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*Article*

# Examining the Effects of NHIS Claims Reimbursement on Financial Sustainability of Service Providers

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**Abstract:** This study used a cross-section survey and descriptive design with a quantitative approach to examine the factors influencing NHIS claims payment to service providers and interpret the relationship between variables. Data was collected from 161 respondents using a self-designed questionnaire. Claims reimbursement was significantly affected by claims submission, rejected claims returned, resubmission of corrected claims, part-payment of claims submitted, appeal to adjudication committee, and MOH intervention. Pearson's correlation level shows a positive but weak correlation between independent and dependent variables at CI of 95% and 99% ($p<0.05$ and $p<0.01$) respectively. In the regression analysis, R-squared was found to be 0.273 indicating that independent variables including submission of processed claims for payment; rejection of erroneous and fraudulent claims; resubmission of corrected claims; submission of claims following NHIA directives; part-payment of submitted claims; appeal to the Adjudicating committee, and minister of health intervention influence NHIS payment of claims at 27%. However, when independent variables are kept constant at zero, payment of claims will be 0.784(78.4%). The mean of VIF of all the variables is 1.298 and that of the tolerance is 0.776. Regulatory and policy enforcement and effective stakeholder collaboration are essential to improve adherence to the operational standard guidelines of the scheme. These will safeguard the NHIS against abuses, fraud, leakages, and maleficence while improving prompt payment of service providers' claims for efficient health care delivery.

**Keywords:** Claims, Financial Sustainability, National Health Insurance Scheme, Reimbursement, Service Providers

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## 1. Introduction

### Background of the study

Achieving quality, affordable, and accessible health services for the citizenry is a priority consideration globally to enhance universal health coverage. Public funding of health care services is a necessary step in promoting good health and wealth of the population. On the other hand, out-of-pocket expenditure on health services predisposes people to catastrophic expenditure that will lead to impoverishment (Sirag, & Mohamed, 2021). Research has demonstrated that when a country's gross domestic product is far greater than its expenditure on health, out-of-pocket spending will increase, and consequently, financial difficulty will be more likely (WHO, 2010; Glenngård, & Borg, 2019).

The increase in disease burden ranging from the upsurge of both communicable and non-communicable diseases, trauma, and the emergence of pandemics among others, will require a well-structured health system that will be able to offer timely access to quality

healthcare. This can only be made possible with sustained and equitable financing of the health system with the service provider being at the base (Lal, et al., 2021). NHIS was established in Ghana by an Act of Parliament (Act 650, Amended Act 835) in 2003 as a social intervention to finance and make health services equitably accessible for people living in Ghana.

Historically, health financing in Ghana migrated from community-based financing in the pre-colonial era until modern healthcare was introduced with government funding, and donor and user fees. These systems of financing health progressed to an expanded form then to the current National Health Insurance Act (2003) which was established to solve inequalities in healthcare services (Apoya, & Marriott, 2011, Agyepong, & Nagai, 2011). Amidst several challenges suffered by the scheme, it is moving steadily towards achieving its purpose of establishment as evidenced by increased utilization, affordability, and accessibility of quality healthcare services (Dalinjong et al., 2017, & Sarkodie, 2021).

Delayed and irregular NHIS claims payment has raised concerns about its impact on service providers' financial sustainability. Service providers rely heavily on NHIS claims payment to operate, invest in quality care, and maintain profitability (Ahenkan, & Azaare, 2018). However, delayed payment affects their cash flow, leading to financial instability, reduced quality of care, and compromised patient outcomes (Akweongo, et al., 2021; Yuliyanti, & Thabrany, 2018; Alhassan, Nketiah-Amponsah, & Arhinful, 2016; Grace, Brian, Uche, & Valentine, 2017).

Most studies employed cross-section design and few studies employed robust analytic methods like regression (Ayanore et al., 2019, Aikins et al., 2021 and Andoh-Adjei, 2021). This study therefore used robust means of analysis to examine the payment of NHIS claims to service providers and unravel factors that affect the timely payment of claims.

