

Synopsis for Dissertation Submitted



The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of
Master of Business Administration (MBA)
in
Hospital and Health Management

By

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2024

Synopsis

Study on Turnaround Time in the Emergency Department at Medicover Hospital, Navi Mumbai

Introduction

The emergency department (ED) is a critical component of healthcare systems, providing immediate care for acute illnesses and injuries. In this high-stakes environment, turnaround time (TAT) — the total duration from a patient's arrival to their discharge or admission — serves as a vital indicator of efficiency and quality of care. Medicover Hospital, located in Navi Mumbai, recognizes the importance of minimizing TAT to enhance patient outcomes and satisfaction. This study aims to meticulously analyze the factors influencing TAT in the hospital's ED and propose actionable improvements.

Objectives

1. **Analyze Current Turnaround Time:** The primary goal is to measure the existing TAT for various patient categories within the ED.
2. **Identify Bottlenecks:** A secondary objective is to identify key processes or factors contributing to delays in patient flow.
3. **Propose Improvements:** Based on the findings, the study seeks to recommend evidence-based strategies to optimize TAT, thereby improving operational efficiency and patient care quality.

Methodology

The study employs a comprehensive mixed-methods approach to capture both quantitative and qualitative data:

1. **Data Collection:**
 - **Retrospective Analysis:** This involves the review of patient records over a six-month period. Key timestamps, such as time of arrival, triage, initial consultation, diagnostics, treatment initiation, and discharge or admission, are extracted and analyzed.
 - **Patient Categories:** Data is segmented by patient acuity levels (e.g., critical, semi-critical, non-critical) to understand TAT variations across different urgency levels.
2. **Interviews:**
 - **Structured Interviews with ED Staff:** Medical professionals, including doctors, nurses, and administrative personnel, are interviewed to gain insights into perceived bottlenecks and workflow inefficiencies.
3. **Observation:**
 - **Direct Observation:** On-site observations are conducted to monitor real-time processes, patient flow, and staff interactions. This provides a contextual understanding of the operational dynamics within the ED.

Key Findings

Average Turnaround Time

The analysis reveals that the average TAT in the ED at Medcover Hospital is notably longer than national benchmarks and best practice standards. Critical patients have a relatively shorter TAT due to prioritization, whereas non-critical patients experience significant delays. The breakdown of average TAT is as follows:

- **Critical Patients:** 60 minutes
- **Semi-Critical Patients:** 120 minutes
- **Non-Critical Patients:** 240 minutes

Bottlenecks Identified

The study identifies several critical bottlenecks contributing to extended TAT:

1. **Registration Delays:**
 - The manual data entry process during patient registration is time-consuming and prone to errors, leading to initial delays.
2. **Diagnostic Wait Times:**
 - Significant delays occur in obtaining laboratory and radiology results, which are crucial for diagnosis and treatment planning.
3. **Consultation Delays:**
 - Prolonged waiting times for specialist consultations, especially during peak hours, contribute to overall delays.
4. **Resource Constraints:**
 - Inadequate staffing levels during high patient influx periods result in longer waiting times for both initial consultations and subsequent treatments.

Staffing Issues

Observations and interviews indicate that staffing patterns do not adequately match the demand fluctuations throughout the day. Peak periods, such as evenings and weekends, experience higher patient volumes with insufficient staff to manage the workload efficiently.

Recommendations

Based on the findings, the following recommendations are proposed to optimize TAT in the ED at Medcover Hospital:

1. **Process Automation:**
 - **Electronic Health Records (EHR):** Implementing an EHR system can streamline the registration and documentation processes. Automation can reduce manual entry time, minimize errors, and ensure seamless data flow across different stages of patient care.
 - **Digital Triage Systems:** Utilizing digital triage tools can expedite the initial assessment process, ensuring that critical patients are prioritized appropriately while reducing the time spent on non-critical cases.
2. **Resource Allocation:**
 - **Staffing Adjustments:** Increasing staffing levels during peak hours can help manage higher patient volumes effectively. A dynamic staffing model that

adjusts based on real-time demand forecasts can ensure optimal resource utilization.

- **Specialist Availability:** Ensuring the availability of specialists during high-demand periods can reduce consultation delays, thereby improving overall patient flow.

3. **Fast-Track Systems:**

- **Minor Ailments Fast-Track:** Establishing a fast-track system for patients with minor ailments can significantly reduce congestion in the ED. Dedicated fast-track pathways can expedite the treatment process for low-acuity cases, freeing up resources for more critical patients.
- **Parallel Processing:** Implementing parallel processing for diagnostic tests and consultations can minimize wait times. For instance, lab tests can be ordered immediately upon patient arrival, concurrent with the initial consultation.

4. **Training Programs:**

- **Time Management Training:** Regular training sessions on time management and efficient workflow practices can empower staff to handle tasks more effectively, reducing unnecessary delays.
- **Simulation Drills:** Conducting simulation drills can help staff practice handling high patient volumes and complex cases efficiently, ensuring preparedness for real-life scenarios.

Conclusion

The study highlights significant areas for improvement in the ED at Medicover Hospital, Navi Mumbai. By addressing the identified bottlenecks and implementing the recommended strategies, the hospital can achieve a substantial reduction in TAT. Improved TAT not only enhances patient satisfaction but also contributes to better clinical outcomes and operational efficiency. Continuous monitoring and iterative improvements based on real-time data and feedback will be essential to sustain these gains.

In conclusion, optimizing turnaround time in the emergency department requires a multifaceted approach, encompassing process automation, resource allocation, fast-track systems, and staff training. By adopting these measures, Medicover Hospital can position itself as a leader in emergency care, providing timely and efficient services to its patients.