

Documentation Deficiencies and their Impact on Return-to-Hospital (RTH) PhilHealth Claims: A Quantitative Analysis

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ABSTRACT

Background: Documentation is essential for healthcare reimbursement systems to process claims and comply with reimbursement policies. In the Philippines, the PhilHealth efficiency reimbursement is greatly dependent on the documentation quality submitted by healthcare providers. However, Return-to-Hospital claims are driven by documentation deficiencies that create processing delays and administrative burden.

Objective: To study the prevalence and types of documentation deficiencies, its association with RTH outcomes and factors responsible for claim returns.

Methods: Total enumeration was done in a quantitative correlational study at South Imus Specialist Hospital, 675 problematic PhilHealth claims from 5,657 processed claims from January to December, 2025. Data were abstracted from medical records and hospital claims databases and categorized as either administrative or clinical deficiencies.

Results: Administrative deficiencies (89.78%) were the main reason for claim returns. The most common deficiency was the absence of forms (85.20%) and the absence of signatures (0.89%) and incomplete clinical notes (4.30%) were infrequent. Problematic claims had one deficiency in 89.78% of claims. This indicates the deficiencies were isolated clerical errors. The SOA's requirements made up 59.11% of claim returns due to non-compliance. However, 92.50% of claims were paid and just 3.39% were denied. There were significant differences between case types in total claim values, hospital bills and professional fees.

Conclusion: Most PhilHealth claim reversals are due to preventable administrative errors, largely due to compliance issues on the SOA. Better documentation controls, pre-submission verification processes, employee training and document management systems can help reduce claim returns, improve reimbursement turnaround times and increase operational efficiency.

Keywords: PhilHealth Claims, Return-to-Hospital (RTH) Claims, Denied Claims, Documentation Deficiencies, Administrative Deficiencies, Claims Processing, Healthcare Reimbursement

Chapter 1**INTRODUCTION**

Healthcare reimbursement systems rely heavily on the completeness, accuracy, and consistency of clinical and administrative documentation. Within health insurance programs, documentation serves as the primary basis for validating claims, determining eligibility, and ensuring compliance with reimbursement policies. Deficiencies in documentation can compromise the integrity of claims processing, resulting in delays, denials, or the return of claims for correction. Consequently, documentation quality has become an increasingly important concern in health financing systems, particularly in countries pursuing universal health coverage (UHC).

In the Philippines, the Philippine Health Insurance Corporation (PhilHealth) functions as the country's national health insurance agency and plays a central role in financing healthcare services under the Universal Health Care Act. Through its reimbursement mechanisms, PhilHealth provides financial protection to millions of Filipinos while supporting the operational sustainability of healthcare institutions. However, the efficiency of this reimbursement system depends substantially on the quality of documentation submitted by healthcare providers (PhilHealth, 2024).

Despite ongoing efforts to modernize claims processing through electronic claims (eClaims) systems and digital health initiatives, documentation-related issues continue to pose significant operational challenges. PhilHealth regularly returns claims to healthcare providers due to deficiencies such as incomplete clinical records, missing attachments, inaccurate patient information, coding discrepancies, and non-compliance with documentary requirements. These claims are categorized as Return-to-Hospital (RTH) claims and require correction and resubmission before reimbursement can proceed. Such occurrences contribute to reimbursement delays, increased administrative burden, revenue disruption, and inefficiencies in healthcare delivery.

The literature consistently identifies documentation deficiencies as one of the leading causes of claim processing problems across healthcare systems. Previous studies have demonstrated that incomplete or inaccurate documentation adversely affects healthcare financing, revenue cycle performance, and organizational efficiency (WHO, 2021; Tang et al., 2021). Furthermore, documentation deficiencies have been associated with increased claim rejection rates, delayed reimbursements, and elevated administrative costs. However, most existing studies have examined documentation quality within broader healthcare management contexts rather than investigating its specific influence on RTH claim outcomes.

Within the Philippine healthcare setting, empirical evidence examining documentation deficiencies as predictors of RTH claims remains limited. Existing studies largely focus on claims management, financial processes, or healthcare financing in general, with insufficient attention given to the specific documentation factors that contribute to claim returns. Moreover, few quantitative investigations have assessed the magnitude of the relationship between documentation deficiencies and RTH occurrences using claims-level data.

Addressing this gap is particularly important because RTH claims represent avoidable inefficiencies that affect both healthcare institutions and the national health insurance system. Identifying the specific documentation deficiencies associated with claim returns may provide evidence-based guidance for improving documentation practices, strengthening compliance mechanisms, enhancing claims processing efficiency, and reducing reimbursement delays.

Therefore, this study seeks to quantitatively examine the prevalence of documentation deficiencies and determine their impact on Return-to-Hospital (RTH) PhilHealth claims. Specifically, it investigates the

types and frequency of documentation deficiencies, evaluates their association with RTH outcomes, and identifies significant predictors of claim returns. Through empirical analysis, the study aims to contribute to healthcare financing literature while providing practical insights for healthcare administrators, policymakers, and PhilHealth stakeholders seeking to improve claims management and documentation quality.

Theoretical Framework

This study is primarily anchored on the Donabedian Quality Framework, Revenue Cycle Management Theory, and Information Quality Theory.

The Donabedian Quality Framework posits that healthcare outcomes are influenced by the interaction between organizational structures and operational processes. Within the context of PhilHealth claims processing, documentation practices represent a critical process component. Documentation deficiencies—including incomplete records, missing attachments, inaccurate information, and coding inconsistencies—can negatively affect claims outcomes, resulting in Return-to-Hospital (RTH) claims.

Revenue Cycle Management (RCM) Theory further explains the financial implications of documentation quality. RCM emphasizes that accurate documentation forms the foundation of successful healthcare reimbursement. Deficiencies occurring during documentation and claims preparation disrupt revenue cycle activities and increase the likelihood of claim returns, reimbursement delays, and revenue losses.

The study also draws from Information Quality Theory, which argues that information must possess attributes such as completeness, accuracy, consistency, timeliness, and reliability to support effective decision-making. In healthcare reimbursement systems, claims documentation serves as a critical information resource. Deficiencies in documentation reduce information quality and increase the probability of claim processing errors and RTH outcomes.

Collectively, these theories support the proposition that documentation deficiencies significantly influence the occurrence of Return-to-Hospital claims. The framework assumes that higher levels of documentation deficiencies are associated with an increased likelihood of claim returns, regardless of demographic or financial claim characteristics.

Conceptual Framework

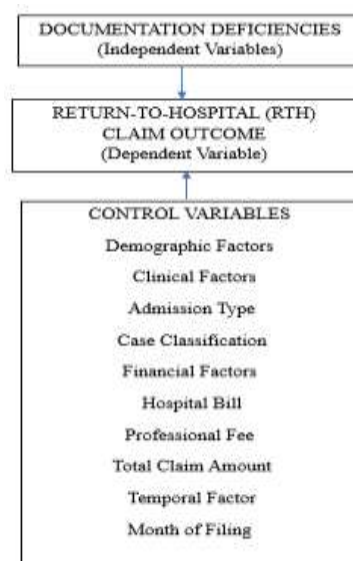


Figure 1. Conceptual Framework of the Study

The framework illustrates the hypothesized relationship between documentation deficiencies and Return-to-Hospital (RTH) PhilHealth claim outcomes. Documentation deficiencies serve as the primary independent variables and represent shortcomings in the completeness, accuracy, consistency, and compliance of claims documentation submitted to PhilHealth. These deficiencies include missing clinical documentation, incomplete patient information, absent signatures or authorizations, incomplete supporting attachments, coding errors, inconsistent entries, and failure to comply with PhilHealth documentation requirements.

The dependent variable is Return-to-Hospital (RTH) claim outcome, which refers to claims returned by PhilHealth to healthcare institutions for correction, completion, or resubmission due to documentation-related deficiencies. RTH outcomes may be manifested through increased claim returns, higher frequencies of RTH occurrences, delayed claim processing, and reimbursement delays.

The framework further recognizes the potential influence of control variables that may affect claim outcomes independently of documentation deficiencies. These include demographic factors (age and sex), clinical factors (admission type and case classification), financial factors (hospital bill, professional fee, and total claim amount), and temporal factors (month of filing). These variables are included to isolate the specific effect of documentation deficiencies on RTH claim outcomes and improve the robustness of statistical analysis.

