RESEARCH ARTICLE:

Assessing the Impact of Results-Based Financing on Health System Strengthening in Zimbabwe: A Case Study of Marondera and Zvishavane Districts

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Abstract

The study aims to assess how the Results-Based Finance programme in Zimbabwe strengthened the health system, guided by the World Health Organisation's six building blocks, using a case study of Marondera and Zvishavane districts. The study's findings are based on responses from focus group discussions, in-depth interviews, observations, RBF programme progress reports and closed-ended questionnaires. Therefore, a mixed research approach was adopted. The researchers administered 224 close-ended questionnaires amongst women of childbearing age and guardians. Women of childbearing age were sampled through a multi-stage sampling technique, while guardians were conveniently sampled. Qualitative data were gathered from purposively sampled key informants. It was noted that the RBF programme overwhelmingly strengthened the health delivery system between 2011 and 2018. Drastic changes were noticed in 2019 after the institutionalisation of the RBF programme in the Marondera and Zvishavane districts. This resultantly weakened the six building blocks. The COVID-19 pandemic exacerbated the situation. The study recommends that an incremental approach must be adopted when transitioning from donor support to full-time ownership of the RBF programme. The Government of Zimbabwe must commit itself to allocating 15% of the annual budget to the Ministry of Health and Child Care as envisaged by the Abuja declaration.

Keywords: *assessment; results-based finance programme; health system; Zimbabwe*

Introduction

The 2016 transition in global health from Millennium Development Goals (MDGs) to Sustainable Development Goals is a remarkable move for resource-limited countries that have been struggling to improve the quality of health care (Manyazewal, 2017). Acknowledging the health agenda, the WHO has formulated a health system framework that can be described in terms of six building blocks, which are service delivery, health workforce, health information system, medical supplies, health financing and leadership/governments (Manyazewal, 2017). Service delivery entails a function of the number and types of health facilities, on one hand, and actual utilisation, on the other (Newbrander *et al*., 2014). The health workforce focuses on the number of health workers to make health services accessible (Newbrander *et al*., 2014). Availability of key health management information is crucial to a well-functioning health system (Newbrander *et al*., 2014). Medical products entail the procurement and supply of medical commodities to ensure equitable access, assured quality and cost-effective use (GAVI, 2013). A good health financing system raises adequate funds for health, protects people from financial catastrophe, allocates resources, and purchases goods and services in ways that improve quality, equity, and efficiency (GAVI, 2013). Effective leadership and governance ensure the existence of strategic policy frameworks, effective oversight and coalition building, provision of appropriate incentives, attention to system design, and accountability (GAVI, 2013).

Hokororo and Kinyenje (2022) postulated that if RBF is implemented based on the WHO's six building blocks, then there will be a lot of benefits to the public. This will have a net effect of the following: i) increased availability of

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health supplies (including medicine) at health facilities, ii) increased health care utilisation in primary health care facilities, iii) quality health service provision from the primary facilities, iv) gains in health care providers' productivity and efficiency in service delivery, v) higher quality data that is used for evidence- based decision-making and vi) Quality Improvement teams will be more accountable and responsive (Hokororo and Kinyenje, 2022). To accelerate the pace of delivering effective and available prevention and treatment to populations in need, donors are paying increasing attention to health systems strengthening (Zeng *et al*., 2018). Results-based financing (RBF) interventions are gaining increased attention as a means of improving and strengthening the health system (Torbica *et al*., 2022). RBF schemes provide financial rewards or penalties to healthcare providers, conditional on the achievement of pre-specified performance targets (Fichera *et al*., 2021). The intervention logic of RBF arrangements is that a combination of monetary rewards based on results, together with the autonomy to use these funds, leads to improved accessibility to quality maternal health care services (Kane *et al*., 2019). Within maternal and child health (MCH), the RBF programme is seen by some as a potentially effective tool for improving health system performance (Ferguson *et al*., 2022).

Many studies of RBF programs lack adequate controls that would allow the impact to be assessed. (Bergman *et al*., 2021). Zimbabwe, with support from the World Bank, initiated a reform process which introduced RBF for health arrangements in 2011 to improve access to maternal and child health (Kane *et al*., 2019).The RBF programme support was piloted in Marondera and Zvishavane districts. RBF was adopted to support the Zimbabwe National Health Strategy 2009–2013 and the Investment Case for Health 2010–2012 (Kadungure *et al*., 2020). The original areas of focus for the RBF programme were to improve maternal and child health care services. It is against this background that this study aims to assess how the RBF programme strengthened the health system in Zimbabwe. Currently, there are scant studies with a thrust on critically evaluating the extent to which the RBF programme strengthened the health system. Hence, this research aims to contribute to the field of academia and to policymakers' strategies, which can be adopted to bolster the health system guided by the WHO's six building blocks. This article incorporates the following subheadings: theoretical framework, literature review, methodology, presentation of results, discussions on findings, conclusion and recommendations.

