

DISCHARGE PROCESS MAPPING AND TURNAROUND TIME IN MULTIDISCIPLINARY TERTIARY CARE HOSPITAL

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The IIHMR University, Jaipur

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Master of Business Administration (MBA)

in

Hospital and Health Management

By

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Under the Supervision and Guidance of

Dr Vinod Kumar SV

2024



06th July 2024

TO WHOMSOEVER IT MAY CONCERN

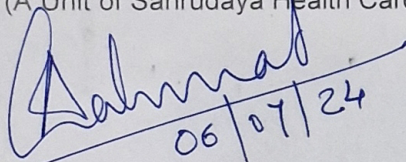
This is to certify that **Dr. Shivangini Rao (E- Code – 029805)** has successfully completed her Training Period at **Medicover Hospitals** from **27th March 2024 to 26th June 2024**.

She was actively & diligently involved in the tasks assigned to her.

During her Training Period, we found her hardworking, punctual, and shown interest to learn new things. Her interpersonal and communication skills were good.

We wish her all the very best in her future endeavours.

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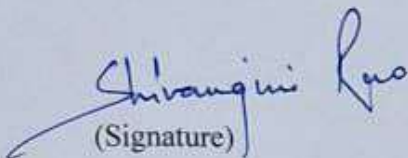

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Appendix D: Declaration by Student

DECLARATION BY STUDENT

I hereby declare that this dissertation titled **“Discharge Process mapping and turn around time in Multidisciplinary tertiary care hospital”** is the Bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

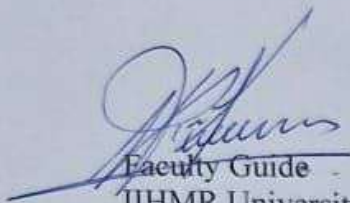

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Date: 04/07/2024 .

CERTIFICATE

This is to certify that the dissertation titled **DISCHARGE PROCESS MAPPING AND TURNAROUND TIME IN MULTIDISCIPLINARY TERTIARY CARE HOSPITAL** is a record of the research work undertaken by DR SHIVANGINI RAO in partial fulfilment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.



Faculty Guide

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Date 01/07/2024

Abstract

Introduction

Discharge Turnaround Time (TAT) is a pivotal metric in healthcare management, reflecting the efficiency of hospital operations and patient flow.

The NABH defines discharge as the process by which a patient is transferred from the hospital, with all relevant medical reports confirming stability.

The discharge procedure is believed to have started when the consultant formally recommends discharge and ends when the patient leaves the clinical unit.

METHODOLOGY: The research was conducted in the IPD (Inpatient Department) of Medicover Hospital in Pune. It was a Cross-Sectional Study which included all discharges initiated in IPD between morning 9:00 am – Afternoon 2:00 pm are taken into consideration (except Sundays).

Duration of study: From 25TH March 2024 TO 25TH June 2024

RESULT:

During the study period, 200 Discharged patients were observed, including 100 patients from the Medi assist department and 100 patients with Cash Payments. According to the findings, the mean time required for discharge is 270 minutes for planned Medi assist release and 327.84 minutes for those who had an unplanned Medi assist discharge. It took 115 minutes for those who had to pay out of pocket to be discharged planned, and 164.07 minutes for cash patients to be released unplanned.

Main reasons for delay are-

- Non availability of housekeeping staff
- Unplanned medicine return and medication indent from Nursing staff
- Unplanned discharges
- Delay in getting discharge medications
- Delay in investigation reports
- Delay in response on consultants
- Delay from patient's relative side

Conclusion:

The results show that the mean discharge duration across all categories in a multidisciplinary tertiary care hospital is longer for unexpected discharges, regardless of whether the patient is paying or Medi assist.

The hospital should develop a policy for the discharge process in which all steps and times are specified, and all measures are made to maintain quality of care, patient satisfaction, and bed occupancy rate.

Key words:

In-Patient Department (IPD), Length of Stay, Discharge Process, Turn Around Time (TAT), Paying Patient (PP), Third-Party Administrator (TPA).

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Dr. Shivangini Rao

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Abbreviation

ALOS	Average Length of Stay
DAMA	Discharge Against Medical Advice
ED	Emergency Department
FC	Floor Coordinator
HCP	Health Care Provider
ICU	Intensive Care Unit
IPD	In-patient Department
LAMA	Leaving Against Medical Advice
LOS	Length Of Stay
MOD	Manager On Duty
TAT	Turn Around Time

Chapter 1- Introduction

1.1 Background

The discharge process at any hospital is a lengthy process taken by hospitals to complete the related events; it's a vital quality indicator of the care any hospital provides. Patient satisfaction, as well known, is inextricably linked to treatment performance, which patients report through every clinical

engagement in health facilities because this is the final phase of the patient's stay. It leaves a lasting mark on the patient's mind and will be memorized as an indicator of the level of care received. A discharge summary is the only type of Follow-up communication with the patient in the subsequent care setting. High-quality discharge summaries are essential for ensuring patient safety during transitions in healthcare settings, particularly in the immediate post-hospital period.¹ Patient discharge is a time-consuming process that includes medical, budgetary, legislative, logistical, and documentation components that must be fulfilled correctly. As per Silva et al., insufficient operational advancements are the primary cause of prolonging the discharge cycle. Interpolations can also be used to help recover the progression.²⁻³ Researchers have identified that a convenient mechanism would enable integrated systems to keep track of accessible units awaiting enrolment.⁴

TAT was captured from the intimation of discharge to the final summary signed by a concerned doctor as the concluding step in the discharge process. Patients and staff equally desire the hassle-free discharge process, but various factors affect this process, which needs to be highlighted to improve quality.