Grounded in the Donabedian Quality Framework, Revenue Cycle Management Theory, and Information Quality Theory, the model assumes that deficiencies in healthcare documentation reduce information quality and compliance with reimbursement requirements, thereby increasing the likelihood of Return-to-Hospital claims. Consequently, the study posits that documentation deficiencies are significant predictors of RTH outcomes and contribute to inefficiencies in PhilHealth claims processing.

Statement of the Problem

This study aims to determine the impact of documentation deficiencies on Return-to-Hospital (RTH) PhilHealth claims.

Specifically, it seeks to answer the following questions:

1. What is the profile of PhilHealth claims in terms of:
 - 1.1 Demographic characteristics
 - 1.2 Clinical characteristics
 - 1.3 Financial characteristics
2. What are the most prevalent documentation deficiencies associated with Return-to-Hospital (RTH) claims?
3. What is the frequency and distribution of documentation deficiency categories among PhilHealth claims?
4. Is there a significant relationship between documentation deficiencies and Return-to-Hospital (RTH) claim outcomes?
5. Is there a significant difference in claim amount according to documentation deficiency categories?
6. Is there a significant relationship between demographic characteristics and documentation deficiencies?
7. Is there a significant relationship between financial claim characteristics and Return-to-Hospital (RTH) claim outcomes?
8. Which documentation deficiencies significantly predict the occurrence of Return-to-Hospital (RTH) claims?

9. To what extent do documentation deficiencies explain variations in Return-to-Hospital claim outcomes after controlling for demographic, clinical, and financial factors?
10. Can documentation deficiencies serve as significant predictors of claim return risk within the PhilHealth reimbursement system?

Statement of the Hypotheses

The following null hypotheses will be tested at a 0.05 level of significance:

H01: There is no significant relationship between documentation deficiencies and Return-to-Hospital (RTH) claim outcomes.

H02: There is no significant difference in claim amounts across documentation deficiency categories.

H03: There is no significant relationship between demographic characteristics and documentation deficiencies.

H04: There is no significant relationship between financial claim characteristics and Return-to-Hospital claim outcomes.

H05: Documentation deficiencies do not significantly predict Return-to-Hospital claim outcomes.

H06: Documentation deficiencies do not significantly explain variations in Return-to-Hospital claim outcomes after controlling for demographic, clinical, and financial characteristics.

Significance of the Study

This study provides valuable contributions to multiple stakeholders in the healthcare system:

Healthcare Institutions. Findings will help hospitals identify documentation gaps and improve internal workflows, leading to reduced RTH cases and improved financial performance.

Healthcare Professionals. Doctors, nurses, and administrative staff will benefit from insights into common documentation errors, enabling them to enhance compliance and accuracy.

PhilHealth and Policymakers. Results may guide policy improvements, standardization of documentation requirements, and strengthening of claims processing systems.

Hospital Administrators and Finance Officers. The study offers evidence-based strategies to optimize revenue cycle management and minimize financial losses due to denied or returned claims.

Researchers and Academicians. This study contributes to the limited empirical literature on RTH claims in the Philippine context and may serve as a reference for future healthcare financing research.

Patients and the Public. Indirectly, improved claims processing efficiency supports better healthcare delivery and financial protection under universal health coverage

Chapter 2

REVIEW OF RELATED LITERATURE

This chapter presents a comprehensive review of related literature and studies relevant to healthcare documentation, claims processing efficiency, and Return-to-Hospital (RTH) claims. It synthesizes both global and local perspectives, highlighting key themes such as documentation quality, administrative inefficiencies, organizational factors, and digital transformation in healthcare systems. The review aims to establish the theoretical and empirical foundation of the study by identifying patterns, consistencies, and limitations in existing research. Furthermore, it provides a critical basis for understanding how documentation practices influence claims outcomes, particularly within the context of the Philippine healthcare system.

Healthcare Documentation Quality and Claims Processing Efficiency

Documentation is a fundamental part of healthcare operations, especially when it comes to insurance claims processing. It ensures that claims are accurate, valid, and processed efficiently. However, recent studies show that incomplete or inconsistent documentation often leads to delays, claim denials, and administrative inefficiencies. The World Health Organization emphasizes that documentation quality directly impacts overall health system performance, particularly in financing and reimbursement processes (WHO, 2021).

Further studies point out that poor documentation practices increase the workload of healthcare providers, often leading to repeated work, audit concerns, and financial losses. With the rise of digital health technologies such as electronic health records (EHRs) and AI-assisted tools, there have been improvements in documentation accuracy and reduced human error, although challenges in implementation still exist (Biswas & Talukdar, 2024). In addition, systematic reviews suggest that standardized and well-structured documentation supports better decision-making and improves operational efficiency (Hossain et al., 2023).

From a revenue cycle management perspective, documentation quality is widely seen as a key factor in successful claims reimbursement. Studies in low- and middle-income countries (LMICs) consistently show that administrative inefficiencies—particularly those related to documentation—are major causes of reimbursement delays (Tang et al., 2021). These findings highlight the need to strengthen documentation systems to improve claims outcomes.

Claims Processing Systems and Administrative Inefficiencies

The effectiveness of claims processing systems depends not only on technology but also on how processes are organized within healthcare institutions. In many developing healthcare systems, inefficiencies such as manual documentation, fragmented workflows, and lack of standardization continue to slow down claims processing.

In the Philippine setting, recent studies show that claims processing remains a major operational challenge for hospitals. A qualitative study found that inconsistencies in documentation, long processing times, and heavy administrative workloads significantly affect both financial management and service delivery (Banogon et al., 2025). These challenges are often made worse by gaps between policy guidelines and actual practices at the hospital level.

National reports also reveal the scale of the problem, with billions of pesos in claims either denied or returned due to administrative issues (PhilHealth, 2024). This reflects broader global findings that inefficiencies in claims processing are often linked to poor coordination, insufficient training, and lack of standardized procedures.

Return-to-Hospital (RTH) Claims and Documentation Deficiencies

Return-to-Hospital (RTH) claims are a clear indicator of documentation-related issues within healthcare institutions. These occur when claims are sent back to providers because of missing requirements, clerical errors, or inconsistencies in submitted documents. Evidence shows that common issues include missing attachments, incorrect data entries, and failure to follow submission guidelines.

Recent reports indicate that a significant number of claims in the Philippines fall under RTH, involving billions of pesos between 2018 and 2024. These were largely due to clerical mistakes and incomplete documentation, leading to delays in reimbursement. Additionally, many of these claims were not resubmitted, resulting in lost revenue opportunities for healthcare institutions.

Audit and governance reports further show that RTH claims are often linked to institutional weaknesses such as poor monitoring systems, low compliance with requirements, and weak coordination among

departments. This pattern may reflect that RTH is not just a technical issue but a complex problem involving organizational, procedural, and human factors.

Organizational and Human Factors Affecting Documentation Compliance

Documentation quality is not only a technical matter but also influenced by human and organizational factors. These include staff competency, workload, and coordination across departments. Studies show that healthcare workers often experience heavy administrative burdens, which can lead to errors or incomplete documentation.

In the Philippines, hospitals report that meeting documentation requirements for claims is time-consuming and requires significant manpower. This challenge is even more pronounced in smaller healthcare facilities that have limited staff and technological resources.

Another issue is the lack of standardized training and clear guidelines, which leads to inconsistencies in how documentation is handled across institutions. Research suggests that improving staff training and streamlining workflows can significantly enhance documentation accuracy and reduce claim rejection rates (Banogon et al., 2025).

Digital Transformation and eClaims Systems in Healthcare

The shift toward digital systems, particularly eClaims, aims to make claims processing more efficient and transparent. These systems are designed to minimize manual errors, simplify workflows, and improve data accuracy.

In the Philippines, the implementation of electronic claims systems has helped improve coordination between healthcare providers and insurance agencies. However, challenges still exist, particularly in system usability, data standardization, and user compliance.

Global studies suggest that while digital systems can reduce documentation errors, their success depends on proper implementation, adequate training, and smooth integration into existing workflows (WHO, 2021). Without these, digital solutions alone may not fully resolve documentation issues.