Literature Review

Good service deliveries are those which deliver effective, safe, quality personal and non-personal health interventions to those that need them, when and where needed, with minimum waste of resources. (Manyazewal, 2017). Olsen *et al*.'s (2018) study on RBF impact evaluations suggests improvements in utilisation and coverage of maternal and child health services, but these improvements are not consistent since they vary between and within countries. The impact on quality of care from the evaluations appears broadly positive, reflecting structural and process quality improvements introduced by RBF, but not for all measures (Olsen *et al*., 2018). Quality of care has often improved for certain aspects of care, rather than across all incentivised indicators (Olsen *et al*., 2018). Performance-based financing (PBF) is often proposed as a way to improve health system performance. (Paul *et al*., 2017). PBF has been launched in Benin since 2012 through a World Bank-supported project. The Belgian Development Agency (BTC) followed suit through a health system strengthening (HSS) project, the results on service delivery were that facilities aimed at reinforcing infrastructure and equipment, notably to support blood transfusion, emergency neonatal and obstetric care and hospital hygiene were achieved in some instances. (Paul *et al*., 2017) Moreover, subsidies were kept at facilities to finance investment in small equipment and activities like motorbikes to facilitate maternal and child health outreach activities (Paul *et al*., 2017). A study by Zeng *et al*. (2018) found that in general, the potential RBF programme to improve MCH services, both the household and health facility surveys, revealed that the implementation of RBF was associated with improvement in some, but not all, incentivised MCH services included in the analysis.

A well-performing workforce works in responsive ways, fair and efficient, to achieve the best health outcomes possible given available resources (Manyazewal, 2017). A study by Kane *et al*.(2019) on how health worker motivation and performance in RBF arrangements hinges on strong and adaptive health systems, revealed that insufficient preparedness of people and processes for this change constrained managers' and workers' performance. It was concluded that designed processes, which take into account the interest and willingness of various actors, including engagement with potential bottlenecks, should accompany the health system change initiative (Kane *et al*., 2019). Results on the impact of RBF on health worker satisfaction and motivation in Zimbabwe unearthed that staff expressed dissatisfaction over the following issues: reduced unit prices of incentivized services; the relative proportion of incentive amount to their tasks and that of peers; inadequate living

accommodation; limited capacity of supervisors; restricted leadership ability of the head of facility; and 'burn-out' due to increased patient load (Thi *et al*., 2015). Conversely, they were positively motivated by improvements in working conditions and facility autonomy (Thi *et al*., 2015). The study recommended that, to enable the RBF programme to have a greater positive impact on strengthening the health system, some robust changes are important, such as the availability of skilled health workers, revisiting unit prices of subsidies and improving the quality of supportive supervision (Thi *et al*., 2015).

An investigation by Schuster *et al*. (2018) on lessons which can be drawn from Performance Based Finance outcomes on health workers delivering prevention of vertical HIV services and a decrease in to desire to leave in Mozambique found that implementation was challenged by administrative barriers and delayed disbursement of incentives. Performance-Based Finance Programme, on the other hand, increased collegial and health worker empowerment (Schuster *et al*., 2018). Through the findings of the study, it was recommended that careful implementation of well-monitored Performance Based Finance interventions has the potential to encourage health workers to more deeply engage their colleagues, patients and workplace (Schuster *et al*., 2018). In a different study setting in Mozambique, Performance Based Finance reforms were viewed as having direct influence on health worker behaviour through changes in institutional arrangements, accountability structures and financial incentives based incentives (Gergen *et al*., 2018). While there is still debate about whether Performance-Based Financing influences intrinsic or extrinsic motivators, recent research finds that it affects both (Gergen *et al*., 2018). At the University of Zambia, an independent agency, was contracted to conduct two rounds of external verification to validate the accuracy of reporting of HMIS data at the health facilities, and the results showed improvements in record-keeping and data accuracy (Friedman *et al*., 2016). The general perception was that the recruitment of data entry clerks at the health facilities had contributed to the improvement in data recording. The employment of data entry clerks by most of the health centres also allowed the health centre staff to devote more time to patient care (Friedman *et al*., 2016).

This study acknowledges that the RBF programme in Zambia facilitated the strengthening of health information management; however, there is a need for further research surrounding this issue. After questions were raised about the quality of data on RBF performance in Belin, Salami *et al*. (2016) evaluated the contribution of RBF to the improvement of maternal and child health data. The strata comparison with maternal and child health data for the first halves of 2011 and 2014 revealed that timeliness and completeness have improved in the strata exposed to the RBF programme compared to the unexposed strata (Salami *et al*., 2016). Nevertheless, there was no significant change in terms of the accuracy of the data. Large deficits in data quality are witnessed in low-income countries where RBF is implemented. This was raised in Benin, where RBF was introduced in 2012, and it was recommended that verification of RBF programme data should be done at every level before validating it (Salami *et al*., 2016). Such mixed research results have encouraged this study to gather more facts in finding out whether the quality of health information data improved in RBF implementing districts.

