

Revenue Leakages in TPA Insurance Claims and Corporate Claims: An Institutional Overview of Aster Prime Hospital, Hyderabad

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ABSTRACT

In the contemporary healthcare landscape, efficient revenue cycle management has emerged as a critical determinant of institutional sustainability, particularly in hospitals dependent on Third Party Administrator (TPA) and corporate insurance claims. This paper presents an institutional overview of revenue leakages within such claim processes at Aster Prime Hospital, Hyderabad. Functioning under the aegis of Aster DM Healthcare, the hospital represents a well-established multi-specialty healthcare provider with advanced clinical and diagnostic capabilities. While clinical excellence remains a core strength, the complexity of insurance-based reimbursement systems introduces multiple administrative challenges. This study contextualizes the operational environment, focusing on the structural and procedural dimensions of TPA and corporate claims management. It aims to lay the groundwork for subsequent analytical exploration by outlining institutional characteristics, service scope, and the relevance of streamlined claim processing mechanisms in minimizing potential revenue inefficiencies.

Keywords: Revenue Cycle Management, TPA Insurance, Corporate Claims, Healthcare Finance, Hospital Administration, Insurance Billing Systems

INTRODUCTION

The transformation of healthcare financing from out-of-pocket expenditure to insurance-based systems has significantly altered hospital revenue structures. In this evolving scenario, TPA and corporate claims constitute a substantial share of hospital income. However, the multi-layered nature of these claims—requiring coordination among healthcare providers, insurers, and intermediaries—makes the revenue cycle vulnerable to inefficiencies. Revenue leakages, defined as the loss of potential income due to procedural gaps or administrative lapses, have thus become an area of growing concern in hospital management.

Organizational Overview

Aster Prime Hospital is a multi-specialty healthcare facility with a structured layout across different floors, integrating clinical, diagnostic, and administrative services. Key departments include radiology, billing, financial counselling, inpatient services, and advanced diagnostics such as ECG, MRI, and CT scan. Specialized units like MICU, NICU, CICU, operation theatres, dialysis, and wards are distributed floor-wise for efficient patient management. Administrative functions such as HR, audit, laboratory, and medical records ensure smooth operations.

Functional and Clinical Services

The hospital operates through medical departments (OPD, IPD, casualty, pharmacy, diagnostics, and specialty care) and non-medical departments (HR, IT, billing, housekeeping, and administration). A team of specialized

doctors across disciplines supports quality healthcare delivery. Emergency management is guided by a color-coded system ensuring quick and coordinated responses.

Revenue Leakage in Healthcare

Revenue leakage refers to the loss of potential income due to inefficiencies in billing, documentation, and claims management, especially in TPA and corporate claims. The involvement of intermediaries and complex insurance structures increases the chances of delays, miscommunication, and claim denials. Addressing revenue leakage is essential for financial stability, operational efficiency, and improved patient care. It helps in ensuring timely reimbursements, reducing administrative errors, maintaining compliance, and enhancing patient satisfaction.

Revenue leakage significantly impacts hospital performance. Effective management through improved processes, training, and data-driven strategies is necessary to enhance financial sustainability and healthcare quality.

Key Components of Revenue Leakage

Major causes include inaccurate coding and billing, improper documentation, and high claim denials. Delayed submissions, unresolved or underpaid claims, and lack of follow-up further increase losses. Complex insurance procedures and failure to verify patient eligibility or obtain pre-authorizations also contribute significantly. Additionally, challenges in collecting patient payments and issues in contracts or outdated systems weaken revenue realization.

Key Challenges

Hospitals face difficulties such as manual and error-prone processes, delayed claim submissions, increasing denial rates, and lack of automated audits. Fragmented information systems, limited resources, and ineffective follow-up reduce the ability to recover dues efficiently.

Industry Practices

Corporate insurance involves complex contracts, strict pre-authorization, bulk billing, and audits, often leading to delayed or reduced payments. Health insurance practices include claim adjudication, denial management, and use of Hospital Information Management Systems (HIMS). Weaknesses in these areas contribute to revenue leakage.

Causes of Revenue Leakages

Pre-Billing / Documentation-Related Causes

Missing policy details, incorrect TPA desk assignment **Incomplete or Inaccurate Patient Information at Registration**

, or outdated corporate employee data lead to claim rejections at the source.

Example: Patient registered under wrong insurer panel → automatic denial.

