

Study on Discharge Process at Meitra Hospital

Dissertation Submitted to



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For the partial fulfilment for the award of the
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(MBA)

In

Hospital and Health Management

By

Subham Mittal

Under the Supervision and Guidance of

Dr. Monika Chaudhary
(Professor, IIHMR University)

2021

DECLARATION BY STUDENT

I hereby declare that this dissertation titled **Study on Discharge Process at Meitra 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 Information derived from the published or unpublished work of others has been duly acknowledged in the text.

(Signature)

Name of the Student- Subham Mittal

Date:

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Subham Mittal. S/O. Bhushan Kumar Mittal - in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IHMR University, Jaipur has successfully completed his Internship at Meitra Hospital, Kozhikode Kerala during **22nd Mar 2021 to 31st May 2021.**

We thank you for your contributions and take this opportunity to wish you success in your future endeavors.

Best Regards
For **Premium Medical and Healthcare Providers Pvt. Limited**


Kapil Gupta
Vice President - HR



CERTIFICATE

This is to certify that dissertation titled **Study on Discharge Process at Meitra Hospital** is a record of the research work undertaken by **Subham Mittal** in partial fulfillment 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 his/her approach to the research study has been sincere, scientific, and analytical.

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School Dean

IIHMR University, Jaipur
Date:

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Chapter-1 Background

1.1 INTRODUCTION:

The NABH defines discharge as a procedure wherein a patient is removed from the hospital with all the medical reports concerned which guarantee stability. When the consultant formally agrees discharge, the discharge procedure is said to have begun, and it concludes when the patient leaves the clinical unit. The goal of the study was to observe the 200 bed Super Speciality Hospital discharge, to comparison it with NABH AAC 13 and 14 standards, and to check for any possible bottlenecks.

Discharge in real terms is explained as “a release of a hospitalized patient from the hospital by the admitting physician after providing necessary medical care for a period deemed necessary.” The discharge process includes clinical, financial, legal, and administrative record keeping. It starts right from writing of discharge orders by the doctor until the settlements of different kinds of hospital bills. It is a time-consuming process and may take few hours for completion as it involves various stakeholders. The key principles of effective discharge planning include - Planning on admission, develop a clinical management plan within 24 hours of admission and to develop a clinical management plan within 24 hours of admission. The time limits in discharge process vary according to the patient’s mode of payment i.e., ECHS, CREDIT-PSU, TPA & CASH payments.

The discharges can be varied as **planned discharges & unplanned discharges**. In **planned discharge**, the planning is done a night prior of the discharge after evening round by doctor (either verbal/written) and activities related to finances, pharmacy is started in the night itself and then the next morning patient is discharged. In planned discharges the patient should ideally be wheeled out before 11am the next day. In **unplanned discharge** the discharge process is started spontaneously after the doctor’s round and after that all the activities of the discharge are started.

An extensive and inefficient process of discharging In-patients from the hospital must be addressed to ameliorate the quality of healthcare. Patient dissatisfaction is causing damage to the loyalty, hospital revenue is compromised. The most important procedure to improve in order to increase the availability of beds in the hospital is the patient discharge process. To ensure patient happiness, quality patient care, bed availability, and customer loyalty, a hospital must have a solid discharge procedure. The discharge process is the final step in the treatment process during a patient's stay, and if it is completed on time, the patient will be completely satisfied. “A quick discharge procedure can assure early availability of patient beds, which can minimise patient admission wait times or even lower the rate of patient rejection owing to bed shortages.”

The hospital and other healthcare professionals engaged in patient care may be able to simplify the discharge process and explore further methods to improve hospital services if an anticipated time for release is provided. The goal of this work was to discover the many factors that influence discharge TAT and use machine learning to forecast it. The patient is generally informed that he or she will be discharged to final summary preparation, and then

the bill is initiated and cleared. The hospital chosen for this study was no exception. Many activities and outstanding duties, such as last-minute investigations and cross-consultations, are involved in this process, resulting in unforeseen and unpredictable delays.

In many hospitals, the admission and discharge processes can both function as bottlenecks, reducing the efficiency of the facility. It is a critical indication of care quality and patient satisfaction. The demand on hospital beds is further increased by delays in discharge. Discharge delays are inefficient for both hospitals and patients. It raises healthcare costs and makes patients feel depressed. A significant delay in discharge raises the patient's risk of contracting a hospital-acquired infection.

