

**3** GOOD HEALTH  
AND WELL-BEING



# An Exploration of Internal Control Practices and Health Service in Uganda

## Research Report



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Advances in health have not yet reached all those who are in need and, where there has been progress, the benefits have been unequally spread across populations. This was particularly true for maternal health, where access to safe deliveries for the poor is among the most unequal of primary care services across regions of the world (Paina, L. et al. 2016). Ministry of Health Uganda (2020) ranked Rukungiri among districts with the lowest proportion of health facility deliveries in the country at only 35%.

The study examined the above gaps by exploring the relationship between of internal controls practices and health service delivery in Rukungiri District , Uganda. The research adopted a case study design using both quantitative and qualitative approaches. The target



population was 140 key stakeholders that lived and worked in Rukungiri District and a sample size of 104 was drawn from the target population.

The findings indicated that there was a relatively weak positive relationship between internal control practices, and health service delivery in Rukungiri district. Multiple regression results showed an adjusted r square of 0.137. This means that 13.7% variation in health service delivery was predicted by internal control practices, the remaining 86.3% was explained by other factors that were not part of this study.

Outcomes from the descriptive statistics, interviews with key stakeholders and documentary reviews revealed that there was a positive relationship between internal control practices and health service delivery. Health service delivery was dependent on internal control environment, internal audit function and internal control activities. If these variables are improved, health service delivery is expected to improve.

There was increased uptake of health-facility deliveries and this could further increase with improved access to quality essential health-care services thus expediting achievement of SDG 3 target 3.1 and 3.8.





## INTRODUCTION

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## INTRODUCTION

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According to Lee (1971), internal controls have existed from ancient times. In Hellenistic Egypt there was a dual administration, with one set of bureaucrats charged with collecting taxes and another with supervising them. The effectiveness of internal controls helps to enhance the desired health service quality in local in local government (Gordon & Abbey, 2019). Therefore organizations that implement internal controls tend to have improved performance in health service delivery and are able to meet stakeholders' expectations.

According to the 1995 Constitution of the Republic of Uganda (as amended), Government of Uganda has an obligation to provide basic health services to its people and to promote proper nutrition and healthy lifestyles. It further provides for all people in Uganda to enjoy equal rights and opportunities, have access to health services, clean & safe water and education. The National Health policy, calls for sustainable development, management and use of national financial resources, to provide better health services.



Uganda fully embraced internal control processes with the formulation of the Public Finance Act (cap. 115) that provides for the control and management of the public finances of Uganda, audit and examination of public accounts and the accounts of statutory bodies and sectors, including health services. Additionally, the Uganda Public Finance Management Act, 2015 provides for the development of an economic fiscal policy framework to regulate the financial management of the government funds, prescribe responsibilities of persons entrusted with government financial management in the government and internal audit. Rukungiri District adopted internal control practices as guided by the Uganda public finance management act which include financial controls, financial accountability and M&E controls (District Development Plan, April 2015). Minimum health care packages were developed to improve health service delivery and access to health services improved through construction and upgrading of primary health care centers, increased immunization coverage, distribution of insecticide-treated nets and antimalarial medicines, expansion of HIV awareness.

Advances in health have not yet reached all those who are in need and, where there has been progress, the benefits have been unequally spread across populations. This is particularly true for maternal health, where access to safe deliveries for the poor is among the most unequal of primary care services across regions of the world (Paina, L. et al. 2016). While the world has witnessed a significant fall in maternal mortality in the past three decades, the maternal mortality ratio in developing countries is 14 times higher than in developed ones. Furthermore, only half of all women in developing countries receive the recommended levels of health services (Paina, L. et al. 2016).

Maternal mortality remains a leading cause of death among females aged 15-49 years particularly in resource-poor countries, where 99% of global maternal deaths occur. Concerns related to efficiency, availability of services, and physical infrastructure in public facilities have been reported in some low- and middle-income countries and may affect whether mothers deliver in health facilities or not (Mugambe R.K et al 2021).