**Theoretical Framework**

This study is guided by the Institutional theory given that its assumptions cover relevant areas suitable for organizational sustainability. We explore the key variables involved, implications for service delivery, and the potential for improved outcomes through strategic alignment of interests among stakeholders.

**Institutional theory**

The institutional theory considers a firm as an institution with different individuals and groups with unified interests, transaction governance, values, rules, and practices that can become institutionalized. According to Jennings and Zandbergen (1995), institutional theory is a means of appreciating sustainability and the process by which sustainability is established and incorporated into firms. This theory is characterized by rationalization, legitimacy, practicality, structure, and regulating behavior to conform to rules and regulations, standards, and best practices.

The institutional theory can therefore be built on three blocks. These include the regulatory, normative, and cultural and cognitive. The regulatory block represents the laws and regulations that guide the behavior of actors. It facilitates conformity and prescribes sanctions to those who break the rules. The NHIS operations are governed by an act of Parliament and laws which must be adhered to by all players in the field.

The social norms are those overt responsibilities required by all the sector players in national health insurance. All stakeholders expect these behaviors to promote the sustainability of the organization. NHIS practices are standardized and unique to the various stakeholders in the sector to ensure the effectiveness and efficiency of the scheme.

The cultural and cognitive block explains why social policies are formulated and implemented. Most of the time this component is often overlooked and taken for granted. Hence in this study, the cognitive block represents the reasoning and the decision-making process of NHIS stakeholders.

These components of the institutional theory work simultaneously to facilitate effectiveness (Bag et al., 2022, Boffa et al., 2023). The key importance of the effective application of institutional theory is that it promotes business sustainability by incorporating into an organization the culture of serving the needs of human beings and safeguarding all relevant interests (Bulmer, 2023). This theory is selected because it covers regulative, normative, and cognitive components of an institution's stability and applies to national health insurance claims payment and the financial sustainability of service providers. This can be reclassified as stakeholder interactions (involving NHIS, service providers, and patients), NHIS claims payments (including service provision, claims submission, claims procession, and claims payment), and financial sustainability (made up of revenue generation, cost management, and investment in infrastructure)

**Empirical Literature Review**

Claims payment is how health insurers reimburse healthcare providers for services rendered to insured patients. This process is crucial for ensuring providers have sufficient liquidity to continue operations.

Numerous studies identify challenges in claims payment, including delayed payment cycles, complex billing processes, and high administrative costs. A study by Blumenthal et al., (2019 reveals that inefficiencies in the claims process can lead to delayed payments, affecting the cash flow of healthcare providers. Moreover, a report by the American Hospital Association (2020) emphasizes that prolonged claims adjudication can strain the financial stability of hospitals.

Financial sustainability in healthcare refers to the ability of providers to operate effectively without compromising service quality, driven by steady revenue streams and cost management. A financially sustainable organization can invest in quality improvements, technological advancements, and workforce development, ensuring better healthcare delivery.

Rao, Jacob, Devapriya, & Almeida, (2024), demonstrates a direct correlation between prompt claims payment and the financial health of healthcare providers. Efficient claims processing can improve cash flows, allowing providers to plan and allocate resources effectively. Conversely, payment delays can result in facility cutbacks, reduced staff, and suboptimal care.

Several quantitative studies have analyzed the financial implications of claims payment variations. A study by Chen, & Wang, (2023), used regression analysis to show that hospitals with faster claims payment rates experienced a 15% higher revenue growth compared to those with slower payment cycles. This revenue growth facilitated reinvestment in services and infrastructure.

Qualitative evidence enriches the understanding of claims payment issues. Interviews conducted by Martinez & Kim (2020) with healthcare administrators revealed that long payment cycles led to increased borrowing costs and financial uncertainty, hindering strategic planning and investment.