IP Touch Points, Activities and KPIs

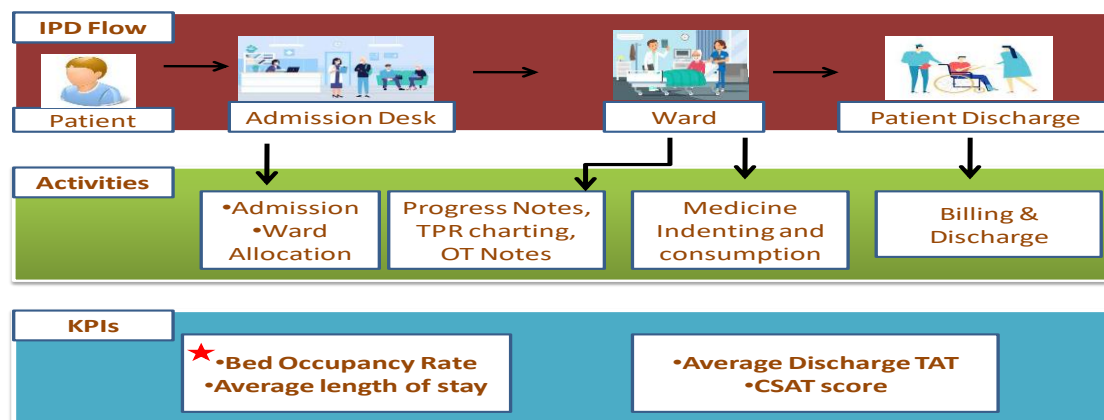


Figure: 1 IPD Touch points, Activities and KPIs

1.1.1 Average Length of stay

The average duration of stay in hospitals is a statistic that is frequently utilised in health-care planning. According to popular perception, the kind of payment system or health insurance plan currently has a larger influence in the length of stay in hospitals for patients. As the average length of a hospital stay has become more popular, a discussion of this computation in a "Tools of the Trade" article seems like a good idea.

There are two methods of calculating average length of stay. The formula for each method follows:

METHOD 1: (TOTAL DISCHARGE DAYS / TOTAL DISCHARGES) = AVERAGE LENGTH OF STAY (IN DAYS)

METHOD 2: (TOTAL INPATIENT DAYS OF CARE / TOTAL ADMISSIONS) = AVERAGE LENGTH OF STAY (IN DAYS)

1.1.2 Bed Occupancy Rate

The occupancy rate is a metric that depicts an inpatient health facility's actual use over a specific period. It is stated as a percentage, and phrases like "percent occupancy," "Percentage of occupancy," and "occupancy ratio" are frequently used interchangeably. Hospital and nursing home occupancy rates are frequently calculated and aggregated at the facility, county, and state levels by the Department of Health Statistics. This data is extremely valuable for health-related planning.

To calculate the average occupancy rate for a typical one-year reporting period, two data items are needed. These include "Inpatient Days of Care" and "Bed Days Available." Definitions of these two items are as follows:

INPATIENT DAYS OF CARE - For the whole year, add up each daily inpatient census. Simply add up all of the daily censuses for the 365 days of the year to get this figure. "Total inpatient service days," "occupied bed days," and "census patient days of care" are other phrases that are interchangeable.

BEDS DAYS AVAILABLE - If all beds were full throughout the year, the maximum number of inpatient days of treatment would have been delivered. Bed days available would be $50 \times 365 = 18,250$ if 50 beds were available for usage every day of the year. If the number of beds changed over the year, bed days available would have to change as well, making the computation more difficult. In the next paragraphs, we'll go through this in further depth. Bed days are also referred to as "potential days," "maximum patient days," or "total inpatient bed count days."

"To calculate occupancy rate, use inpatient days of care and bed days available in this formula:

(Inpatient Days of Care / Bed Days Available) x 100

The facility is not the only factor to consider when calculating occupancy rates. Occupancy rates are frequently evaluated to determine how well a certain inpatient unit, such as obstetrics, psychiatry, medical/surgical, or other, is used. The occupancy rate is a useful statistical measurement that is generally measured over a period of time (month, year, etc.) rather than a single day. Even if the number of beds may have changed throughout the reporting period, determining the occupancy for a longer time shows the extent to which hospital beds have been utilised.