An efficient and effective healthcare financing system encompasses the linkage of financial mobilisation with evidence-based plan, effective budget consumption, the required financial resources to ensure sustainability, reduced wastage and enhanced cost-effective interventions (Manyazewal, 2017). The Health Innovation Trust Fund Mid Term Review report divulged that RBF contributes to capacity at the health facility level through increasing the financial and managerial autonomy (Olsen *et al*., 2018). Country results portal data suggest that the quality of financial management is, on the whole, improving (Olsen *et al*., 2018). Nevertheless, it was found that delays in making payments to facilities in the case study countries also created challenges in managing facility financial resources (Olsen *et al*., 2018).RBF programme provides a method for increasing funding available to primary care provision in a country's health financing system (Olsen *et al*., 2018). This shows that the RBF programme bolsters the health financing system; however, this differs from one country to the other. A synergy has been noted between Results-Based Financing and user fee removal, for example, in Burundi (Paola Bertone *et al*., 2018) While this is not specific to fragile and conflict-affected countries, there is an even stronger case for removing user fees for essential services during crises, as in Mali, where this has been the basis for the introduction of Performance-Based Financing (Paola Bertone *et al*., 2018).

Nevertheless, this linkage is problematic if funding for the RBF programme is limited. If it is substituting for user fees in an underfunded system, then the health financing system cannot be realistically expected. (Paola Bertone *et al*., 2018)In many fragile and conflict-affected countries, such as Chad, the RBF programme is the only financing source for health care providers, alongside user fees (Paola Bertone *et al*., 2018). RBF brought forward financial

relief to the Uzumba Maramba Pfungwe (UMP) since revenue was raised through subsidies paid every quarter (Crown Agents, 2019). Previously, before the introduction of the RBF programme in many health care systems, health care facilities were receiving funding and input based on an annual budget with stringent line items (CORDAID, 2017). Central planning inputs often lead to maladministration and rigidity of a line-item budget by not allowing local health facilities to determine what is needed according to their knowledge. (CORDAID, 2017). Under the RBF programme, facilities were given autonomy to allocate their cash revenue in their business plans, the way they deemed best, such as hiring of staff or buying of medicines, rather than receiving centrally planned in-kind supplies (CORDAID, 2017). Autonomy also creates entrepreneurship and stimulates managers to find creative solutions (CORDAID, 2017).

A well-functioning health system ensures equitable access to essential medical products, vaccines and technologies of assured quality, safety, efficacy and cost-effectiveness, with scientifically sound and cost-effective use (Manyazewal, 2017)**.**To attain health system strengthening, there should be adequate drugs, medical supplies, medical apparatuses and equipment, up-to-date technologies for patient diagnosis (Manyazewal, 2017). Olsen *et al*. (2018) concluded that evidence from completed impact evaluations and country portals on equipment availability is generally positive. Data from country portals shows that there are improvements in drug management indicators. Supply chains are addressed by the RBF programme through improving the availability, quality, and management of relevant drugs in health facilities. In countries where supply chains are weak or drugs are very expensive, the RBF programme can be used in conjunction with regulatory intervention to help increase the availability of medication. Thus, according to their findings RBF programme seems to be of use through facilitating the availability of medicines, but this differs from one country to another. USAID (2016) argues that there was no significant change in the availability of functional equipment (i.e., blood pressure machines, fetoscopes, labour beds) in either RBF or non-RBF facilities (USAID, 2016). Hence, this requires further research.

A combination of the RBF theory of change and the WHO's health system Framework has guided this study. The two above-mentioned frameworks assisted in designing research questions, which guided the researchers to come up with comprehensive study findings. The Theory of Change assume the development of solutions to complex social problems (Brown, 2018). The Theory of Change is guided by three-pronged pillars, namely, the strategic health financing initiative from the World Bank, RBF programme implementation and policy formulation process. The linkage of the three mentioned pillars is assumed to bring multifaceted benefits to the vulnerable groups, and this includes health system strengthening. The WHO's six building blocks are a linchpin to improved health systems as diagrammatically illustrated in Figure 1 below:

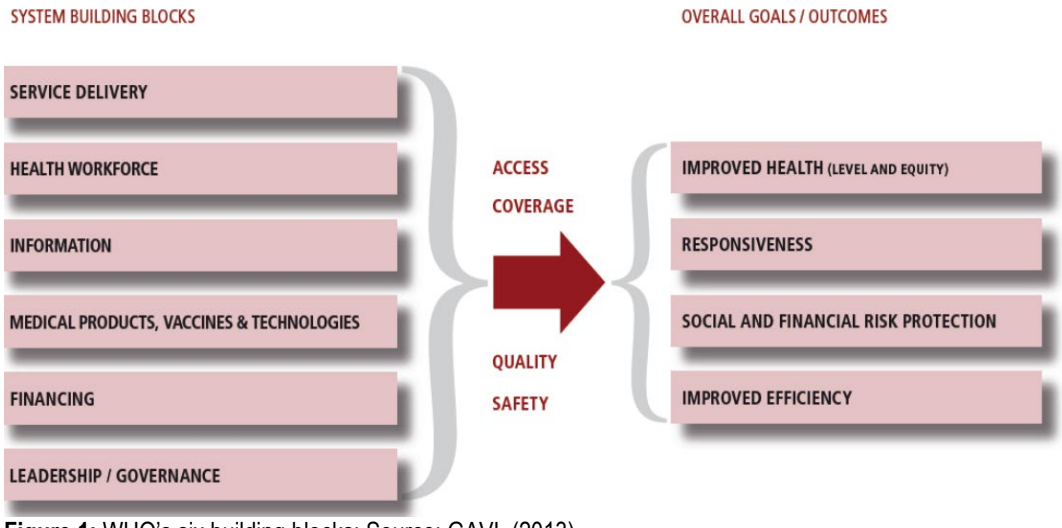

Figure 1: WHO's six building blocks: Source: GAVI, (2013)

