

SYNOPSIS

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1837, HM-28

Optimizing Bed Turnover: A Discharge Turnaround Time Study from No Dues to Physical Vacancy at Max Super Speciality Hospital, Vaishali

Introduction

Efficient inpatient discharge processes are critical for optimizing bed utilization, reducing healthcare costs, and enhancing patient satisfaction. Prolonged discharge turnaround time (TAT) disrupts workflow, delays admissions, and strains hospital resources. At Max Super Speciality Hospital, Vishali, evidence suggests delays in discharge processes, particularly for Panel (empanelled insurance), TPA (Third-Party Administrator), Cash, and International patients. This study aims to assess discharge TAT, compare delays across patient categories, and identify modifiable factors to streamline workflows. The results will provide actionable insights for hospital administrators to improve operational efficiency and patient care delivery, with potential applicability to similar tertiary care settings in India.

Research Questions

1. What is the average discharge turnaround time for IPD patients at Max Super Speciality Hospital?
2. Is there a statistically significant difference in discharge TAT between Panel, TPA, Cash, and international patients?
3. What are the key operational, administrative, and systemic factors contributing to discharge delays?

Objectives

- To analyze the distribution of discharged patients across payment categories—Cash, PSU, and TPA.
- To evaluate and compare the turnaround time (TAT) from proposed discharge to physical vacancy across different payment categories against hospital and NABH benchmarks.
- To identify and classify the reasons for delays in the discharge process after No Dues Clearance into correctable and non-correctable causes.
- To assess monthly trends in discharge efficiency from No Dues Clearance to physical vacancy over three months.
- To measure the efficiency of bed turnover by calculating the time from physical vacancy to new patient admission.

Hypothesis

- Null Hypothesis (H_0): No significant difference exists in discharge TAT among Panel, TPA, Cash, and international patients.

- Alternative Hypothesis (H_1): Discharge TAT differs significantly across patient categories.

Materials and Methods

- a. Study Design
A cross-sectional observational study to check delays in patient discharge after No Dues Clearance at Max Hospital, Vaishali.
- b. Setting
The study was done at Max Super Speciality Hospital, Vaishali
- c. Study Population
Patients from Cash, PSU, and TPA payment categories discharged during the study period.
 - Inclusion Criteria: Patients with No Dues Clearance before 12:01 PM
 - Exclusion Criteria: LAMA, DAMA, readmissions, deaths, OPD patients, and those cleared after 12:01 PM
- d. Study Tools- Data collected using an Excel tracker, Hospital Information System (HIS), and live ward observations.
- e. Duration of Study
 - 10 March 2024 to 31 May 2024 (12 weeks).
- f. Sample Size More than 900 patients discharged between March and May 2024.
- g. Sampling Technique
 - Quantitative: Convenience sampling.
 - Qualitative: Purposive sampling of key stakeholders.
- h. Data Collection Procedure
 - Retrospective TAT Calculation: Extract timestamps from electronic records , no-due clearance to discharge.
 - Prospective Staff Interviews: Conduct interviews to map workflow challenges e.g., TPA authorization delays.
- i. Operational Definitions
 - TAT: Time from discharge intimation to patient leaving the bed
 - No Dues Clearance: All bills and formalities done
 - Physical Vacancy: Patient leaves the bed
 - Correctable Delays: Can be fixed (e.g., late wheelchair)
 - Non-Correctable Delays: Cannot be controlled (e.g., ongoing treatment)

Data Analysis Plan

- Software: Microsoft Excel for data entry and analysis.
- Quantitative Analysis: Descriptive Statistics: Mean, median, SD of TAT.
- Qualitative Analysis: Thematic coding of interviews to identify delay themes (e.g., "TPA approval delays," "billing errors").

Ethical Considerations

- Informed Consent: Written approval from hospital administration; verbal consent from staff for interviews.
- Confidentiality: Patient identifiers anonymized; data stored in password-protected files.
- Ethical Approval: To be obtained from the Institutional Ethics Committee.

Implications of Research

- Helps improve bed turnover and reduce waiting time.
- Identifies areas to improve hospital discharge process.
- Supports NABH standards and quality care.
- Leads to better patient satisfaction and smoother operations.
- Guides policy changes for faster and efficient discharges.

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