Whereas Rukungiri district health service delivery performance seemed promising in relation to the SDG 3 (Good Health and Well-being), it had issues in its control systems and maternal health. For example most of the health facilities constructed broke down and had leaking roofs in one year like Buhunga HC IV leaving a sharp contrast between the figures





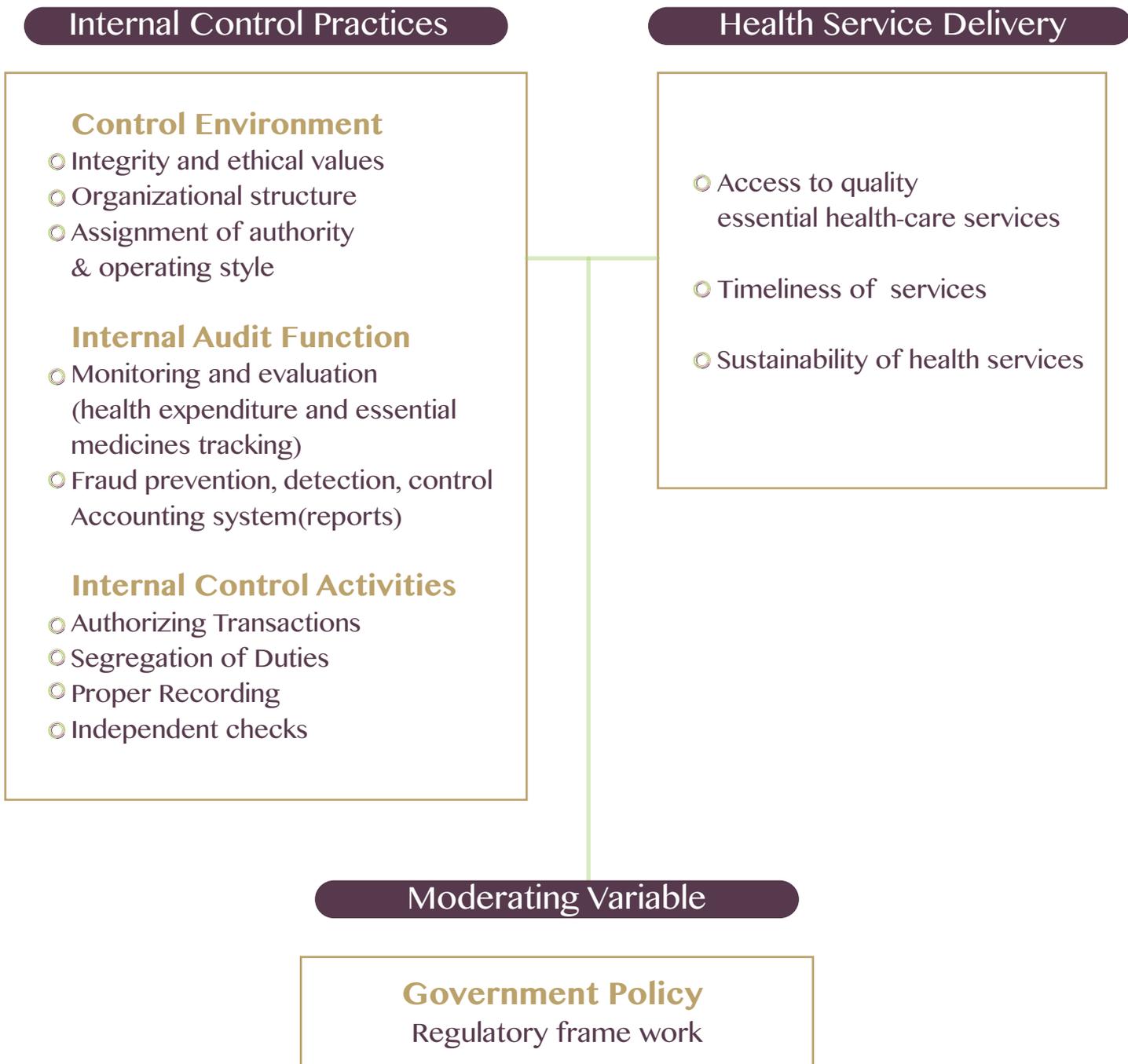
of coverage in terms of constructed health facilities (coverage at 73.3%) and actual functionality of these facilities which stood at 67.5% in 2012/2013 FY and 69.73% 2013/14 FY (District Analysis Report, June 2015). The District Internal Audit Report ( June 2014 ),indicated that there had been persistent stock outs of essential medicines, no medical doctors, absence of reliable medical equipment, and poor houses for medical staff with leaking roofs for newly constructed houses. The health worker inventory showed that the district has 256 health workers with three doctors in government health centers that were absent much of the time. There were concerns regarding the health infrastructure and quality of services which in turn would affect the access of maternal and general health services in the district. The Ministry of Health Uganda (2020) ranked Rukungiri among districts with the lowest proportion of health facility deliveries in the country at only 35%. The study examined the above gaps by exploring the relationship between of internal controls practices and health service delivery in Rukungiri District, Uganda.