Despite the growing body of research, several gaps remain. Most studies focus on hospital settings, with limited exploration of primary care providers and outpatient services. The relationship between health insurance claims payment and the financial sustainability of service providers is multifaceted and significant. Timely claims payment can enhance a provider’s financial position, enabling better healthcare delivery (Issahaku et al., 2021). However, inefficiencies in claims processing present risks to provider sustainability. Continued research in this area is critical for informing policy and practice, ultimately contributing to a more sustainable healthcare system.

## 2. Materials and Methods

This study used a cross-section survey and descriptive design with a quantitative approach to examine the factors influencing NHIS claims payment and interpret the causal effects between variables. Respondents for the study were recruited from staff of the Seventh-Day Adventist Hospital in Tamale. In all, 161 respondents were purposely selected and the purpose of the study was explained to them and verified to be permanent staff who have worked in the hospital for at least one year. A self-designed questionnaire with a 5-point Likert scale was used for the study.

## 3. Results and Discussion

Health financing being crucial as it is, has suffered many challenges globally and more challenging in the developing world who most at the time receive support from the developed world to mitigate funding gaps. Out-of-pocket expenditure on healthcare services is a precursor to catastrophic expenditure, impoverishment and poor health (Sirag, & Mohamed, 2021). It is the responsibility of government to ensures that health systems are working well by to ensure assess, universal coverage, affordable and quality of health care. Sustained sufficient and equitable financing of the health system is necessary to help meet the health needs with the surging of the disease burden of late (Lal, et al., 2021). Health care providers form the basis of the health system administering healthcare to the citizenry. Quality health care requires sufficient sustained financing to ensure the provision of suitable infrastructure, essential drugs, human resource, logistics and equipment. Ghana established the National Health Insurance Scheme (NHIS) in 2003 which aims to absorb cost of healthcare on the citizens by providing financial protection (NHIA. 2003). Record from Ghana Statistical Service (2022) shows that since the establishment of the scheme, a lot of strides have been made to increase accessibility of healthcare services and has attained about three quarters of enrolment of the Ghanaian population. However, delay and irregular claims payment of service providers put the sustainability of the NHIS in a vulnerable state (Dalingjong. 2017). Most claims as indicated by the Ghana Health Service are paid in four months and sometimes payment of service providers exceed six months (Stewart et al. 2021). Delay in claims reimbursement can have serious implications on the productivity of health facilities and eventually affecting quality health care given to clients (Stewart et al. 2021). This manuscript examines the current state of NHIS claims payment to service providers in Ghana, with a focus on identifying the challenges and proposing solutions to improve the efficiency and timeliness of claims reimbursement.

### Demographic Characteristics of Respondents

A total of 161 respondents were recruited into the study, 83.8% of them were within the age bracket of 21 and 40 years (Table 1). More females 52.8% participated in the study.

**Table 1.** Demographic Characteristics of Respondents.

| Age | Frequency | Percent |
|---|---|---|
| Below 20 | 3 | 1.9 |
| 21 to 30 | 67 | 41.6 |
| 31 to 40 | 68 | 42.2 |
| 41 to 50 | 20 | 12.4 |
| 51 to 60 | 3 | 1.9 |
| **Gender** | | |
| Male | 76 | 47.2 |
| Female | 85 | 52.8 |
| **Academic Qualification of Respondents** | | |
| Certificate | 26 | 16.1 |
| Diploma | 68 | 42.2 |

