performance	75	52	64	63	27	61	47	41	430	53.75
5	Service provider charter	76	65	69	71	51	65	68	62	527	65.87
7	Client focus	74	72	72	72	57	62	64	70	543	67.87
8	Social accountability	77	63	68	70	61	66	70	64	539	67.37
9	Infrastructure	64	63	70	58	51	51	60	51	468	58.50
11	Clinical services	89	71	76	75	48	71	73	72	575	71.87
12	Clinical support-ive services	49	45	49	49	33	37	44	40	346	43.25
											61.21

Average Score by Non-RBF Regions during Assessment in the Financial Year 2017/2018

Table 4 shows the average score of the performance of the health facilities in the regions that had no RBF support. During assess-

ment, the largest score was on clinical services that was 66.62%. The lowest score was 36.37% on Clinical Support services. The average score was 50.42%. The details of scores are displayed in table 4

Table 4: Average Score by Non-RBF Regions during Assessment in the Financial Year 2017/2018

Service Area Number	Star Rating Service area	Manyara	Iringa	Morogoro	Tanga	Mara	Mbeya	Rukwa	Songwe	Total	Average
4	Staff performance	44	43	35	39	37	58	41	28	325	40.62
5	Service provider charter	53	52	51	49	22	69	53	42	391	48.87
7	Client focus	60	55	61	58	39	71	60	56	460	57.50
8	Social accountability	62	60	59	51	24	68	72	63	459	57.37

9	Infrastructure	47	44	51	52	35	57	40	39	365	45.62
11	Clinical services	68	72	67	63	52	75	75	61	533	66.62
12	Clinical supportive services	39	38	42	38	19	48	38	29	291	36.37
											50.42

Average Difference Scores during Assessment

Table 5 shows the average difference scores of the performance of the health facilities in the regions that had RBF support versus those that had no support. The biggest difference appeared on Service provider charter by 17.00% while the lowest was on Clinical Services by 05.25%. The mean value was found to be 61.26%

among facilities exposed to RBF compared to 50.42% among those not exposed to RBF. The study showed the mean difference score to be 10.79%, with confidence interval at 95% to be -1.24 to 22.84, suggested that there was no a significant difference in the facilities based on RBF exposure during baseline assessment. The p-value of 0.07 was not statistically significant.

Table 5: Average Difference Scores during Assessment

Service Area Number	Star Rating Service area	Average Score by RBF regions during reassessment in the Financial Year 2017/2018	Average Score by non-RBF regions during reassessment in the Financial Year 2017/2018	Difference	CI and P value
4	Staff performance	54.71	40.71	13.12	
5	Service provider charter	65.57	50.57	17.00	
7	Client Focus	68.43	58.43	10.37	
8.	Social accountability	67.00	58.14	10.00	
9	Infrastructure	58.29	47.71	12.87	
11	Clinical Services	71.71	66.57	05.25	
12	Clinical supportive services	43.14	36.86	06.87	
	Average score	61.26	51.29	10.79	P=0.07 (CI 95% =-1.24 – 22.84)

The Overall Improvement in 3+ Star Rating Scores between Baseline and Follow Up Assessments among 16 Regions

During baseline assessment, Tanga region had more health facilities with three stars or above 9 (2.43%) while six regions did not attain 3 stars and above. When reassessment was conducted, Geita had the highest percentage 38% and Songwe had the lowest 3% with health facilities attained three stars or above. Of 4168

facilities that were assessed in 2015/16 only 37 (0.89%) reached 3 stars and above whereas in 2017/18 out of 5357 health facilities assessed 794 (18%) had achieved 3 stars and above. Facilities scoring 3+ stars increased by average of 17.39 (95% CI 11.37-23.41) with P<0.0001 between the baseline assessments and reassessment. The detail is displayed in Table 6 bellow.