Research Methodology

The study is based on a mixed research approach using a case study of Marondera and Zvishavane districts. Studied facilities were purposively selected based on their performance in RBF indicators in 2020. One of the attributing factors was the need to select health facilities from both rural and urban areas. Eight health facilities

were selected for the study, namely Marondera Provincial Hospital, Mahusekwa District Hospital, Dimbiti and Dombotombo clinics, representing Marondera district. Zvishavane District Hospital, Lundi Rural Hospital, Mandava and Vungwi clinics representing Zvishavane district. A total of 200 questionnaires were administered amongst women of childbearing age who were sampled through a multi-stage sampling strategy. The use of closed-ended questionnaires assisted in gathering data within a shorter period. The additional 24 questionnaires were administered amongst guardians of the under-fives who were conveniently sampled. In-depth interviews were conducted among health workers and RBF field officers who were purposively selected. In-depth interviews allowed researchers to explore participants' thoughts, emotions, and experiences in greater depth, leading to more nuanced and insightful findings on how the RBF strengthened the health system in Zimbabwe. Focus group discussions were done amongst Community-Based organisations, Health Centre Committees and District Steering Committees. During focus group discussions, participants reacted to each other's comments, built upon shared ideas, and engaged in dynamic discussions, leading to richer and more reflective insights. In-depth interviews were conducted amongst the key informants. Field observations were also done through attending RBF programme meetings, and secondary data were collected through RBF programme institutional reports. The researchers sifted key issues noted, guided by the research objectives. Data was analysed through the Statistical Package for Social Sciences Version 25 and thematic analysis. Combining the thematic analysis with SPSS statistical analysis strengthened the credibility of results by cross-verifying insights from different methodologies. Validation and triangulation were conducted to minimise the chances of prejudice. Participants were fully informed about the nature of the research, including the use of both quantitative and qualitative methods. Furthermore, they were informed about how the results of the study will be used and shared. The purpose of the study was explained to the participants. Measures to protect personal and sensitive information were put into consideration.

Findings and Discussion

This section provides and examines empirical evidence on how the RBF programme influenced core components of the health system in Marondera and Zvishavane districts. The quantitative and qualitative findings were systematically analysed to come up with a critical discussion and to interpret these results. The findings were contextualised within Zimbabwe's specific health landscape, exploring mechanisms through which the RBF programme strengthened or failed to strengthen the WHO's six building blocks.

Health financing block

The Provincial RBF field Coordinators for both Mashonaland East and Midlands Provinces revealed that:

> *The RBF programme began by paying subsidies to Marondera and Zvishavane districts in US dollars, and the funds were channelled through CORDAID from the World Bank after submission of prerequisite quarterly reports, which entail verification, quality DHE/ PHE checklists and client satisfaction survey reports. A significant amount of money was received by both districts.*

Table 1 below and Table 2 show the amount of revenue which was earned by each facility from 2011 to 2018.

Table 1: RBF programme revenue collected in Marondera District

Station	Year	Quarter1 US$	Quarter2 US$	Quarter3 US$	Quarter4 US$	Total US$
Marondera Provincial Hospital	2011				17 925.00	**17 925.00**
	2012	24 764.95	19 038.25	14 327. 60	11 055.30	**69.186.10**
	2013	24 750.97	76 747.11	65 911.90	59 774.83	**227184.81**
	2014	53 508.75	46 393.75	65 992.00	49 002.00	**214896.50**
	2015	57,970.00	54046.25	46,952.50	48005	**206,973.75**
	2016	61,050.00	60,681.25	53,922.49	63,640.34	**239,294.08**
	2017	77,746.87	21,415.70	32,217.39	22,581.20	**153,961.16**
	2018	21,750.32	17,445.71	16,476.67	19,845.88	**75,518.58**
TOTAL						**1,204,939.98**
Mahusekwa District Hospital	2011					
	2012					
	2013	14,562.30	37,230.46	42,978.12	39,647.00	**134,417.88**
	2014	34,681.35	41,560.36	50,230.97	36,989.00	**163,461.68**
	2015	46,415.39	39,696.00	31,020.00	34,931.20	**152,062.59**
	2016	50,632.10	49,212.89	46,987.12	52,743.26	**199,575.37**