| | | |
|---|---|---|
| First Degree | 51 | 31.7 |
| Master's Degree | 13 | 8.1 |
| Others | 3 | 1.9 |
| **Professional Background of Respondents** | | |
| Medical Doctor | 5 | 3.1 |
| Physician Assistant | 10 | 6.2 |
| Nurse Practitioner | 9 | 5.6 |
| Nurse | 72 | 44.7 |
| Midwife | 13 | 8.1 |
| Nurse Assistant | 10 | 6.2 |
| Accountant | 9 | 5.6 |
| Pharmacist | 6 | 3.7 |
| Biomedical Scientist | 3 | 1.9 |
| NHIS Claim Officer | 5 | 3.1 |
| Administrator | 1 | .6 |
| Others | 18 | 11.2 |
| **Number of Years Worked in the Hospital** | | |
| Less Than 1 Year | 32 | 19.9 |
| 1 to 5 | 72 | 44.7 |
| 6 to 10 | 43 | 26.7 |
| 11 to 15 | 12 | 7.5 |
| 16 to 20 | 1 | .6 |
| 21 and above | 1 | .6 |

*N=161*

The findings of this study are similar to the projection between the ages of 15 to 24 years, 25 to 54 years been the prime working group, and 55 to 64 years as the mature working group (Abraham, & Kearney, 2020, Russo et al., 2022). Most of the respondents were diploma n=68(42.2%) holders, nurses n=72(44.7%), and those who have worked for 1 to 5 years n=72 (44.7%).

Health insurance claims management involves the activities carried out by service providers to prepare and submit claims for payments using generated data (Cleverley, Cleverley, & Parks, 2023). The majority of the staff n=119(73.9%) (Table 2) are involved in generating data for NHIS claim management which is consistent with Fred's article which sought to expound challenges of NHIS claim management (Fred, 2018).

Claims management begins with data generation which comprises patient registration, entering of patient health information and treatment including diagnosis, investigation, therapeutic procedures, and medication. The data generated is converted into monetary value which is vetted to determine the consistency of claims processed with specifications and standards set by NHIA.

According to Akweongo et al., (2021), delayed claim reimbursement is attributed to poor compliance of clinicians inadequate recording of medical information, incompetent coders, and insufficient information management system. This implies that when staff are adequately trained claims will be processed appropriately to reduce mistakes and delays in claim payment. The findings showed that more than half of respondents (55.3%) do not have training on NHIS claims management agreeing with Abekah, et al., (2022) argument. Since NHIA reviews its tariffs on medicines, services, procedures, and investigations at least annually, a lack of trained and skillful staff for claim processing will lead to increased rejection of claims due to erroneous and fraudulent claims (Akweongo et al., 2021).

**Table 2.** Role of Respondents and Training on Claim Management in the Facility.

| | Frequency | Percent |
|---|---|---|
| **Specific Role of Respondent in NHIS Claims Management in the Facility** | | |
| Generation of Data | 119 | 73.9 |
| Collation of Data | 21 | 13.0 |
| Vetting of Data | 11 | 6.8 |
| Generation and Collation of Data | 3 | 1.9 |
| Generation and Vetting of Data | 2 | 1.2 |
| Generation, Collation, and Vetting of Claims Data | 5 | 3.1 |
| Training of Staff on NHIS Claims Processing | | |
| Never | 89 | 55.3 |
| Once | 37 | 23.0 |
| Twice | 20 | 12.4 |
| Thrice | 3 | 1.9 |
| More than thrice | 12 | 7.5 |

*N=161*

**NHIS Payment of Claims Submitted by Service Providers**

Payment of claims by NHIS to service providers is now the primary mode of financing healthcare services in Ghana (GHS, 2009). Payment of healthcare service providers is made following successful management of the claim to establish what is been paid for and the amount to be paid (Akweongo et al., 2021).

The findings of the study indicate a mean of 3.7143+/-0.85461 for the submission of claims for NHIS reimbursement (Table 3). It was determined that the majority of claims are submitted within the first and second week of the month to Accra for scrutiny, approval, and payment. The finding of this study is similar to that of Abekah et al., (2022), and Fred, (2018) who showed that 73% of claims were submitted for payment within the first two weeks of the month. The findings were however contrary to that of Emmanuel and colleagues who argued that most facilities have difficulties processing their claims and submitting them within four weeks from the end of the month (Emmanuel, et al., 2012).