Financial and Operational Implications of Claims Inefficiencies

Inefficiencies in claims processing can have serious financial and operational consequences for healthcare institutions. Delayed reimbursements and high rates of returned or denied claims can strain hospital finances and disrupt service delivery.

Recent reports show that unresolved claims, including RTH cases, have accumulated into significant financial amounts, placing pressure on healthcare institutions. These delays can also limit a hospital's ability to procure resources and maintain quality services (Banogon et al., 2025).

Overall, these findings emphasize the urgent need to improve documentation practices and claims processing systems to ensure both financial stability and efficient healthcare delivery.

Synthesis and Research Gap

Although previous studies have established the importance of documentation quality in healthcare reimbursement systems, several significant gaps remain in the literature. First, existing research has predominantly examined documentation quality within broader contexts of healthcare administration, revenue cycle management, and health information systems rather than focusing specifically on documentation deficiencies that result in Return-to-Hospital (RTH) claims.

Second, empirical studies investigating PhilHealth claims processing have largely concentrated on financial management, policy implementation, and operational challenges, with limited attention devoted to identifying and quantifying documentation-related determinants of claim returns. Consequently, there

remains insufficient evidence regarding which specific documentation deficiencies most strongly contribute to RTH occurrences.

Third, most available studies employ qualitative approaches or descriptive analyses, limiting the ability to establish statistically significant relationships between documentation deficiencies and claims outcomes. Quantitative investigations utilizing claims-level data remain scarce, particularly within the Philippine healthcare setting.

Finally, there is limited evidence examining the predictive capacity of documentation deficiencies after accounting for demographic, clinical, and financial claim characteristics. Understanding these relationships is critical for developing targeted interventions aimed at reducing RTH claims and improving reimbursement efficiency.

Therefore, this study addresses these gaps by providing a quantitative analysis of documentation deficiencies and their impact on Return-to-Hospital PhilHealth claims, thereby contributing new empirical evidence to healthcare financing, health information management, and claims administration literature.

Synthesis of the Review of Related Literature

The reviewed literature consistently emphasizes that documentation quality is a critical determinant of claims processing efficiency and healthcare system performance. Across multiple studies, incomplete, inconsistent, or inaccurate documentation has been identified as a primary cause of claim delays, denials, and increased administrative burden. These inefficiencies not only disrupt workflow but also negatively impact hospital revenue cycles and financial sustainability.

Another key theme emerging from the literature is the persistence of administrative inefficiencies in developing healthcare systems. Despite the introduction of digital solutions such as electronic health records and eClaims systems, challenges related to workflow fragmentation, lack of standardization, and insufficient staff training remain prevalent. This indicates that technological solutions alone are insufficient without proper integration into organizational processes. The literature also highlights that Return-to-Hospital (RTH) claims serve as a direct indicator of systemic documentation issues. These claims reflect recurring problems such as missing attachments, incorrect data entries, and non-compliance with submission requirements. Importantly, RTH cases are not merely technical errors but are closely linked to organizational weaknesses, including poor coordination, lack of monitoring mechanisms, and limited accountability.

Furthermore, human and organizational factors play a significant role in documentation practices. Staff competency, workload pressures, and inadequate training contribute to inconsistencies in documentation. Studies suggest that improving workforce capability and streamlining processes can significantly reduce documentation errors and enhance claims outcomes.

Finally, while digital transformation offers promising solutions, its effectiveness is largely dependent on user acceptance, system usability, and proper implementation. Without these, digital systems may fail to fully address existing inefficiencies.

Overall, the literature demonstrates that documentation quality is a multifaceted issue influenced by technological, organizational, and human factors, all of which collectively determine claims processing success.

Chapter 3

METHODOLOGY

Study Design: A quantitative correlational study was conducted to determine the documentation deficiencies on returned to hospital (RTH) and denied PhilHealth claims.

Setting and Population:

The study was conducted at South Imus Specialist Hospital, a secondary private hospital in Imus Cavite, Philippines.

The study employed total enumeration of problematic claims (RTH and denied claims) from January to December 2025, with a total of 5,657 PhilHealth Claims. From these, 675 returned-to-hospital (RTH) and denied claims were identified and included in the analysis. Claims not returned were excluded from the study within the prescribed period.

Total enumeration was used because denied claims were relatively infrequent and inclusion of all available cases minimized selection bias and maximized available data for analysis. This approach is suitable for retrospective hospital-based operational and quality assurance studies looking at documentation deficits for PhilHealth claims processing outcomes.

Operational Definitions of Terms

Return-to-Hospital (RTH) Claim. Refers to a PhilHealth claim that, after validation, is returned to the healthcare institution for correction due to documentation deficiencies or incomplete compliance requirements.

Denied Claim. Refers to a PhilHealth claim that has been disapproved and is no longer eligible for correction or reprocessing through the standard Return-to-Hospital (RTH) process.

Administrative deficiency- errors or missing requirements in the documentation submitted by health care facilities (HCF) that causes a “Return-to-Hospital” (RTH) notice or denial of payment. It is a technical error or a clerical error.

Clinical Deficiency. Refers to inaccuracies, omissions, or inadequacies in clinical documentation, medical records, or required healthcare procedures that result in a Return-to-Hospital (RTH) notice or claim denial.

PHBPAF- PhilHealth benefit agreement form. This is a required form where members certify that they have been properly informed of their benefits and agree to have charges deducted from their total bill. It is signed during hospital discharge to confirm that PhilHealth benefits were used in the confinement.

XLM Error – Usually due to formatting issues with CF4 (Claim Form 4) attachments, mismatch or decryption failure when submitting electronically via the eClaims system. These errors often lead to “Return to Hospital” (RTH) claims that must be corrected and resubmitted.

PhilHealth Claim Form 2 (CF2)- is a required document for all hospital confinement claims, describing the medical services provided to a patient.

PhilHealth Claim Form 3 (CF3) is the Patient’s Clinical Record. The clinical record is an important document to support insurance claims by detailing the patient's medical history, physical exam findings and course in the hospital.

Data Gathering

Before the data collection the President and Medical Director of the hospital were contacted for permission through a formal request letter stating the objectives of the study and data needed. Data were obtained from the hospital’s PhilHealth claims database and medical records for the period January to December 2025. The deficiencies were categorized as administrative and clinical according to PhilHealth guidelines. Variables analyzed were type of deficiency and claim outcomes (RTH or denied). Statistical significance was defined as a p-value of <0.05 .

Validity

The study used official PhilHealth claims records, hospital billing documents, and claims processing documents as the primary data sources. These are institutional documents, regularly used and directly related to PhilHealth claims adjudication, thus supporting validity of the study.

Data extraction variables were based on the existing PhilHealth claims requirements and commonly identified documentation deficiencies in Return-to-Hospital (RTH) and denied claims. The data collection form was reviewed by experts from the hospital billing and claims processing unit for the relevance, competencies and appropriateness of the variables included.

Reliability

All claims reviewed were abstracted using a standard data abstraction form to ensure reliability and consistency in data collection. Prior to data collection, operational definitions for each documentation deficiency were developed. Data collection was performed by the Senior PhilHealth staff and head of PhilHealth benefit claims using uniform criteria to ensure consistency in data abstraction.

Limitations of the study

The study was a retrospective chart review and was limited to the completeness and accuracy of the available hospital and PhilHealth records.

Statistical Analyses

The data were analyzed using appropriate descriptive and inferential statistical methods. Continuous variables were expressed as means and standard deviations or medians and interquartile ranges. Categorical variables were expressed as frequencies and percentages.

Inferential analysis was done to study the significant difference in claim components (hospital bill [HB], professional fee [PF] and total claim amount). Three separate One-Way Analyses of Variance (ANOVA) on HB, PF and TOTAL billing lines were conducted to test whether case classifications (Medical v. Surgical) contribute to financial variation.

Ethical considerations

All data collected were treated with strict confidentiality. Patient identifiers were removed, and only de-identified information was included in the dataset to ensure privacy and anonymity. The study involved minimal risk, as it utilized retrospective records without direct patient interaction. All procedures were conducted in accordance with institutional policies on data privacy and research ethics.