The outcomes of this study would help stakeholders to understand the nature and weakness in internal control practices at the district and how they affect health service delivery and how to strengthen them so as to improve on health delivery. The findings and recommendations of this study will help other researchers to carry out other investigations by providing up to date information in area of internal control practices and their linkage to health service delivery. The outcomes of this study will help to monitor progress of SDG 3 (Good Health and Well-being).

## **1. CONCEPTUAL FRAMEWORK**

The independent variable of the study was internal control practices as broken-down into control environment, internal audit function and internal control activities in health service delivery. The dependent variable was health service delivery identified through access to quality essential health-care services ( Target 3.8 SDG 3), timeliness of services, and sustainability of health services . Government policy conceptualized as regulatory framework was the moderating variable as illustrated in Figure.1 below;





**Figure. 1 : Conceptual Framework**

Source: Adapted and modified by the researchers from Rukungiri District Development Plan (2015).

The conceptual framework presents the hypothesized relationship between internal control practices and its effect on health service delivery in Rukungiri District. The

relationship between the independent variable (internal control practices) and the dependent variable (health service delivery) was explained by the direction of the arrow i.e. when there are effective internal control practices, health service delivery inevitably improves and when there are no strong internal control practices, health service delivery declines. The moderating variable has strong contingent effect on the independent –dependent variable relationship (Sekaran 2003). In this study, the moderating variable was government policy and regulation and the impact on internal control practices in the provision of health service delivery.

## **2. Research Methodology**

This section describes the research design, area, study area, population and sample, data collection, quality control and analysis.

### **2.1 Research Design**

Case study design was used because it gives an in-depth investigation of an individual, group, institution and made detailed examination of a single subject (Mugenda and Mugenda, 1999). The researchers used the case study to make an intensive investigation on how internal controls affect health service delivery at individual unit, group and entire community. Both quantitative and qualitative approaches were used to

achieve a high degree of validity and reliability of results.

### **2.2 Area of Study**

The study was conducted in Rukungiri District, located in Kigezi sub-region, southwestern Uganda. It is composed of two counties and one municipality. Note that for this study, the researchers concentrated on two counties of Rujumbura and Rubabo County – Rukungiri District.

### **2.3 Study Population and Sampling**

According to Rukungiri District Development Plan 2015/16-2019/20, the district had 53 government and 36 NGO managed health centers, which are evenly distributed within all the sub counties in the district. For this study five health centers with a target a target population of 140 people comprising of individuals who implement internal control practices at the district level such as the CAO, CFO, Chairperson LCV, Heads of departments at the district, district Councilors, LC.I, II and III, staff at health centers and community members. Out of total population of 140, a sample size was 104 using Krejcie and Morgan sample size table (1970).The sampling procedures included probability and non-probability with the use of simple random and purposive sampling techniques. This was advantageous

because the researchers relied on the respondents that were critical to the research. Purposive sampling was used for the groups with limited numbers of possible respondents since all the groups were seen to have all the required information (Mugenda and Mugenda, 1999). Simple random sampling gave a chance to all respondents to be picked. The sampling frame included district top management, district administration staff, district gov't health centers staff, sub-county officials & councilors, NGO health workers and community health beneficiaries (users). The sample size was determined using the Krejcie and Morgan sample size table (1970). The sample size table was preferred to other techniques due to its simplicity in use, as the only information normally required when using the table is the size of the population (Sarantakos, 2005). The sample size for this study was determined as 104 and according to Amin (2005), a sample size above 30 is generally enough.