1.1.1 Different Types of Discharge

1. Planned Discharge

The discharge is planned a day before the release; the doctor writes that the discharge will be done the coming morning.

2. Unplanned Discharge

The discharge was unplanned, and the doctor recommends a shot on the day of release. The accidental discharge occurs when the patient is not ready to stay in the hospital for any reason. An unplanned discharge is, for example, a resident's acute care transfer to a hospital or emergency department. Based on the emergency department examination, either stabilise a condition or decide whether an acute care admission is necessary.

Insurance Discharges

An insurance policy is a sort of health insurance that pays for medical expenditures incurred while treating the policyholder's medical condition. If you are covered by medical insurance, you can submit your bills for reimbursement to the insurer.

Paying or Cash Discharges

A private-pay patient is defined as a natural person not covered by any insurance policy or plan or by a self-insurer and whose charges for accident or disease are not compensable by his employer or other insurer or insurance arrangement.

1.2 Discharge Process

The discharge process starts right from the doctor writing the discharge in the patient's file. The nursing staff and duty doctor begin preparing the documents in the file, which includes the filling plan of care and drugs that are to be continued further for the patient.

After completing the documents, the discharge summary is prepared. The discharge summary contains the patient's primary complaint, the diagnostic evidence, the treatments given, the patient's responses to it, and discharge suggestions. It is prepared in the IPD ward by the Resident doctors. The file with the attached discharge summary paper is sent back to the consultant doctor for the consultant's signature. Then, after the preparation of the discharge summary, the medicines are sent to the pharmacy department for the refund or indent of medicines, if any. For the refund/indent of the drugs, the sister in charge of the other nursing staff collects the drug from the patient. The medicines are sent to the Pharmacy, or if there is an indent of treatment, the sister contains the medicine and gives it to the patient; if there is no refund of medicine, then a slip is attached to the file, which is written with 'no refund.' The file is then sent directly to the billing department or Medi assist department for the billing. For paying patients, the billing of the file is done at the Inpatient billing counter. Then, the bill is given to the patient or relative to pay the cash. In the case of Medi assist, the patient must wait till TPA approves the bill. After the billing clearance is allowed, a slip (Checkout Slip) is given to the patient. Allowed To Go (ATG) approval is shown by the patient in the respective ward, and then the patient can leave the hospital.

1.3 AIM

To perform a prospective review of hospital discharge process mapping of assisting and paying patients and provide inputs on process improvement for refining turnaround time in a multidisciplinary tertiary care hospital Pune

1.4 OBJECTIVE

- To understand the process flow of the discharge process.
- To identify gaps in the hospital discharge system.
- Identify the root cause of delays in discharging and develop interventions to minimize such delays.
- To recommend process change initiatives about the existing hospital discharge process in the study site

Chapter 2 – Literature Review

The discharge procedure is unavoidable and vital to a patient's hospital stay. Mc. Keehan defined the discharge process in 1981.⁷ Since the 1980s, a considerable volume of material has been written that explores the process in other countries. The first substantial body of discharge research, conducted in the 1990s and early 2000s, revealed that the discharge

mechanism is highly complex, delicate, and prone to failure. Six Sigma approaches can significantly enhance discharge, particularly in overcrowded hospitals. Patient discharge is a time-consuming process that includes medical, budgetary, legislative, logistical, and documentation components that must be fulfilled correctly. As per Silva et al., insufficient operational advancements are the primary cause of prolonging the discharge cycle. Interpolations can also be used to help recover the progression.⁸⁻⁹ Between 1980 and 2012, much research on the discharge process overseas determined significant and minor difficulties in improving the procedure and exploiting it for the commercial benefit of hospitals.

