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EXPENDITURE AND HEALTH SERVICE DELIVERY IN NGAI SUB-COUNTY, OYAM DISTRICT

¹ Obong Bonny Patrick, ² Isabirye Joel & ³ Barongo Eleanor

¹ Department of Development, Peace and Conflict Studies, Kampala International University, patrick.obong@studmc.kiu.ac.ug, +256782451679

² Department of Development, Peace and Conflict Studies, Kampala International University/joel.isabirye@kiu.ac.ug, +256772949437

³ Department of Development, Peace and Conflict Studies, Kampala International University eleanor.barongo@kiu.ac.ug, +256786272207

Corresponding author: patrick.obong@studmc.kiu.ac.ug

Abstract

This study examined the effect of expenditure on health service delivery in Ngai Sub-County, Oyam District, within Uganda's decentralized health system. Using a descriptive cross-sectional mixed-methods design, data were collected from health workers/facility managers, local government officials, and community members, with a sample of 367; quantitative data were analyzed in SPSS while qualitative data were thematically analyzed. Descriptive findings showed moderate agreement that funds follow approved budgets and that expenditure on drugs/supplies and infrastructure improves service availability, but weaker perceptions regarding salaries and incentives and strong concern that mismanagement undermines access to quality care. Inferential results indicated a strong positive and statistically significant relationship between expenditure and service delivery ($r = 0.654$, $p = 0.000$), with regression suggesting expenditure explains about 42.8% of the variance in service delivery. The study concludes that effective and well-executed expenditure significantly improves service delivery. It recommends strengthening budget execution timeliness, prioritizing recurrent service-readiness inputs and workforce incentives, enhancing accountability and budget literacy, and limiting political interference in technical decisions.

Keywords: Health expenditure, Health service delivery, Decentralization, Accountability, Public financial management, Ngai Sub-County.

Introduction

Public expenditure is one of the most decisive policy instruments for shaping how health systems function because it determines whether plans are translated into the inputs and operational capabilities required to deliver services reliably, equitably, and at acceptable quality (Barroy et al., 2024; World Health Organization [WHO], 2024). In health systems, expenditure is not merely the act of spending; it is a sequence of decisions and administrative processes budget formulation, release and cash management, procurement, payment, and accountability that jointly condition whether medicines are available, staff can work effectively, equipment can be maintained, and preventive and outreach activities can occur as scheduled (Barroy et al., 2024; Piatti-Fünfkirchen & Schneider, 2018; WHO, 2024). Recent health financing and public financial management (PFM) evidence further suggests that service delivery outcomes are influenced not only by the size of health allocations but also by budget credibility, predictability and timeliness of releases, and the effectiveness of execution controls that determine whether approved resources reach frontline

units and are converted into outputs (Barroy et al., 2024; Piatti-Fünfkirchen & Schneider, 2018; WHO, 2024).

Evidence from low- and middle-income countries indicates that weaknesses in PFM can disrupt the conversion of approved plans into facility-level readiness and continuous service provision (WHO, 2024; Barroy et al., 2024). Delays in releases, weak commitment control, and protracted procurement cycles can contribute to stock-outs, postponed outreach activities, deferred maintenance, and the re-prioritisation of services toward what is administratively feasible rather than what is clinically necessary (WHO, 2024; Piatti-Fünfkirchen & Schneider, 2018). Even where allocations appear adequate on paper, expenditure patterns may remain misaligned with operational needs particularly when routine, recurrent spending (e.g., utilities, basic maintenance, transport for supervision and referrals, and last-mile distribution) is underfunded or arrives late thereby increasing the probability of episodic service interruptions and inefficiencies (WHO, 2024; Barroy et al., 2024). These dynamics matter because routine outpatient care, immunisation, maternal and newborn services, and emergency referrals depend on continuity of consumables, functional infrastructure, and predictable operational financing rather than irregular spending concentrated late in implementation cycles (WHO, 2024; Piatti-Fünfkirchen & Schneider, 2018).

A second, closely related concern is the composition of expenditure and the degree to which spending choices align with value-for-money principles and primary health care (PHC) priorities (WHO, 2024; World Bank & WHO, 2023). Global monitoring evidence on universal health coverage (UHC) continues to underscore persistent service coverage and financial protection gaps, implying that improvements depend not only on expanding resources but also on spending them strategically to strengthen essential services and reduce avoidable inefficiencies (World Bank & WHO, 2023; WHO, 2024). From a service delivery perspective, expenditure that is skewed toward inflexible cost structures or compliance-driven line items without adequate provision for the operational costs that sustain daily functioning can weaken the link between financing and outputs such as immunisation session completion, medicines availability, supervised deliveries, or patient waiting times (Piatti-Fünfkirchen & Schneider, 2018; WHO, 2024). Consequently, expenditure analysis should examine both the level and structure of spending, alongside execution practices that shape the real purchasing power of funds at facility level (Barroy et al., 2024; WHO, 2024).

Decentralisation provides a critical lens for interpreting these issues because it reconfigures authority, accountability, and incentives in the expenditure chain (Barker et al., 2023; WHO, 2024). While decentralisation is often justified on responsiveness and allocative efficiency grounds, systematic evidence indicates that its effects are mixed and depend heavily on the extent of local decision space, managerial capacity, and enforceable accountability arrangements (Barker et al., 2023). Where responsibilities are decentralised without predictable resources, adequate technical capacity, and functional oversight, an implementation gap may emerge in which subnational actors are tasked with delivering results but remain constrained by delays, rigid rules, and limited discretion to respond to local service delivery constraints (Barker et al., 2023; WHO, 2024). This critique is especially salient in rural settings, where capacity constraints, supply-chain delays, and staffing challenges can amplify the service impacts of late releases and constrained expenditure flexibility (Barker et al., 2023; WHO, 2024).