## **2.4 Data Collection , Quality Control and Analysis**

Both primary and secondary data was collected. Data was collected through questionnaire survey and interview methods administered with key

stakeholders. Structured questionnaire guide was used to collect factual quantitative data; interview guide was used to collect in-depth qualitative data needed to supplement questionnaires.

Documents reviewed included electronic journals, research dissertations, reports, articles and presentations made on internal control practices, M&E reports, budget performance reports and health performance reports.

The views of respondents were solicited using five Likert-point scale where; 5 Strongly Agree, 4 Agree ,3 Neutral, 2 Disagree and 1 Strongly Disagree.

### **2.4.1 Validity**

Sekaran (2003) defines Validity as the accuracy and meaningfulness of inferences, which are based on research results. The team conducted a repeated review of the instrument by carrying out a field pre-test where the questionnaires that were given to experts in area of internal control practices to assess its content validity. Validity was established through a validity test using content validity index (CVI), which measures the degree to which data collected using a particular instrument represents a specific domain of indicators or content of a particular concept. The content validity index (CVI) is

also an indication of the degree to which the instrument corresponds to the concept it is designed to measure. According to Amin (2005) the formula for establishing the CVI is given as below;

$$\text{Formula: } -\text{CVI} = \frac{\text{Number of items declared as relevant}}{\text{Total number of items}}$$

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The variables should have a CVI of above 0.70 or 70% as the recommended value for the instruments to be considered relevant (Amin 2005, p.286). The instruments for this study were valid to be used since they had a C.V.I of 0.92 on average. This was computed using the SPSS Version 20.

## 2.4.2 Reliability

Amin (2005) asserts that reliability of an instrument is the consistence with which it measures what it is intended to measure. (Carmines & Zeller, 1979) add that reliability concerns the extent to which an experiment, test, or any meaningful procedure yields the same results on repeated trials. The reliability of the instrument was tested using Cronbach's alpha test in the range between (0.5-1) using statistical packages. If the reliability falls in the range of (0.5-1) it would be considered reliable, but below 0.5 there will be need to improve on instruments (Amin 2005). The Cronbach's Alpha reliability Coefficient was calculated by running a statistical test using Statistical Package for Social Scientists (SPSS) version 20. The questionnaire was given to technical staff and then re-administered after 5 days and the scores were evaluated and correlated. According to Amin (2005), all the measurements in the instrument that show adequate levels of internal consistency of Cronbach's alpha of 0.7 and above are accepted as reliable. For this study the instruments were consistent and reliable at an average Cronbach's Alpha reliability Coefficient of 0.8.

## 2.4.3 Data Analysis

The analysis entailed computations, descriptive and relational statistics like correlation and regression analysis, through which relationships supporting or conflicting with the hypotheses were subjected to statistical tests to determine the extent to which data indicated any conclusions.



## **3. Findings**

This section presents the study response rate, results of analysis and discussion obtained from the study and other statistical results like correlation and regression.

### **3.1 Response Rate**

In order to analyze the data gathered, responses from the administered questionnaires were compiled. Out of sample of 104, a total of 103 returned the questionnaires implying response rate of 99.04%. A response rate of 70% and above is good response in descriptive studies (Mugenda and Mugenda, 2003).

### **3.2 Discussion of findings**

The findings of this study on the effect of internal control practices on health service delivery in Rukungiri District were presented and discussed in line with each variable as follows;

#### **3.2.1 Control Environment and Health Service Delivery**

Control environment in this study was conceptualized as integrity and ethical values, organizational structure and assignment of authority and operating style. The responses from respondents are summarized in the table below.



