ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

Assessment of Government Bonuses and Healthcare Performance in Southwestern Uganda

[1]Juliana Lugemwa Namujuzi[*], [2]Abigail Mani, [3]Mercy Afreh

[1,2]Department of Employment, Beaverbrooks STEPS Inc, Boston, Massachusetts, USA

[3]The Heller School for Social Policy and Management, Brandeis University Waltham, USA

[*]Corresponding author

DOI: https://doi.org/10.51244/IJRSI.2025.120600157

Received: 12 June 2025; Accepted: 27 June 2025; Published: 20 July 2025

ABSTRACT

In Southwestern Uganda, a government performance bonus scheme in 2018 aimed to enhance government health centers. Healthcare system in Uganda suffers from entrenched issues, including inequalities in services and resource limitations. While financial incentives are universally recognized for enhancing healthcare performance, their specific impact in Southwestern Uganda is poorly understood. The study evaluated the effect of the bonus program on health center performance, quantified overall improvement, sustained improvements, and positive outcomes by facility type and district. Using a retrospective study design, the research compared government and nongovernment nonprofit health centers' administrative data from 2017 to 2022. Quantitative analysis, predominantly descriptive statistics, compared trends in the health service utilization indicators like ANC attendance, immunization coverage, institutional delivery, and HIV care. Results showed considerable improvement. First ANC visits increased from 184,310 in 2017 to 196,687 in 2022, and first trimester ANC attendance in the early trimester increased from 43,864 to 79,302. Institutional delivery also increased considerably from 127,048 to 169,019. There were also improvements in HIV control with increased infant PCR tests and viral suppression among ART clients. IPT3 uptake also increased from 124,642 to 127,419. Measles-rubella immunization, while generally improved, had fluctuations. In contrast, new tuberculosis cases increased from 4,897 to 8,954. The study suggested the potential for an association between bonuses and performance improvement in Ankole Region, whereas Kigezi Region experienced more muted performance, with suggestions of other influences at work. The positive trends are in line with the potential of performance-based incentives in resource-limited settings. The rise in TB cases and immunization fluctuation must be examined more closely. The descriptive design prevents firm attribution to the bonus system in isolation. The study suggests that government incentives can improve the performance of health centers, particularly in maternal and child health and HIV care in Southwestern Uganda.

Key words: Government bonuses, financial incentives, healthcare facilities, healthcare performance.

INTRODUCTION

Health center performance in Uganda has been a subject of ongoing concern, with various actions directed towards enhancing healthcare delivery and outcomes (Musoke et al., 2021). According to a report by the World Health Organization (WHO) in 2018, Uganda's health system grapples with disparities in service delivery, workforce distribution, and the availability of essential medicines and equipment, all of which can impact the overall performance of health centers (WHO, 2018). South Western Uganda, like other regions, faces challenges in its health system, including issues related to infrastructure, resource allocation, and healthcare accessibility (Kanyesigye et al., 2022a). Government bonuses, in the form of targeted financial incentives, subsidies, or grants, can play a crucial role in bolstering healthcare infrastructure, attracting skilled healthcare professionals, and improving the overall quality of services (De Walque et al., 2022). A study by the World Health Organization (WHO) in Europe highlighted that financial incentives in form of bonuses for healthcare providers enhances their motivation and performance, leading to improved health outcomes (WHO, 2018).

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

Previous research demonstrates that the performance of health centers on a global scale is marked by significant challenges that impede the delivery of accessible and quality healthcare services (Lahariya, 2020). According to WHO, disparities persist across countries, affecting health center performance and overall healthcare outcomes. One of the key issues is the shortage of healthcare workers worldwide, with estimates suggesting a global shortage of 18 million health workers by 2030 (WHO, 2020b). This shortage is particularly acute in low- and middle-income countries, limiting their capacity to provide essential health services and respond effectively to health crises. In addition to workforce shortages, inadequate healthcare infrastructure remains a critical problem globally. Many health centers lack basic resources, including medical equipment, diagnostic tools, and essential medicines (WHO, 2019). This scarcity hinders the ability to diagnose and treat various health conditions promptly. The issue is exacerbated in rural and underserved areas, where access to healthcare is further compromised by poor transportation networks and insufficient facilities (WHO, 2018).

Sub-Saharan Africa faces significant challenges in achieving optimal health center performance, impacting the overall healthcare landscape in the region (Arhin & Asante-Darko, 2023). According to WHO, Sub-Saharan Africa bears a disproportionate burden of infectious diseases, maternal and child mortality, and inadequate access to essential healthcare services (WHO, 2020a). The region grapples with a critical shortage of healthcare workers, with an estimated average of 1.7 health workers per 1,000 populations, significantly below the global average of 2.9 health workers per 1,000 populations (Yankam et al., 2023). This shortage exacerbates the strain on health systems, limiting their capacity to provide timely and quality care. Relatedly, health infrastructure deficiencies persist in Sub-Saharan Africa, contributing to suboptimal health center performance. Many facilities lack essential resources such as medical equipment, diagnostic tools, and pharmaceuticals, hindering the provision of comprehensive healthcare services (United Nations Children's Fund [UNICEF], 2022). In rural areas, access to healthcare is particularly challenging, with inadequate transportation networks further impeding patients' ability to reach health centers in a timely manner. These issues collectively contribute to lower health outcomes and hinder progress towards achieving Sustainable Development Goal 3, which aims to ensure healthy lives and promote well-being for all (Das et al., 2021).

Uganda, like many countries in Sub-Saharan Africa, faces challenges in achieving optimal health center performance (Kiwanuka et al., 2020). According to the World Health Organization (WHO), Uganda's healthcare system encounters significant hurdles, including limited healthcare infrastructure, workforce shortages, and financial constraints (WHO, 2020a). A study conducted by the Ministry of Health in Uganda reported that the country still lags behind national averages in key health metrics, with higher maternal and child mortality rates and a lower proportion of the population accessing essential health services (Ministry of Health, 2019).