1.1.3 What Is a CSAT Score?

A CSAT Score is a number that expresses how satisfied a client is with a certain service. A customer satisfaction score (CSAT) is a numerical figure that expresses how a consumer feels about a given contact, product, or service. The term Customer Satisfaction (CSAT) Score inspired the name.

Multiple scores from various patients are compiled into an average CSAT Score, which indicates how satisfied a company's customers are. This score may then be utilised to benefit

the company in a variety of ways, including measuring performance, client retention, and so on.

$$\text{CSAT Score (\%)} = \frac{\text{Sum of All Scores}}{\text{Sum of the Maximum Possible Scores}} \times 100$$

Figure 2: Formula for calculation of CSAT Score

The Net Promoter Score is a measure of customer loyalty based on referrals rather than satisfaction. Even if you have a lot of happy customers, they may not necessarily suggest you.

To calculate NPS you ask the question: “On a scale of 1 to 10, how likely are you to recommend our service to your family/friends?”

Then you accumulate responses into the equation below:

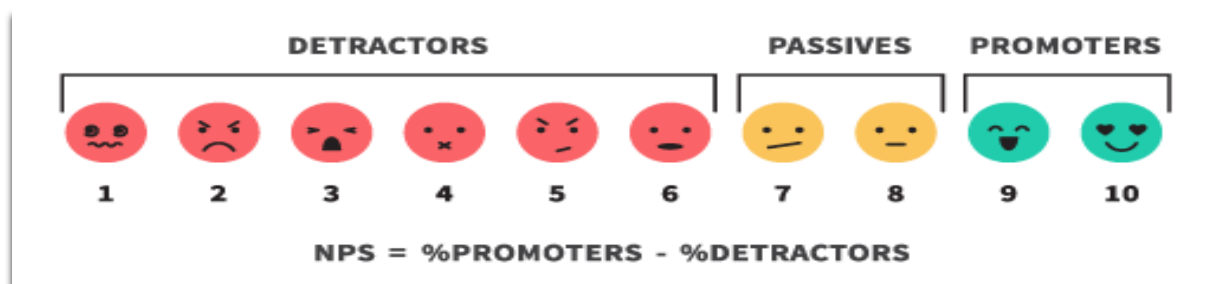


Figure 3: Detractors, Passives and Promoters on Net Promoter Scale

$$\text{NPS} = \frac{\text{Promoters} - \text{Detractors}}{\text{Total Respondents}} \times 100$$

Figure 4: Formula for calculation of Net Promoter Scale

1.1.4 Discharge TAT

Assessing turnaround times can help to analyse workflows in hospital information systems. The discharge TAT is calculated from discharge advice to Room vacant. When the consultants advise for discharge the physician assistant marks it in the HMIS. The second TAT comes for medical discharge where Discharge summary finalization, Pharmacy Return (by ward secretary) and clearance from OT (in case of surgeries) is done and after that the ward secretaries mark for medical discharge. The third TAT comes for bill finalization where the billing executives checks all entries and verifies it, the bill for Insurance patients are made

as per the rate list of the insurance companies and MOU. The billing executive then marks it for bill finalized. The fourth TAT comes for room vacant when the patient vacates the rooms after settling the bill. The bystander receives two pink slips upon the clearance of bill which is to be handover to the nursing and the guard in the gate.

1.1.5 The content of discharge summary includes:

- Clinical Department & Consultant Name
- Patient Demographics
- Primary Diagnosis
- Secondary Diagnosis
- Present complaints
- Clinical Findings- General examination, Vitals, CNS examination, CVS/RS
- Investigations performed and detailed information about the results.
- Progression course in the hospital including results of the procedure/surgeries performed and medication/treatment given.
- Patient condition at the time of discharge
- Further management and medication
- Discharge advice
- Follow-up advice
- Emergency contact number of the hospital / Emergency Department/ Treating consultant.

1.1.6 Electronic Medical Records- Arcus Air by IQVIA

- **Daily orders**
 - The daily orders for treatment are entered in the HMIS; include medication, investigations, diet plan to be done that day only.
- **Continuous orders**
 - The orders that are to be continued during the stay and the duration is too mentioned with the advice given by the treating physician.
- **Progress Notes**
 - The daily progress of the patient is entered in progress notes it includes about the condition of the patient.
- **Laboratory Investigation**
 - The results of Laboratory investigations are updated under this.
- **Discharge Summary**

-The summary is first drafted by Physician assistant /GDMO/junior doctors in the HMIS; they can add the description of investigations and medication from the system itself. After the proofread the consultant finalize the discharge summary.