**Table 3-1: Descriptive statistics of control environment on health service delivery (N=103)**

Rukungiri District has a set of standards for internal control practices	103	1	5	3.36	1.128
The District Management has always demonstrated the best tone at the top including explicit moral guidance about what is right and wrong and this is communicated in both words and deeds	103	1	5	3.30	1.018
The District Management dealings with employees, suppliers, political leaders and public are based on honesty and fairness?	103	1	5	3.29	1.044
The district Management and operating decisions are dominated by a few individuals	103	1	5	3.28	1.097
The district organogram is clearly defined in terms of lines of authority and responsibility	103	1	5	4.29	0.812
There is adequate supervision and monitoring of health activities	103	1	5	3.97	0.880
The district Health budget is approved by the District council	103	1	5	4.60	0.691

**Source: Primary Data**



The study found out that on all the questions above, the calculated mean was above 3, which indicated that most of the respondents were in agreement with the statements.

This was further supported during the interviews as one respondents, the Buhunga sub county chief said, ‘as a district we have various strong internal control practices’. The results from the District Development Plan documentary of 2015 – 2020 review showed that Rukungiri district has strong internal control practices from the Local Councils to the Top District level. However, the district annual health analytical report(2016) showed many gaps in supervision health facilities by citing the transportation challenges and inadequate facilitation of health monitoring team. According to Mugambe R.K et al (2021), the identified reasons for opting for non- health facility deliveries which included sudden onset of labor, high costs of hospital deliveries, poor access to transportation, and long distance to facilities.

From the above findings poor transportation affects supervision and monitoring of health services and equally affects women access to health-facilities thus leading to non-health facility deliveries which may affect achievement SDG 3 targets.

### **3.2.2 Internal Audit Function and Health service delivery.**



**Table 3-2: Descriptive Statistics of Internal Audit Function and Health service delivery generation (N=103)**

Rukungiri district has a functional internal Audit unit/function	103	1	5	2.76	1.124
The district health financial audit is always completed on a timely basis	103	1	5	3.58	0.995
Essential medicines are tracked in the facility by proper stock keeping and consumption	103	1	5	4.61	0.660
Essential medicines data are reviewed and analysed and reviewed by an independent review every month.	103	1	5	4.35	0.860
Independent pharmaceutical physical inventory audit is conducted across the entire supply chain monthly	103	1	5	3.44	1.045
Any culprit found to be involved in the health fraud is always prosecuted in the courts of law.	103	1	5	2.72	1.124
Any culprit found to be involved in the health fraud is always prosecuted in the courts of law.	103	1	5	2.72	1.124
There is on-going health monitoring that involve action against irregular, unethical and inefficient internal control systems	103	1	5	3.72	0.857
Internal audit findings reported directly to the district top management and public accounts committee	103	1	5	3.36	1.110
The district audit function plays a significant role in fraud prevention and detection in the health sector	103	1	5	2.06	1.114

Source: Primary Data



The study found out that on the question of whether “Rukungiri district has a functional internal Audit unit/function”, 31.1% of the respondents were in agreement, 24.3% were not sure while 44.6% disagreed with the statement. A mean of 2.76 and SD of 1.124 were calculated which implied that most of respondents disagreed with the statement since mean calculated is below 3. This implies that Rukungiri district does not have a well-functioning internal audit unit. This was further supported by Anti-Corruption Coalition Report (2015), on a research undertaken in Uganda on the link between internal audit function and health outcomes, which demonstrated the negative implications of financial leakages in local governments.

On the question “The district audit function plays a significant role in fraud prevention and detection in the health sector”, a mean of 2.08 and SD of 1.114 were calculated which indicated that most of respondents were not in agreement with the statement since mean calculated is below 3. This implies that the district audit function doesn’t play a significant role in fraud prevention and detection in the health sector.

All in all, the study revealed that some of the respondents were in agreement that health financial audits were done, tracking of essential medicines stock and store keeping with independent reviews as well as monitoring against irregular, unethical and inefficient internal control practices. However, for some questionnaires and interviews, it was found that the district does not have a well functional internal Audit unit because it doesn’t play a significant role in fraud prevention and detection, culprits in health fraud are always set free for political reasons and are not heavily charged. This was supported by Ministry of Health (2015) that delivery of better health services was in one-way or another affected by a weak internal audit unit or function.