In Uganda, health service delivery is implemented within a decentralised governance architecture in which local governments and facilities are expected to plan and implement activities using

government transfers and other resource flows guided by sector rules and grant conditions (Ministry of Health [Uganda], 2022). Although such guidelines are intended to strengthen accountability and standardisation, they may also shape expenditure discretion and responsiveness in ways that influence facility readiness and the continuity of essential services, particularly when combined with the realities of procurement lead times and cash-release timing (Ministry of Health [Uganda], 2022; WHO, 2024). Oversight reporting in the health sector further highlights enduring vulnerabilities that commonly include weaknesses in resource utilisation, compliance, and value-for-money, reinforcing the importance of examining expenditure as a practical mechanism through which planned resources are (or are not) translated into service delivery outputs (Office of the Auditor General [Uganda], 2023). These considerations underscore why analysing expenditure is analytically distinct from analysing budgets alone: expenditure reveals whether resources actually reach points of care and whether they are transformed into service availability, quality, and utilisation (WHO, 2024; Piatti-Fünfkirchen & Schneider, 2018).

Within this broader context, Ngai Sub-County in Oyam District provides a relevant rural case for examining how expenditure practices relate to health service delivery performance. Rural sub-counties often operate with tight operational margins distance, transport constraints, staffing pressures, and infrastructure deficits making service continuity particularly sensitive to the predictability, timeliness, and composition of expenditure at facility level (WHO, 2024). When expenditure execution is delayed or misaligned through late payments, constrained reallocation, or procurement bottlenecks facilities may struggle to maintain minimum readiness for essential services, with consequences for both patient experience and missed prevention opportunities (WHO, 2024; Piatti-Fünfkirchen & Schneider, 2018). However, rigorous interpretation must avoid a single-cause narrative: service delivery is shaped by interacting constraints including human resources, supply chain performance, managerial capability, and local governance conditions, which may mediate or confound observed expenditure performance associations (Barker et al., 2023; WHO, 2024).

Conceptually, the study is positioned within governance-oriented reasoning on how rules, incentives, and oversight shape the translation of public resources into frontline outputs. When expenditure systems prioritise procedural compliance without ensuring that funds are timely, flexible enough for operational needs, and transparently tracked to points of service delivery, local managers may rationally prioritise low-risk spending choices that satisfy administrative requirements but do not maximise service readiness (Piatti-Fünfkirchen & Schneider, 2018; WHO, 2024). Conversely, where expenditure is credible, predictable, and aligned to facility realities supported by functional procurement and reporting systems resources can be converted more reliably into medicines availability, outreach coverage, equipment functionality, and more consistent maternal and child health services (Barroy et al., 2024; WHO, 2024). Examining expenditure and health service delivery in Ngai Sub-County, Oyam District can therefore inform practical policy discussions on how subnational spending can be structured and executed to strengthen PHC performance, improve value for money, and narrow persistent gaps between approved plans and delivered services (World Bank & WHO, 2023; WHO, 2024).

Literature review

Expenditure is the practical expression of how healthcare priorities are translated into action under decentralized systems. Whereas budgeting sets the framework, expenditure reflects the actual disbursement and utilization of resources to improve service delivery. In decentralized governance,

the management of expenditure is central to ensuring that health services are responsive, equitable, and efficient. Local governments, being closer to the communities they serve, play a critical role in directing expenditure toward priority health needs such as maternal health, child immunization, disease prevention, and primary healthcare provision. Barker et al. (2023) and Nakatani et al. (2023) emphasize that effective local expenditure management is crucial for reducing health disparities, since decisions are informed by the lived realities of communities and not by distant central authorities.

One of the most significant roles of local governments in health expenditure is the allocation of resources across competing priorities. World Health Organization (WHO, 2024) and Hanson et al. (2022) point out that expenditure decisions involve not only funding salaries for healthcare workers but also procuring medicines, maintaining infrastructure, and financing preventive health campaigns. The challenge lies in ensuring that limited funds are distributed efficiently across these competing demands. In many low-income countries, local governments are forced to make trade-offs between short-term service delivery and long-term system strengthening. Ferrara et al. (2023) and WHO (2024) argue that the effectiveness of expenditure depends on transparency and accountability mechanisms that prevent misuse of funds while ensuring that allocations match community priorities.

In theory, decentralization enables local governments to tailor expenditure more closely to community health needs. However, in practice, many face challenges related to governance capacity. Topp et al. (2023) highlight that in rural and low-resource settings, local authorities often lack the financial expertise to plan and execute expenditures effectively. This capacity deficit can lead to poor procurement systems, delayed payments to health workers, and underfunding of essential services. For example, in Uganda, studies have shown that although fiscal transfers to districts have increased over the years, weak expenditure management has limited improvements in service delivery, with some districts reporting persistent drug stock-outs and underfunded health facilities (Tushabe, 2021). ThinkWell (2022) similarly documents how decentralization and intergovernmental financing arrangements can create execution constraints that weaken frontline service readiness. WHO (2024) and Topp et al. (2023) therefore stress that strengthening administrative capacity through training and technical support is necessary to ensure that expenditures achieve their intended health outcomes.