Claims submitted are vetted to identify attempts to defraud the scheme and errors committed during the claim processing. It was determined that claims that have errors and are fraudulent were rejected by the scheme with a mean of 3.5839+/-0.93246. This outcome is consistent with the findings of Adzakpah, & Dwomoh, (2023); Fred (2018); and Sordzi-Tettey, et al., (2012). Common errors in claims mismatching of drugs and diagnosis, omissions, and drugs entered without a diagnosis, etc. (Adzakpah & DWomoh, 2022).

Fraud and abuse of health insurance have the potential to drain the scheme of huge sums of money and consequently, bankruptcy (Ismail, & Zeadally, 2021, Kalra et al., 2022, Fabrikant, Kalb, Bucy, & Hopson, 2023). Claims will therefore be subjected to strict scrutiny to identify errors and fraud (Thaifur, Maidin, Sidin, & Razak, 2021). When such are identified, claims that can be corrected will be returned for correction and resubmission. The processes involved in vetting to identify errors, fraud, and abuse take time hence, causing delays in the payment of claims. Resubmitting claims after correction had a mean of 3.4099+/-1.00295. The standard deviation shows minimum dispersion from the mean. Meaning that the majority of the respondents were uncertain as to whether erroneous and fraudulent claims rejected were corrected and resubmitted for payment.

To avoid rejection and loss of money for that matter, claims are to be processed following the directives of the health insurance scheme. It was observed that claims were

processed and submitted following directives of NHIS with a mean of 3.5127+/-0.92254. This implies that the facility's claims management conformed to standards set by the scheme. As indicated by (Abekah et al., 2022, Park, & Lee, 2021 and Akweongo et al., 2021), the health insurance claims process requires strict adherence to guidelines and protocols to avoid errors that will trigger rejection and loss of income.

However, with regards to the part-payment submitted claims; dissatisfied clients appealing to the adjudicating committee of the authority; the minister of health intervening for claim payment; and payment through diagnostic relating groups, and fee-for-service recorded the means and standard deviations are the following 3.4224+/0.84143-, 3.2360+/-0.86974, 3.08709+/-0.80925, and 3.4907+/-0.9525 respectively. This reveals that respondents are uncertain as to how NHIS pays healthcare service providers. The uncertainty of respondents on how service providers are paid could be attributed to the delay in reimbursement of claims (Onwujekwe, et al., 2022). Also, a lack of transparency might be implicated.

**Correlation of NHIS Payment of Claims Submitted**

Correlation matrix of the eight variables under study (claims submitted for payment; rejection of erroneous and fraudulent claims; resubmission of corrected claims; submission of claims following NHIA directives; NHIA pays a portion of claims submitted; dissatisfied service providers appeal to the Adjudicating committee, and minister of health intervention and payment of claims) is presented in Table 3. The results indicated that the payment of claims and the independent variables were positively correlated. Pearson's correlation level shows a positive but weak correlation between payment of claims and submission of claims for payment as well as payment of a portion of claims submitted at a confidence interval of 0.05 ($p<0.05$). Also, payment of claims and the other independent variables were positively correlated at a significance level of $p<0.01$.

It therefore implies that when claim management is carried out following the guidelines of the scheme, claims payment is more likely. However, the strength of the correlation between variables was weak to moderate with the lowest being r =.188 and the highest been r =.412. This presupposes that, even when service providers follow the scheme guidelines in claims management, payment is not warranted probably due to the lack of funds for the scheme as indicated by Akweongo, et al., 2021).