Inadequate Clinical Documentation

Physicians fail to document medical necessity, procedure details, or co-morbidities required by TPA/corporate medical reviewers.

Results in down-coding or full denial during pre-authorization or final audit.

Delay in Obtaining Pre-Authorizations (TPA-Specific)

Procedures performed without prior approval due to emergency admissions or internal communication gaps.

TPAs routinely deny non-authorized high-value claims (e.g., implants, ICU stays).

Mismatch Between Authorized and Actual Services

Variation in consumables, pharmacy, or room category not updated in real-time with TPA desk → partial reimbursement.

Coding & Billing Errors

Incorrect or Outdated Coding (ICD, CPT, HCPCS)

Use of unspecified codes, unbundling violations, or failure to apply TPA-specific modifiers.

Corporate Claim Issue: Employers reject codes not aligned with their customized benefit schedules.

Under-Coding Due to Conservative Billing Practices

Fear of audit leads to deliberate under-billing of justifiable add-ons (e.g., physician consultation fees, monitoring charges).

Missed Charge Capture

Services like nursing procedures, physiotherapy, or dietary consultations not entered into the HIS (Hospital Information System).

Common in corporate claims where itemized billing is mandatory.

Duplicate or Overlapping Billing

Same service billed under multiple heads (e.g., OT consumables + surgical package) → flagged and deducted during TPA scrutiny.

TPA & Payer Workflow-Specific Causes

Delay in Claim Submission Beyond SLA Timelines

TPA contracts mandate 30–45 days for submission; internal delays (discharge summary pending, file closure) trigger auto-denials.

Poor Coordination with On-Site TPA Desk

Lack of daily reconciliation between hospital bills and TPA acknowledgments → unbilled enhancements or rejected add-ons.

Inadequate Response to Query Letters / RA (Remittance Advice)

Hospitals fail to submit clarifications within 7–15 days → permanent deduction.

Package Violations and Arbitrary Deductions

TPAs apply standardized surgical packages and deduct “non-payable” items (e.g., registration fees, visitor meals) without transparency.

4.3 Research Gap of the Study

Corporate Claims-Specific Causes

Lack of Customized Tariff Agreements

Absence of MoU-defined rates for implants, room rents, or professional fees → billed at rack rate, reimbursed at discounted corporate rate → leakage.

Employee Eligibility Verification Gaps

Treatment provided to ineligible dependents or ex-employees due to outdated HR lists.

Non-Adherence to Corporate Policy Exclusions

Billing for cosmetic, experimental, or wellness procedures excluded in corporate health plans.

Delayed or Missing Employer Approvals

High-cost treatments require corporate pre-approval; delays result in patient self-payment or write-offs.

Systemic & Technology-Related Causes

Fragmented IT Systems (HIS, TPA Portal, Billing Module)

Data silos prevent end-to-end visibility → missed charges or erroneous transmissions.

Lack of Automated Claim Scrubbing

Manual processes fail to catch NCCI edits, payer-specific rules, or TPA bundle logic before submission.

Inadequate Denial Management Workflow

Denied claims not tracked, appealed, or analysed → recurring leakage from same root causes.

Staff Turnover and Training Gaps

Billing/coding teams lack updated knowledge of TPA policy changes or corporate addendums.

Impacts of Revenue Leakages

Financial Impacts

Direct Revenue Loss

- **TPA claims:** Deductions of 5–15% per claim due to tariff violations, non-payable items, or documentation gaps; outright denials can reach 20–30% of billed amount.
- **Corporate claims:** Short-payments, delayed settlements, and write-offs due to disputed invoices result in 10–25% loss on aging receivables.
- **Annual impact:** Hospitals handling 40–60% of revenue via TPA/corporate channels may lose 2–10% of total annual revenue (₹5–50 crore for mid-to-large hospitals).

Cash Flow Disruption

- Prolonged realization cycles (60–120+ days) due to TPA queries and corporate reconciliations strain working capital.

- Increased dependency on high-interest loans to bridge operational gaps.

Rising Bad Debts and Write-Offs

- Unresolved claims escalate to bad debts, especially when corporates delay beyond 90 days or TPAs close files post-query expiry.
- Forced write-offs during audits to maintain insurer/corporate relationships.

Operational Impacts

Increased Administrative Burden

- Dedicated teams spend 30–40% of time on query resolution, resubmissions, and reconciliations instead of patient care coordination.
- Higher manpower costs for claim follow-ups and grievance redressal.