Table 6: Number of Facilities Rated 3-Stars and above (2015/16) as Number of Facilities Rated 3-Stars and above (2017/18)

SN	Region Name	Number of Facilities Star Rated (2015/16)	Num of Facilities Rated 3-Stars and above (2015/16)	Percentage of Facilities Rated 3-Star or Above (2015/16)	Number of Facilities Star Rated (2017/18)	Number of Facilities Rated 3-Star or above (2017/18)	Percentage of Facilities Rated 3-Star or above (2017/18)	RBF
1	Geita	153	0	0	154	58	38	Yes
2	Iringa	241	3	1.24	249	33	13	No
3	Kagera	297	7	2.35	298	95	32	Yes

4	Kigoma	253	1	0.39	269	10	4	Yes
5	Manyara	188	0	0	199	25	13	No
6	Mara	271	6	2.21	286	26	9	No
7	Mbeya	297	3	1	303	111	37	No
8	Morogoro	368	3	0.86	401	47	12	No
9	Mwanza	350	0	0	355	119	34	Yes
10	Pwani	298	2	0.67	333	61	18	Yes
11	Rukwa	207	0	0	213	17	8	No
12	Shinyanga	205	2	0.98	211	53	25	Yes
13	Simiyu	208	0	0	207	32	15	Yes
14	Songwe	163	1	0.61	178	5	3	No
15	Tabora	299	0	0	316	71	22	Yes
16	Tanga	370	9	2.43	385	30	8	No
	TOTAL	4168	37	0.89%	4,357	793	18%	

Difference Increment in 3+Star Rating Scores between RBF and Non-RBF Regions in Follow up Assessment

The regions, which had RBF implementation, Geita region, had the greatest number of facilities with 3stars and above 58(38%) while Kigoma Region had the lowest 10(04%). The regions that had no RBF implementation, Mbeya region had the highest achievement for the regions that did not implement RBF. It had 111(37%) of fa-

cilities with 3 stars or above while Songwe had the lowest number of facilities with three stars or above. It had 5 (03%) health facilities with three stars and above. Facilities scoring 3+ stars increased by average of 10.63 between the facilities with RBF supported regions versus those which had no RBF support and difference was not statistically significant ($p=0.06$). The detail is displayed in Table 7 below

Table 7: Difference Increment in 3+Star Rating Scores between RBF and Non-RBF Regions in Follow up Assessment

Pairs	RBF exposure	Mean	N	Sd	Mean difference	95%CI	t-value	D.F	p-value
	Yes	23.5	8	11.2	10.63	-0.92-22.17	1.97	14	0.06
	No	12.9	8	10.3					

Discussion

In this evaluation, it was found that, the facilities that had RBF had no statistically significant difference from those, which did not implement RBF. The regions, which implemented RBF, had 61.21% while the non-RBF facilities scored 50.42%. This means there was a difference of 10.79%. In Tanzania, the regions that were selected for the support of RBF were those, which had poor performance in almost all health indicators. Despite statistical significance in difference was not met, realistically the RBF regions had improved with the support of RBF. Hence, this study might be in keeping with the study done by Brenner and colleagues on implementation of RBF in Malawi that, it has potential for improving “effective coverage” for obstetric services [6]. Another study that was conducted in Zimbabwe by Fichera and colleagues in 2021 found RBF had no influence in improvement of some indicators like child anthropometric measures while a study by Gage and Bauhoff found that PBF had no effect “on neonatal health outcomes, health care utilization or quality”, in four countries (Burundi, Lesotho, Senegal, Zambia and Zimbabwe) [5,7].

The target of Star Rating Assessment was for PHC facilities to be

able to perform at a star rating of three stars and above. The percentage of PHC facilities that scored 3-5 stars in the RBF regions was about a quarter (24%), while for the non-RBF regions was 13%; resulting in a non-statistically significant difference between the two. The findings are in line with a recent World Bank policy report that has looked at health systems of about 40 low-income countries around the world including Tanzania. The report assessed whether financial incentives are working to ensure effective coverage (i.e., “a measure that adjusts simple coverage of care with the quality of care provided”) using evidence accumulated in the past 15 years. The results have shown that PBF “resulted in gains in coverage but far fewer, if any, improvements in the quality of health services delivered.” Hence, the report notes that financial reforms in health systems may need to move away from sole dependence on RBF, and focus more on its other aspects especially “transparency, accountability, and decentralized frontline financing”[29].

In Tanzania, Star rating is considered as one of measures of the quality of services in health facilities. In this study, it was found that more health facilities with RBF support had 3stars than those

with no RBF. This might reflect the intended effect of RBF to improve health facilities to attain 3 stars and above were met. The country has set the cutoff point of 3 stars. Hence, the facilities with 3 stars or more are doing good in the majority of health indicators. In this study, it was found the difference of 3 stars was 10.63, but the difference was not statistically significant. The observed increase in the number of 3 stars and above at RBF regions could also have resulted from the improvement of health indicators by the support of RBF. This finding is approximately related to the study by Gage et al in 2020 on “*assessment of health facility quality improvements*” in Tanzania as well found that there was star rating improvement in the PHC facilities [27].