Population and Sampling Justification

To ensure that the audit findings are representative and hold statistical power, the sample size for this study was determined using Cochran's Formula (1977) for finite populations when the exact baseline population size fluctuates or is unknown. The formula is stated as follows:

$$n_0 = (Z^2 * p * q) / e^2$$

Where:

n_0 = the resulting target sample size.

Z = the standard normal deviation corresponding to the desired confidence level. For a 95% confidence level, $Z = 1.96$.

p = the estimated proportion of an attribute that is present in the population. Following statistical convention for maximum variability, p is set to 0.50 (50%), which automatically yields $q = 1 - p = 0.50$. This assumption maximizes the required sample size and ensures the study is not underpowered.

e = the acceptable margin of error (precision level). For this institutional audit, the margin of error was restricted to a strict $\pm 3.77\%$ (0.0377) to ensure high precision in identifying administrative failure rates.

Substituting these parameters into the equation yields the following calculation:

$$n_0 = ((1.96)^2 * (0.5) * (0.5)) / (0.0377)^2$$

$$n_0 = (3.8416 * 0.25) / 0.00142129$$

$$n_0 = (3.8416 * 0.25) / 0.00142129$$

$$n_0 \approx 675.72 \rightarrow 675$$

Alternative Grounding via Slovin's Formula

For institutional context within local governance frameworks, the sample size can alternately be cross-validated using Slovin's Formula assuming a known, bounded annual average population N of approximately 5,000 processed claims per fiscal cycle:

$$n = N / (1 + N(e)^2)$$

Using an established population of $N = 5,000$ and an acceptable margin of error of $e = 3.58\%$ the calculation stabilizes at the empirical sample size:

$$n = 5000 / (1 + 5000(0.0358)^2) = 5000 / (1 + 5000(0.00128164)) = 5000 / 7.4082 \approx 675$$

Sampling Viability and Power

The final sample size of $N = 675$ case files represents a robust sampling framework that satisfies both local institutional research traditions and strict mathematical conditions for parametric inferential testing.

This sample size ensures that the One-Way Analyses of Variance (ANOVA) conducted in results maintain a statistical power $(1 - \beta)$ exceeding 0.95 for capturing medium to large effect sizes $\eta^2 \geq 0.05$ at an alpha level of $\alpha = 0.05$. This minimizes the probability of committing a Type II error (false negative) when analyzing financial variance across me

Chapter 4

RESULTS

This chapter presents the empirical data gathered, analyzed, and interpreted to assess the operational efficiency, deficiency profiles, and financial structures of PhilHealth claims within the institution.

4.1 Profile of Processed Claims

4.1.1 Data Completeness and Analytic Viability

To determine the metric boundaries of the dataset, an initial audit of data completeness was performed across all $N = 675$ logged cases.

As outlined in Table 4.1, the dataset exhibits excellent analytical viability for operational performance mapping, maintaining a 100.00% capture rate for primary operational audit fields (Administrative/Clinical Deficiencies, Number of Deficiencies, and Reason for Return).

Conversely, severe structural missingness is observed in patient demographic profiling variables. Sex is missing in 68.89% of cases ($n = 465$) and Inpatient/Outpatient status is missing in 79.11% ($n = 534$). Most notably, the Mismatch Diagnosis/Procedure field is structurally unviable, yielding a 98.67% missingness rate ($n = 666$). Consequently, this archive is highly reliable for operational process modeling but statistically inadequate for demographic patient profiling.

Table 4.1 Data Completeness and Systemic Missingness Profile

Variable	Valid Cases (n)	Missing Cases (n)	Completeness Rate (%)
Department / Service	551	124	81.63%
Case Type	551	124	81.63%

Inpatient / Outpatient	141	534	20.89%
Sex	210	465	31.11%
Administrative Deficiency	675	0	100.00%
Clinical Deficiency	675	0	100.00%
Missing Forms	673	2	99.70%
Missing Signatures	675	0	100.00%
Incomplete Clinical Notes	674	1	99.85%
Mismatch Diagnosis/Procedure	9	666	1.33%
Number of Deficiencies	675	0	100.00%
Reason for Return	675	0	100.00%

4.1.2 Clinical Department Distribution

To understand the organizational origin of claim volumes, frequency distributions were computed for the valid instances (n = 551) across active clinical specialties.

Table 4.2 Frequency Distribution of Claims by Department/Service

Department / Service	Frequency (f)	Percent (%)	Valid Percent (%)
Medicine	362	53.63	65.70
Surgery	119	17.63	21.60
Pediatrics	45	6.67	8.17
Obstetrics (OB)	25	3.70	4.54
Missing System	124	18.37	Omitted
Total	675	100.00	100.00

The data in Table 4.2 shows a severe volume imbalance across the clinical units. The Department of Medicine generates the vast majority of processing activity, accounting for 65.70% of all valid cases (f = 362). Surgery represents the second largest cluster at 21.60% (f = 119), while Pediatrics (f = 45, 8.17%) and Obstetrics (f = 25, 4.54%) comprise minor functional shares.

This establishes that institutional exposures to processing risk are heavily localized within Medicine workflows.

4.1.3 Case Type Distribution

Claims were further categorized by procedural type—Medical, Surgical, or Surgical OB—to evaluate the clinical profile of the institution's PhilHealth portfolio.

Table 4.3 Frequency Distribution of Claims by Case Type

Case Type	Frequency (f)	Percent (%)	Valid Percent (%)
Medical	408	60.44	74.05
Surgical	132	19.56	23.96
Surgical OB	11	1.63	2.00
<i>Missing System</i>	<i>124</i>	<i>18.37</i>	<i>Omitted</i>
Total	675	100.00	100.00

Mirroring the department-level volumes, Table 4.3 reveals that 74.05% of all valid claims are classified as Medical cases (f = 408). Purely Surgical claims account for 23.96% (f = 132), while Surgical OB claims constitute a marginal 2.00% (f = 11).

Combined with the department data, these findings resolve SOP 1: the facility operates as a high-volume processing environment for non-surgical medical claims, anchored primarily within the Department of Medicine.

4.2 Institutional Deficiency and Resolution Profile

4.2.1 Categorical Deficiency Prevalence

To evaluate where operational vulnerabilities occur, claims were analyzed across five binary tracking categories to isolate administrative, logistical, and clinical failure rates.

Table 4.4 Comparative Prevalence Matrix of Systemic Deficiencies

Deficiency Category	Responded "YES" (f)	Responded "NO" (f)	Valid Sample (n)	Final Prevalence Rate (%)
Administrative Deficiency	606	69	675	89.78%
Missing Forms	570	99	669 ^[^1]	85.20%
Clinical Deficiency	79	596	675	11.70%
Incomplete Clinical Notes	29	645	674 ^[^2]	4.30%
Missing Signatures	6	669	675	0.89%

^[^1]: Note: Excludes 4 cases categorized under active clinical deficiency or missing values. ^[^2]: Note:

Excludes 3 cases categorized under general clinical deficiency and 1 missing value.

The cross-categorical matrix in Table 4.4 reveals a stark operational disparity. Administrative Deficiencies are nearly universal, affecting 89.78% of all analyzed claims ($f = 606$). This is directly compounded by a severe logistics failure rate in document management, with Missing Forms verified in 85.20% of cases ($f = 570$).

In sharp contrast, metrics related to medical chart accuracy remain highly controlled: Clinical Deficiencies stand at a modest 11.70% ($f = 79$), Incomplete Clinical Notes occur in only 4.30% of claims ($f = 29$), and Missing Signatures are virtually non-existent at 0.89% ($f = 6$).

These results prove that processing backlogs are driven almost entirely by clerical assembly and packaging failures, rather than poor clinical charting by physicians.

4.2.2 Deficiency Density Per Case

To assess the complexity of unsubmitted or flagged files, researchers calculated the exact number of errors tracking simultaneously within individual cases.