In India, there is a need for more research articles on the discharge process. Many components of the discharge process can be improved by assisting resident physicians.¹⁰ Work overseas also needs to improve when comparing discharge times for cash and TPA patients. The NABH standards for hospitals guidebook addresses the need for summarization standardization of the hospital discharge process in Chapter 1, under standards AAC13 and AAC14. JCI and other national accreditations describe the protocols and importance of the discharge process. It's remarkable how few books on hospital administration in India cover this critical topic.⁶

When assessing and monitoring patient suitability for positive discharge outcome statistics, fundamental elements of hospital discharge readiness should be considered. Physical functionality. Cognitive ability. Appropriate assistance, information, and awareness are indeed critical in this process. There needs to be more understanding of how medical discharge mobilization specifications may be used in healthcare. Medical and postoperative patient-reported discharge obstacles must be assessed methodically and analytically to plan for readiness. When the structured statements are obtained, they can be used as a reference for discharge decision planning, ensuring that patient demands are met and the hospital care transfer is as smooth as possible. However, there is a need for more data on the use of these techniques to optimize discharge planning. Clinicians and the ancillary healthcare workforce should continue to focus on developing initiatives and solutions that will significantly impact the biopsychosocial concerns of the admitted individuals at this time.¹¹

The discharge procedures have significant operational risks and ingrained vulnerabilities. There is current supporting data to conventionally prove that deficiencies during the transition process overtly or covertly influence medical inconsistencies, which can be narrowed down through initiatives at the time of hospital discharge if any discharge-related

adverse events lead to re-hospitalization. These are variables associated with institutional, patient, and clinical provider characteristics that can be altered to support safer and easier rehabilitation.¹²

The Medicine department has designated timely and efficient hospital discharge as a quality care indicator. Inpatient facility LOS would be critical for patient and organisational practice. In contrast, hospitals typically struggle to meet their discharge targets. Delayed discharge refers to the length of time a patient remains in the hospital after being medically fit for discharge owing to non-medical reasons. Delayed discharge has several harmful repercussions. Patients are more prone to have poor hospital experiences, such as inpatient infections, medication mistakes, thrombotic episodes, and pressure sores.¹³⁻¹⁴

Long-term service users may get inadequate treatment, increasing the risk of functional and cognitive damage. Patients who stay in the hospital for a prolonged period of time contribute to a larger inpatient pool and, as a result, resource restrictions, which leads to increased employee workload and stress. Long-term hospitalisation for more than 30 days was associated with a larger percentage of surgical procedures, more bandwidth, and less antibiotic usage compared to other patients. Managing antibiotic usage indicators in an appropriate and effective manner is crucial to enhancing medical care quality.¹⁵

Delays in discharge have severe consequences for the healthcare system. Increased LOS affects inpatient flow through the hospital, raising the number of patients in the triage, delaying transactions among various hospitals, and forcing planned treatments to be canceled due to low bed availability. Furthermore, the societal costs of prolonged hospitalization are unmeasured. For example, relatives and family frequently take an "unpaid caretaker" role to help the patient in the hospital, resulting in additional productivity loss. Delays in discharge are a worldwide issue in healthcare. In Canada, approximately 13% of beds in hospitals were occupied by medically fit individuals for release, according to multi-institutional research.¹⁶

According to a study conducted in the US, roughly 20 percent of hospital LOS may be excessive.¹⁷ The annual expenses of delayed discharge in the United Kingdom are estimated to reach £100 million.¹⁸ Because the reasons for prolonged lengths of stay differ by institution, Recognizing and attempting to remove local release barriers can also have significant clinical and fiscal consequences with all health systems.

One of the critical sectors that has remained a focus for many researchers is medical insurance and cash. Several studies on various aspects of insurance and related fields have been conducted.¹⁹ The present study focuses on the insurers, hospitals, and their interlinkages. This chapter examines the literature of such critical studies in order to identify gaps in the literature. The literature on Medi Assist and Paying Patients would aid in identifying existing work and holes in the relationship between health insurance, insurer, and provider. The major problem faced by assisting patients is the time-consuming process, which delays the patient's discharge and leads to discontent among the patient.

This report discusses the identification, planning, and implementation of multidisciplinary intervention strategies to overcome discharge barriers for long-term inpatients. Assess the measure's impact on LOS, rehospitalization, care staff satisfaction, and morale.

Chapter – 3

Methodology

Research question:

How can Turnaround Time (TAT) in the In-Patient Department of the hospital be reduced to improve patient outcomes and operational efficiency?

- **Study Design-** Quantitative.
- **Setting** – Medicovert Hospital, Pune
- **Sampling technique-** Random sampling

- **Study Population** – Patient admitted in IPD.
- **Data collection method** – Primary Data Collection.
- **Inclusion Criteria**- Insurance and Paying Discharged patients of multidisciplinary tertiary care hospital, Pune
- **Exclusion criteria**- The Government, NH (Nursing homes), Overseas, Corporate companies, Staff category admissions of multidisciplinary tertiary care hospital, Pune.
Patients getting discharged on Sundays
- **Duration of Study**- 25 March 2024 to 25 June 2024
- **Sample Size**- 200

Average = Total discharge time summation / Total patients discharged.

The steps were used to collect real-world data on the length of the discharge process for insured and cash patients.

Data collection has been done through observation of time taken in completion of each process while discharging each patient, which includes:

TAT (Turnaround time) is recorded and analyzed for:

- TAT 1: the doctor's advice for discharge
- TAT 2: Making of discharge summary.
- TAT 3: Pharmacy clearance.
- TAT 4: in-patient billing department clearance.