Southwestern Uganda grapples with challenges in delivering effective healthcare, characterized by limited resources and significant inconsistencies in service quality across health centers (Ministry of Health., 2017). The region's health facilities, vital for providing essential services like vaccinations, prenatal care, and treating common illnesses, exhibit notable variations in performance. Shortages of medical supplies, equipment, and qualified personnel, coupled with issues such as inadequate sanitation and maintenance, contribute to the overall struggle faced by health centers (Ministry of Health Uganda, 2017). Recognizing the need for improvement, the Ugandan government has explored the implementation of performance-based financing (PBF) programs as a strategy to enhance health center performance (Ministry of Health Uganda, 2017). These programs, involving the provision of bonuses for meeting specific performance targets, aim to address challenges such as increased patient utilization rates and improved immunization coverage (Ministry of Health Uganda, 2017).

Although the concept of performance-based bonuses is increasingly popular, even though studies have proven them to be successful in other contexts, their specific impact on health centers' performance in Southwestern Uganda is less studied. For example, the authors in Rwanda found that performance-based financing greatly enhanced the quality of maternal and child health care (Basaza et al., 2011). Similarly, a trial in Tanzania demonstrated that financial incentives improved health workers' motivation and the provision of services in primary healthcare facilities (Basinga et al., 2011). However, some studies also highlight potential adverse effects, such as focus on incentivized services at the expense of non-incentivized services, or data manipulation (Eichler & Levine, 2009). It is therefore important to learn about the nuances of the effects of such programs in the particular setting of Southwestern Uganda.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

Objectives of the Study

This study aims to evaluate the impact of a new program of government performance bonuses on the performance of government operated ambulatory health centers in Southwestern Uganda. This program began in 2018 and continues. These research inquiries will examine administrative data maintained by the Uganda MOH to investigate the following questions:

What criteria were used to allocate bonus funds among health facilities?

Did the general/overall performance of health facilities in Southwestern Uganda improve since bonus was introduced?

Did poorly performing facilities at baseline improve performance after bonusing was Introduced?

Did health facilities that received bonuses continue to demonstrate improved performance in subsequent periods?

Did all aspects of facility performance (e.g., across all indicators) in the bonusing system show improved facility performance?

Did the bonusing system show positive results on facility performance among all facility types (ownership (government and non-profits), all levels of facilities (HC III or HC IVs), and across all districts?

Benefits of the Study

The findings of this research will offer useful suggestions to healthcare administrators and policymakers in Uganda and other resource-constrained settings. By shedding light on the effectiveness of performance-based incentives, this study can help inform the design of better-calibrated and more effective interventions to improve healthcare provision. Specifically, it will offer pragmatic evidence about how government bonuses can improve healthcare infrastructure, attract skilled professionals to this industry, and overall enhance the quality of services. Also, by pinpointing high areas of improvement and high areas of ongoing problems, the study will guide resource allocation and policy change to ensure maximum possible positive impact from such initiatives. This research also contributes to the general body of scholarship in health policy and administration, namely the use of financial incentives to constructing health systems in developing countries.

The Health System in Southwestern Uganda

The health center system in southwestern Uganda is a six-tiered system consisting of regional referral hospitals, district hospitals, health center IVs, health center IIIs, health center IIs, and village health teams (Naome et al., 2020). Regional referral hospitals are the most comprehensive level of care, and they provide a range of services (Kanyesigye et al., 2022b). In Southwestern Uganda, the health system is characterized by a diverse facility mix, reflecting the varying levels of care available to the population. According to recent studies (Tusubira et al., 2020), health facilities in this region include primary health centers, district hospitals, and regional referral hospitals and the facility mix plays a crucial role in determining the accessibility and scope of healthcare services available to the community.

The payor mix within the health system of Southwestern Uganda is composed of a combination of public and private funding sources (Namyalo et al., 2023) . Government funding, often through the Ministry of Health, constitutes a significant portion of the financial support for health facilities in the region (Dowhaniuk, 2021). The predominant financing involved government allocations and subsidies, which supported the operation of public health facilities (Ssennyonjo et al., 2021). Furthermore, private contributions, community-based initiatives, and international aid further contribute as well creating a complex landscape of financial support for healthcare services. Patients, depending on their financial capacity, also contributed through out-of-pocket payments, particularly in private health facilities. Furthermore, international aid organizations played a role in supporting specific health programs and interventions, influencing the overall payment dynamics within the system (Nagemi & Mwesigwa, 2020).

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

Therefore, the facility mix, payor mix, and payment mechanisms in Southwestern Uganda's health system highlights the complexity of healthcare financing and delivery in the region and understanding these factors is essential for crafting policies and interventions aimed at improving financial sustainability, equity, and access to quality healthcare services for the diverse population in Southwestern Uganda.

The Bonusing System

The bonusing system plays a pivotal role in healthcare management strategies, serving as a cornerstone for motivating healthcare workers and catalyzing advancements in service delivery and patient outcomes (Strasser & Strasser, 2020). According to WHO (2018), this system is acknowledged for its potential to significantly boost the morale and dedication of healthcare professionals. Through the provision of financial incentives linked to performance, the bonusing system operates as a powerful mechanism to incentivize healthcare providers towards the attainment of predetermined objectives. Therefore, the bonusing system serves as a beacon, guiding healthcare workers towards the relentless pursuit of quality care and patient satisfaction, thereby amplifying the positive impact of healthcare services on individuals and communities. The provision of bonuses serves as a powerful motivator for healthcare workers, stimulating a sense of achievement and recognition for their efforts (Muthuri et al., 2020) . Motivation is the lifeblood of any workforce, and within the healthcare sector, where the risks are high and the demands often relentless, maintaining high levels of motivation among healthcare workers is paramount (Aslan & Morsunbul, 2018). The provision of bonuses represents more than just financial rewards; it symbolizes a tangible acknowledgment of the tireless efforts and dedication demonstrated by healthcare professionals.

To earn a bonus, healthcare providers typically need to meet specific performance criteria, which may include targets related to patient satisfaction, clinical quality indicators, efficiency measures, or adherence to protocols (Kyeremanteng et al., 2019). Bonus amounts often vary based on the level of achievement, with higher rewards granted for surpassing performance benchmarks or achieving exceptional results (Mmbusa, 2019). The financial resources allocated through the bonusing system can be strategically utilized to invest in critical clinical infrastructure, procure essential medical supplies, and mitigate stockouts (Okpechi et al., 2021). Therefore, by incentivizing excellence in service delivery, the bonusing system would contribute to the overall improvement of healthcare facilities and ensure the availability of necessary resources for patient care.