Accountability in expenditure remains a persistent challenge. WHO (2024) argues that without strong mechanisms for monitoring and evaluation, local governments risk mismanaging healthcare funds. Accountability tools such as financial audits, community scorecards, and public expenditure tracking surveys are vital in safeguarding against corruption and inefficiency. In Tanzania and Uganda, broader expenditure oversight and transparency reforms have been used to identify and address leakages and execution weaknesses, prompting reforms to increase transparency (WHO, 2024; ThinkWell, 2022). Communities that participate in monitoring expenditure are more likely to see improved health outcomes, since local governments are held responsible for their spending decisions.

Political commitment also shapes the effectiveness of expenditure. Topp et al. (2023) and Uzochukwu et al. (2024) note that strong leadership and political incentives at the subnational level influence whether health remains a priority in spending decisions and whether funds are executed as intended. Where political leaders are committed to healthcare, expenditure is more likely to support equitable and sustainable service delivery. However, political instability or patronage politics

can undermine effective expenditure, as funds may be diverted to non-health projects or disproportionately allocated to politically favored areas. In Uganda, decentralization has sometimes been criticized for encouraging politicized expenditure, where allocations do not always reflect health needs but rather political considerations (Topp et al., 2023).

Collaboration and stakeholder engagement further enhance the effectiveness of expenditure. Kapologwe et al. (2023) argue that involving healthcare providers, community leaders, civil society organizations, and partners in expenditure decisions can improve efficiency and responsiveness, although local governance and decision-making constraints may persist. For example, in Kenya, collaborations between county governments and non-governmental organizations have resulted in improved maternal health programs by ensuring that local expenditure targets critical service gaps. Kapologwe et al. (2023) further emphasize that stakeholder participation not only mobilizes additional resources but also builds trust and ownership of health programs, making expenditure more impactful.

Expenditure also has a direct bearing on equity in healthcare access. Nakatani et al. (2023) contend that subnational expenditure choices and decision space can influence whether decentralization reduces or reproduces disparities, particularly between urban and rural communities. In many parts of Sub-Saharan Africa, healthcare expenditure is disproportionately concentrated in urban centers, leaving rural populations underserved. In Ngai Sub-County, where health facilities are fewer and often under-resourced, equitable expenditure is vital to ensure that remote communities gain access to essential services such as immunization, antenatal care, and emergency treatment. Effective expenditure planning should therefore focus not only on overall efficiency but also on fairness in resource distribution.

Policy frameworks also influence how health expenditure translates into service delivery. Tushabe (2021) emphasizes the importance of clear policies that define expenditure responsibilities between central and local governments, as well as guidelines for monitoring resource utilization. Well-structured policies create accountability frameworks that reduce misuse of funds and provide benchmarks for evaluating spending effectiveness. Moreover, flexible expenditure systems are needed to respond to emerging health crises. WHO (2024) argues that adaptability in expenditure—such as reallocating funds during outbreaks—is crucial to maintaining resilient health systems. The COVID-19 pandemic underscored the importance of flexible expenditure systems, as local governments globally had to rapidly reallocate funds to support testing, treatment, and vaccination campaigns.

Internationally, countries with well-managed local health expenditure systems have consistently reported stronger health outcomes. For example, in Brazil, the decentralization of health expenditure under the Unified Health System (SUS) enabled municipalities to allocate resources more effectively to primary healthcare, substantially reducing infant and child mortality rates (Macinko et al., 2007; Hanson et al., 2022). Studies found that greater Family Health Program coverage was associated with up to a 22% reduction in infant mortality at the municipal level, especially in areas with lower human development indices (Macinko et al., 2007). These improvements were linked to targeted interventions such as breastfeeding promotion, prenatal care, and expanded immunization programs (Hanson et al., 2022).

In contrast, in some African countries including Uganda and Nigeria, decentralization has not always translated into stronger health outcomes due to expenditure inefficiencies, mismanagement, and weak accountability mechanisms (ThinkWell, 2022; Topp et al., 2023; Uzochnikwu et al., 2024;

Oladosu, 2022). In Uganda, the shift of fiscal control to districts created opportunities but also challenges, as many district-level entities struggled with limited administrative capacity and accountability, affecting the allocation and use of resources for public health activities (ThinkWell, 2022; Topp et al., 2023). Similarly, in Nigeria, studies report that public health expenditure often exhibits a weak or insignificant relationship with improved health outcomes, partly due to governance and resource management issues (Oladosu, 2022; Uzochukwu et al., 2024).

Comparative analysis emphasizes the importance of not only increasing local expenditure but also ensuring effective management, equitable distribution, and strong accountability mechanisms to maximize the impact of decentralization on health service delivery and population health outcomes (Nakatani et al., 2023; ThinkWell, 2022; Oladosu, 2022; Topp et al., 2023).

Ultimately, expenditure is a decisive factor in the success of decentralized healthcare systems. Effective expenditure ensures that financial resources are translated into tangible improvements in service delivery, including better staffing, adequate medicines, improved infrastructure, and stronger preventive programs (WHO, 2024). However, its impact depends heavily on the administrative capacity, accountability mechanisms, political commitment, and stakeholder collaboration of local governments (Topp et al., 2023; Kapologwe et al., 2023). For Ngai Sub-County, strengthening expenditure management will require building technical capacity, enhancing accountability systems, ensuring equitable allocation of resources, and fostering partnerships with stakeholders. By addressing these challenges, local governments can ensure that healthcare expenditure contributes meaningfully to improved health outcomes and more resilient healthcare systems.