For Medi assist patients:

Above all, TAT has been recorded. Additionally,

- TAT 5: TPA approval.
- TAT 6: ATG given.

For Paying patients:

Above all, TAT has been recorded. Additionally,

- TAT 5: is the time at the ATG given.

Note: TAT is the duration for the specified activity or process to be completed.

Chapter – 4

Results

Data Analysis

The study was based on sample collection (200 samples, i.e., 100 Insured patients and 100 paying patients). The time taken for each activity was calculated in minutes. Analysis was done using MS Excel.

Medi Assist Discharged Patient.

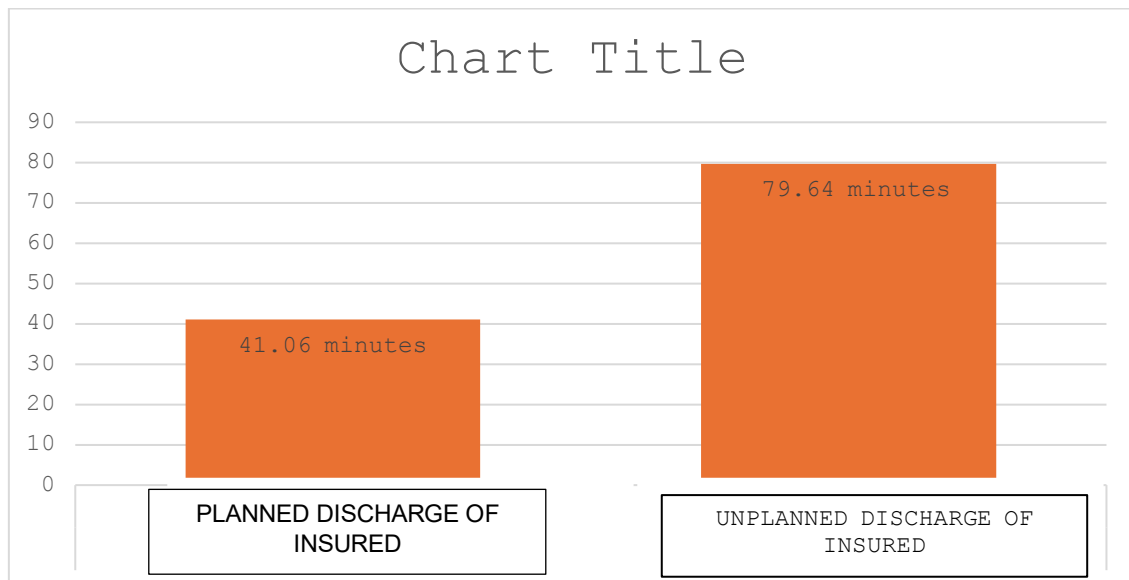


Fig 4.1 Average Duration to prepare the discharge summary of Insured Patient.

The average time to prepare the discharge summary of unplanned discharge is 79.64 minutes, compared to planned release 41.06 minutes.

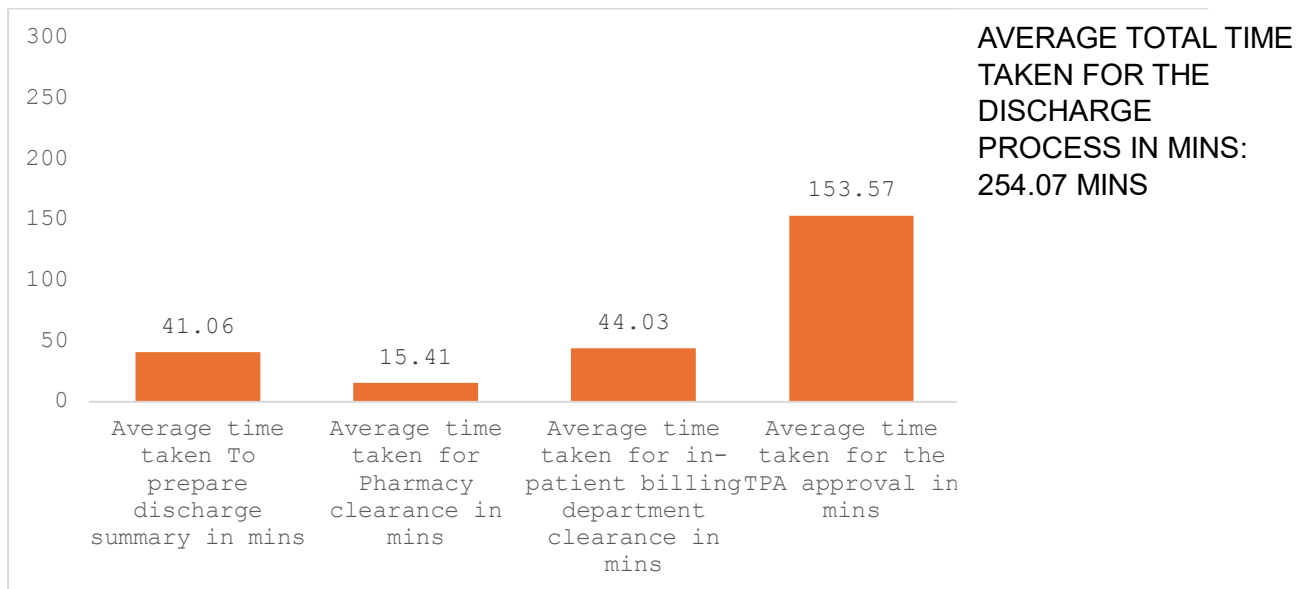


Fig. 4.2 Average Time Taken for the Planned Discharge of Insured Patient.