- **Charting**

-Daily vitals (Blood pressure, Temperature, Pulse rate, Respiration rate) are taken and recorded 4-hourly or as per the instructions of the doctor in wards and in ICU the charting is done hourly.

- **IP Order**

-The ordering of medicines, investigations, consumables are done in HMIS in which the quantities are specified. The routine order is received within 4hrs, and the stat orders are received within 15min to 1hrs.

- **Pathology**

- For histopathology and PAP smear reports.

1.1.7 What is discharge process?

A discharge process is defined as the protocols, instruments, and methods through which a health professional, health provider association, or individual formally completes a treatment or potentially care for a patient. The discharge procedure refers to the patient's final contact with clinic professionals and is the consequence of the patient's exposure to a variety of procedures. Improving the quality of the discharge procedure should, in turn, contribute to an increase in patient satisfaction, since patients are more likely to return to a health centre where they had a positive release experience when they need treatment again. Discharge procedures, too, require attention. The first addresses the security problem of emergency discharge, describing it as a matter of co-appointment and collaboration among several health and social consideration departments. Real-world approaches, modifications, and interventions are considered, as well as study proof on clinical danger and patient safety.

Information sharing may be a source of system health by assisting in the coordination and integration of diverse organisations' activities, hence reducing system unpredictability. The National Accreditation Board for Hospitals and Health Care Organizations (NABH) has established a criterion for completing the discharge process of 180 minutes. As a result, maintaining an acceptable amount of discharge time gives the company a competitive advantage.

Key Stakeholders of Discharge Process



Fig 5: Key Stakeholders in the discharge process

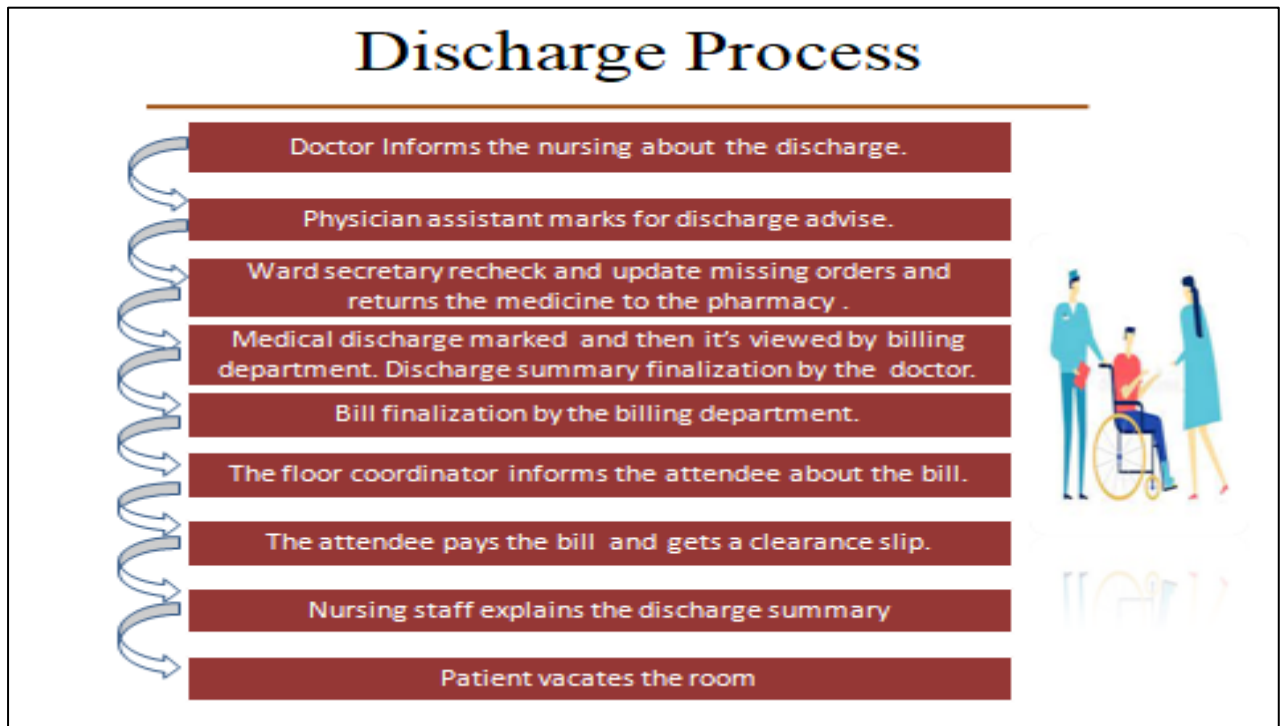


Fig 6: Overview of the discharge process.