In Uganda, where healthcare resources are often scarce and the healthcare system grapples with challenges such as inadequate funding, understaffing, and significant disparities in access and quality of care across regions, the implementation of bonusing systems within health centers has emerged as an important strategic response (Davies et al., 2021). This approach aims to tackle these systemic challenges by incentivizing clinic managers and healthcare workers to enhance service delivery and improve healthcare outcomes (Okungu & Janine, 2019) thus earning more bonuses. With limited resources, the government and health organizations have recognized the need for innovative approaches to boost healthcare performance and address pressing health needs. Consequently, the adoption of bonusing systems has gained traction as a means to motivate healthcare providers and mobilize their efforts within the existing constraints (Ministry of Health Uganda, 2019). This approach not only seeks to improve the overall effectiveness of healthcare delivery but also addresses workforce motivation and retention issues, contributing to the broader goal of strengthening the country's healthcare system.

The adoption of performance-based incentives, such as bonuses, has become increasingly prominent within Uganda's health sector, reflecting a concerted effort to bolster healthcare worker motivation, enhance service delivery, and fortify the overall health system (Opio et al., 2022). This strategic shift aligns with broader initiatives aimed at revitalizing Uganda's healthcare landscape and addressing long standing challenges. PBF models, a key component of this approach, have been systematically tested and expanded throughout the country. These models, often incorporating bonus incentives, are designed to drive improvements in healthcare service provision, encourage higher levels of patient engagement, and ultimately yield better health outcomes for the population (Wandera & Bigabwenkya, 2021). Through the strategic deployment of performance-based incentives, Uganda's health sector endeavors to cultivate a culture of accountability, efficiency, and quality care delivery, thereby laying the groundwork for sustained improvements in health service accessibility and effectiveness.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

In Uganda, bonusing systems are structured to align financial incentives with the attainment of predefined targets or performance metrics, encompassing various aspects of healthcare provision (Moro-Visconti, n.d.). These targets can span a spectrum, including but not limited to, the volume and caliber of services delivered, health outcomes achieved, and adherence to established clinical protocols. For instance, healthcare workers may be incentivized to meet targets related to the number of patients treated, accuracy of diagnoses, and compliance with treatment guidelines. One notable initiative in Uganda is the Uganda Health Systems Strengthening Project, which incorporates performance-based financing mechanisms, including bonusing, to incentivize healthcare providers and improve the quality and accessibility of health services (Mugisha et al., 2019). Through this project, healthcare workers receive bonuses based on their performance in key areas such as immunization coverage, antenatal care visits, and skilled birth attendance. Despite the potential benefits of bonusing systems, challenges exist in their implementation and effectiveness. These include concerns about equity, accountability, and sustainability, as well as the need for robust monitoring and evaluation frameworks to ensure transparency and effectiveness (Martineau et al., 2018).

Therefore, the bonusing system in health centers in Uganda has evolved as a response to healthcare challenges and a strategy to improve healthcare performance and outcomes. While these systems hold promise for enhancing motivation and service delivery, ongoing efforts are needed to address implementation challenges and maximize their impact on the Ugandan healthcare system.

METHODOLOGY

The design of the research that was applied in this research was retrospective, where available administrative data were analyzed to ascertain the efficacy of the government performance bonus program. The study utilized administrative data obtained from the years 2017 to 2022 from both government and nongovernmental health centers in Southwestern Uganda. This period was chosen to include a year prior to the implementation of the program (2018) and subsequent years following its implementation.

Data Collection

The government and Private-Not-for-Profit (PNFP) health facilities in the region were administratively collected data for their assessment and determination of the criteria to be utilized in the payment of bonuses. This was conducted through accessing administrative reports that are submitted monthly to the Ministry of Health. The data were formally sought from the Ministry of Health and the Elizabeth Glaser Pediatric AIDS Foundation that provides technical support to the Ministry of Health. This approach gave protection for coverage of comprehensive and frequent health service use data.

Data Analysis

Quantitative statistical data analysis was conducted in STATA (StataCorp LLC, College Station, TX, USA). Descriptive statistics were employed to explore trends in various measures of healthcare service use over the six-year duration (2017-2022). This allowed for probing of Results-Based Financing (RBF) (including performance bonuses) and health care use through the comparison of indicators prior to and subsequent to RBF implementation. Special attention was placed on trends in antenatal care attendance (ANC), immunization rates, institutional delivery, and HIV treatment indicator trends. Variability at the district level was also examined in order to control for differences in performance. The findings of this research were intended to provide information to policy-makers and health administrators to improve the quality of care in Southwestern Uganda.

RESULTS

Table 1: Number of pregnant women who attended their 1st ANC visit

Year	2017	2018	2019	2020	2021	2022
Region						

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

Ankole Region	125,117	127,122	127,294	129,299	132,785	133,758
Kigezi Region	59,193	58,031	61,903	61,185	63,137	62,929
Grand Total	184,310	185,153	189,197	190,484	195,922	196,687