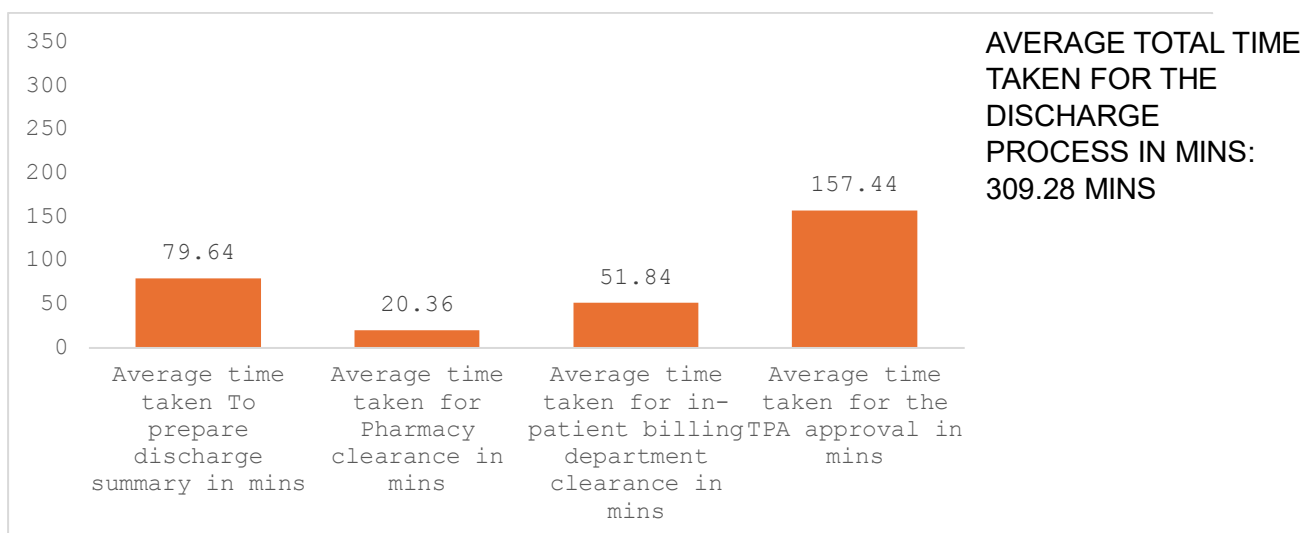


Fig. 4.3 Average Time Taken for the Unplanned Discharge of Insured Patient.

However, the TAT Insured Unplanned discharge process is more (327.84 minutes) than the Insured planned discharge process (270 minutes).

Discharge of Medi-assisted Patient

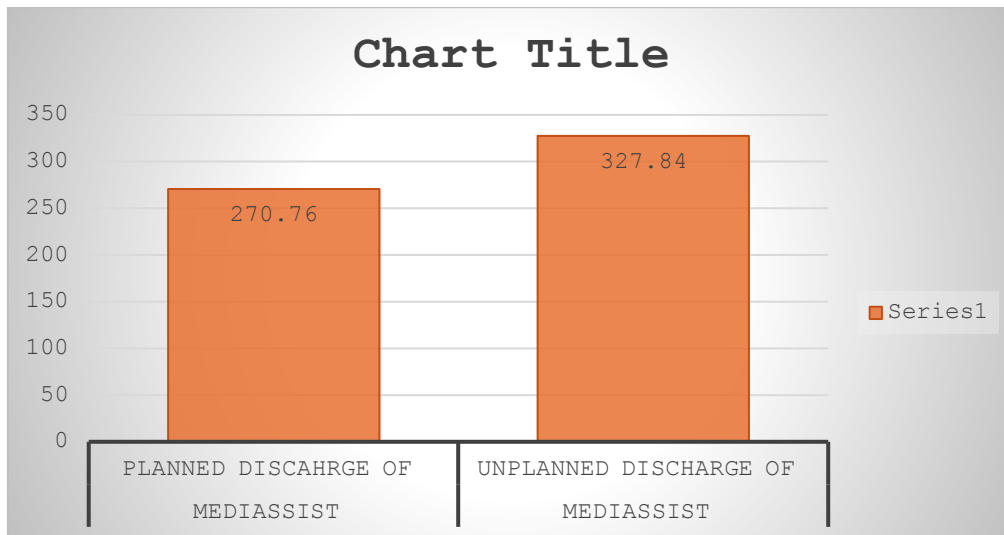


Fig 4.4 Average TAT for the discharge process of Insured Patient.