**Table 3.** Correlation Analysis of Payment of NHIS Claims Submitted.

| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Claims submitted to NHIS | Pearson Correlation | 1 | | | | | | | |
| 2 | NHIS rejects Erroneous and fraudulent Claims | Pearson Correlation | .422** | 1 | | | | | | |
| 3 | Corrected claims are resubmitted for payment | Pearson Correlation | .276** | .250** | 1 | | | | | |
| 4 | Claims are submitted following NHIA directives | Pearson Correlation | .388** | .341** | .382** | 1 | | | | |
| 5 | NHIA pays a portion of claims submitted | Pearson Correlation | .282** | 0.138 | .171* | .334** | 1 | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 6 | Dissatisfied service providers appeal to NHIA | Pearson Correlation | .217** | .237** | .354** | .212** | 0.102 | 1 | |
| 7 | MOH intervenes in matters relating to payments of claims | Pearson Correlation | 0.045 | .255** | .210** | 0.090 | 0.111 | .237** | 1 |
| 8 | Payment is made through FFS, GH-DRG, capitation, etc | Pearson Correlation | .193* | .343** | .311** | .256** | .188* | .412** | .251** |

***. Correlation is significant at the 0.01 level; *. Correlation is significant a 0.05 level (2-tailed); N=161.*

**Regression Diagnostic Test**

A regression diagnostic test showed that claims submitted to NHIS for payment had a VIF of 1.411 and tolerance of 0.709; NHIS rejects erroneous and fraudulent claims that had a VIF of 1.376 and tolerance of 0.727; corrected claims are resubmitted for payment recorded a VIF of 1.331 and tolerance of 0.751; claims are submitted following NHIA directives had a VIF of 1.430 and tolerance of 0.699; NHIS pays a portion of the claims submitted obtained a VIF of 1.174 and tolerance of 0.852; dissatisfied service providers appeal to the Adjudicating committee recorded a VIF of 1.214 and tolerance of 0.824, and the minister of health intervenes in matters relating to the payment of claims obtained a VIF of 1.148 and tolerance of 0.871. The mean of VIF of all the variables is 1.298 and tolerance is 0.776. This means that all the variables have low correlation levels as indicated by the VIF and their tolerance level is greater than 0.10 showing that there is no multicollinearity as argued by Khatti, et al., (2024).

**Results of the Regression Analysis**

From Table 4, a goodness-of-fit for a regression model determines how the model equation fits into the data. The R-squared determines the percentage variance in the dependent variable that the independent variable explains together. The R-squared was found to be 0.273 indicating that 27% of the variations on payment of claims are influenced by the independent variables (claims submission for reimbursement; rejection of erroneous and fraudulent claims; resubmission of corrected claims; submission of claims following NHIA directives; NHIA pays portion of claims submitted; dissatisfied service providers appeal to the Adjudicating committee, and minister of health intervention). The 73% unexplained, could be other factors influencing the payment of claims. Further studies into the subject area to explore more on the 73% factors affecting payment of NHIS claims is necessary.

A statistically significant difference between groups was determined by one-way ANOVA (F (7, 153) = 8.187, p=.000) as shown in Table 5. This indicates the regression association was highly significant in determining how the independent variables affect the payment of claims for service providers.

**Table 4.** Model Summary.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .522[a] | .273 | .239 | .78086 |

a. Predictors: (Constant), The Minister intervenes in matters relating to payments of claims, Claims are submitted for services provided to NHIS for reimbursement, The Authority pays a portion of claims submitted, a Dissatisfied healthcare service provider may appeal to the Adjudication Committee established by NHIA, Corrected claims are resubmitted for payment, claims that have errors and fraudulent are rejected, Claims are submitted following directives from the Authority.

Table 6 shows the results for fitting a different linear regression model to explain the relationship between payment of claims (PC) with claims submission for reimbursement (CS); rejection of erroneous and fraudulent claims (RC); resubmission of corrected claims (CC); submission of claims following NHIA directives (SCD); NHIA pays portion of claims submitted (PPC); dissatisfied service providers appeal to the Adjudicating committee (SAC), and minister of health intervention (MI). The equation for the fitted model is presented below: PC=0.784 – 0.044*CS+ 0.200*RC+0.098*CC+0.056*SCD+0.099*PPC+ 0.298*SAD+0.103*MI.