	2017	64,912.36	22,975.36	31,279.00	20,364.31	**139,531.03**
	2018	19,654.23	16,067.29	14,986.00	17,298.87	**68,006.39**
TOTAL						**857,054.94**
Dimbiti Clinic	2011	7000	6000	6000	5000	**19 500**
	2012	8000	4500	5000	6000	**23 500**
	2013	6000	5000	3500	7000	**21 500**
	2014	5000	6000	7500	6000	**24 500**
	2015	5000	6500	5000	7000	**23 500**
	2016	6000	5500	6000	6500	**24 000**
	2017	5000	4500	4500	8000	**22 000**
	2018	7000	6500	5000	4000	**22 500**
TOTAL						**181 000,00**
Dombotombo Clinic	2011	12000	10 000	14000	15000	**41 000**
	2012	9000	15 000	10 000	13000	**47 000**
	2013	11 000	10 500	8600	12 000	**42 100**
	2014	10 000	13 000	9800	12 000	**45 000**
	2015	12 000	13 700	11 000	14 000	**50 700**
	2016	13000	11000	12 000	10 000	**46 000**
	2017	12 000	14 000	11 000	9000	**46 000**
	2018	11 000	10 600	8600	7500	**37 700**
TOTAL						**367 400, 00**

Table 2: RBF Programme revenue collected in Zvishavane District

Station	Year	Quarter1 Us$	Quarter2 Us$	Quarter3 Us$	Quarter4 Us$	Total
Zvishavane District Hospital	2011	17 000	18 000	15 000	12 000	**62 000**
	2012	17 000	19 000	16 000	15 000	**67 000**
	2013	14 000	17 000	13 000	13 000	**57 000**
	2014	16 000	11 000	20 000	19 000	**66 000**
	2015	14 000	17 000	16 500	18 000	**65 500**
	2016	14 500	15 000	15 000	17 000	**61 500**
	2017	15 000	15 000	18 000	16 500	**64 500**
	2018	18 000	14 000	15 400	17 000	**64 400**
TOTAL						**509 900,00**
Lundi Clinic	2011	8000	6000	9000	5000	**28 000**
	2012	5000	4000	6000	5500	**20 500**
	2013	4000	4500	5000	6000	**20 500**
	2014	5000	4500	6000	6000	**21 500**
	2015	6000	5000	8000	4500	**23 500**
	2016	5000	4000	5400	6000	**21 400**
	2017	3500	6500	6000	5000	**21 000**
	2018	5400	5000	4500	6000	**20 900**
TOTAL						**176 800,00**
Mandava Clinic	2011	8000	7000	6500	5400	**26 900**
	2012	6000	7000	4500	5000	**22 500**
	2013	5000	5500	6000	7000	**23 500**
	2014	4500	6000	5600	6000	**22 100**
	2015	5000	7000	6000	6500	**22 500**
	2016	6900	5800	5400	5500	**22 600**
	2017	5500	7500	6000	5500	**24 500**
	2018	4500	5000	6000	7000	**22 500**
TOTAL						**187 100, 00**
Vungwi Clinic	2011	3000	2500	3000	2500	**11 000**
	2012	2000	3000	2400	2200	**9600**

	2013	2500	4000	3000	2400	**11 900**
	2014	4000	3000	2100	2500	**11 600**
	2015	3000	1800	2300	4000	**9 100**
	2016	2500	2000	3000	3500	**11 000**
	2017	3000	2000	3000	3000	**11000**
	2018	2000	3500	2500	3300	**11300**
TOTAL						**86 500,00**

Tables 1 and 2 indicate that the facilities under study managed to get significant amount of RBF programme subsidies which were released every quarter after an assessment of maternal and child health performance indicators. This was through verification and quality supervisory visits by the management teams from district if it is a clinic or province if it is a district hospital or provincial hospital. The facilities with high catchment area population of women of childbearing age, such as Marondera, Zvishavane and Mahusekwa hospitals, managed to get more RBF programme subsidy earnings because they were attending to more deliveries. Moreover, they were offering of higher number of maternal and child health care services. Dombotombo and Mandava clinics were regarded as high-volume sites, and they also managed to receive a substantial amount of quarterly RBF programme funding from 2011 to 2018. The RBF subsidies were used to procure goods or services according to the annual operational plans. A drastic change in the flow of RBF earnings was witnessed from 2019, when the RBF programme was institutionalised, that is, the ownership was now under the Ministry of Health and Child Care, which means the RBF programme's quarterly subsidies were now paid through the Ministry of Finance and Economic Development. In response, 28% of the respondents replied that the RBF programme assisted with the availability of funds, while 35% did not agree, and 37% were not aware whether the programme contributed financial resources.

Human resources management block

It was revealed that staff members benefited from the staff incentive subsidies, which were disbursed on a quarterly basis. The incentives were calculated through an incentive calculator, which deducted 25% from the total RBF subsidies. This is in sync with previous studies, which revealed that the Performance-Based Finance Programme increased collegial and health worker empowerment (Schuster *et al.,* 2018). Through the findings of the study, it was recommended that careful implementation of well-monitored Performance Based Finance interventions has the potential to encourage health workers to more deeply engage their colleagues, patients and workplace (Schuster *et al.,* 2018). The Health Services Administrator for Zvishavane District Hospital revealed that:

> *As DHE, we managed to do the general renovation of the hospital using RBF funds in a bid to provide a conducive environment for our staff members. Some health facilities managed to construct staff houses using RBF programme funds*.