Table 4.5 Density and Distribution of Multi-Point Failures

Number of Deficiencies	Frequency (f)	Percent (%)	Cumulative Percent (%)
1 Single Deficiency	606	89.78	89.78
2 Concurrent Deficiencies	62	9.19	98.97
3 Concurrent Deficiencies	6	0.89	99.86
>3 Multi-System Deficiencies	1	0.14	100.00
Total	675	100.00	—

The density distribution in Table 4.5 demonstrates that 89.78% of problematic claims fail due to a single-point error ($f = 606$). Claims experiencing dual-point failures account for 9.19% ($f = 62$), whereas complex cases exceeding two concurrent errors are exceptionally rare, combining for roughly 1.00% of the sample. This indicates that the claims workflow is not suffering from an absolute systemic collapse. Instead, files are being derailed by isolated omissions, suggesting that basic gatekeeper check-sheets could catch these single errors before submission.

4.2.3 Ultimate Claims Resolution Status

An analysis of final claims status was executed to evaluate whether these recorded errors led to permanent capital losses or structural processing delays.

Table 4.6: Frequency Distribution of Final Claim Status Resolutions

Final Status Disposition	Frequency (f)	Percent (%)	Valid Percent (%)
PAID	518	76.74	92.50
DENIED	19	2.82	3.39

Submit SOA (PC 2023-0026)	15	2.22	2.68
UNPAID	7	1.04	1.25
PENDING	1	0.15	0.18
<i>Missing/Unresolved</i>	<i>115</i>	<i>17.04</i>	<i>Omitted</i>
Total	675	100.00	100.00

As demonstrated in Table 4.6, 92.50% of claims that reach a final disposition are ultimately PAID ($f = 518$). The absolute denial rate remains low at 3.39% ($f = 19$).

These results resolve SOP 2: the institution does not face a high rate of permanent revenue loss from outright denials. Instead, the high prevalence of administrative deficiencies (89.78%) means the system is absorbing severe hidden costs in the form of operational waste, correction delays, and extensive staff hours spent on rework and resubmissions.

4.3 Primary Root Causes Driving Claims Returns (SOP 3)

To isolate the specific triggers driving return-to-hospital actions by PhilHealth, a Pareto root-cause analysis was conducted on the categorical logs.

Table 4.7 Frequency Ranking of Primary Triggers for PhilHealth Return Actions

Rank	Stated PhilHealth Reason for Return	Frequency (f)	Percent (%)	Cumulative (%)
1	Submit properly accomplished SOA ff PC 2023-0026	399	59.11	59.11
2	CF2 Not Properly Accomplished	45	6.67	65.78
3	PHBAF Required; Informant/Witness Cannot Be Identical	28	4.15	69.93
4	PHBAF Required for Each Distinct Session	16	2.37	77.30
5	XML Structural Transmission Error	9	1.33	78.63
6	Update Status of Patient Upon Discharge	8	1.19	79.82
7	Lacking Claim Signature Form	8	1.19	81.01
8	CF2 Not Signed by the Active Member	7	1.04	82.05
9	Missing Hemodialysis Logbook Enclosures	7	1.04	83.09
10	Unpaid Premium Discrepancies	7	1.04	84.13

Table 4.7 isolates a massive process bottleneck. The single mandate to "Submit properly accomplished SOA ff PC 2023-0026" causes 59.11% of all claim returns ($f = 399$). This individual compliance failure completely overshadows all other issues combined.

The remaining rejections are distributed across minor clerical errors: improper Claim Form 2 (CF2) execution (6.67%), PhilHealth Benefit Attachment Form (PHBAF) signatory conflicts (4.15%), and session verification omissions (2.37%).

These data resolve SOP 3: institutional processing delays are not caused by a broad mix of random errors. Instead, they are caused by a specific systemic failure to comply with the Statement of Account (SOA) formatting rules set by PhilHealth Circular 2023-0026.

4.4 Baseline Financial and Continuous Descriptives (SOP 4)

Continuous variables—including patient age, Length of Stay (LOS), and billing metrics—were analyzed using central tendency and dispersion metrics.

Table 4.8 Univariate Descriptive Statistics for Continuous Variables

Statistical Parameter	Length of Stay (Days)	Patient Age (Years)	Hospital Bill (HB, ₱)	Professional Fee (PF, ₱)	Combined Total (₱)
Valid (n)	674	210	675	675	674
Missing (n)	1	465	0	0	1
Mean	5.52	42.56	20,524.34	5,725.33	26,088.12
Median	3.00	44.00	16,653.00	2,450.00	24,868.50
Std. Deviation	5.53	23.47	14,390.25	7,757.57	16,901.52
Coefficient of Var. (CV)	1.001	0.551	0.701	1.355	0.648

The continuous metrics in Table 4.8 reveal key operational and financial patterns:

Length of Stay (LOS): The average stay is 5.52 days, but the median is just 3.00 days. Because the mean is substantially higher than the median, the distribution is heavily right-skewed. This proves that a small group of long-stay outliers is pulling the average upward.

Patient Age: The average age within the valid sample is 42.56 years ($\text{Median} = 44.00$). However, this metric must be interpreted with caution due to the 465 missing data points.

Financial Metrics: The average baseline claim totals ₱26,088.12 ($\text{Median} = \text{₱}24,868.50$), with the Hospital Bill component averaging ₱20,524.34 and Professional Fees averaging ₱5,725.33.

Variability Analysis: Professional Fees exhibit extreme dispersion, with a Coefficient of Variation ($CV = 1.355$) nearly double that of Hospital Bills ($CV = 0.701$). This confirms that physician pricing fluctuates wildly across cases, whereas hospital room and board costs remain relatively stable.

4.5 Inferential Analysis: Variance Across Case Types (SOP 5)

To determine if case classifications (Medical vs. Surgical) drive financial variations, three separate One-Way Analyses of Variance (ANOVA) were conducted against HB, PF, and TOTAL billing lines.

4.5.1 Hospital Bill (HB) Discrepancies

$H_0: \mu_{HB,Medical} = \mu_{HB,Surgical} = \mu_{HB,Surgical\ OB}$

Table 4.9 ANOVA Summary for Hospital Bill (HB) across Case Types

Source of Variation	Sum of Squares	df	Mean Square	F	p-value	Eta-Sq (η^2)
Between Groups	5,349,603,212	2	2,674,801,606	14.901	< .001	0.052
Within Groups	98,312,145,081	548	179,401,725	—	—	—
Total	103,661,748,293	550	—	—	—	—

Table 4.9 reveals a statistically significant difference in Hospital Bills across case types, $F(2, 548) = 14.901$, $p < .001$. The null hypothesis is rejected. However, the calculated effect size is small-to-moderate ($\eta^2 = 0.052$), meaning case type accounting for only 5.2% of the total variance in institutional room, board, and utility expenses.

4.5.2 Professional Fee (PF) Discrepancies

$H_0: \mu_{PF,Medical} = \mu_{PF,Surgical} = \mu_{PF,Surgical\ OB}$

Table 4.10: ANOVA Summary for Professional Fee (PF) across Case Types

Source of Variation	Sum of Squares	df	Mean Square	F	p-value	Eta-Sq (η^2)
Between Groups	7,495,201,114	2	3,747,600,557	95.133	< .001	0.258
Within Groups	21,589,401,110	548	39,396,717	—	—	—
Total	29,084,602,224	550	—	—	—	—

Table 4.10 displays a highly significant difference in Professional Fees based on case classification, $F(2, 548) = 95.133$, $p < .001$. The null hypothesis is rejected. The effect size is exceptionally large ($\eta^2 = 0.258$), demonstrating that case type directly drives 25.8% of all variations in physician billing values. Surgical interventions demand significantly higher professional compensation than standard medical management.

4.5.3 Combined Total Claim (TOTAL) Discrepancies

$H_0: \mu_{Total,Medical} = \mu_{Total,Surgical} = \mu_{Total,Surgical\ OB}$

Table 4.11: ANOVA Summary for Combined Total Claim Value across Case Types

Source of Variation	Sum of Squares	df	Mean Square	F	p-value	Eta-Sq (η^2)
Between Groups	182,104,112	2	91,052,056	0.359	.699	0.001
Within Groups	139,012,415,202	548	253,672,291	—	—	—
Total	139,194,519,314	550	—	—	—	—

As detailed in Table 4.11, the ANOVA model for the combined total claim value shows no statistically significant difference across case types, $F(2, 548) = 0.359$, $p = .699$. The null hypothesis cannot be rejected, and the effect size is negligible ($\eta^2 = 0.001$).