Source: Administrative data from Uganda Ministry of Health, 2024

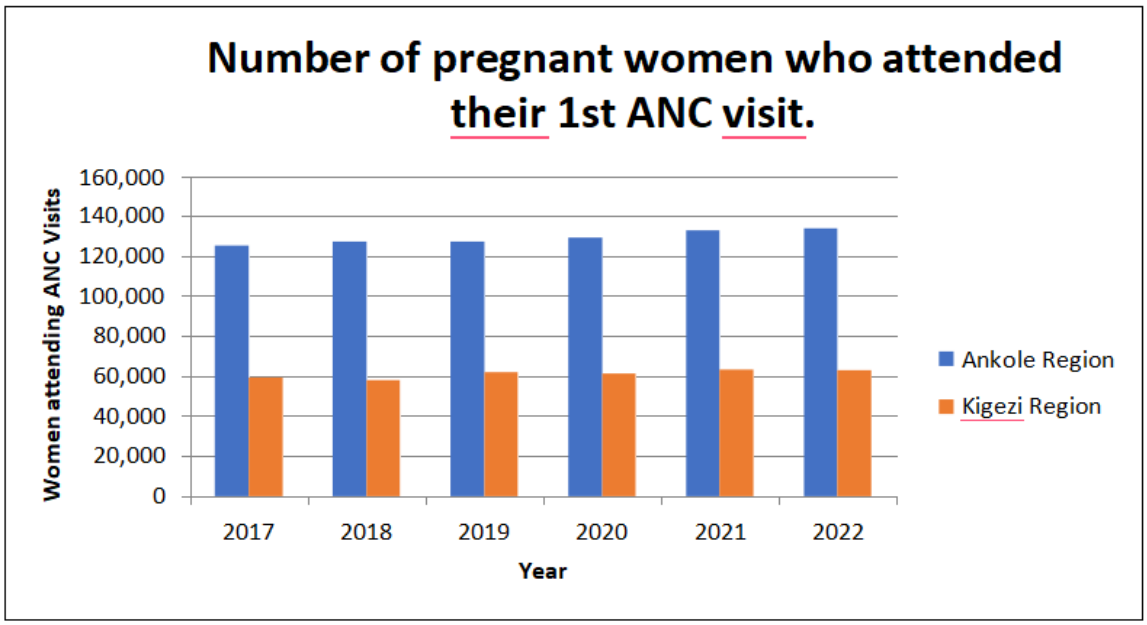

Table 2: Number of pregnant women who attended their 1st ANC visit within the first trimester

Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Region						
Ankole Region	29,346	30,353	32,108	42,498	48,842	53,709
Kigezi Region	14,518	15,633	17,780	24,519	27,830	25,593
Grand Total	43,864	45,986	49,888	67,017	76,672	79,302

Source: Administrative Data from Uganda Ministry of Health, 2024

Table 3: Number of pregnant women who received a 3rd dose of IPT3

Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Region						
Ankole Region	-	-	-	74,549	83,533	85,689
Kigezi Region	-	-	-	50,093	39,479	41,730
Grand Total	-	-	-	124,642	123,012	127,419

Source: Administrative Data from Uganda Ministry of Health, 2024

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

Table 4: Number of children under 1 year immunized for measles-rubella

Year	2017	2018	2019	2020	2021	2022
Region						
Ankole Region	-	-	-	117,769	120,787	117,150
Kigezi Region	-	-	-	56,581	58,230	75,062
Grand Total	-	-	-	174,350	179,017	192,212

Source: Administrative Data from Uganda Ministry of Health, 2024

Table 5: Number of newly diagnosed cases of tuberculosis

Year	2017	2018	2019	2020	2021	2022
Region						
Ankole Region	3,378	3,334	4,022	3,633	4,556	6,372
Kigezi Region	1,519	1,509	2,033	1,412	1,934	2,582
Grand Total	4,897	4,843	6,055	5,045	6,490	8,954

Source: Administrative Data from Uganda Ministry of Health

Table 6: Number of infants exposed to HIV who had a second PCR test within 9 months

Year	2017	2018	2019	2020	2021	2022
Region/District						
Ankole Region	-	-	-	4,497	5,342	6,040
Kigezi Region	-	-	-	1,444	1,789	1,772
Grand Total	-	-	-	5,941	7,131	7,812

Source: Administrative Data from Uganda Ministry of Health, 2024

Table 7: Number of institutional deliveries (Live Births)

Year	2017	2018	2019	2020	2021	2022
Region/District						
Ankole Region	85,289	90,812	95,000	92,733	107,124	113,440
Kigezi Region	41,759	42,332	46,480	47,230	53,008	55,579
Grand Total	127,048	133,144	141,480	139,963	160,132	169,019

Source: Administrative Data from Uganda Ministry of Health, 2024

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

Table 8: Number of cesarean sections

Year	2017	2018	2019	2020	2021	2022
Region/District						
Ankole Region	85,289	12,553	13,856	13,884	16,405	16,161
Kigezi Region	41,759	6,379	7,520	7,549	8,372	8,796
Grand Total	127,048	18,932	21,376	21,433	24,777	24,957

Source: Administrative Data from Uganda Ministry of Health, 2024

Table 9: Number of women who attended PNC visit at 6 days

Year	2017	2018	2019	2020	2021	2022
Region/District						
Ankole Region	11,485	12,764	16,335	25,224	37,094	37,527
Kigezi Region	4,854	5,226	7,277	13,283	18,807	19,439
Grand Total	16,339	17,990	23,612	38,507	55,901	56,966

Source: Administrative Data from Uganda Ministry of Health, 2024

Table 10: New acceptance and re-attendance for modern FP methods

Year	2017	2018	2019	2020	2021	2022
District						
Ankole Region	193,663	181,948	235,847	240,618	294,511	331,742
Kigezi Region	134,639	113,611	138,815	147,207	164,880	163,657
Grand Total	328,302	295,559	374,662	387,825	459,391	495,399

Source: Administrative Data from Uganda Ministry of Health, 2024

Table 11: Number of clients on ART with viral suppression

Year	2017	2018	2019	2020	2021	2022
Region/District						
Ankole Region	-	-	-	287,553	365,744	395,733
Kigezi Region	-	-	-	105,182	138,720	155,327
Grand Total	-	-	-	392,735	504,464	551,060

Source: Administrative Data from Uganda Ministry of Health, 2024

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

Table 12: Performance bonuses in Southwestern Uganda and health center performance

Year	Performance Bonus (USD)	Ankole Region (Avg. Improvement*)	Kigezi Region (Avg. Improvement*)
2017	Not Implemented	-	-
2018	50,000 (Base)	Low	Low
2019	75,000 (Increased)	Moderate	Moderate
2020	Year	Moderate	Steady
2021	100,000 (Increased with New Criteria)	High	Moderate
2022	80,000 (Adjusted Structure)	High with Fluctuations	Moderate with Fluctuations

Source: Administrative Data from Uganda Ministry of Health, 2024

DISCUSSION

This study analyzes administrative records that were collected from the government and PNFP health facilities of Southwestern Uganda. The overarching issue is to investigate the potential relationship between government bonuses and overall health center performance in the region. The research was interested in trends in selected indicators of use of healthcare services, including ANC visits, immunization coverage, and institutional delivery, over a six-year horizon (2017-2022). Hence, through the tracking of trends with introduction of government bonus schemes, the research was in a position to reveal if the bonuses had any perceivable effects on the performance of health centers in Southwestern Uganda. Results are presented in a series of tables where every table illustrates a specific healthcare indicator over the research period. Table 2 shows the number of pregnant women attending ANC for the first time in particular during the first trimester. There is a significant rise, from 43,864 in 2017 to 79,302 in 2022. Early ANC aids early detection and management of pregnancy-related complications, with an improvement in maternal health seeking. This large rise indicates responsiveness to initiatives towards early access to care, possibly supported by the bonus system. A study by Paul et al. (2018) on performance-based financing in Tanzania also reported the same on increased early antenatal care visits after the introduction of incentives.