The Nurse in Charge at Dimbiti Clinic stated that "t*here were no resignations which were experienced by health workers since the commencement of the RBF programme from 2011 up to 2018, since they were receiving incentives in foreign currency".* The RBF Provincial Field Officer for CORDAID in Midlands Province commented that:

> Staff *attrition began to be experienced in 2019 after the 25% incentives were now paid in Zimbabwean dollars, hence this negatively affected maternal and child health service delivery at health facilities, which was also worsened by the delays in RBF quarterly disbursements, which triggered staff members to be demotivated.*

Key informants revealed that Zvishavane and Marondera districts had been receiving RBF subsidies from the Ministry of Finance and Economic Development since 2019. The reason was that the World Bank, through CORDAID, was now giving technical guidance in the implementation of the RBF programme. Participants further narrated that institutionalisation of the RBF programme was commenced in 18 districts, which include Marondera and Zvishavane. Staff movement amongst the District Health Executive and Provincial Health Executive members affected the implementation of the RBF programme. The Acting Health Services Administrator for Mahusekwa District narrated that:

> *The substantive District Health Services Administrator was promoted recently, and the District Medical Officer resigned in 2019 for greener pastures. Those who replaced, including myself we were not trained on how to draft operational plans and to administer the RBF quality supervisory checklist.*

Staff motivation was realised by 37% of the participants, and 63% of the participants did not confess that there was motivation amongst health workers.

Governance and leadership block

The Provincial Medical Directors for both Mashonaland East Province and Midlands concurred that reactivation of community participation was witnessed through the introduction of Health Centre Committees at each facility contracted under the RBF programme. Participant 1 from the District Health Executive members further explained that:

> *The Health Centre Committees were bringing new ideas for the development of health facilities, and this was supported by the coming of the Community Based Organisation, whose main function was to do client satisfaction surveys. Such arrangements allowed for checks and balances in the health service delivery.*

In both Zvishavane and Marondera districts, there were District Steering Committees which in place for deliberating every quarter on how facilities were implementing the RBF programme and the issues of concern which were happening at health facilities.

The study found that the HCCs were contributing to facility performance through their linkage with the community in both health delivery services and facilitation of the implementation of projects at health facilities. They encouraged the local community to use health facilities and mobilise labour or resources for the development of health facilities. This was evident mostly at rural health facilities, where the community could mould bricks for construction projects or could fetch water or firewood for the health facilities. Through such arrangements, the community ended up having a sense of ownership of the health facility. The HCC ended up influencing traditional leaders such as chiefs to enforce the utilisation of maternal and child health services offered at local facilities, targeting religious objectors. The study revealed that client satisfaction surveys were conducted by the Community-Based Organisations. The surveys offered an opportunity for health facilities to comprehend the community's views and expected quality of services. The RBF programme checklist for both DHEs and PHEs had an indicator checking whether facilities have suggestion boxes at accessible points for clients to write their concerns and drop them in the suggestion boxes. Nevertheless, all eight facilities under study did not periodically open the suggestion boxes or discuss issues raised by the clients.

The hospital executives at Marondera, Zvishavane and Mahusekwa hospitals were expected to conduct routine exit interviews with clients, checking on patients' waiting time from the time they arrive at the hospital up to when they receive services. Nevertheless, there was no exit interview checklist at the respective hospitals under study, and management did not have a record of minutes indicating discussion on client or patient waiting time. After further probing key informants on the assessment of client or patient waiting time, they indicated that this was only done during the inception of the RBF programme. Participants revealed that high workload and competing programmes hindered management from periodically conducting exit interviews.

Service delivery block

The RBF programme has been applauded as a panacea for improvement in the quality of maternal and child health care services since its inception. Participant 2 narrated that:

> *To date, the cumulative number of births attended by skilled personnel for all participating rural districts is over 920 000 and a total of over 800,000 completed the primary course on immunisation since the inception of the RBF programme. However, the progress that has been witnessed in the health sector faces a heightened risk of reversal due to the ongoing COVID-19 pandemic.*

Findings from the key informants revealed that rural facilities in Zvishavane and Marondera districts managed to procure goods and services which were earmarked to improve service delivery which encompassing the following: borehole drilling and installation, fencing of the clinic perimeter and the waste management area. Bio-medical waste management was improved through the construction of Ottoway and lined refuse pits. General refurbishment at Dimbiti, Dombotombo, Lundi, Mandava and Vugwi health facilities was witnessed through repainting, ceiling and roof repairs. To make sure that there is a continuous supply of electricity, the Health Centre Committee at Dimbiti clinic managed to purchase a generator and a generator cage. Office furniture, laptops, printers, computer cabinets

and television sets were purchased in a bid to improve service delivery, especially at the health facility level. Fifty-eight percent (58%) of the participants agreed that there was improved service delivery, while 42% of the respondents did not confirm that there were significant changes which were brought forward by the RBF programme in the provision of maternal and child health care services. The study found that there was general improvement of service delivery in Zvishavane and Marondera districts since facilities were semi-autonomous to procure goods or services which were essential for the provision of maternal and child health care services. However, it was revealed that significant improvements in delivery services were experienced when facilities were earning their RBF programme subsidies in United States dollars, that is, before the institutionalisation of the RBF programme in the two districts.