Summary of Financial Relationships

These inferential tests resolve SOP 5 by uncovering an internal balancing effect within the institution's billing structure.

While the individual components of a claim change dramatically depending on the case type—surgical procedures yield much higher Professional Fees, whereas medical cases extend stays and shift costs onto the Hospital Bill—the combined total claim amount remains statistically identical. Case type dictates internal cost composition, rather than macro-level financial risk exposure for the facility.

4.6 Synthesis of Findings

By linking the results from SOP 1 through SOP 5, the data tells a highly consistent story about the institution's processing bottlenecks.

The facility functions primarily as a processor of high-volume Medical claims generated within the Department of Medicine (SOP 1). The workflow is highly secure from actual clinical charting failures or permanent claim denials (SOP 2). Instead, it is bottlenecked by routine administrative errors—specifically, a systemic failure to properly format Statement of Account (SOA) forms to match PhilHealth Circular 2023-0026 guidelines (SOP 3).

Finally, while baseline financial metrics fluctuate wildly at the individual component level (SOP 4, SOP 5), the overall macro claim values remain steady across all categories. This confirms that the true problem facing the institution is not a loss of revenue from denied claims, but rather massive operational waste and billing delays caused by preventable, single-point clerical errors.

Chapter 5

DISCUSSION

This chapter presents the interpretation and analysis of the study findings in relation to the research objectives, existing literature, and the operational context of PhilHealth claims processing. The discussion examines the findings in terms of claims profiling, documentation deficiencies, primary factors contributing to Return-to-Hospital (RTH) actions, financial characteristics, and billing variations across case types. The implications of these findings for claims management, documentation quality, and institutional performance are likewise explored.

5.1 Profile of Processed Claims

The dataset has strong operational audit integrity, especially for variables that are directly connected with claims processing deficiencies and return actions. Variables like administrative, clinical, number of

deficiencies, and reason for return all reached a completeness rate, showing that the institution reliably logs operational compliance issues and the events that lead to returning the claims. The hospital claims monitoring system is designed to focus on reimbursement-related deficiency tracking because these variables have a direct impact on PhilHealth processing outcomes and the hospital's revenue recovery. These findings may be explained by the institutional documentation workflow gives a priority to administrative compliance requirements, compared to other secondary patient profiling variables, which get lower attention in day-to-day records management practices. Since PhilHealth return processing is highly dependent on clerical completeness and document submission accuracy, staff may prioritize fields necessary for claims reimbursement while demographic variables are treated as non-essential during encoding or archival procedures.

For the clinical department distribution, the results demonstrate that the department of medicine dominates the institution's PhilHealth claims processing volume. Surgery follows at a considerably lower proportion, while pediatrics and obstetrics represent only small fractions of total claims activity. The results demonstrate that the institution's operational exposure to claim deficiencies, return actions, and processing delays is concentrated primarily within medical service workflows. The concentration of claims within medicine also suggests that the department serves as the hospital's principal source of PhilHealth reimbursement activity. The dominance of medicine claims likely reflects the nature of patient admissions commonly encountered within the institution. Medical cases generally involve chronic illnesses, non-operative management, longer treatment periods, and higher patient turnover compared to specialized surgical or obstetric procedures.

Moreover, the case type distribution reveals that medical cases comprise the overwhelming majority of the institution's PhilHealth claims portfolio. These results confirm that the institution functions as a high-volume processor of non-surgical medical claims, more than it functions as a facility built around procedures or operative care. The findings further support the earlier departmental results, where the Department of Medicine emerges as the primary driver of institutional claims activity. This pattern may be attributable to the fact that medical cases generally require more frequent hospital admissions, ongoing management for long-term illnesses, and prolonged observation periods compared to surgical interventions. Non-surgical illnesses such as hypertension, diabetes, respiratory diseases, infections, and other internal medicine conditions tend to trigger recurring hospitalization episodes, along with repeated PhilHealth utilization. Meanwhile, surgical cases and surgical OB cases are more procedure-oriented, and they occur less frequently relative to general medical admissions.

The study by Ghalavand et al. (2024) examined common data quality dimensions in health information systems and reported that healthcare institutions often opt for operational as well as reimbursement related data elements because it shapes the outcomes and the financial sustainability of the organization. The authors reported that completeness and consistency are strongest for variables that are tied to billing and reimbursement processes, but demographic and secondary profiling items are more likely to be inconsistently encoded, or simply end up missing. These findings are consistent with the present study, where operational variables achieve near-complete documentation, while demographic variables such as sex and inpatient or outpatient classification has higher missingness rates. Similarly, the study by Phinias et al. (2025) stressed that healthcare data quality issues often arise in variables that are not directly tied to immediate operational decisions or to reimbursement activities. They found that missing demographic information stays a persistent problem in many hospital information systems, mainly because administrative staff often concentrate on the fields that support clinical workflow and claims processing.

That lines up with the current findings, where demographic fields were treated more like secondary components during encoding and archival steps, so that structural missingness still occurs even if the completeness rates look strong for claims-related variables.

Additionally, Lascano (2024) examined PhilHealth claims processing workflows in a private hospital context, and it was found that their claims processing systems tend to focus on getting the right documents collected quickly, keeping transmission steps on time, and handling returned claims, because all of that affects reimbursement turnaround and institutional cash flow directly. The results are consistent to the present study, since the operational audit fields showed high completeness rates, primarily because it directly influences PhilHealth compliance outcomes and revenue recovery. Another useful reference is the PhilHealth Circular concerning electronic SOA submission under PhilHealth Circular No. 2023-0026 (2023), which required more stringent electronic paperwork and claims submission requirements. The circular demonstrates how institutional workflows increasingly prioritize administrative compliance requirements because reimbursement approval depends heavily on documentation accuracy and formatting consistency. This directly supports the present findings that hospitals concentrate documentation efforts on reimbursement-critical variables while secondary profiling variables may receive less attention.

5.2 Institutional Deficiency and Resolution Profile

The categorical deficiency prevalence reveals an imbalance between administrative and clinical deficiencies within the institution's PhilHealth claims processing system. Administrative deficiencies were identified in the majority of analyzed claims, while missing forms alone affected a substantial proportion of cases. In contrast, clinical deficiencies occurred in only limited claims, incomplete clinical notes were also limited, and missing signatures were almost negligible. These results indicate that the institution's primary operational vulnerabilities are concentrated in clerical processing and document assembly rather than in the quality of physician documentation or clinical charting practices. These findings may be attributed to the fact that PhilHealth claims processing is highly dependent on documentary completeness and submission accuracy. on the completeness and proper documentary requirements before submission. While physicians and clinical personnel may already follow relatively standardized documentation procedures, the administrative component of claims management involves multiple clerical checkpoints, manual handling of forms, and coordination between departments. The findings imply that the institution's claims management problem is primarily operational rather than clinical in nature. The high prevalence of administrative deficiencies demonstrates that substantial organizational resources are likely being consumed by preventable clerical rework, repeated document retrieval, and resubmission processes.

The deficiency density per case results demonstrate that the overwhelming majority of problematic claims involve only a single deficiency. This indicates that most returned or flagged claims are not characterized by widespread procedural breakdowns but rather by isolated and highly specific omissions within otherwise functional claims packages. The findings may be attributable to the institution's claims processing system generally performs adequately at the macro-operational level, with failures emerging primarily at individual verification points. This suggests that the claims workflow is fundamentally operational, but the lack of consistent gate keeping procedures and some isolated clerical oversights bypass the submission review process. Human error and repetitive workload demand, time pressure, and even the absence of standardized checklist systems may all contribute to these sorts of limited deficiencies. The findings imply the institution does not appear to be experiencing a systemic failure in claims processing,

but more on the quality control weakness at the very last verification stage. Since most of the problems appear singular, not cumulative, relatively simple interventions such as standardized checklists, automated validation systems, or dedicated pre submission review personnel may substantially reduce the return rates.