Table 3 focuses on the coverage of IPT3 third dose of malaria prevention among pregnant women with evidence being available from the year 2020. IPT3 rollout in 2020 helped immensely to increase uptake among pregnant women, and the numbers increased from 124,642 in 2020 to 127,419 in 2022. That would signify effective rollout and uptake of malaria prevention measures among the targeted demographic. The rising trend is consistent with findings that performance-based rewards can boost the acceptance of targeted health interventions, such as in the case of prevention of malaria (Morgan & Ssengooba, 2017). The number of children aged below 1 year immunized against measles-rubella is shown in Table 4, with figures beginning from 2020 as well. The figures depict a general rise from 174,350 in 2020 to 192,212 in 2022, though there are some fluctuations. This is a sign of progress in the immunization program, though the small dip in some clusters should be investigated. While the general trend is promising, the seen fluctuations are of interest and may be a sign of problems in vaccine supply chains or acceptance by communities, such problems being noted in other immunization programs in Sub-Saharan Africa (Japir et al., 2022).

It is also observed from table 5 that there has been an increase in newly diagnosed TB cases from 4,897 in 2017 to 8,954 in 2022. This could be reflecting both improved detection and reporting mechanisms as well as a real increase in incidence of TB and reflects continued efforts towards TB control and prevention. Increased reported cases could be an indication of enhanced diagnostic capability and enhanced health-seeking behavior, which could indirectly be influenced by general health system strengthening activity, possibly bonuses that stimulate

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

more complete service delivery (Anand et al., 2014). Table 6 tracks the HIV-exposed infants who were provided with a second PCR test within 9 months, with available trends from 2020.

The trend of data over the period from 2020 to 2022 shows an increase in the rate of infants exposed to HIV who were tested by a second PCR test within 9 months in the Ankole and Kigezi regions. This is an indication of an increase in monitoring of HIV-exposed infants, which is critical for early detection and treatment of HIV infection. This rising trend is crucial in mother-to-child prevention and is consistent with the goal of improving HIV care management services via performance incentives (Fox et al., 2013).

Table 7 reflects institutional deliveries (live births). Bukya, Ankole, and Kigezi show an increase in institutional delivery from 2017 to 2022. This rise from 127,048 to 169,019 deliveries is evidence of better performance and reporting by health facilities, perhaps as a result of the incentives given by the government. Institutional deliveries are greater evidence of better access and quality of maternal care, a finding that is consistent with results from other Sub-Saharan African countries that have implemented performance-based financing programs (Fritsche et al., 2014). Table 8 indicates the number of cesarean sections performed in the regions. It shows the increase in the volume of cesarean sections performed between 2017 and 2022, and this may be attributed to increased access to and the quality of maternal health services. This is consistent with other studies stating that performance-based incentives can improve health service delivery. The rise in C-sections, where duly medically warranted, is a good sign of improved capacity to manage complex deliveries, a benefit sometimes associated with performance incentives that translate into higher volume and quality of care (Witter et al., 2012).

Table 9 shows an ever-increasing number of women making six-day postnatal care visits between 2017 and 2022. This is proof of the efficacy of government initiatives aimed at increasing maternal and child health interventions, such as offering bonuses to facilities. Increased postnatal visitation to facilities is vital to the health of mother and child and contributory proof of effective enrollment programs, perhaps guided by the incentivized system. Similar positive impacts on postnatal visits have been reported in other performance-based financing settings (Chimhutu et al., 2014). Table 10 reveals data on new acceptance and re-attendance of modern family planning practices. The data reveal an overall upward trend in acceptance and re-attendance of modern family planning practices in Southwestern Uganda, reflecting increasing awareness and utilization of the services.

This is a trend indicative of successful promotion of family planning and may be a direct or indirect consequence of amplified delivery of health care driven by the motivation of performance incentives (Mutesa et al., 2012). Table 11 identifies the number of clients on antiretroviral therapy (ART) with viral suppression. The percentage of antiretroviral therapy clients with viral suppression rose from 2017 to 2022 as illustrated, and it is likely due to the introduction of the performance-based incentives for village health workers, leading to improved health service delivery and utilization. Viral suppression is a significant outcome for HIV care, and its rise significantly reflects the improved adherence and effectiveness of ART programs, possibly underpinned by the bonus system. This aligns with research evidence on performance-based incentives for HIV/AIDS treatment, which has illustrated beneficial impacts on drug use adherence and outcomes (Turcotte et al., 2013). Table 12 analyzes the potential correlation between health center performance and performance bonuses in Southwestern Uganda (Ankole & Kigezi Regions) for 2017-2022.

Although both districts have improved in the utilization of healthcare services, Ankole Region demonstrates a potential link between greater bonuses and greater average improvements, while Kigezi Region's performance is more moderate in spite of bonuses. This would indicate other determinants may also be at play in healthcare utilization trends. The variation in regional responses indicates the complexity of linking changes in performance to bonus programs alone and implies the impact of contextual determinants. This is in accordance with evidence that indicates that performance-based financing's success will be contingent on regional characteristics, the resilience of a pre-existing health system, and other interventions being implemented at the same time (Eldridge & Palmer, 2009). Discussion The findings of this study offer an explanation of the effects of government incentives on health center operations in Southwestern Uganda, with emphasis on the management of infectious diseases, maternal and child health, and care use. These findings are relevant to the policy and management of Uganda because they elaborate on how performance-based incentives work in environments that experience a shortage of resources. The data offered a glimpse of trends in the use of health services in Southwestern Uganda with promising improvements along various indicators during 2017-2022. There were significant gains in first

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

trimester ANC visits, institutional births, and six-day postnatal care attendance. These trends showed potential health improvements among maternal and child health services. For instance, the growth in early ANC attendance (Table 2) from 43,864 in 2017 to 79,302 in 2022 is a significant indicator of heightened maternal healthcare access, as early antenatal care participation allows for timely interventions to prevent pregnancy and childbirth difficulties.