The above fig shows that the discharge process of unplanned discharge is more than that of planned discharge. The average discharge time for planned and unplanned patient discharge is 270.76 minutes (4.51 hours) and 327.84 minutes (5.464 hours), respectively.

Discharge of Paying Patient

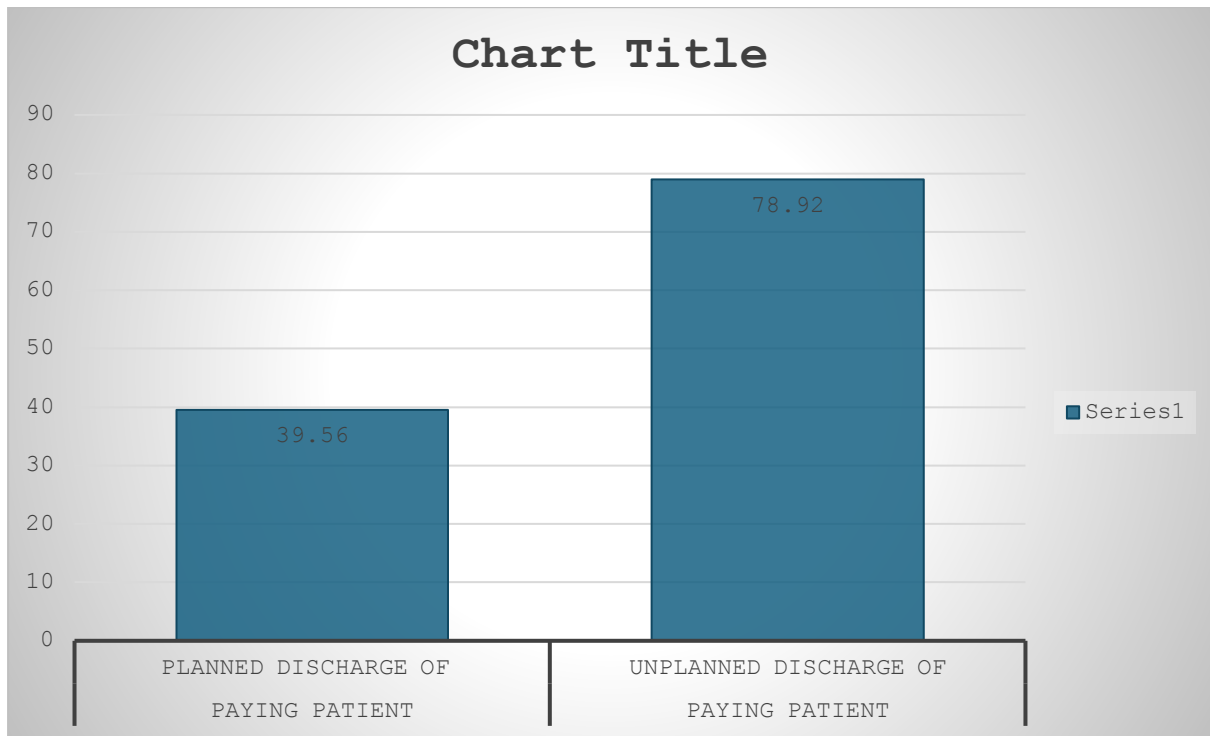


Fig 4.5 Average Time Taken to Prepare the Discharge Summary of Paying Patient.

The above fig shows that the time taken to prepare the discharge summary of unplanned discharge is 78.92 minutes compared to planned release, which is 39.56 mins.