### 3.2.3 Internal Control Activities and Health Service delivery



Internal control activities in this study were conceptualized as authorization of transactions, segregation of duties, proper recording and independent checks.

**Table 3-4: Descriptive Statistics of internal control activities and Health service delivery (N=103)**

The internal audit unit does its health audits independent of the district top management	103	1	5	3.84	0.926
The district has effective health internal control policies and procedures in place	103	1	5	4.25	0.936
The district health facilities enabled safe delivery	103	1	5	2.87	0.955

Existing rules and procedures for making payments are followed	103	1	5	2.95	1.132
Health Internal control systems and all transactions and significant events are fully and clearly documented and readily available for examination	103	1	5	3.14	1.172
Health policies and procedures have helped to address non-compliance in financial and controls in management of essential medicines controls	103	1	5	3.61	1.026
The district has clear segregation of duties for all the health financial procedures	103	1	5	3.81	1.001
Health Reporting is appropriate, timely, current, accurate and accessible	103	1	5	3.69	0.780
Auditors inspect health projects to assess value for money and report to the council	103	1	5	3.64	0.803

**Source: Primary Data**

Except for health for question of whether “The district health facilities enabled safe delivery” where the calculated mean was 2.87, all the other responses to the questions had calculated mean above 3. This indicated that majority most of the respondents answered in affirmative of internal control activities in Rukungiri District. This was consistent with the Ministry of Health Uganda Annual Health Sector Performance Report Financial Year 2019/20 (2020) which ranked Rukungiri among districts with the lowest proportion of health facility deliveries in the country at only 35% far below the 5-year Health Sector Development Plan (2015/16 - 2019/20 ) target of 89%. This is not in line with SDG (3.1) which targets to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030 ,as indicated by the proportion of births attended by skilled health personnel. However, Mugambe R.K et al (2021) asserted that overall, 90.2% of the mothers had delivered their most recent child in a health facility which was inconsistent with the above results.

### 3.2.4 Moderating effect of Government policy on internal control practices and health service delivery

This variable was conceptualized to include the regulatory framework and the responses from respondents are presented in the table below.

**Table 3-5: Descriptive Statistics of Government policy and internal control practices on health service delivery (N=103)**

The district health operations comply with all set of government policies	103	1	5	3.55	0.825
There exists a legal unit with the district that updates management on any changes in the health regulatory environment	103	1	5	3.55	0.825
The changes in government health regulations are implemented by the district council without delay.	103	1	5	2.98	1.171
The district strictly follows LGFAR and Accounting manual in managing its daily health expenditure operations	103	1	5	3.48	0.895
Health service delivery of the district is affected by changes in government rules and regulations	103	1	5	3.57	0.892

**Source: Primary Data**

The study found out that nearly in all the questions above, the calculated mean was above 3, indicating that most of the respondents were in agreement. For the question of whether “The changes in government health regulations are implemented by the district council without delay”, where mean of 2.98 and SD of 1.171 were calculated indicating that respondents were not in agreement with the statement since mean calculated was slightly below 3. However, Cornelius, B.et al (2014) said that despite the elaborate government policy for health sector in local governments in Uganda, Rukungiri district internal control systems are ineffective. According to Di Pietro et al (2020), many developing countries still lack access to medical devices and equipment that are appropriate for their specific clinical needs because of poor regulatory controls.

Lack of access to appropriate medical devices and equipment may affect the SDG 3 target of reducing maternal mortality since safe delivery usually requires specialized equipment.

### 3.3 Correlation and regression analysis outcomes



#### 3.3.1 The relationship between internal control environment and health service delivery in Rukungiri District.

The findings indicated that there exists a relatively weak positive and significant relationship between internal Control environment and Health Service Delivery in Rukungiri District because the Pearson's correlation coefficient  $r = .364^{**}$  significant at 0.01 (99% confidence level) as the value of 0.000 is less than 0.05. The adjusted  $R^2 = 0.124$  and significance 0.000 suggested that internal Control environment was a strong significant predictor of Health Service Delivery in Rukungiri District but with low variation in Health Service Delivery.