This aligns with evidence in other Sub-Saharan African countries indicating the positive impact of performance-based financing on maternal health service use (Munyaneza et al., 2020). Similarly, the consistent increase in the number of institutional deliveries (Table 7) from 127,048 to 169,019 during 2017 to 2022 shows increasing access to quality maternal health services.

This is also reflected in the increase in C-sections (Table 8), which may be an indicator of increased capacity to manage complicated deliveries. These positive outcomes are consistent with global evidence that increasing the remuneration of health workers can motivate them to improve quality and use of maternal health care (Turcotte et al., 2013). Other positive trends were noted in other areas including child immunization coverage and use of family planning measures. The overall increase in measles-rubella immunization (Table 4) from 174,350 in 2020 to 192,212 in 2022 reflects strengthening in the immunization program. Similarly, the rising trend in acceptance and re-visit for new family planning measures (Table 10) indicates increased awareness and utilization of the services. These findings concur with evidence that rewarding performance has a positive effect on the uptake of preventive health measures (Frymus et al., 2015). A change towards improved management of HIV was also evident.

The increase in the proportion of babies who were HIV-exposed and tested positive with a second PCR test between 9 months (Table 6) and the rise in the number of clients on antiretroviral therapy with viral suppression (Table 11) are positive indicators of improvements in the fight against HIV/AIDS. The results highlight the importance of continued monitoring and treatment to curb the spread of HIV. This is particularly significant in an HIV/AIDS-high-impact area, and the positive trends may reflect the incentivized focus on the HIV key performance indicators. This accords with findings from studies of result-based financing in HIV programs, which have reported increased testing and treatment compliance (O'Connor et al., 2014).

One counter-intuitive finding that defies expectations is the heterogeneity in coverage of measles-rubella vaccination (Table 4). Although there is a general uptick, there were some regions that experienced a minor downturn, which warrants further investigation. This could be due to factors such as vaccine hesitancy, supply chain issues, or other barriers to accessing healthcare. Similarly, the observed increase in newly diagnosed TB cases (Table 5) from 4,897 in 2017 to 8,954 in 2022 requires proper scrutiny. Even if it is a genuine rise in incidence, it could be also an indication of improved detection and reporting mechanisms due to increased health system capacity.

This is a two-way interpretation which is characteristic of public health surveillance in which improved systems will reveal more of the underlying burden of disease not before detectable (Gruber et al., 2012). The study shows how government policy, for instance, the award of bonuses (Table 12), affects health centers' performance directly, a matter that falls under the focus area of global health policy and management. It is evident from the table that while Ankole and Kigezi both bettered, there was a higher correlation between bonus increases and further improved means in Ankole Region. This implies that bonus schemes' effectiveness can be subject to regional influences and other associated factors. These results demonstrate the value of using financial incentives to enhance the delivery and quality of health care, an important factor that should be considered by health policymakers and managers. It is important to understand the link between incentives offered by governments and the performance of health centers in order to develop optimal health policies and management techniques.

A major shortcoming of the study was its design, which utilized a trend analysis to examine changes near the introduction of intervention. While the clinic volume and access measures were shown consistently to improve after the intervention, these measures were not the performance measures on which the bonus payment was directly dependent. While the findings were promising, the absence of directly related performance indicators limits the ability to definitively attribute observed trends to the effectiveness of the bonus system in isolation. This limitation is acknowledged in performance-based financing literature, where separating the specific effect

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue IV April 2025

of incentives is often challenging from other confounders (Savedoff, 2011). The encouraging trends in this study indicate that performance-based incentives can prove to be an influential vehicle for improving healthcare services, particularly in low-resource areas.

Still, to conclusively evaluate the effect of performance bonuses, additional research employing a control group not receiving bonuses is needed. Also, looking into the specific bonus conditions and how the health centers adjusted their practice to that would also illuminate much about the dynamics whereby these incentives are converted into improved performance. Further research is likewise needed to account for why the tuberculosis cases are on the increase and why immunization coverage is fluctuating, in order to set targeted interventions for these areas. Conclusion

The results of this study are meaningful findings suggesting that government incentives may be improving the performance of health centers in Southwestern Uganda. These findings contribute to the global health policy and management literature by offering useful practical advice to enhance healthcare delivery and outcomes in such settings. Healthcare service utilization in Southwestern Uganda showed promising trends in various measures between 2017 and 2022. Trends like enhanced ANC attendance (Table 1, Table 2), institutional delivery (Table 7), and child immunization coverage (Table 4) reflect probable improvement in maternal and child health care, disease prevention, and family planning access (Table 10). Moreover, the dramatic rise in HIV control indicators, such as the second HIV-exposed infant PCR test (Table 6) and viral suppression among ART clients (Table 11), suggests wide-ranging improvement in addressing the HIV/AIDS disease in the region. Nevertheless, the descriptive data limitation prevents us from definitively accounting for these trends entirely due to the performance bonus program.

While timing of bonus introduction and modifications coincided with a period of positive change, competing explanations are hard to rule out. Growth in populations, previous national health programs, and other interventions could have independently influenced the trends. The increase in newly diagnosed TB cases (Table 5) and the volatility of immunization coverage (Table 4) are concerns that need a more careful look to identify their underlying causes and apply tailored interventions. Despite the limitations of the study, this analysis highlights the potential usefulness of performance-based incentives in health delivery, especially in the context of constrained resources. The positive trends reported encourage more studies employing more rigorous research designs.

Conflict of Interest

The authors declared no conflict of interest.