1.1.8 Detailed Discharge Process

1). Discharge Advice

- Patient status (Improved/LAMA/Expired)
 - The patient status is marked in the system according to the category and condition of the patient, the patient leaving against the medical advice is marked as LAMA (Left against Medical Advice).
- Discharge Plan
 - The physician assistant mark for discharge advice after getting approval from the consultants, they also specify the discharge date, time and the care provider.

2). Medical Discharge- The medical discharge is marked after finalizing the following parameters by the nursing team.

- Discharge summary -The detailed discharge summary is made by the physician assistant or the junior doctors in the HIS.
 - Pharmacy Return (by nursing team).
 - Clearance from OT and Cath lab (in case of surgeries).

- Discharge Clearance-

Diet (Clearance by dietician after checking the daily charges.)

- IP pharmacy Store (the returned medicines are accepted by the pharmacy).

3). Bill preparation- After the medical discharge billing department starts finalizing the bill. The crosscheck the following heads-

- Daily Bed expenses for the stay
- Consultations and cross consultations- Verification of entries is done from doctor notes and discharge summary.
- Investigation's entries are checked from PACS (picture archiving and communication system) for radiology and other investigations.
- Implant charge
- If any entry is missing from the nursing side regarding consultations, medicine indent, etc., the billing executive informs the nursing stations to add the entries.

4). Final Discharge- After bill finalization the discharge coordinators informs the bystander about the bill. For bill payment patient can pay the bill at the billing counter or in the room (on request) itself via online payment gateways. After bill payment the bystander gets two clearance slips, one is handover to nursing station and one to the security guard at the ward entry while leaving from the hospital. The nursing explains about the medications and follow-up as mentioned on discharge summary.

5) Patient satisfaction feedback via online application –The feedback application provides you a mechanism for recording the complaints, suggestion, and compliments. The application provides away for data analysis, review and management.

It includes questions on Doctors, Nursing, Housekeeping, Facilities, Dietary, Food & Beverages, Radiology, Speech Therapy, Physiotherapy, Billing, and Security. It uses five-point scale system for recording the responses. Whenever a complaint is marked it is triggered directly to the respective departments automatically by mail. The concerned department can add corrective and preventive action against the complaint through the online application.