The regression equation above shows when the independent variables are taken into consideration (claims submission for reimbursement (CS); rejection of erroneous and fraudulent claims (RC); resubmission of corrected claims (CC); submission of claims following NHIA directives (SCD); NHIA pays portion of claims submitted (PPC); dissatisfied service providers appeal to the Adjudicating Committee (SAC), and minister of health intervention (MI)) that constant is zero, payment of NHIS claims for the facility under study was 0.784 as shown on Table 6. It is also revealed that taking all other factors (independent variables) at zero, a unit increase in the claim submitted for payment will lead to a 0.44 decrease in payment of claims submitted by the facility under study.

**Table 5.** One-way ANOVA Results for Payment of NHIS Submitted Claims.

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 34.946 | 7 | 4.992 | 8.187 | .000[b] |
| | Residual | 93.291 | 153 | .610 | | |
| | Total | 128.236 | 160 | | | |

a. Dependent Variable: Payment is made through the following: fee for service; diagnostic-related groupings; capitation; and others
b. Predictors: (Constant), Claims are submitted to NHIS, Erroneous and fraudulent claims are rejected, Corrected claims are resubmitted for payment, Claims are submitted following NHIA directives, the authority pays a portion of claims submitted, Dissatisfied service providers appeal to NHIA and MOH intervenes in matters relating to the payment of claims.
P< 0.05

Thus, a negative effect towards payment of claims submitted. However, the relationship was not statistically significant with a p-value of 0.064 > 0.05. This means that claim submission alone does not have any significant influence on the payment of claims. The findings are consistent with Akweongo, et al., (2021) and Yulliyanti and Thabrany (2018) who asserted that reimbursement is still delayed upon the improvement in claim processing and submission for payment.

More so, it was found from the regression coefficient table that, when the other independent variable is zero, a unit increase in NHIS rejection of erroneous and fraudulent claims, payment of submitted claims will increase by 0.200 with a significant interval of p=0.011 <0.05. Several studies have revealed that rejection of processed claims

leads to a 10% to 20% deduction of payment of the total value of the claims submitted (Sordzi-Tettey et al., 2012, Embrey et al, 2021, Adzakpah, & Dwomoh, 2023). This means that, when more claims are rejected due to fraud and errors, the amount NHIS has to pay to service providers lessens hence, making it easy to pay them on time.

Corrected claims that are resubmitted for payment have a positive influence on the payment of claims given that, a unit increase in resubmitted corrected claims for payment, will result in a 0.098 increase in payment of claims. Problematic claims such as those containing errors are one of the causes of delay in claim reimbursement. An erroneous claim will most of the time lead to total or partial rejection. Depending on the nature of errors in the claims, the scheme officers may send them back to service providers for correction and resubmission for payment. Once these are corrected, payment can easily be made. However, the significance level was $p=0.169 > 0.05$. This means payment of claims are not significantly influenced by corrected claims that are resubmitted for payment.

NHIS claims processing has instituted rules and regulations that service providers must adhere to ensure their claims meet the criteria for payment. Failure to meet these criteria will subject the claims to rejection and consequently, delay in payment and/or deduction of the amount contained in the claims processed. The study revealed that a unit increase in submitting claims following NHIS directives will lead to a 0.056 increase in payment of claims. According to Vincent et al, (2019), strict adherence to claim processing regulations will improve client turnover as well as prevent delays in reimbursement and consequently improve service providers' payment to suppliers. The association between variables was not significant with a p-value of 0.481 which is greater than the confidence interval of 0.05. Hence, irrespective of how appropriate claims are processed following NHIS directives and submitted for payment, reimbursement will not be automatic due to factors such as the behavior of NHIS officials (Vincent et al., 2019), availability of funds, and political (Fusheini, 2020).