REFERENCES

1. Anand, S., Bärnighausen, T., & Fink, G. (2014). The effect of results-based financing on maternal and child health in Rwanda: A difference-in-differences analysis. Health Policy and Planning, 29(4), 481-492.
2. Arhin, K., & Asante-Darko, D. (2023). Performance evaluation of national healthcare systems in the prevention and treatment of non-communicable diseases in sub-Saharan Africa. Plos One, 18(11).
3. Aslan, I., & Morsunbul, D. (2018). Preferences for job life quality and motivation in healthcare. Маркетинг і Менеджмент Інновацій, 2, 79–93.
4. Basaza, R., Criel, B., & Van der Stuyft, P. (2011). Performance-based financing in Rwanda: Is it achieving the desired results? Tropical Medicine & International Health, 16(Suppl 1), S134-S146.
5. Basinga, P., et al. (2011). Effect on maternal and child health services in Rwanda of payment for performance, distributing vouchers for services, and distributing information on quality of care: A prospective non-randomised trial. The Lancet, 377(9775), 1417-1425.
6. Chimhutu, V., et al. (2014). The effect of results-based financing on health-care utilisation and quality in Burundi: An analysis of routine health information system data. Health Policy and Planning, 29(4), 470-480.
7. Das, T., Holland, P., Ahmed, M., Husain, L., & Ahmed, M. (2021). Sustainable development goal 3: Good health and well-being. In T. Das & P. D. Nayar (Eds.), South-East Asia eye health: Systems,

practices, and challenges (pp. 61–78). Springer. https://link.springer.com/chapter/10.1007/978-981-16-3787-24.

8. Davies, F., Geddes, M., & Wabwire, M. (2021). Equity of local government health financing in Uganda [Working Paper No. 617]. Overseas Development Institute. https://odi.cdn.ngo/media/documents/ODI-EquityLocalGov-Aug21 aS81br8.pdf.
9. De Walque, D., Kandpal, E., Wagstaff, A., Friedman, J., Piatti-Fünfkirchen, M., Sautmann, A., Shapira, G., & Van de Poel, E. (2022). Improving effective coverage in health: Do financial incentives work? [Policy report]. World Bank Publications.
10. Dowhaniuk, N. (2021). Exploring country-wide equitable government health care facility access in Uganda. International Journal for Equity in Health, 20(1), 38. https://doi.org/10.1186/s12939-020-01371-5.
11. Eichler, R., & Levine, R. (2009). Performance-based incentives for health professionals in low- and middle-income countries: A review of the literature. Center for Global Development.
12. Eldridge, C., & Palmer, N. (2009). Performance-based payment: A literature review of the effect of incentive schemes on health sector performance. Health Policy and Planning, 24(3), 163-181.
13. Fox, M. P., et al. (2013). Evaluation of a performance-based financing scheme on the quality of HIV care in Rwanda. Journal of Acquired Immune Deficiency Syndromes, 63(Suppl 1), S28-S35.
14. Fritsche, G., et al. (2014). Performance-based financing for maternal and child health in Rwanda: The results of a process evaluation. Health Policy and Planning, 29(4), 493-502.
15. Frymus, D., et al. (2015). Performance-based financing: What are the impacts on maternal and child health services in low- and middle-income countries? A systematic review. Global Health Action, 8(1), 28247.
16. Gruber, S., et al. (2012). Impact of performance-based financing on the quantity and quality of tuberculosis case finding in rural China. Health Policy and Planning, 27(5), 416-425.
17. Japir, H., et al. (2022). Challenges and opportunities for improving childhood immunization coverage in Sub-Saharan Africa: A systematic review. Vaccines, 10(10), 1735.
18. Kanyesigye, H., Ngonzi, J., Mulogo, E., Fajardo, Y., & Kabakyenga, J. (2022a). Health care workers' experiences, challenges of obstetric referral processes and self-reported solutions in South Western Uganda: Mixed methods study. Risk Management and Healthcare Policy, 1869–1886.
19. Kiwanuka, S. N., Namuhani, N., Akulume, M., Kalyesubula, S., Bazeyo, W., & Kisakye, A. N. (2020). Uganda's laboratory human resource in the era of global health initiatives: Experiences, constraints and opportunities—An assessment of 100 facilities. Human Resources for Health, 18, 1–10.
20. Kyeremanteng, K., Robidoux, R., D'Egidio, G., Fernando, S. M., Neilipovitz, D., & others. (2019). An analysis of pay-for-performance schemes and their potential impacts on health systems and outcomes for patients. Critical Care Research and Practice, 2019.
21. Lahariya, C. (2020). Health & wellness centers to strengthen primary health care in India: Concept, progress and ways forward. The Indian Journal of Pediatrics, 87(11), Article 11.
22. Martineau, T., Raven, J., Aikins, M., Alonso-Garbayo, A., Baine, S., Huss, R., Maluka, S., & Wyss, K. (2018). Strengthening health district management competencies in Ghana, Tanzania and Uganda: Lessons from using action research to improve health workforce performance. BMJ Global Health, 3(2), e000619.
23. Ministry of Health Uganda. (2017, January). Human resources for health: Audit report. http://library.health.go.ug/sites/default/files/resources/Human%20Resources%20for%20Health%20Audit%20Report%20January%202017.pdf.
24. Ministry of Health Uganda. (2019). Quarterly epidemiological bulletin of the Uganda National Institute of Public Health, Ministry of Health. https://www.researchgate.net/profile/Alex-Ario/publication/342068840_MINISTRY_OF_HEALTH_UGANDA/links/5ee0c00492851cf1386f60da/MINISTRY-OF-HEALTH-UGANDA.pdf.
25. Ministry of Health Uganda. (2020). Primary health care non-wage recurrent grant and budget guidelines to health center II, III, and IV, and general hospitals. https://www.health.go.ug/covid/wp-content/uploads/2020/05/Health-facility-PHC-Budget-and-Grant-Guidelines-2020 21-FY Commissioner - signed.pdf.