Major steps in preparation of discharge summary

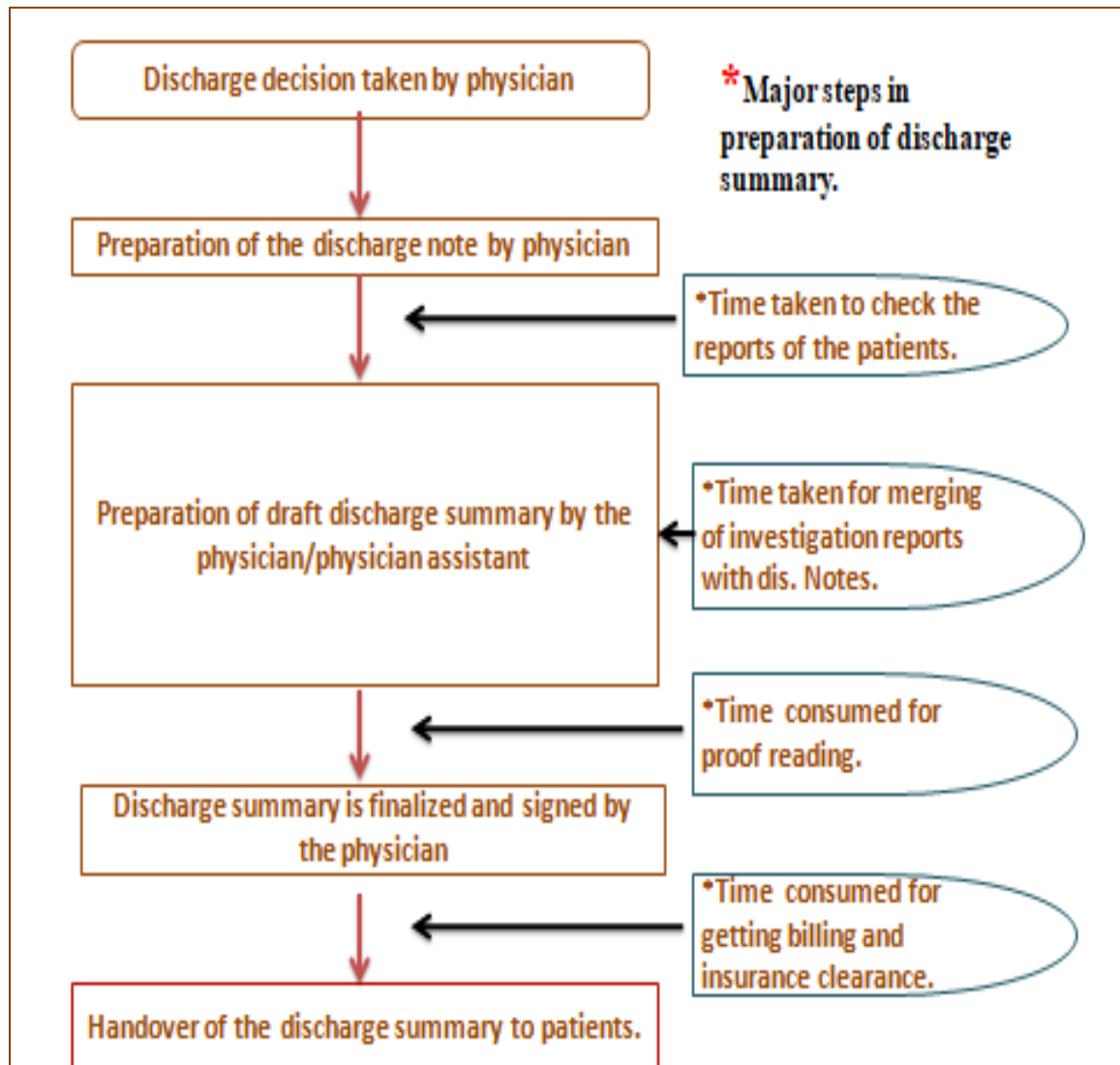


Fig 7: Major steps in the preparation of the discharge summary.