Furthermore, the claims resolution status reveals that despite the high prevalence of administrative deficiencies identified in earlier analyses, the vast majority of claims ultimately reach successful reimbursement outcomes. These findings indicate that most deficiencies do not permanently invalidate claims but instead create delays, additional processing cycles, and repeated compliance corrections before payment approval is achieved. Because many returned claims involve missing forms, formatting inconsistencies, or incomplete administrative requirements, most can be corrected and successfully resubmitted. The low denial rate suggests that the medical services provided to patients stay legitimate and still reimbursable under PhilHealth standards. The findings suggest that the institution's primary challenge is not revenue loss from denied claims but operational inefficiency brought by administrative delays that could have been avoided. Even if the hospital ends up recovering most reimbursements, the sheer number of returned claims likely adds indirect operational costs, like extra labor expenses, slower cash flow, workflow interruptions, and longer claim turnaround times.

Zhao et al. (2024) examined administrative inefficiencies, and how claims often get turned down inside hospital reimbursement systems, and they found that a good share of the late reimbursements seemed tied to incomplete documentary attachments, as well as a sort of procedural noncompliance during the claims preparation itself. They also remarked that operational inefficiencies were rather strongly connected with manual processing workflows, and were also fragmented verification systems. These results are similar to the current study, where administrative deficiencies, missing forms, shows more than clinical deficiencies and that part stayed consistent even if the phrasing different. Also, the study by Yenit et al. (2023) flagged document incompleteness, repetitive manual checks, and communication gaps between departments as key reasons for the delayed insurance reimbursements. They reported that missing forms, along with improperly completed claims documents were the most common operational weak spots in hospital claims systems. Conclusions strongly align with the present study which found that administrative deficiencies dominated the institutional claims environment while clinical deficiencies stayed comparatively low.

Banogon et al. (2025) examined how Philippine public hospitals go through recurring administrative headaches, especially during PhilHealth claims processing. The study found that the returned claims were usually caused by missing attachments, incomplete paperwork, and small procedural mismatches, not by invalid medical services. People from the hospitals who were interviewed in that study also said that retrieving, correcting, and resubmitting returned documents, then retrieving, fixing and resubmitting, requires substantial administrative effort. These results match the current study, since most claims still managed to reach reimbursement even with numerous administrative deficiencies happening along the way. Meanwhile, when it comes to deficiency density, Boyapati and Allam (2025) reported a related finding. They said that most reimbursement mistakes in hospital claims systems tend to come from isolated verification problems, not from a total breakdown of the whole process. They pointed out that one-point lapses like an unchecked form, a signature that wasn't added, or an attachment that was not included showed up much more often than problems across several documentation layers. These observations are aligned with the present study, because the majority of the problematic claims appeared to include only one deficiency at most.

5.3 Primary Root Causes Driving Claims Returns

The findings in the primary root causes driving claims returns reveal that the overwhelming majority of PhilHealth return-to-hospital actions are concentrated in a single dominant compliance issue: failure to properly accomplish the Statement of Account (SOA) in accordance with PhilHealth Circular 2023-0026. The findings demonstrate that claim returns are not being driven by widespread clinical inaccuracies or diverse systemic failures, but instead by a narrowly concentrated administrative compliance centered on SOA documentation requirements. These results occurred because the implementation of PhilHealth Circular 2023-0026 introduced highly specific formatting, attachment, and documentation standards that may not yet be fully integrated into the institution's routine claims processing workflow. Since SOA preparation involves multiple administrative processes and coordination between billing and records personnel, and very strict compliance with the new formatting guidelines, even minor inconsistencies may trigger claim return actions. The findings also suggest that the institution's claims processing inefficiency is mostly clustered in one area, and it may be addressed through targeted administrative interventions. Since one compliance issue accounts for the majority of claim returns, the institution may not need extensive organizational changes or a comprehensive system redesign of the claims management system. Rather, implement targeted corrective interventions like stronger staff training tied to PhilHealth Circular 2023-0026, standardizing the SOA preparation process, using automated document validation systems, and doing pre-submission compliance checks.

According to Park et al. (2022) on how procedural complexity plays out in administrative claims errors inside healthcare reimbursement systems, and they found that when formatting becomes detailed, and documentation turns into a multi-step routine, the chance of clerical inconsistencies goes up. In their conclusion, these kinds of compressed administrative tend to show up especially when new compliance standards get rolled out without enough workflow integration, and without staff retraining. Similar findings were observed in the present study, where the SOA preparation requirements under PhilHealth Circular 2023-0026 became the main reason for claims return actions. Also, Acharya (2024) reported that most claims return in hospital reimbursement systems were tied to concentrated procedural failures, not to wide organizational dysfunction.

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Title

Documentation Deficiencies and Their Impact on Return-to-Hospital (RTH) PhilHealth Claims: A Quantitative Analysis

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Also noted that particular compliance checkpoints, especially those billing summaries and the claims documentation, were disproportionately responsible for returns. The authors suggested that those checkpoints demand coordination across more than one administrative unit.

On the other hand, Alumran et al. (2026) also spotted document formatting inconsistencies, incomplete claim forms and insufficient staff orientation on updated insurance policies as major drivers behind claims

rejection and reimbursement delays. They remarked that once the documentation standards shift, often causes transitional adjustment issues among hospital billing units, especially if the institution did not have a standardized compliance monitoring system in place. These findings are consistent with the results of the present study, where the rollout of PhilHealth Circular 2023-0026 probably introduced new documentation expectations that, at the time, had not yet been fully woven into the normal institutional workflow.

5.4 Baseline Financial and Continuous Descriptives

The results reveal several important operational and financial characteristics of the institution's PhilHealth claims environment. This indicates that while most patients experience relatively short hospitalizations, a smaller subset of cases involves prolonged confinement periods that significantly increase the average LOS. Second, The patient population appears to be predominantly middle-aged, although interpretation of this variable is limited due to the large volume of missing demographic data. Third, the financial indicators show that the average combined claim value with hospital bills comprising the largest portion of total charges.

Additionally, the variability analysis shows that professional fees have far more dispersion compared to hospital bills, indicating that physician billing patterns demonstrate greater variability compared with hospital charges. The highly skewed LOS distribution may indicate the presence of medically complex or chronic cases that require prolonged hospitalization. At the same time, most routine admissions are discharged within shorter periods. The findings suggest that institutional costs are relatively consistent across claims, whereas physician billing patterns demonstrate considerably greater variation. The long-stay outliers also suggest that a smaller set of complex cases may consume a disproportionate share of hospital resources and contribute to operational strain.

An article by Organisation for Economic Co-operation and Development (2023) explained that the average length of stay (ALOS) is a key measurement of hospital efficiency, because a long hospitalization tends to push up healthcare costs and resource use, although most admissions are handled within briefer staying intervals, a smaller group of patients often those with severe or long term conditions can remain in hospital longer, which then adds pressure to the institution and drives up operational expenses. These findings are consistent with the results of the present study, the present results also showed skewed LOS distribution, where most patients experienced short confinement periods, but a limited number of prolonged cases lift the average LOS.

Similarly, Hirani et al. (2025) examined the determinants and effects of prolonged hospital length of stay (LOS). They found that patient comorbidities, disease severity, demographic variables, and internal institutional processes play a major role in shaping LOS and healthcare expenditures. Additionally, the longer LOS tends to come with higher healthcare costs, poor bed utilization, and more financial stress on hospitals. This study aligns with the current findings, the results indicate that long-stay outlier cases are often medically complicated or tied to chronic conditions, and add operational burden as well as financial strain.

In addition, there was a Philippines based study by Hagag et al. (2026) which reported that hospital charges continue to increase, while PhilHealth reimbursements are getting relatively inadequate when it comes to covering overall inpatient expenses. The study also found that avoidable and chronic hospitalizations contribute substantially to reimbursement expenditures and health system strain. The current results likewise revealed that hospital bills constitute the largest portion of total claim values.

5.5 Inferential Analysis: Variance Across Case Types

Hospital bills differ significantly across case types, as evidenced by the ANOVA result which means that medical, surgical, and surgical OB cases do not generate identical hospital billing patterns. However, despite the statistical significance, the effect size remains relatively small-to-moderate, indicating that case type explains only 5.2% of the total variation in hospital bills. This suggests that while procedural classification influences institutional charges, most variations in hospital costs are still determined by other operational factors beyond case type alone. These findings may be explained by the fact that hospital bills reflect institutional expenses such as room accommodation, nursing services, diagnostic procedures, medication utilization, and facility-related charges. The findings imply that institutional expenses are influenced by case type but are not overwhelmingly determined by it. This suggests that hospital operational costs remain relatively distributed across different categories of patient care rather than being concentrated exclusively within surgical services.