Hence internal control environment is a predictor of health service delivery in Rukungiri District. The study revealed that much as there is an indication of strong internal control practices as obtained in the control environment but they are largely ineffective. Majority of health staff were left out of internal control practices implementation nor were they given feedback on the outcomes of meetings as key stakeholders.

### **3.3.2 The effect of internal audit function on health service delivery in Rukungiri District.**

The findings indicated there was a relatively weak positive and significant relationship between internal audit function and health service delivery in Rukungiri District because the Pearson's correlation coefficient is  $r = 0.304^{**}$  significant at 0.01 (99% confidence level) as the value of 0.01 is less than 0.05. This showed a statistical significance effect of internal audit function on health service delivery hence internal audit function is a predictor of health service delivery though the variation in health service delivery explained by internal audit was low. The findings also revealed that the district did not have a well functional internal Audit unit because audit did not play a significant role in fraud prevention and detection.

### **3.3.3 The effect of internal control activities on health service delivery**

The analysis also revealed that there is a weak positive and significant relationship between internal control activities and health service delivery in Rukungiri district where the Pearson's correlation coefficient  $r = 0.319^{**}$  significant at 0.01 (99% confidence level) as the value of 0.01 is less than 0.05 and this was statistically

proven to be significant. Therefore, when internal control activities are improved, health service delivery is expected to improve.

### **3.3.4 The moderator effect of Government policy on internal control practices and health service delivery.**

The results showed that there is a there is a weak positive and significant moderating effect of government policy on internal control practices and health service delivery in Rukungiri District where the Pearson's correlation coefficient  $r = 0.335^{**}$  significant at 0.01 (99% confidence level) as the value of 0.01 is less than 0.05. Therefore, if the managers of Rukungiri district follow government policy on internal control practices and health service delivery, corresponding outcomes are expected and this was statistically proved to be significant.

The study findings also indicated that changes in government health regulations were not implemented timely by the district council, which negatively affects the health service delivery.

### 3.3.5 Regression analysis for internal control practices and health service delivery

The study used linear regression analysis to predict the compounded effect of control environment, internal audit function and internal control activities, and health service delivery. The findings obtained from SPSS version 20 are presented in the table below;

**Table 3-6: Model summary of internal control practices and health service delivery (N=103)**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.403a	.163	.137	.47404

a. Predictors: (Constant), Control Environment, Internal Audit, Control Activities

The model summary in the table above shows that  $R = 0.403a$ ,  $R\text{-square} = 0.163$  and  $\text{adjusted } R\text{-square} = 0.137$ . This means that 13.7% ( $0.137 \times 100$ ) variations in health service delivery is predicted by Control activities, Control environment and internal audit and government policy. The remaining 86.3% variation in health service delivery is explained by other factors that were not part of this study.

## 4. Conclusions and Recommendations

The findings from the descriptive statistics, interviews conducted from key stakeholders and documentary reviews revealed that there was a relatively weak positive relationship between internal control practices and health service delivery. Health service delivery was dependent on internal control environment, internal audit function and internal control activities. If these variables are improved, health service delivery is expected to improve.

There was increased uptake of health-facility deliveries and this could further increase with improved access to quality essential health-care services thus expediting achievement of SDG 3 target 3.1 and 3.8.



Based on the findings of this study, the following recommendations were provided;

- It is recommended that internal control environment be strengthened at each and every stage of health service delivery so as to provide quality service delivery.
- Consider improving physical and health-facility infrastructure to increase access to general and maternal health services
- Increase sensitization and awareness campaigns to encourage hospital/healthy service deliveries.
- There should be adequate supervision and monitoring of health activities to realize better health service delivery in Rukungiri district because this will help to minimize on some such as absenteeism by health staff.
- There is a need to increase the effectiveness of internal audit function to enhance accountability in the health sector.
- A bigger sample spread across various districts or countries could be considered for future research to better understand the effect.

**Conflicts of Interest:** The authors declare no conflict of interest



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