Detailed Discharge process

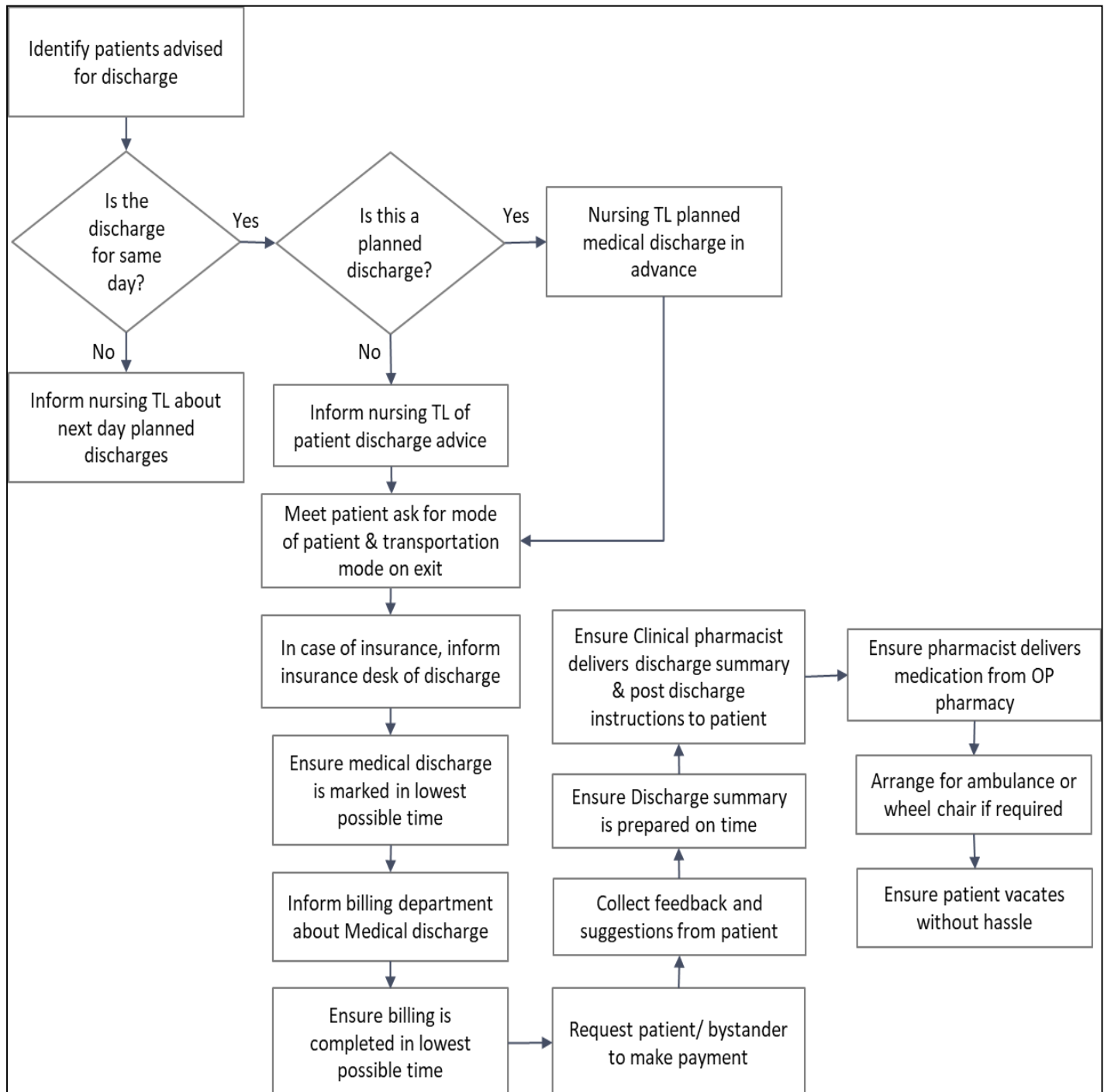
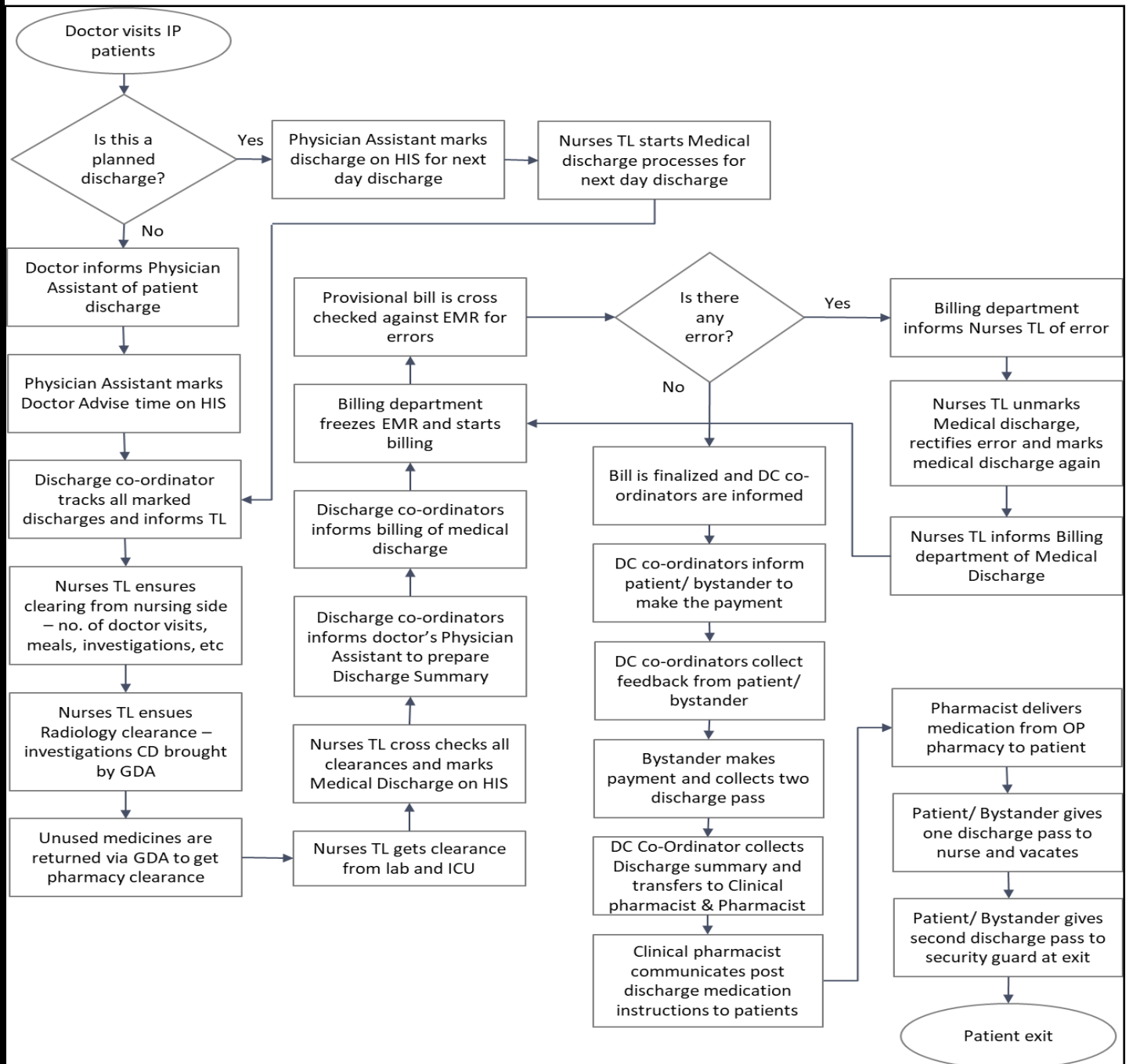