Moreover, there is a very significant difference in professional fees across case types. Unlike the hospital bill, the effect size for professional fees is exceptionally large, it suggests that case classification explains about 25.8% of the total variation in physician billing values. These findings show that professional fees are strongly shaped by whether the case is medical, surgical, or surgical OB, where surgical interventions are associated with higher physician compensation compared to more routine medical management. Surgeons and procedural specialists usually carry out intensive interventions that include preoperative assessment, intraoperative management, and postoperative follow up, and these activities contribute to higher professional compensation. In contrast, medical cases frequently involve non-invasive treatment, medication management, and monitoring, which usually means lower procedural intensity even if the patient's length of stay may be longer. The findings imply that physician-related costs represent the most case-sensitive component of institutional claims expenditures. Since professional fees vary substantially depending on procedural classification, healthcare administrators must recognize that physician compensation structures contribute heavily to billing variability across services.

Furthermore, the overall combined total claim values do not show a noticeable difference across the case types. The negligible effect size further confirms that the procedural classification contributes in terms of meaningful variation to the total claim amount. The results indicate that while hospital bills and professional fees differ across medical, surgical, and surgical OB cases, the combined claim value does not vary significantly according to case classification. Higher professional fees in surgical cases may be offset by shorter lengths of stay and lower institutional utilization costs. On the other hand, medical cases may involve lower physician fees, but may be associated with higher room charges, monitoring expenses, and more extended hospitalization costs. The findings imply that case type affects where and how healthcare costs are allocated internally, rather than driving the overall size of the institution's financial exposure.

Ilgan et al. (2024) examined differences in hospital bills and professional fees across common surgical procedures and compared them with PhilHealth reimbursement rates. The findings revealed significant discrepancies between actual institutional charges and PhilHealth case rates. More importantly, the study found that professional fees in surgical procedures were consistently and significantly higher than standard reimbursement values, while hospital bills varied depending on the procedure performed. Similar to the present results, the study showed that surgical cases generate substantially higher physician-related costs compared to medical management cases.

Additionally, Cielo et al. (2024) examined PhilHealth's transition from a fixed case-based reimbursement system to a capped fee-for-service mechanism and analyzed how reimbursement structures influence healthcare expenditures and provider responses. The authors reported that healthcare costs are distributed across multiple expenditure components, such as institutional charges and physician compensation, and they suggested that reimbursement variability hinges on service complexity and procedural intensity, more than it does on case classification by itself. The present findings showed that although hospital bills and professional fees differed individually across medical, surgical, and surgical OB cases, the combined total claim values remained statistically similar.

Lastly, Sakowitz et al. (2025) found inpatient surgical services can come with notably higher pricing structures, largely because procedural complexity, specialist involvement, and the resource intensive nature of care. The study also demonstrated that total institutional costs are influenced by broader operational factors, including facility management, readmission patterns, and operational efficiency. In a similar way, the present study found that hospital bills are influenced by case type, but most of the variation still comes from other institutional factors, which helps explain why the effect size for differences in hospital bills across case classifications is only modest.

CONCLUSION

This study demonstrated that documentation deficiencies in PhilHealth claims at South Imus Specialist Hospital are predominantly administrative rather than clinical in nature. The institution functions primarily as a high-volume processor of medical claims originating from the Department of Medicine, making this department the greatest source of exposure to claim processing delays and deficiencies. While the dataset showed excellent completeness for operational variables, substantial missing demographic information limited patient profiling analyses.

The findings revealed that administrative deficiencies, particularly missing forms and documentary requirements, accounted for the vast majority of returned claims, whereas clinical deficiencies, incomplete clinical notes, and missing signatures occurred infrequently. Most problematic claims contained only a single deficiency, indicating that claim returns are generally caused by isolated clerical omissions rather than widespread system failures. Furthermore, despite the high prevalence of administrative deficiencies, the majority of claims were ultimately reimbursed, and the denial rate remained low, suggesting that the institution's primary challenge is operational inefficiency rather than permanent revenue loss.

A critical finding of the study was that noncompliance with Statement of Account (SOA) requirements under PhilHealth Circular 2023-0026 was the dominant cause of Return-to-Hospital (RTH) claims, accounting for more than half of all claim returns. This indicates that a specific administrative compliance issue, rather than multiple unrelated factors, serves as the principal bottleneck in the claims process.

Financial analyses showed significant differences in hospital bills and professional fees across case types, particularly for surgical cases; however, total claim values did not differ significantly. This suggests that case type influences the internal composition of healthcare costs but does not substantially affect overall reimbursement exposure.

Overall, the study concludes that PhilHealth claim returns in the institution are primarily driven by preventable administrative documentation deficiencies, especially SOA-related compliance issues. Strengthening documentation controls, implementing standardized pre-submission verification procedures, and improving staff compliance with PhilHealth documentation requirements may

substantially reduce claim returns, improve reimbursement turnaround times, and enhance operational efficiency.

RECOMMENDATIONS

1. Strengthen Statement of Account (SOA) Compliance Procedures

Since 59.11% of all Return-to-Hospital (RTH) claims were attributed to improper accomplishment of the Statement of Account (SOA) in accordance with PhilHealth Circular 2023-0026, the hospital should establish a standardized SOA preparation and verification protocol. Regular staff orientation and competency updates on PhilHealth documentation requirements should be conducted to ensure compliance with current policies.

2. Implement a Pre-Submission Claims Validation System

Given that most problematic claims involved only a single deficiency (89.78%), a mandatory pre-submission review checklist should be implemented. Designating trained personnel to perform final verification of claims before electronic submission may significantly reduce avoidable clerical errors and claim returns. A recommended checklist for admitted patients and outpatients is proposed for this purposes.

3. Improve Document Management and Tracking

As missing forms accounted for 85.20% of deficiencies, the hospital should strengthen document tracking systems through standardized filing procedures, electronic document management, and automated alerts for incomplete claim requirements prior to submission.

4. Enhance Staff Training on PhilHealth Documentation Requirements

Continuous education programs should be provided for billing personnel, claims processors, medical records staff, and department representatives to improve understanding of PhilHealth claim forms, PHBPAF requirements, CF2 completion standards, and eClaims submission procedures.

5. Develop Quality Assurance and Audit Mechanisms

Regular internal audits should be conducted to monitor recurring documentation deficiencies, identify process gaps, and evaluate compliance with PhilHealth requirements. Audit findings should be reported periodically to hospital management for corrective action planning.

6. Prioritize Improvement Efforts in the Department of Medicine

Because the majority of claims originated from the Department of Medicine, targeted interventions within this department may yield the greatest reduction in claim returns and administrative workload. Department-specific monitoring and feedback mechanisms are recommended.

7. Improve Data Quality and Record Completeness

The high proportion of missing demographic and patient classification data indicates a need to strengthen data entry and record management practices. Standardized encoding procedures and routine data quality checks should be implemented to improve the completeness and reliability of institutional records.

8. Utilize Health Information Technology Solutions

The hospital should explore automated validation tools within the eClaims workflow to detect missing forms, incomplete fields, signature requirements, and documentation inconsistencies before submission. Such systems may reduce manual errors and improve processing efficiency.

9. Monitor Financial Impact of Returned Claims

Although denial rates were low, returned claims generate hidden costs through delays, staff rework, and disrupted cash flow. Hospital management should establish performance indicators to monitor claim turn-

around times, resubmission rates, and administrative costs associated with RTH claims.

10. Future Research

Future studies may investigate the effectiveness of specific interventions such as automated claims validation systems, documentation training programs, or quality improvement initiatives in reducing RTH rates. Multi-center studies involving other healthcare institutions are also recommended to improve the generalizability of findings and identify broader patterns in PhilHealth claims processing.

These recommendations directly address the study's central finding: that claim returns are driven primarily by preventable administrative documentation deficiencies rather than clinical documentation problems.

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