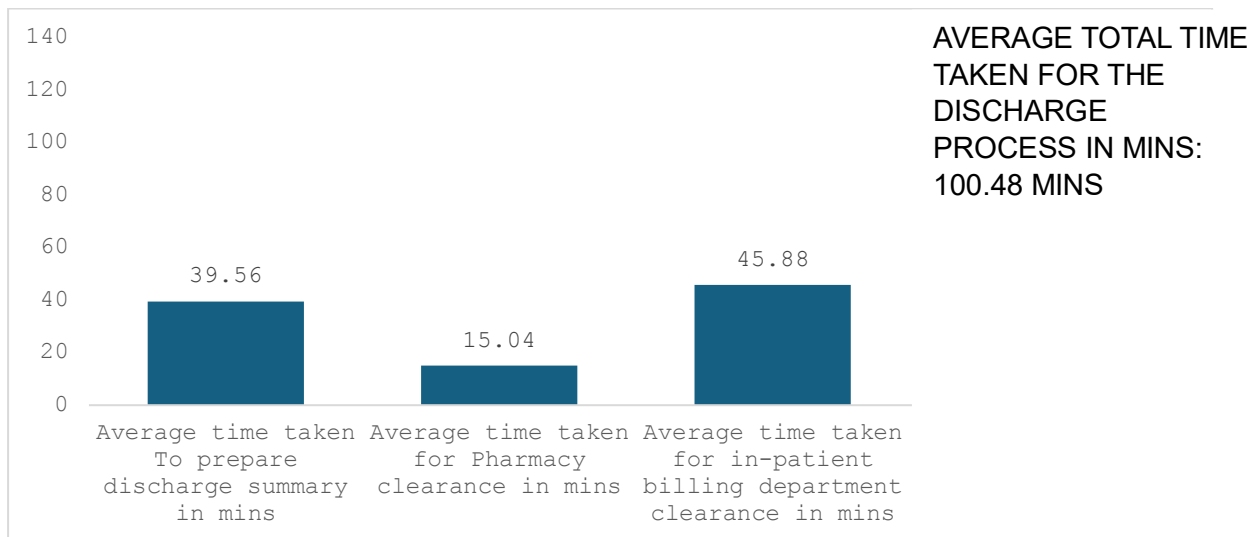


Fig 4.6 Average Time Taken for the Planned Discharge of Paying Patient.

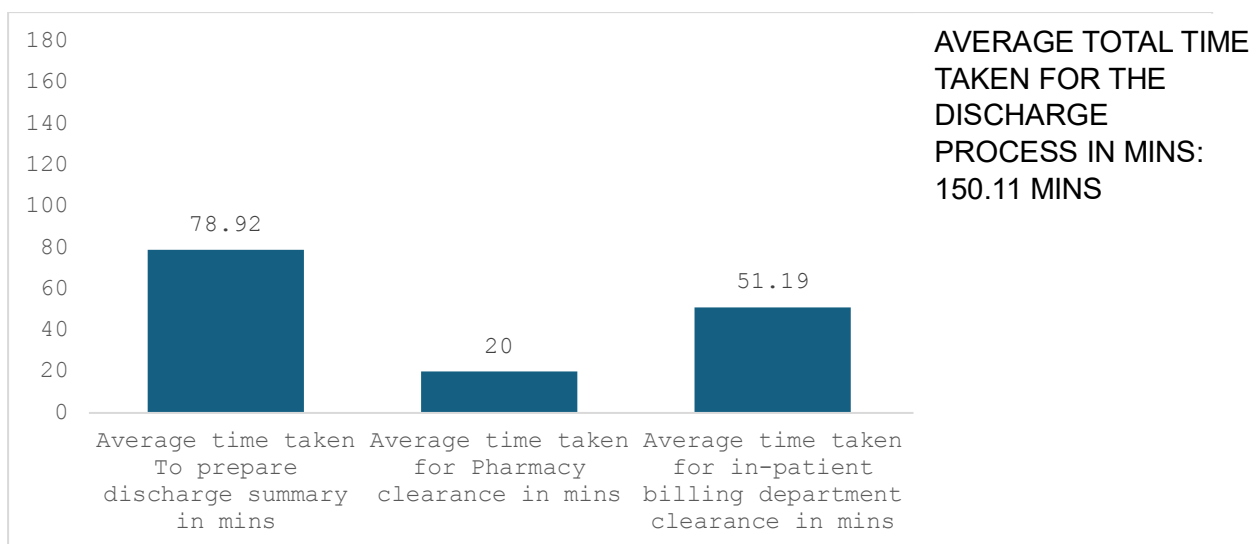


Fig 4.7 Average Time Taken for the Unplanned Discharge of Paying Patient.

However, the TAT paying patients with unplanned discharge process is more (150.11 minutes) than paying patients with planned discharge process (100.48 minutes).