Resource Misallocation

- Funds meant for infrastructure, equipment upgrades, or staff salaries diverted to cover revenue shortfalls.
- Delayed vendor payments (pharmacy, implants, diagnostics) disrupt supply chains.

Inventory and Cost Control Challenges

- Leakage from unbilled consumables or reused implants forces cost absorption by the hospital.
- Inability to negotiate better vendor terms due to cash constraints.

Growth Impacts

Stunted Expansion Plans

- Reduced capital for new specialty units, technology adoption (e.g., robotic surgery), or satellite clinics.
- Lower EBITDA margins deter investors and limit access to institutional funding.

Erosion of Negotiating Power

- TPAs and corporates leverage high denial/deduction rates to push for deeper discounts in renewals.
- Loss of preferred provider status in corporate wellness programs.

Delayed Digital Transformation

Inability to invest in RCM automation, AI-based coding tools, or integrated HIS-TPA platforms—perpetuating manual errors.

Reputational and Relationship Impacts

Strained TPA and Corporate Relationships

- Frequent disputes over deductions and delays lead to contract non-renewals or reduced patient referrals.
- Exclusion from insurer networks due to poor claim approval ratios (<70–75%).

Patient Dissatisfaction

- Patients face out-of-pocket expenses due to TPA denials (e.g., non-payable items), blaming the hospital.
- Negative feedback on cashless experience reduces loyalty and word-of-mouth referrals.

Internal Morale and Staff Turnover

- Billing teams face blame for revenue shortfalls, leading to burnout and attrition.
- Clinicians frustrated by revenue-driven documentation demands.

The analysis highlights that revenue leakage in hospitals primarily stems from gaps across pre-billing processes, coding and billing accuracy, payer workflows, corporate claim procedures, and technological limitations. At the pre-billing stage, incomplete patient information, inadequate clinical documentation, delays in pre-authorizations, and mismatches between approved and actual services lead to early claim rejections. Coding-related issues—such as outdated codes, under-coding, missed charge capture, and billing duplication—further contribute to financial losses.

TPA and payer workflow shortcomings, including delayed submissions, poor coordination with TPA desks, slow responses to query letters, and package-related deductions, add to the leakage. Corporate claims also face unique challenges such as absence of customised tariffs, eligibility verification errors, policy exclusion violations, and delayed employer approvals. Technology-related gaps—fragmented systems, lack of automated claim checks, weak denial management, and insufficient staff training—create additional sources of recurring revenue loss.

The impact of these leakages is significant and multi-dimensional. Financially, hospitals face substantial revenue loss ranging from 2–10% of annual turnover, along with cash flow disruptions, rising bad debts, and increased write-offs. Operationally, claim rework increases administrative burden, misallocates resources, and disrupts inventory management.

The growth of hospitals is hindered by reduced capital availability, weakened negotiating power with payers, and slowed digital transformation. Reputationally, strained relationships with TPAs and corporates, patient dissatisfaction due to denied cashless claims, and internal staff burnout further weaken the hospital's standing and performance.

Overall, unresolved revenue leakages undermine financial health, operational efficiency, stakeholder confidence, and long-term growth potential, making focused interventions in RCM processes, technology, and training essential.

Summary (Aster Prime Hospital, Hyderabad)

Key Sources of Leakage

At Aster Prime Hospital, revenue leakage is mainly observed in TPA and corporate claims due to operational gaps. Major causes include incomplete patient registration details, inadequate clinical documentation, and delays in pre-authorizations. Coding and billing issues such as incorrect codes, missed charge capture, and duplication further reduce claim accuracy. Weak coordination with TPA desks and delays in responding to queries also lead to deductions and denials.

Major Impacts

The hospital faces revenue losses, delayed cash inflows, and increased bad debts. Administrative workload rises due to frequent claim rework and follow-ups. Limited funds affect infrastructure development and technology adoption.

Overall Insight

For Aster Prime Hospital, strengthening documentation, improving billing accuracy, enhancing TPA coordination, and adopting integrated digital systems are essential to reduce leakage and improve financial efficiency.

RESEARCH METHODOLOGY (WITH DATA REPRESENTATION)

Research Design and Scope

The study at Aster Prime Hospital adopts a descriptive and analytical approach to examine revenue leakage in TPA and corporate claims. It maps the full claim cycle and identifies inefficiencies at each stage. The study period covers 16 June–16 August 2025, where ~60% of hospital revenue comes from insured and corporate patients.

