SYNOPSIS

1. TITLE

Strengthening Operational Processes to Enhance Financial Outcomes at Sahyadri Hospital, Pune

2. INTRODUCTION

Revenue Cycle Management (RCM) encompasses the administrative and clinical functions that contribute to capturing, managing, and collecting patient service revenue. Hospitals today face rising challenges in ensuring financial sustainability while maintaining operational efficiency. Sahyadri Hospital, a leading private hospital network in Maharashtra, has implemented digital billing systems, yet continues to face revenue leakage due to claim denials, billing delays, and interdepartmental inefficiencies.

This study focuses on understanding operational inefficiencies within the RCM process—especially in billing, insurance, and discharge—and their cumulative financial impact. The study's results are expected to guide operational improvements, reduce revenue leakage, and enhance overall hospital performance.

3. RESEARCH QUESTION

What are the key operational inefficiencies in the revenue cycle at Sahyadri Hospital, and how do they contribute to revenue leakage?

4. OBJECTIVES

1. To identify operational gaps in billing, discharge, and insurance departments.
2. To assess the impact of these inefficiencies on claim denials and financial performance.
3. To evaluate key performance indicators such as billing turnaround time and Days Sales Outstanding (DSO).
4. To suggest process-level interventions to improve RCM outcomes.

5. MATERIAL AND METHODS

- **STUDY DESIGN:** Observational, hospital-based, mixed-method study.

- **SETTING:** Sahyadri Hospital, Kothrud Branch, Pune – a NABH-accredited tertiary care unit.
- **STUDY POPULATION:** Inpatient cases from billing and insurance records.

Inclusion Criteria:

- Admitted patients during the study period with completed discharge formalities.
- Cases billed via insurance or cash with full documentation.

Exclusion Criteria:

- OPD cases.
- Incomplete documentation or mid-stay transfers.

STUDY TOOLS:

- Billing audit forms
- Insurance claim reports
- Discharge files
- Interviews with finance and insurance desk staff

DURATION OF STUDY:
3 months (March to May 2025)

SAMPLE SIZE:
282 patient records

SAMPLING TECHNIQUE:
Purposive sampling based on inpatient billing and discharge data

DATA COLLECTION PROCEDURE:
Data will be collected from billing software (SHIVAM), insurance claim audit reports, and departmental logs. Interviews with staff will validate workflow observations and identify bottlenecks.

OPERATIONAL DEFINITIONS:

- **Billing Inefficiency**: The failure to generate or submit accurate and timely bills due to manual processes, missing codes, or fragmented information flow between clinical and billing departments. Insurance

- **Claim Processing Inefficiency**: Involves delays or denials in claim submission caused by incomplete documentation, lack of eligibility verification, or mismatched coding, impacting hospital reimbursements.

- **Documentation Gaps**: Missing, illegible, or incomplete clinical records that result in claim rejections or deductions, contributing to revenue loss.

- **Discharge Delay Impact**: Prolonged discharge times due to non-aligned workflows between medical, nursing, billing, and pharmacy teams, directly affecting bed turnover and billing closure.

- **Revenue Leakage:** The cumulative financial loss arising from unnoticed or unresolved inefficiencies within the RCM processes, such as missed charges, underbilling, or rejected claims.

- **Claims denial** occurs when a health insurance company refuses to honor a request to pay for healthcare services or products provided to a patient

- **Outstanding Amount** :Any balance that is unpaid or due from a customer (patient or insurance provider) for services rendered

- **Days Sales Outstanding (DSO**) : Its is a financial metric that indicates the average number of days it takes a company to collect payment after a sale has been made.

6. DATA ANALYSIS PLAN

- **Software:** Microsoft Excel 2021
- **Quantitative Analysis:** Descriptive statistics (averages, trends, proportions)
- **Qualitative Analysis:** Thematic coding of interview responses
- **Indicators:** TAT, denial rate, outstanding amount, DSO
- **Significance Level:** Not applicable (descriptive study)

7. ETHICAL CONSIDERATIONS

Informed consent will be obtained from relevant administrative authorities. Patient data will be kept confidential. All data will be stored securely and used solely for academic purposes.

8. IMPLICATIONS OF RESARCH

This research will help Sahyadri Hospital and similar institutions identify process-level inefficiencies in their revenue cycle, improve claim settlement turnaround, reduce denials, and enhance overall hospital cash flow. It may also guide policy and training interventions in the healthcare finance domain.

9. REFERENCES

1. Szalados JE. Medical-Legal Aspects of Acute Care Medicine. Springer; 2021.
2. https://gebbs.com/blog/healthcare-revenue-cycle-management-rcm/
3. https://maple-software.com/blog/essential-rcm-kpis/
4. Manley R, Satiani B. Revenue cycle management. J Vasc Surg. 2009;50(5):1232-1238.
5. https://www.ijsr.net/archive/v13i8/SR24730090856.pdf