From the focus group discussions held, it was further revealed that the community was content with the maternal delivery and vaccination for the under-five services, which were provided especially between 2011 and 2018, since a substantial amount of RBF subsidies were received quarterly in both Zvishavane and Marondera Districts. The health facilities tried to provide better services so that they could attain optimum results, which would lead to lucrative RBF programme subsidies.

Health information management block

The key informants, especially the Community Health Nurses for Zvishavane and Marondera districts, agreed that:

> *The quality of data from health facilities has improved since routine data verification exercises were done every quarter through the community health department. Moreso, any data variations encountered during the verification exercise were subject to deductions on the RBF quarterly subsidies, especially if the variations are above 5% of the data verified from primary sources such as delivery registers or family planning registers or antenatal care registers.*

Participant 3 of the PHE members from Midlands Province further commented that:

> *Completeness of health information was checked in different registers guided by the quality checklist on the RBF tablets. On the quality checklist, there is a section where the quality of health information data is checked every quarter. Moreover, the quality of health information uploaded in the DHIS2 was checked and verified by the District Health Information Officer, and a follow-up was done if there was any suspicion of data discrepancies or unrealistic information.*

The concerns with the key informants were that although there was significant improvement in terms of accuracy and completeness of health information data, there was a need to input such information at the national level for appropriate decision making and policy formulation.

Availability of medicines and medical equipment pillar

The health system could be strengthened through the availability of essential medicines and medical equipment. The Provincial Pharmacist for Mashonaland East Province commented that:

> *Most Vital, Essential and Necessary (VEN) medicines, including surgicals, were available, which entail oxytocin, nifedipine, benzylpenicillin, suture material, bupivacaine, suxamethonium and magnesium sulphate, only to mention a few, were in stock for health facilities the facilities contracted for the RBF programme. Marondera Provincial, Zvishavane District and Mahusekwa District Hospital could manage to have fully equipped Post-Partum Haemorrhage and Eclampsia kits in response to maternal emergency cases which may need such packages. This resultantly improved the quality of maternal health care services. The availability of the above-mentioned VEN medicines was experienced from 2011 to 2018, when the RBF programme funds were received in US dollars.*

From the Stories of Significant Changes, it was highlighted that there was improvement in the availability of essential medicines, especially before the outbreak of the COVID-19 pandemic. This was necessitated by the fact that facilities were encouraged to procure medicines which benefit the under-fives and maternal health care services. Overall, it was revealed that the impact of the RBF programme on the availability of medical equipment and essential medicines was influenced by changes in disease patterns, social and political landscape.

Discussions of Findings

The study revealed that significant revenue was accrued in Marondera and Zvishavane districts between 2011 and 2018. Facilities with higher catchment area population got more RBF quarterly subsidies. Conversely, drastic changes were experienced from 2019 when the RBF programme was institutionalised in Marondera and Zvishavane districts. After the institutionalisation of the RBF programme, the quarterly subsidies were paid in Zimbabwean dollars, and they were paid very late by the Programme Coordination Unit. This negatively impacted the implementation of the RBF programme since goods and services were no longer procured according to the operational plans. Muhumuza and Namyalo (2021) Assessed the RBF programme funding patterns in Uganda and came up with contrary results. They concluded that the RBF programme showed that the funding gap in the delivery system decreased over time from 46% to 29% between 2017/18 and 2019/2020 (Muhumuza and Namyalo, 2021). Twenty-five cents of staff incentives were paid to health workers every quarter from the RBF programme subsidies. In addition to this, some of the 75% of the RBF programme was used for other projects like staff house construction and sprucing up of the working environment at the health facilities. This motivated health workers and staff attrition was not rampant between 2011 and 2018. Nevertheless, from 2019 onward, there was staff attrition, which was above 20%; doctors and nurses were the highest professionals leaving for greener pastures. This was because the staff incentives were no longer enticing the critical health workers. The brain drain affected RBF programme implementation since the newly appointed staff members were not acquainted with how the RBF programme should be coordinated and implemented. Kovacs *et al*. (2022) In their study also established that unequal distribution of RBF programme pay-outs was identified as having negative consequences on staff retention, absenteeism and motivation.