Sampling and Data Collection

A purposive sample of 50 claims was selected:

- TPA: 25
- Corporate: 25

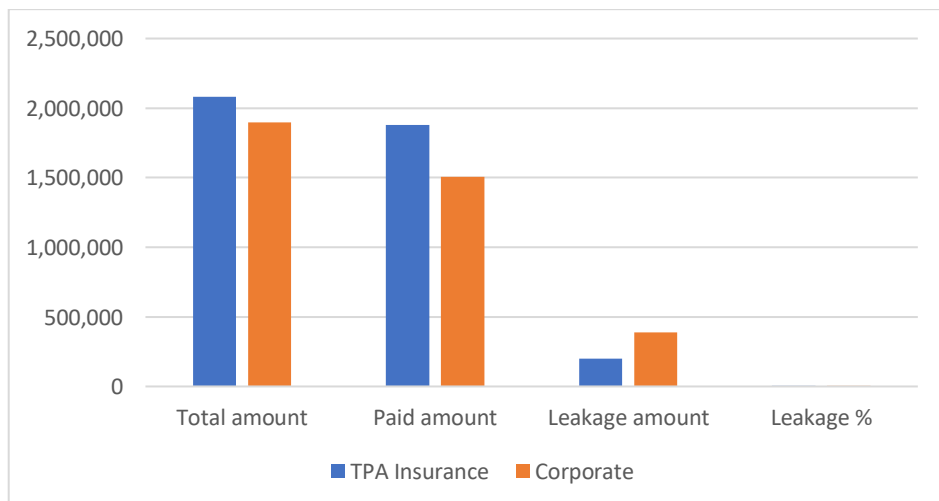
Additionally, 15 staff interviews were conducted. Data sources included billing records, audit reports, and TPA logs. Tools used: document review, observation checklists, and Excel sheets.

Data Extraction Sheets

A structured template was used in Excel to record data on billed amount, approved amount, settled amount, rejection type, and delay days.

Example Table 1:

Claim Type	TPA Insurance	Corporate	Total
Number of Claims	25	25	50
Total Claimed (INR)	20,80,000	18,95,000	39,75,000
Total Paid (INR)	18,78,000	15,05,000	33,83,000
Leakage Amount (INR)	2,02,000	3,90,000	5,92,000
Leakage %	9.7	20.5	21.2



	TPA	Corporate
Leakage Amount	2,02,000	3,90,000

Analysis Techniques

- Descriptive statistics (leakage %, delays)
- Comparative analysis (TPA vs Corporate)
- Root cause analysis (coding errors, documentation gaps)
- Thematic analysis (staff feedback)

Formula used:

$$\text{Leakage \%} = (\text{Billed} - \text{Paid}) / \text{Billed} \times 100$$

Limitations and Insight

The study is limited to one hospital and varying TPA policies. However, it clearly shows that corporate claims have higher leakage than TPA claims, highlighting the need for better documentation, coordination, and system integration.

Data Analysis

- Descriptive Statistics: Calculation of mean deduction, percentage leakage, and delays in settlement.
- Comparative Analysis: Comparison of TPA versus corporate claim leakages department-wise.
- Trend Analysis: Visualization of monthly leakage patterns over the study period.
- Root Cause Analysis: Identification of underlying factors contributing to recurring issues, such as coding errors, policy mismatches, and poor documentation.
- Qualitative Thematic Analysis: Coding of interview data into common themes related to workflow inefficiencies, staff training gaps, and procedural constraints.

$$\text{Formula} = (\text{Billed amount} - \text{Settled amount}) / \text{Billed amount} \times 100$$

Limitations

- Study findings are based on a single hospital and may not generalize across all institutions.
- Variations in TPA rules and corporate contract clauses constrained uniform analysis.
- Incomplete archival records limited access to older claim data.

The study adopts a descriptive and analytical research design to investigate the causes and extent of revenue leakages in TPA and corporate claims at Aster Prime Hospital. The descriptive component examines how claims are processed, approved, and settled, while the analytical component identifies inefficiencies and compliance gaps across the claim cycle. The study focuses on mapping the end-to-end claims workflow, quantifying leakages at each stage, and identifying operational and documentation issues contributing to financial loss.