Methodology

Design of the Study

This study adopted a descriptive cross-sectional research design to assess the effect of expenditure on health service delivery in Ngai Sub-County, Oyam District. A cross-sectional design was appropriate because it enables the researcher to collect data at a single point in time and to efficiently assess relationships between study variables as they exist naturally, without manipulating the study environment.

A mixed-methods approach was adopted to strengthen the credibility and interpretive depth of findings by integrating quantitative and qualitative evidence. Quantitative data supported measurement of community perceptions and experiences of healthcare services, while qualitative evidence from key actors (health workers, facility managers, and local government officials) provided contextual explanations of expenditure processes, implementation constraints, and service delivery realities (Creswell & Plano Clark, 2018).

Population and Sample Size

The study targeted three categories of respondents: health workers and facility managers, local government officials, and community members. Health workers and facility managers were targeted because they are directly involved in implementing and managing healthcare services at facility level and thus hold practical knowledge of operational effects of expenditure and resource allocation. Local government officials were included because of their administrative and governance roles in health planning and expenditure, while community members were selected to provide user-level perspectives on the availability, accessibility, and quality of healthcare services.

The sample size was determined using the Krejcie and Morgan (1970) sample size determination table, which provides recommended sample sizes at a 95% confidence level and 5% margin of error. Based on local administrative records, Ngai Sub-County had an estimated population of 8,000 residents (Community Information System data, 2021; HMIS District Health Information System data; UBOS), and the corresponding sample size was 367 respondents. The sample was distributed across respondent categories to ensure inclusion of both institutional perspectives (service providers and administrators) and community experiences of healthcare service delivery.

Table 1: Showing Target population and sample size of respondents

Category of respondents	Population (N)	Sample (n)	Sampling technique
Health workers & facility managers	50	25	Purposive sampling
Local government officials	30	15	Purposive sampling (the methodology also notes a simple random component for broader representation)
Community members	7,920	327	Stratified random sampling
Total	8,000	367	Mixed

Data Collection Procedure and Tools

The study employed both probability and non-probability sampling procedures. Purposive sampling was used to select 25 health workers and facility managers and 15 local government officials because these groups were considered information-rich and directly involved in healthcare delivery, governance, and expenditure processes. Purposive sampling is appropriate where the researcher must intentionally select participants with specialized knowledge relevant to the study phenomenon (Patton, 2002). The methodology further indicates that for local government officials, a combination of simple random and purposive approaches was used to ensure broader representation while still capturing specialized roles associated with fiscal decentralization implementation (Flick, 2018).

For community members, stratified random sampling was applied to select 327 participants, involving division of the population into subgroups (strata) such as gender, age, and socioeconomic status to ensure proportional representation (Bryman, 2016). Stratification increased the likelihood that the sample reflected the diversity of the community and enabled analysis of perceptions across different demographic groupings (Creswell, 2014).

Data were collected using semi-structured interviews, a structured questionnaire survey, and focus group discussions (FGDs), with each method selected to meet specific informational needs of the study (Creswell & Creswell, 2018). Semi-structured interviews were conducted with health workers, facility managers, and local government officials to generate in-depth qualitative evidence on expenditure processes, fiscal decentralization challenges, and service delivery constraints; the semi-structured format allowed flexibility while ensuring coverage of core study themes (Kallio et al., 2016). The survey method was applied to community members using a questionnaire with closed-ended and Likert-scale items to quantify perceptions regarding service availability, accessibility, and quality (Bryman, 2016). FGDs were conducted with selected community groups to capture shared perspectives, stimulate interactive discussion, and illuminate community-level dynamics influencing health service delivery (Krueger & Casey, 2015).

Validation

All data collection instruments (questionnaire, interview guide, and FGD guide) were developed and pre-tested in a similar setting to assess clarity, relevance, and effectiveness, and the instruments were refined based on pre-test feedback (Creswell & Creswell, 2018). Content validity was ensured through expert review to evaluate whether items aligned with study objectives and adequately covered the intended constructs. The Content Validity Index (CVI) was computed and reported as 0.84 (27/32), exceeding the recommended minimum threshold of 0.80 (Lawshe, 1975).

Reliability was assessed through a pilot study involving 20 participants, and internal consistency was tested using Cronbach's alpha, where values of 0.70 and above are generally considered acceptable (Tavakol & Dennick, 2011). The reported alpha coefficient for the Expenditure scale exceeded 0.70, indicating strong internal consistency and that the instrument reliably measured the intended construct (Nunnally & Bernstein, 1994).

Table 2: Showing Reliability results (Cronbach's alpha)

Section/Scale	Items	Cronbach's alpha
Expenditure	8	0.92

Data Analysis

Quantitative and qualitative approaches were used in data analysis. Quantitative data were coded and analysed in IBM SPSS (version 26), using descriptive statistics (frequencies, means, standard deviations) to summarise respondent characteristics and responses, and inferential statistics (correlation and regression analysis) to examine relationships between fiscal decentralization variables and health service delivery outcomes (Field, 2013).

Qualitative data from interviews and FGDs were analysed using thematic content analysis, which involves identifying and interpreting patterns and themes in textual data (Braun & Clarke, 2006). The study used integration of qualitative and quantitative results to strengthen interpretation by triangulating findings across methods (Jick, 1979).

Ethical Considerations

Ethical procedures were observed throughout the research process. Before fieldwork, the researcher obtained an official introductory letter from Kampala International University and used it to secure permission from local authorities, health officials, and relevant community leaders. Informed consent was obtained from all participants after explaining the purpose, procedures, and risks of the study, ensuring that participation was voluntary (Creswell, 2018).