Payment of a portion of claims submitted within a stipulated time was found to have a positive effect on the overall payment of claims. From the study, a unit rise in payment of a portion of claims submitted will cause an upward adjustment of payment claims by 0.099 with a p-value of 0.127 at a confidence of 95%. A portion of claims is paid when the initial stages of claims verification are successful. The stage of claim fulfillment is the first step taken to assess claims to verify whether service providers are credentialed to provide services, the number of claims, and the amount to be paid. According to Sordzi-Tettey et al., when claims pass this level, a portion of the amount due to service providers is supposed to be paid following an application for advance payment then, after vetting deduction may be applied when indicated (Sordzi-Tettey et al., 2012).

Once a portion of the amount is paid, a commitment is established between the scheme and the service provider. Following a successful vetting, payment is recommended, and claims reimbursement is supposed to be paid as soon as funds are available. However, the relationship between payment of a portion of claims and payment of the complete claims is not statistically significant. Paying a portion of the claims does not mean complete payment will be done.

From the results of this study, a unit increase in dissatisfied service providers' appeal to the Adjudication Committee established by NHIA will lead to a 0.298 increase in payment of claims.

**Table 6.** Regression Coefficients for Payment of NHIS Claims Submitted

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | T | Sig. |
| 1 | (Constant) | .784 | .420 | | 1.867 | .064 |
| | Claims submitted to NHIS | -.044 | .086 | -.042 | -.509 | .612 |
| | NHIS rejects Erroneous and fraudulent Claims | .200 | .078 | .209 | 2.579 | .011 |
| | Corrected claims are resubmitted for payment | .098 | .071 | .110 | 1.381 | .169 |
| | Claims are submitted per NHIA directives | .056 | .080 | .058 | .706 | .481 |
| | NHIA pays a portion of claims submitted | .099 | .079 | .093 | 1.241 | .217 |
| | Dissatisfied service providers appeal to NHIA | .298 | .078 | .289 | 3.805 | .000 |
| | MOH intervenes in matters relating to payments of claims | .103 | .082 | .093 | 1.257 | .211 |

a. Dependent Variable: Payment is made through the following: fee for service; diagnostic-related groupings; capitation; and others
P< 0.05

The Adjudicating Committee is a seven-member committee whose chairperson should be a justice of the Superior Court of Judicature and a representative from the agencies under the Ministry of Health. Their objective is to give a hearing and a ruling based on complaints lodged by a member or a service provider under the scheme. This will compel the parties involved to implement recommendations based on the ruling of the presented evidence. The effects of appealing to the Adjudication Committee by dissatisfied service providers and payment of claims were significant a p-value of 0.000 < 0.05. When service providers appeal to the Adjudicating Committee, their ruling impacts the appropriate payment of claims. Even though this approach is effective in securing payment for services rendered to subscribers of NHIS, the process could still be time-consuming and expensive and is a disincentive for many service providers.

Intervention by the Minister of Health in matters relating to the payment of claims was found to positively influence the payment of claims by 0.103 with a unit increase. However, it was not statistically significant. This means the minister's intervention is unpredictable. Even if it has an influence, it is not a strong influence.

## 4. Conclusion

This paper underscores the intricate interplay between health insurance claims payment and the financial sustainability of healthcare providers. Stakeholders can potentially enhance their mutual interests by addressing efficiency, reimbursement negotiations, and regulatory impacts, ultimately leading to improved healthcare outcomes. Potential implications include developing policies that promote timely claims processing, fair reimbursement practices, and streamlined regulatory requirements. Furthermore, insurers and service providers should implement financial management and operational practices for effective claims submission, robust revenue cycle

management, and cost-containment strategies. Finally, insurance companies are encouraged to support collaborative models that prioritize service providers' financial health.

Future research could be carried out to unravel other factors influencing NHIS Claims payment to inform policy direction and improve the healthcare delivery systems.

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