The research was conducted over a two-month period (16 June 2025 to 16 August 2025) in a hospital where nearly 60% of billing volume comes from TPA and corporate cases. Data was drawn from 50 purposively

selected claim files—25 TPA and 25 Corporate—with additional insights gained from fifteen interviews with staff in finance, billing, MRD, and insurance departments. Both primary and secondary data sources were used, including interviews, observations, claim registers, audit reports, and communication logs.

Data collection tools included document reviews, observation checklists, semi-structured interviews, and structured Excel templates designed to record key financial indicators such as billed amount, approved amount, deductions, and settlement delays. Analytical methods involved descriptive statistics, comparative and trend analysis, root cause analysis, and qualitative thematic categorization of staff feedback. The leakage percentage was calculated using the formula:

$$(\text{Billed Amount} - \text{Settled Amount}) / \text{Billed Amount} \times 100.$$

The study acknowledges limitations, including its focus on a single hospital, variations in TPA and corporate policies that affected uniform analysis, and restricted availability of archival claim data. Despite these constraints, the methodology provides a strong foundation for identifying systemic, operational, and contractual factors contributing to revenue leakage.

RESULTS AND OBSERVATIONS

Data Analysis and Findings

The analysis shows that hospitals lose around 4–5% of their annual revenue due to claim denials, underpayments, and billing inefficiencies. A significant contributor is the use of manual processes, where data entry errors alone lead to nearly 4% revenue loss. Additionally, claim denials have increased and now account for approximately 15% of total submitted claims, affecting both TPA and corporate segments.

Revenue leakage was categorized into five key areas. Coding and billing errors arise from incorrect or inconsistent use of medical codes, leading to underpayments or rejection of claims. Even small errors, such as missed CPT adjustments, can reduce settlements by 2–3%. Improper or incomplete documentation is another major issue, where missing discharge summaries, investigation reports, or authorization forms reduce reimbursement rates. These problems are more frequent in manual systems.

Claim denials and delays occur due to incomplete patient information, lack of authorization, or late submission. Delays exceeding 30 days increase accounts receivable and may lead to write-offs. Unbilled or lost claims also contribute to leakage due to poor tracking and follow-up systems. Lastly, pricing and contract issues arise from weak negotiation and unclear payer-provider agreements, particularly in corporate cases.

A comparative analysis of 50 patients highlights differences between TPA and corporate claims. TPA claims show consistent losses due to strict scrutiny, coding errors, and frequent queries, resulting in higher denial rates (18%) and longer settlement delays (14 days). In contrast, corporate claims have slightly lower denial rates (13%) but higher average leakage (19%) due to unfavourable contract terms and internal approval delays.

Key observations indicate that coding errors and documentation gaps are the leading causes of leakage across both claim types. TPA claims involve more audits and queries, increasing delays, while corporate claims suffer from contract inefficiencies. Even a modest leakage of 12–16% per claim can result in significant financial loss, especially in high-value cases.

Overall, the findings emphasize that improving billing accuracy, strengthening documentation practices, and enhancing contract management are essential to reduce revenue leakage and improve hospital financial performance.

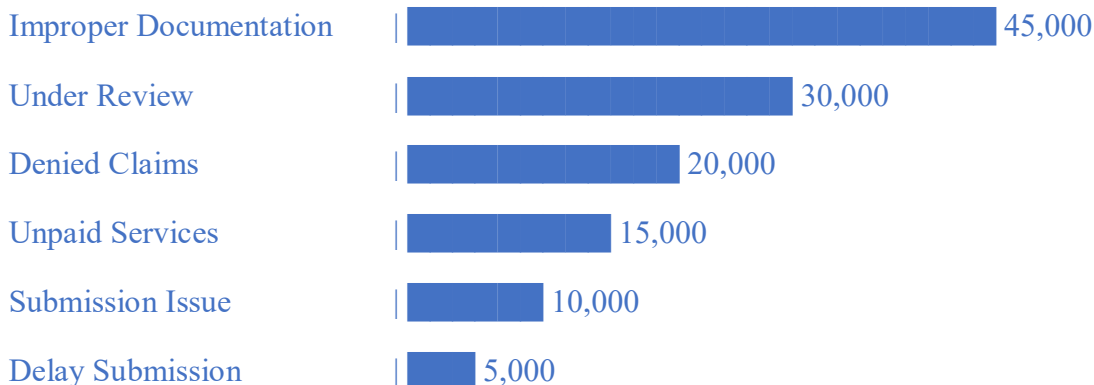
Table: Leakage Sources (20 Patients)