Confidentiality was ensured through anonymization of data and secure storage, with identifying information excluded from reporting (Israel & Hay, 2006). Participants were informed of their right to withdraw at any stage without repercussions (Homan, 2017). The study adhered to the ethical principle of non-maleficence by taking steps to minimise any potential harm, physical, psychological, or emotional, associated with participation (Orb et al., 2001).

Results

This section mainly focused on presenting findings from questionnaire and interview guides

Descriptive Statistics on Expenditure and Health Service Delivery

This section analyzes community members' perceptions of how health expenditure influences service delivery in Ngai Sub-County. Responses to eight Likert-scale items were processed into

frequency distributions, mean ratings, and standard deviations. The results shed light on whether spending patterns are consistent with approved budgets, whether priorities such as drugs, infrastructure, and staff are adequately financed, and whether mechanisms of accountability and equity are visible to the community. The findings directly address the research question: “How does expenditure affect health service delivery in Ngai Sub-County?”

Table 3: Showing Descriptive Statistics on Expenditure and Health Service Delivery (n = 280)

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Valid N	Mean	Std. Dev
Health funds are spent according to approved budgets.	53 (19.7%)	87 (32.4%)	56 (20.9%)	45 (16.8%)	28 (10.2%)	269	3.35	1.28
Expenditure on drugs and supplies improves service availability.	61 (22.6%)	92 (34.1%)	49 (18.1%)	39 (14.5%)	29 (10.8%)	270	3.43	1.29
Expenditure on infrastructure has improved health facilities.	58 (21.5%)	86 (31.8%)	54 (20.0%)	41 (15.2%)	32 (11.5%)	271	3.37	1.31
Salaries and incentives for health workers are adequately covered.	46 (17.2%)	79 (29.6%)	52 (19.5%)	54 (20.2%)	36 (13.5%)	267	3.17	1.34
Expenditure priorities reflect urgent community health needs.	49 (18.5%)	82 (30.9%)	57 (21.5%)	47 (17.7%)	30 (11.3%)	265	3.27	1.31
Mismanagement of expenditure reduces access to quality health services.	74 (27.9%)	89 (33.6%)	45 (17.0%)	34 (12.8%)	23 (8.7%)	265	3.60	1.24
There is accountability for how health funds are spent.	42 (15.9%)	76 (28.8%)	60 (22.7%)	52 (19.7%)	33 (12.5%)	263	3.16	1.32
Expenditure has contributed to better staffing and retention of health workers.	54 (20.8%)	81 (31.3%)	51 (19.7%)	46 (17.8%)	27 (10.4%)	259	3.34	1.30

Source: Primary Data (2025)

Descriptive findings indicate that health expenditure moderately influences service delivery in Ngai Sub-County. Spending in line with approved budgets received moderate agreement ($M = 3.35$, $SD = 1.28$), suggesting reasonable adherence to financial plans, though notable concerns remain about possible deviations, delays, and weak enforcement. Expenditure on drugs and supplies was more positively perceived ($M = 3.43$, $SD = 1.29$), reflecting recognition that such spending improves service availability, even as stockouts and procurement delays persist in some facilities.

Expenditure on infrastructure was also moderately endorsed ($M = 3.37$, $SD = 1.31$), with many respondents acknowledging facility renovations, construction, and equipment upgrades. However,

uneven perceptions point to disparities across locations, with peripheral facilities benefiting less. In contrast, spending on salaries and incentives for health workers attracted weaker support ($M = 3.17$, $SD = 1.34$), indicating dissatisfaction with remuneration and incentives, which may undermine staff morale, retention, and long-term service quality, particularly in rural settings.

Perceptions that expenditure priorities reflect urgent community health needs were mixed ($M = 3.27$, $SD = 1.31$), suggesting partial alignment between spending decisions and frontline needs. Mismanagement of expenditure was identified as a major threat to service delivery, recording the highest agreement ($M = 3.60$, $SD = 1.24$). This reflects widespread recognition that corruption, delays, and poor oversight directly reduce access to quality care, reinforcing the importance of strong accountability and financial control mechanisms.

Overall, the findings show that expenditure plays a crucial but uneven role in shaping health service delivery in Ngai Sub-County. While spending on drugs, infrastructure, and staffing has produced visible improvements, weak accountability, limited staff incentives, and misalignment with community priorities constrain effectiveness. Strengthening expenditure oversight, participatory decision-making, and health worker motivation is essential to maximize service delivery outcomes. The following section complements these findings with qualitative insights illustrating how expenditure practices translate into practical realities under decentralization.

Inferential Statistics on Expenditure and Health Service Delivery

To determine the effect of health expenditure on service delivery in Ngai Sub-County, a Pearson Product-Moment Correlation Coefficient (r) and a simple linear regression analysis were conducted. The correlation assessed the strength and direction of the relationship between health expenditure (independent variable) and health service delivery (dependent variable), while the regression analysis established the predictive influence of expenditure on health outcomes.