Checks and balances to strengthen governance and leadership were brought forward by the RBF programme. DHEs and PHEs carried out quarterly support and supervisory visits, although the quality of supervision was at times compromised since there were new members who were not conversant with administering the RBF programme quality checklist. Community engagement is a cornerstone of an effective health delivery system, as postulated by (Ferguson *et al*., 2022). The study showed that the DSC and HCC were not wholly empowered in the implementation of the RBF programme since some of their inputs during meetings were not taken seriously by the health workers. There was no stringent mechanism to make sure that resolutions made during the DSC and HCC meetings were followed and executed as agreed upon. Save the Children (2016) suggest that there is a need to lobby for a stand-alone statutory instrument which empowers community health structures like HCCs, since they play a pivotal role in creating demand for maternal and child health care services. The RBF programme had a standard way of checking the quality-of-service delivery at health facilities through a checklist. To a greater extent, this improved service delivery since the critical indicators were periodically monitored by supervisors at the district and provincial levels. There was a general perception that a significant improvement in service delivery was witnessed between 2011 and 2018. However, the RBF programme introduced the importance of using standard operating procedures and treatment guidelines. Hence, the RBF programme reinforced the need for consistency in the provision of maternal and child health care services. Similar findings were established by Mayeya and Chitangala (2021) when they noted that the RBF programme improved all the indicators targeted in Lunte District Health facilities in Zambia. The successes of the project included improved quality of health care services and a strengthened health system (Mayeya and Chitangala, 2021).

The study established that access and availability to essential medicines and medical equipment improved between 2011 and 2018 because hospitals, including health facilities, could afford to procure them as per the priority list on the operational plans. As earlier on alluded to, the availability of essential medicines and critical medical supplies dwindled due to a delay in the disbursement of RBF programme subsidies. To worsen the situation, more essential medicines and medical equipment were channelled towards the COVID-19 pandemic response during 2020 and 2021. There are questions about how exogenous factors affect RBF performance, and acknowledgement that unforeseen endogenous programme design and implementation factors also greatly affect the performance of the RBF programme (Kadungure *et al*., 2020). As a result, a better understanding of how RBF operates and adapts to programme level (endogenous) and exogenous (external) factors in developing countries is necessary (Kadungure *et al*., 2020).

Conclusion

The RBF programme improved revenue paid through quarterly subsidies on selected performance indicators, and this was significantly noted from 2011 to 2018. The decrease in the RBF's quarterly earnings was affected by changes in monetary policies. The institutionalisation of the RBF programme had a negative impact since quarterly RBF subsidies were disbursed late. On the inception of the RBF programme, health workers were motivated since they were earning incentives in foreign currency, and the work environment improved. However, morale was later lowered when the RBF incentives were decreased, and this led to a high staff attrition rate from 2019. Moreover, the RBF programme increased the workload for health workers. Significant improvement in service delivery was witnessed between 2011 and 2018, when health facilities could afford to offer maternal and child health without a shortage of essential medicines. Some facilities could manage to do outreach activities in their catchment area, and there was a plan B for hiring a local transporter in case of emergencies, but this was not sustainable. Essential medicines and medical equipment were prioritised in the health facility operational plans. Conversely, this was dependent on the availability of RBF programme funds. The study noted that primary care health facilities struggled to avail essential medicines and medical equipment when the RBF programme was not released into their accounts. Completeness and timeliness on the submission of health information data significantly improved. Nevertheless, the collated data was not promptly used for decision making, since when there were issues to be addressed, it sometimes took time for decision makers to take corrective actiRBF programme empowered the community through community participation on health matters. CBO, HCC and DSC were introduced to partake in the health delivery system. However, political influence and lack of motivation affected the participation of the set structures.

Going forward, when adopting the RBF programme, there is a need to prioritise strengthening of the health system. Lucrative salaries should be allocated to health workers, and RBF programme staff incentives should be in currency with high market value. The Government of Zimbabwe should meet the international declaration in health financing, like the Abuja Declaration, whereby the Ministry of Finance and Economic Development should allocate 15% of its total national annual budget. To capacitate health facilities to continuously offer health services, through even conducting outreach services in their catchment area. Specialist services like obstetric and gynaecological services are to be provided at the district level. Virtual medical services such as telemedicine should be provided to the disadvantaged communities. To enhance the real-time submission of health information data from the health facilities, there is a need to be a provision of electronic tablets and airtime to community health workers for real-time submission of health information. The Government of Zimbabwe, through the National Pharmaceutical Company of Zimbabwe, should provide adequate medical equipment and medicines for the reliable provision of maternal and child health care services. Critical medical equipment like Ultrasound Scan should be procured for District Hospitals. Furthermore, there is a need to capacitate HCCs, CBOs and DSCs in the implementation of the RBF programme so that they can be empowered in decision-making on operations at health facilities. The community representatives are supposed to be incentivised so that they can be motivated to implement assigned health service delivery duties. There is also a need to activate Hospital Management Boards to reinforce governance and leadership at the district level. Potential study limitations were noted since the study findings cannot be generalised to other settings or contexts. Therefore, future studies should combine mixed methods and quasi-experimental research designs to strengthen attribution.

Declarations

Interdisciplinary Scope: This article examines the relationship between health economics, public policy, and social determinants of health within Zimbabwe's healthcare system. By taking an interdisciplinary approach, the study highlights how financial incentives transformed healthcare delivery, improved accessibility, and enhanced health outcomes for the marginalised communities. Through an analysis of results-based financing (RBF) implementation in Marondera and Zvishavane, this study fosters the need to reimagine how to come up with sustainable strategies which can be adopted to strengthen health systems in low-income countries.

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