26. Mmbusa, M. I. (2019). Influence of compensation strategies on employee's performance in the public health sector in Nairobi City County, Kenya [Master's thesis, Kenyatta University]. https://ir-library.ku.ac.ke/handle/123456789/19958.
27. Morgan, C., & Ssengooba, F. (2017). Performance-based financing for malaria control in Uganda: Challenges and opportunities. Health Policy and Planning, 32(suppl 1), i30-i39.
28. Moro-Visconti, R. (n.d.). Results-basedfFinancing in healthcare: Evidence from Northern Uganda. https://www.researchgate.net/publication/377781738_Results-Based_Financing_in_Healthcare_Evidence_from_Northern_Uganda.
29. Mugisha, J., Hanlon, C., Knizek, B. L., Ssebunnya, J., Vancampfort, D., Kinyanda, E., & Kigozi, F. (2019). The experience of mental health service users in health system strengthening: Lessons from Uganda. International Journal of Mental Health Systems, 13, 1–11.
30. Munyaneza, F., et al. (2020). The effect of performance-based financing on the utilization of maternal health services in Rwanda: A quasi-experimental study. BMC Health Services Research, 20(1), 321.
31. Musoke, D., Gonza, J., Ndejjo, R., Ottosson, A., & Kiracho, E. (2021, January 13). Uganda's village health teams program. https://chwcentral.org/ugandas-village-health-teams- program/.
32. Mutesa, L., et al. (2012). The effect of performance-based financing on the provision of family planning services in Rwanda. Health Policy and Planning, 27(suppl_1), i62-i70.
33. Nagemi, C., & Mwesigwa, C. (2020). Donor power and prioritization in development assistance for health policies: The case of Uganda. Journal of Developing Economies, 2(1).
34. Namyalo, P. K., Mutatina, B., Byakika, S., Walimbwa, A., Kato, R., & Basaza, R. K. (2023). The feasibility analysis of integrating community-based health insurance schemes into the national health insurance scheme in Uganda. Plos One, 18(4).
35. Naome, T., James, M., Christine, A., & Mugisha, T. I. (2020). Practice, perceived barriers and motivating factors to medical-incident reporting: A cross-section survey of health care providers at Mbarara regional referral hospital, southwestern Uganda. BMC Health Services Research, 20, 1–9.
36. O'Connor, A., et al. (2014). The impact of performance-based financing on health outcomes: A systematic review. Health Policy and Planning, 29(4), 459-469.
37. Okungu, V., & Janine, M. (2019). efficiency, equity, and effectiveness of malaria funding in Uganda: Making the case for reforming public financing for health. International Journal of Health Services Research and Policy, 4(2), 131–144.
38. Opio, M., Agweta, C., Ejang, M., Picorella, I., & Okello, T. R. (2022). The effect of reward practices and health service delivery in health facilities—Kwania District Uganda. Journal of Human Resource and Sustainability Studies, 10(2). https://www.scirp.org/journal/paperinformation?paperid=117028#:~:text=Conclusion%3A%20Intrinsic%20rewards%20have%20a,influence%20on%20these%20employees'%20 performance.
39. Paul, E., et al. (2018). The effect of performance-based financing on maternal and child health services in Tanzania: A quasi-experimental study. Global Health Action, 11(1), 1464478.
40. Renmans, D., et al. (2017). The effect of performance-based financing on maternal and child health services in low- and middle-income countries: A systematic review. Health Policy and Planning, 32(suppl_5), v16-v26.
41. Savedoff, W. D. (2011). What do we know about the effectiveness of results-based financing? Health Policy and Planning, 26(suppl_2), ii1-ii4.
42. Ssennyonjo, A., Ekirapa–Kiracho, E., Musila, T., & Ssengooba, F. (2021). Fitting health financing reforms to context: Examining the evolution of results-based financing models and the slow national scale-up in Uganda (2003-2015). Global Health Action, 14(1), 1919393. https://doi.org/10.1080/16549716.2021.1919393.
43. Strasser, R., & Strasser, S. (2020). Reimagining primary health care workforce in rural and underserved settings. https://www.researchgate.net/publication/347690898_Reimaging_Primary_Health_Care_Workforce_in_Rural_and_Underserved_Settings.
44. Turcotte, M., et al. (2013). The impact of performance-based financing on HIV/AIDS services in Rwanda: A quasi-experimental study. Journal of Acquired Immune Deficiency Syndromes, 63(Suppl 1), S36-S43.

45. Tusubira, A. K., Akiteng, A. R., Nakirya, B. D., Nalwoga, R., Ssinabulya, I., Nalwadda, C. K., & Schwartz, J. I. (2020). Accessing medicines for non-communicable diseases: Patients and health care workers' experiences at public and private health facilities in Uganda. Plos One, 15(7), e0235696.
46. United Nations Children's Fund. (2022). Gender equality: Global annual results report 2022. https://dspace.ceid.org.tr/xmlui/bitstream/handle/1/2245/1379389EN.pdf?sequence=1&isAllowed=y.
47. Wandera, C., & Bigabwenkya, S. (2021). Public service rewards and performance of health workers in Busia District Local Government, Uganda. Ugandan Journal of Management and Public Policy Studies, 20(1), 18–35.
48. Witter, S., et al. (2012). The effects of performance-based financing on maternal and child health services in Rwanda. International Journal of Health Planning and Management, 27(4), e265-e279.
49. World Health Organization. (2018). WHO technical consultation: Nutrition-related health products and the World Health Organization Model List of Essential Medicines – practical considerations and feasibility. https://iris.who.int/bitstream/handle/10665/311677/WHO-NMH-NHD-19.1-eng.pdf.
50. World Health Organization. (2019). Trends in maternal mortality 2000 to 2017: Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. https://iris.who.int/handle/10665/327595.
51. World Health Organization. (2020a). 2020 annual report for WHO in Uganda. https://www.afro.who.int/publications/2020-annual-report-who-uganda.
52. World Health Organization. (2020b). Ending the neglect to attain the sustainable development goals. A road map for neglected tropical diseases. 2021–2030. https://www.who.int/publications/i/item/9789240010352.
53. Yankam, B. M., Adeagbo, O., Amu, H., Dowou, R. K., Nyamen, B. G. M., Ubechu, S. C., Félix, P. G., Nkfusai, N. C., Badru, O., & Bain, L. E. (2023). Task shifting and task sharing in the health sector in sub-Saharan Africa: Evidence, success indicators, challenges, and opportunities. The Pan African Medical Journal, 46. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10683172/.