Table 4: Correlation between Health Expenditure and Health Service Delivery

Variable	N	Pearson's r	Sig. (2-tailed)	Interpretation
Expenditure and Health Service Delivery	260	0.654	0.000	Strong positive and significant relationship

Source: SPSS Output (2025)

Table 5: Showing Model Summary of Regression Analysis

Model Description	R	R ²	Adjusted R ²	Std. Error	Sig. (p)
Expenditure and Health Service Delivery	0.654	0.428	0.424	0.498	0.000

Source: SPSS Output (2025)

Table 6: Showing Regression Coefficients for Expenditure and Health Service Delivery

Predictor	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
Constant	1.184	0.121	N/A	9.785	0.000
Expenditure	0.677	0.045	0.654	14.996	0.000

Source: SPSS Output (2025)

The results indicate a strong positive and statistically significant relationship between health expenditure and health service delivery in Ngai Sub-County ($r = 0.654$, $p < 0.01$). This suggests that

higher and well-managed expenditure levels are associated with improved service quality, better infrastructure, increased drug availability, and enhanced staffing. Regression results further show that expenditure accounts for 42.8% of the variance in health service delivery ($R^2 = 0.428$), with a standardized beta coefficient of 0.654 ($p < 0.01$), implying that a one-unit increase in health expenditure leads to a 0.677-unit rise in health service delivery performance. The significant p-value confirms that the relationship is not due to random chance. Therefore, prudent allocation and utilization of health funds, coupled with transparency and effective oversight, substantially improve the quality and accessibility of healthcare services. Consequently, the study accepts the alternative hypothesis that health expenditure has a significant effect on health service delivery in Ngai Sub-County.

On the other hand, qualitative insights from key informants show that while expenditure on drugs, infrastructure, and staffing improves service availability and facility conditions, challenges such as political interference, weak financial literacy, and uneven prioritization limit its effectiveness as presented below:

Qualitative Findings on the effect of expenditure on health service delivery

Respondent LGo2 observed:

"Local councils have taken a stronger role in supervising health centers. They regularly visit facilities to monitor the performance of staff, check the availability of essential drugs, inspect cleanliness and organization, and evaluate service delivery standards. After each visit, they compile comprehensive reports which are shared during routine planning and review meetings with health officials. These actions have introduced a culture of oversight and visibility, and as a result, health staff are more disciplined, adhere to schedules, and take their duties more seriously because they know they are being monitored and evaluated."

This response highlights the crucial oversight role played by local councils in enhancing the performance and discipline of health workers under a decentralized system. The structured visits and reporting processes indicate an emerging culture of accountability and transparency at the grassroots level. By institutionalizing performance reviews and integrating local councils in routine health system monitoring, service providers are compelled to meet standards of professionalism and efficiency. The presence of such governance mechanisms not only boosts the credibility of health services in the eyes of the community but also builds a system where performance is regularly assessed and improved.

Respondent HWo3 shared:

"We now have functional health management committees that meet on a monthly basis and are composed of diverse representatives from the community, including opinion leaders, religious leaders, youth, women, and health workers. These committees are tasked with monitoring service delivery, identifying gaps in health service provision, and addressing concerns raised by community members. When they encounter issues beyond their capacity, such as drug shortages or absenteeism of key staff, they escalate these matters to the sub-county or district level. The committee's presence has strengthened community involvement, as members feel they have a platform to voice their concerns and influence health service improvements. It has created a much-needed bridge between the service providers and the community."

This response underscores the participatory nature of decentralized governance structures, where health management committees serve as a formal channel for community input. Their inclusivity and regular engagement help to align health services with community needs. By escalating unresolved issues to higher administrative levels, the committees play a vital role in advocacy and accountability. Their existence also symbolizes the democratization of health governance, where ordinary citizens gain a sense of ownership and partnership in decision-making. This participatory governance approach enhances responsiveness, reduces conflict, and strengthens the legitimacy of the health system in the eyes of the population it serves.

Respondent FMO1 stated:

"Some local leaders interfere in staff transfers by lobbying for particular health workers to remain in certain areas based on their political support, kinship, or personal relationships. In some cases, they also influence the distribution of drugs, ensuring that their favored communities receive more than others regardless of actual need. Their involvement is sometimes driven more by political interests or upcoming elections than by genuine health priorities or data. This type of interference undermines professional decision-making and compromises the equitable distribution of health resources."

This testimony reveals one of the key challenges of decentralization, political interference. While decentralization is meant to bring services closer to the people and foster responsiveness, it can also give rise to undue influence when power is not checked. When technical decisions such as staff deployment and drug allocation are manipulated for political gain, the efficiency and equity of the health system suffer. Such actions erode trust, distort priorities, and demoralize staff, thereby weakening the intended benefits of community-level governance. This suggests the need for strong safeguards, capacity-building for ethical leadership, and clear separation between political and technical decision-making spheres.

Respondent LGo6 emphasized:

"We introduced a system of joint supervision where local leaders and health teams conduct visits to facilities together. They use checklists, interview patients, and inspect drug stocks and records during these visits. Afterward, both groups meet to analyze findings and prepare a joint report that is shared with higher authorities. This approach has improved shared responsibility and has helped prevent blame games whenever there are service delivery challenges. Everyone knows their role, and there is a greater spirit of collaboration and collective problem-solving."

The joint supervision approach described here promotes a model of shared governance that enhances accountability, trust, and synergy between health professionals and political leaders. It fosters a sense of collective ownership over health service outcomes, reducing finger-pointing when issues arise. By establishing routine, structured collaboration, both administrative and technical stakeholders become more aware of each other's challenges and contributions. This mechanism not only improves communication and coordination but also strengthens the quality of decision-making, as it is based on evidence jointly gathered and analyzed. It illustrates a mature level of decentralized governance that goes beyond delegation to active, inclusive engagement.

Respondent FMO6 remarked:

"Transparency has improved significantly since fiscal decentralization began. We now post detailed financial reports, including revenue sources, expenditure breakdowns, and budget allocations, on facility noticeboards where everyone can see them. Community members regularly stop by to read these reports and even ask questions about certain expenses or discrepancies. This kind of openness was unheard of in the past. People now feel that they have a right to know how money is being used, and we are more careful in our budgeting and spending as a result."