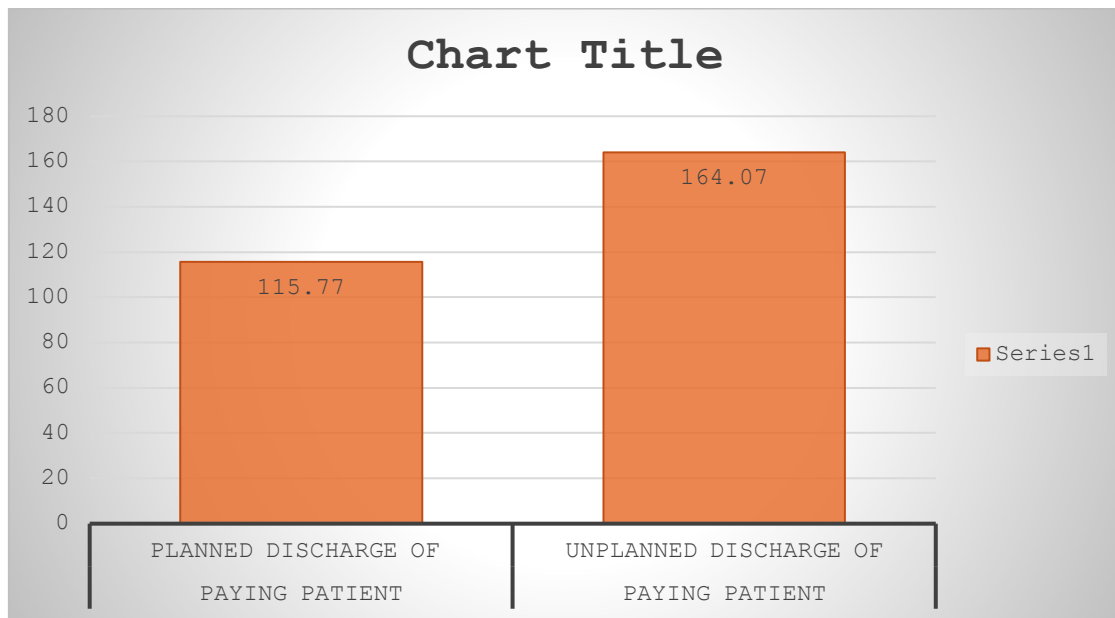


Fig 4.8 Average TAT for the discharge process of Paying Patient.

The mean time taken for the discharge process of unplanned discharge is high (164.07 minutes) as compared to planned burst (115.77 minutes)

Chapter – 5

Discussion

Reasons for the delay in the Discharge process

1. Planned Discharge

- Resident doctors have been kept occupied with classes, which has caused the discharge to be delayed.
- Non-cardiac surgical registers are crowded in OT or on rounds. They only write summaries when they have time. It could take an entire day to write.
- Cardiac Surgical: If a patient is scheduled to be discharged the next day, but the ECHO is not completed, the summary and discharge are postponed.
- Some CATH reports were delayed owing to consultant availability.
- Last-minute revisions to discharge summaries by consultants or referral doctors take far too long to change.
- Sometimes, the printing department makes mistakes, such as publishing the wrong drug time or ID.

2. Unplanned Discharge

In the event of an unplanned discharge, all preceding points remain unchanged.
ADDITIONALLY,

- In the case of cardiac surgery, making the summary takes more than 4-5 hours because the surgeons are occupied in O.T. They sign the summary once O.T. is over.
- Even after 4-5 hours, the cardiac summary is ready.
- Echo reports are essential considerations in both planned and unplanned discharges.

3. Clinical Problems

- When everything is ready, the patient awaits dressing. The consultants arrive at his convenience.
- Many clinical questions have been raised by the patient's family (RMOs are not present to answer them). Arranging an RMO is a time-consuming process.)
- Discharge notification: Consultants do not notify wards of discharge appropriately.

4. Nursing

- Many times, discharge files are not maintained and available, and last-moment adjustments cause discharge to be delayed.
- If a coordinator is unavailable, they do not provide a file for printing or a charge sheet for invoicing as soon as possible.
- The nursing staff does not correctly return medications. They often left unreturned medicines in the closet, which the patient's family discovered at the time of discharge.
- Junior personnel take a long time to explain the discharge summary since they cannot explain it adequately.

- The discharge procedure becomes delayed during handover.
- Because many employees are assigned to double duty, they all have lunch together simultaneously. As a result, the discharge procedure is delayed during that hour.

5. Patient Relatives

- If a patient's relative arrives at the ward at 11.30 a.m. or 12 pm., They insist that the patient be discharged following lunch.
- Arranging vehicles for the patient causes the discharge to be delayed.
- If a train is scheduled in the evening, consultants will allow a patient to stay in the ward.
- Pharmacy medication is now a consideration. Sometimes, a patient must wait for medications.

CHAPTER-5

RECOMMENDATIONS

- The HMIS should be updated to take less time to make a discharge summary.
- It is advisable to plan and execute a discharge so that the TAT of making the discharge summary has been reduced.
- It is advisable to update the day-to-day activity of a patient from the date of admission on the system to reduce the TAT of the discharge process.
- Increasing the support staff also helps reduce the discharge process's TAT.
- Orientation of staff (Doctors, Nurses, and attendants) about the relevance and importance of the discharge process.
- Design a process around the patient and their family to minimize the movement and waiting time.
- Regular analysis and quality control programs can be undertaken to check the measures' feasibility.
- Encouraging the patients to vacate the bed / to shift on couches as early as possible after receiving the ATG.

Chapter – 6

Conclusion

- TPA patients' planned discharge process time was 4 hours and 51 minutes, which was 2.59 times longer than Cash-patients.
- TPA patients had an unplanned discharge process duration of 5 hours and 46 minutes, 2.73 times longer than Cash patients.
- The interruption in the movement of files from one department to another is high due to a lack of coordination between the nurses and ward boys.
- The Completing a patient's discharge summary is sometimes delayed due to system error.
- The HMIS used for making a discharge summary is not good; it takes time to select a lab investigation report, As the system cannot select more than one investigation at a time.
- The time taken to make the discharge summary of unplanned planned discharge is high.
- Sometimes, an unexpected technical issue occurs, causing a delay in the discharge process.
- It is recommended that the TPA discharge process be sped up.
- The suggestions can help shorten the discharge process, increasing customer happiness, admissions, bed turnover, and hospital profitability.

Chapter – 7

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