Source	Amount (INR)	%
Improper Documentation	45,000	36%

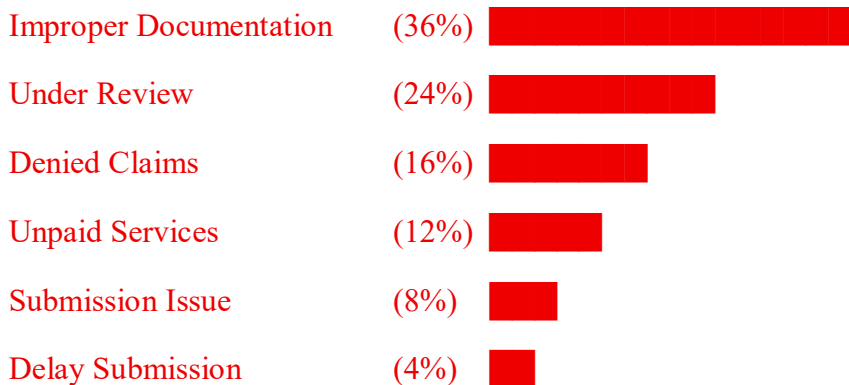
Under Review	30,000	24%
Denied Claims	20,000	16%
Unpaid Services	15,000	12%
Submission Issue	10,000	8%
Delay Submission	5,000	4%
Total	1,25,000	100%

Bar Graph

Leakage Sources (INR)



(Percentage Representation)



Comparative Graph: TPA vs Corporate

Average Leakage:



Denial Rate:



Delay (Days):



RECOMMENDATIONS & STRATEGIES

The analysis shows that revenue leakage in hospitals is primarily caused by documentation deficiencies, coding inaccuracies, claim denials, and weak contract management practices. TPA claims are more prone to strict audits, frequent queries, and longer settlement cycles, while corporate claims face higher leakage due to unfavourable contract terms and internal approval delays. Dependence on manual processes further increases the chances of errors, reducing overall revenue efficiency.

To minimize these issues, hospitals should adopt Integrated Hospital Management Systems (HIMS) along with Electronic Medical Records (EMR) to ensure accuracy, transparency, and real-time data tracking. Strengthening documentation and coding practices through regular training, standardized templates, and periodic audits can significantly improve claim acceptance rates. Efficient Accounts Receivable (AR) and denial management systems are essential to identify root causes, speed up resubmissions, and reduce financial losses.

Preventive strategies such as pre-authorization checks, eligibility verification, interim billing, and daily reconciliation of services help control leakage at early stages. Additionally, continuous payer performance monitoring and regular contract reviews enhance reimbursement efficiency.

Overall, an integrated approach combining technology adoption, process standardization, and continuous monitoring is essential for reducing revenue leakage and improving hospital financial sustainability.

Recommendation Chart

Area	Policy Reference	Expected Benefits
HIMS / EMR Integration	HIMS Standards	Reduce manual errors
Documentation	Coding Audit Policy	Increase approval rates
Denial Management	RCM Policies	Minimize write-offs
Contract Management	Payer Contracts	Improve reimbursement accuracy
Staff Training	HR / Training Policies	Reduce process gaps

Revenue leakage in TPA insurance and corporate claims poses a serious challenge to hospital financial stability and operational efficiency. Even small errors in registration, billing, coding, or documentation can accumulate into significant losses over time. With already narrow profit margins, a loss of even a few percentage points can limit a hospital's ability to invest in technology, maintain staffing, and ensure quality patient care. The study highlights that coding errors, incomplete documentation, delayed settlements, and poor contract management are the primary causes of leakage, many of which are preventable through better systems and practices.

The findings further show that coding and billing errors alone can account for up to 4% revenue loss, especially in hospitals dependent on manual processes. Rising claim denial rates, reaching nearly 15%, increase administrative burden and reduce effective collections. While TPA claims face strict audits and delays, corporate claims also experience leakage due to weak contract terms and slow internal approvals. Unbilled services, inadequate follow-up, and growing accounts receivable further intensify financial strain.

To address these issues, hospitals must adopt technology-driven solutions like HMIS, standardize processes, and strengthen staff training. Regular audits, proactive contract management, and efficient denial handling are essential. Effective revenue cycle management not only improves financial performance but also supports better resource allocation and enhanced patient care outcomes.

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