In this evaluation it was found that, there was overall increment of the facilities that scored 3 stars and above. In the baseline assessment the facilities that scored 3 stars and above were 37 (0.89%) versus with 793 (18%) and the difference was statistically significant ($p > 0.0001$). In all health facilities, the quality improvement plan was developed based on the gaps that were identified. All the facilities were required to address the gaps. The facilities with support of RBF were supposed to utilize the support to address the gaps. Other facilities with no support of RBF were supposed to continue addressing the gaps using their own funds. The achievement of quality improvement in health facilities depended on procedures within facilities and the situation in which they work. However, the improvement was enough, based on high demand for high quality health services, the government had set standard that at least 80% of all health facilities get 3 stars or above. Our evaluation in the Tanzania Mainland found that both facilities with RBF support and those without RBF support, their improvement was influenced by a facility's capability to improve quality of health-care services, as assessed using the star rating system. The finding of this evaluation is consistent with the study by Kinyenje and colleagues who evaluated the Status of Infection Prevention and Control in Tanzanian PHC Facilities using SRA dataset and found that there was some improvement of IPC adherence between baseline and reassessment [30].

As Tanzania continues with the efforts to improve the quality of PHC services, it is important to strengthen the management of PHC facilities. Literature also has shown that for RBF to have a bigger effect in performance of PHC facilities, it is important to strengthen the PHC Facility Management. For instance, a study in Nigeria has shown that PHC facilities that had high scores in management practices had higher monthly improvement rates for institutional delivery and outpatient visits compared to the PHC facilities with low scores in management practices [31].

A recent study in Zambia by Chama-Chiliba, et al. has echoed the importance of having a strong management and leadership for PBF to produce intended results [32]. In addition, a study in by Lewis, et al. in PHC facilities in Nepal has shown that good facility management is key to good facility performance [33]. For better knowledge generation on PHC facilities management prac-

tices and how to improve and sustain them, the Ministry of Health Tanzania may consider to adapt a “*scorecard for measuring management practices in PHC facilities*” developed by Mabuchi and colleagues and include it in supportive supervisions done by health management teams at council and regional level as well as national level supervision teams [34].

Conclusion

The RBF implementation in PHC facilities in Tanzania had no significant contribution to improvement in star rating levels (3 stars and above). Probably contributed to the way the RBF was designed. Improvement of health services needs to adhere to all six WHO health system building blocks (service delivery; health workforce; health information systems; access to essential medicines; financing; and leadership/governance) and not to focus solely on financing. Probably, RBF was found not to influence star rating because other blocks were not considered, including leaving aside the HFGCs. We recommend integration of all the six WHO health system building blocks whenever we want to improve health services provision using PBF/RBF interventions.

Declarations

Ethical Issues: This study did not involve human subjects, hence for this type of study formal consent is not required, however, prior permission was sought from the Ministry of Health, Community Development, Gender, Elderly and Children (Recently renamed as Ministry of Health) before use of the dataset. Ministry of Health is a custodian of Health Management Information Systems data including SRA database. Ethical clearance is not necessary for this type of a study because data were collected in the course of implementing an initiative by the government and hence this analysis aims at giving feedback on prevailing circumstances after its successful implementation.

Conflict of Interests: The authors declare no conflict of interest. However, during 2015/2016's and 2017/2018's Star Rating Assessment of PHCs that yielded these data, Dr Eliudi S. Eliakimu, Joseph C. Hokororo, Chrisogone J. German, Radenta P. Bahegwa, Talhiya A. Yahya, Omary A. Nassoro, Ruth R. Ngowi, Yohannes S. Msigwa, Mbwana M. Degeh, and Laura E. Marandu were working with the Health Quality Assurance Division (now called Health Quality Assurance Unit) and were responsible for the implementation of SRA and QIPs follow-up.

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Disclaimers

The authors declare that the views expressed in this manuscript are their own and do not necessarily represent views of the institutions they are affiliated to.

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