This account reflects a transformative shift in fiscal accountability resulting from decentralization. By making financial information publicly accessible, health facilities foster a culture of openness and community vigilance. Citizens are no longer passive recipients of services; they become active monitors of public expenditure. This strengthens democratic oversight and encourages prudent financial management among facility managers. The public display of budgets and expenditure also reduces the risk of corruption and misuse of funds, as officials are aware that they are under community scrutiny. Ultimately, transparency enhances trust between service users and providers and promotes ethical governance in health resource management.

Respondent HWO4 added:

"Even though health committees and governance structures are now established and functional, many of their members do not fully understand key technical issues such as how to read and interpret budgets, analyze health data, or evaluate facility performance indicators. During planning meetings, some members just attend passively or rely entirely on the health workers' presentations without asking critical questions. This means that while structures for participation exist on paper, their effectiveness in influencing decisions is limited due to lack of skills and knowledge among the members."

This response draws attention to the gap between structural presence and functional capacity in decentralized governance. It suggests that the mere existence of participatory frameworks is not enough, they must be supported by continuous capacity-building efforts. When committee members lack technical skills, their engagement becomes symbolic rather than substantive, weakening the democratic ideals of decentralization. Effective participation requires informed actors who can question, interpret, and contribute meaningfully to planning and oversight. Therefore, investment in training, mentorship, and simplified tools for citizen participation is critical to ensuring that local governance translates into improved service delivery and accountability.

Discussion of the Findings

The findings demonstrate that health expenditure is strongly, positively, and significantly associated with health service delivery in Ngai Sub-County, implying that improvements in expenditure (and its execution) are linked to improved service delivery outcomes. This conclusion is directly supported by the inferential results showing a strong positive correlation ($r = 0.654$, $p < .001$) and a statistically significant regression model ($R = 0.654$; $R^2 = 0.428$; $\beta = 0.654$; $B = 0.677$; $p < .001$), indicating that expenditure explains a substantial proportion of the variance in health service delivery. The finding is consistent with peer-reviewed evidence emphasizing that how public funds are planned, released, and executed through public financial management (PFM) systems shapes the extent to which public spending translates into service outputs and progress toward universal health coverage (UHC). (Barroy et al., 2024; Ravishankar et al., 2024).

Contrasting the descriptive findings (Table 3) with the inferential results (Tables 4–6) suggests that the observed statistical relationship is grounded in community experience, but its strength is shaped by the composition of spending and the integrity of execution systems. Respondents moderately agreed that “health funds are spent according to approved budgets” ($M = 3.35$, $SD = 1.28$), implying partial confidence in compliance but also leaving room for concerns about deviations or delays. This aligns with peer-reviewed multi-country evidence showing that delayed transfers and complex disbursement procedures can undermine subnational expenditure management and weaken service delivery even when budgets are formally approved. (Ravishankar et al., 2024). It also reflects WHO’s policy position that PFM processes governing release, procurement, and accountability are central determinants of whether resources become real service capacity at frontline units. (WHO, 2022).

A closer reading of the expenditure components (Table 3) indicates that communities most strongly associate spending with service delivery when expenditure targets direct readiness inputs. Expenditure on drugs and supplies was perceived as improving service availability ($M = 3.43$, $SD = 1.29$), and expenditure on infrastructure was also moderately endorsed ($M = 3.37$, $SD = 1.31$), signaling that commodity procurement and facility upgrades are visible pathways through which expenditure supports delivery. These results are consistent with peer-reviewed literature documenting persistent medicine availability constraints in low- and middle-income countries (LMICs), where financing shortfalls and procurement/execution bottlenecks contribute to stock-outs and service interruptions. (Tessema et al., 2024; Hemmeda et al., 2024). Importantly, the present study’s mixed perceptions imply that improvements may be occurring, but not uniformly across facilities an issue that echoes expenditure review guidance emphasizing that aggregate improvements can mask within-area inequities in allocation and execution. (World Bank, 2025).

In contrast, salaries and incentives for health workers attracted comparatively weaker agreement ($M = 3.17$, $SD = 1.34$), suggesting that remuneration-related expenditure is not perceived as adequate to sustain motivation and retention. When cross-referenced with the qualitative accounts about operational constraints under decentralization, this finding plausibly reflects the reality that service quality depends on workforce stability and morale, not only on physical inputs such as drugs and infrastructure. Recent peer-reviewed work on financing and health system sustainability cautions that efficiency and execution reforms must protect core service delivery functions and the frontline workforce to avoid eroding quality and equity. (Barasa et al., 2025).

Governance and accountability emerge as major conditioning factors in the expenditure–service delivery relationship, with strong triangulation between quantitative and qualitative evidence. Respondents most strongly agreed that mismanagement of expenditure reduces access to quality health services ($M = 3.60$, $SD = 1.24$), while accountability for how health funds are spent was rated only moderately ($M = 3.16$, $SD = 1.32$). This combination suggests that communities perceive mismanagement and weak controls as material constraints on access and quality, yet do not consistently observe sufficiently strong corrective accountability systems. The finding coheres with peer-reviewed evidence describing weak subnational expenditure management, fragmentation of health funds, and delayed releases as recurring problems that reduce the effectiveness of devolved health financing arrangements explicitly including Uganda among the case study countries. (Ravishankar et al., 2024). It also aligns with WHO’s framing that the alignment of PFM with health financing objectives requires practical accountability and control mechanisms that ensure resources reach points of care and are used for intended services. (WHO, 2022).

The qualitative findings further clarify how decentralization can both strengthen oversight and introduce risks that undermine equitable service delivery. On one hand, accounts of more frequent local council supervision visits and the existence of functional health management committees suggest increasing local monitoring, community voice, and responsiveness, which may help explain why expenditure improvements are perceived as enhancing service readiness in some areas. On the other hand, reports of political interference in staff transfers and drug distribution point to elite capture risks that can distort technical priorities and compromise equity an established critique in decentralization scholarship where local discretion is not matched with enforceable safeguards. Recent peer-reviewed synthesis on decentralization similarly reports that decentralization outcomes vary across contexts and can generate perceived declines in service quality and availability where implementation challenges and political dynamics dominate. (Aboagye et al., 2024).

Finally, transparency practices (e.g., posting financial information on noticeboards) appear to strengthen social accountability, but their effectiveness may be limited by capacity gaps among committee members and citizens to interpret financial information. This suggests that transparency reforms can improve scrutiny, yet without budget literacy and structured feedback loops, participation may remain procedural rather than producing measurable improvements in expenditure quality and service outcomes. This interpretation aligns with the broader argument that improving PFM-health financing alignment requires not only disclosure but also functional capability at subnational levels to plan, execute, and monitor spending for results. (WHO, 2022; Ravishankar et al., 2024).

Overall, the study provides robust evidence that expenditure significantly influences health service delivery in Ngai Sub-County, but cross-referencing Table 3 with Tables 4–6 and the qualitative narratives shows that the strength and fairness of this influence depend on (i) what expenditure is prioritized (drugs, infrastructure, workforce), (ii) how funds flow and are executed (timeliness, procurement efficiency), and (iii) whether accountability mechanisms constrain mismanagement and political interference. Thus, the results support an evidence-based position that increasing resources alone is insufficient; strengthening execution discipline, subnational capacity, and accountability is essential for expenditure to reliably translate into equitable service delivery improvements. (Barroy et al., 2024; World Bank, 2025; WHO, 2022; Ravishankar et al., 2024).

Conclusion

The study concludes that health expenditure has a strong, positive, and statistically significant effect on health service delivery in Ngai Sub-County, Oyam District, indicating that higher and better-executed spending is associated with improved service delivery performance. In practical terms, improvements in expenditure are most evident where spending supports immediate service-readiness inputs especially medicines/supplies and facility infrastructure because these directly affect whether services are available and facilities can function effectively.

However, the findings also indicate that expenditure benefits are uneven, with comparatively weaker perceptions regarding salaries and incentives, suggesting that workforce-related financing remains a constraint that can undermine staff motivation, retention, and consistency of care. The study further concludes that accountability gaps and expenditure mismanagement limit the full-service delivery returns from spending; therefore, strengthening oversight, improving local

capacity for expenditure planning and execution, and reducing political interference in technical decisions are critical for achieving equitable, sustainable improvements in health service delivery.

Implications

- 1) The findings imply that improving health service delivery in Ngai Sub-County requires strengthening expenditure execution (timely releases, reliable cash flow to facilities, and smoother procurement/payment processes), not merely increasing allocations. This is important because weak execution can delay medicines, outreach activities, and routine operations, thereby reducing the service-delivery gains expected from public spending.
- 2) The results further imply that expenditure composition should be aligned with frontline service-readiness needs. While spending on drugs/supplies and infrastructure is more visibly associated with service availability, the comparatively weaker perceptions regarding salaries and incentives suggest that workforce financing and motivation may remain a constraint to consistent quality and continuity of care.
- 3) The findings also imply that accountability and governance reforms are necessary to protect value for money and equity. Strong community agreement that mismanagement reduces access to quality care alongside only moderate perceived accountability suggests that leakage, weak controls, and limited follow-through on oversight can dilute expenditure impacts even where funding exists.
- 4) Finally, decentralization-related structures (local supervision and health management committees) can improve monitoring and responsiveness, but political interference can distort technical decisions such as staffing and drug distribution. This implies a need for clearer decision rules, transparent criteria, and strengthened local capacity to interpret financial information so that community participation becomes effective oversight rather than symbolic involvement.

Recommendations

- 1) Strengthen budget execution at district and facility levels by prioritising timely releases, reducing approval bottlenecks, and improving procurement planning so that funds translate into uninterrupted medicines availability, outreach activities, and routine operations. This should include clearer expenditure calendars and closer coordination between health managers and finance units to reduce delays that weaken service delivery despite budgeted resources.
- 2) Improve expenditure prioritisation by protecting core recurrent inputs (essential medicines/supplies, basic facility operations, maintenance, and supervision) while addressing workforce motivation through more predictable and fair incentives. Given the comparatively weaker perceptions about salaries/incentives, local plans should explicitly link spending decisions to staffing stability and performance to avoid undermining quality of care.
- 3) Strengthen accountability and anti-mismanagement controls through routine internal audits, documented follow-up on supervision findings, and public disclosure of simplified facility-level spending information that communities can interpret. Practical community engagement should be supported with budget literacy and clear grievance/reporting

channels so that participation becomes effective oversight rather than symbolic involvement.

- 4) Limit political interference in technical decisions (staff deployment, drug distribution, and expenditure priorities) by enforcing transparent criteria, written decisions, and role clarity between political leaders and technical managers. Where feasible, performance-based monitoring and facility accountability arrangements should be strengthened to ensure resources are used for agreed service outputs and equity goals.

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