Figure 8: Detailed discharge process-I (As per department manual)

Detailed Discharge process

Figure 9: Detailed discharge process-II (As per the department manual)



1.2 OBJECTIVES:

- To study the discharge process, calculate the turnaround time and identify the reasons for delay.
- To suggest measures to reduce the discharge TAT.

1.3 RESEARCH QUESTION:

- What is the TAT of the discharge process for IPD patients?
- What are the factors affecting TAT of the discharge process for IPD patients?

Chapter-2 LITERATURE REVIEW

- Levesque and McDougall (1996) define customer Satisfaction as an “overall customer attitude towards a service provider” and “When customers are satisfied, they are more likely to return, while dissatisfied customers are more likely to go elsewhere”.
- Nancy Kurma (2009) In her research, she used a variety of treatments, the most beneficial of which was color coding patients according to bed occupancy. This intervention aided in estimating the patient's discharge date, which is extremely helpful in calculating patient flow.
- In the Study ‘Faster Turnaround time’ by Angelo Pellicone & Maude Martocci (2006), used fish bone diagram to analyze the causes of delay in the discharge process.
- Sima Ajami & Saeedeh Ketabi (2007) stated in their conclusion that the early morning rounds should be distributed for effective resource utilization and to avoid queuing. A queue is a waiting area for customers who are waiting for a server to become available. Since the arriving and service times of customers are unpredictable, there may be different waiting times, the average waiting time may thus be used as a component in the performance analysis of the system Two key performance parameters for queuing systems are the average number of line users, also known as the average queue lengths, and the number of busy server times, also known as the utilization rate. They also noted that the consultant offers a planned release date in order to prevent delays.
- “According to LixinOu et al. reported that Discharge delayed most associated with the patient’s medical conditions, delayed healthcare services or medical consultation,

delay in diagnostic services and delayed allied health services. Publication of the Australian hospital association-august 2009”.

- “Carroli and Dowiingin their primary study identified key elements of best practice in relation to discharge planning. Their review confirmed that effective” communication between patient and healthcare professional is paramount to the success of effective discharge planning, in addition to other elements of coordination, education, patient participation and collaboration between medical staff. British journal of nursing 27th September 2013
- “Bauer et al in his article Discharge of the Frail suggests that inadequate discharge planning for older people can lead to adverse outcomes and risk in hospital readmission. It demonstrated the direct correlation between good quality discharge planning and reduction in the rate of hospital readmission. US national library of medicine” national institute of health September 19,2009
- “Murchison R.S stated that Hospital Information System helps to integrate the data from beside monitors and ancillary equipment and this technology enables faster, easier and fewer patient transfers, continuous monitoring and remote access of patient information”. October 2017
- “In a Cochrane Database Systematic Review, Shepperd et al reported that nearly 30 percent of all hospital discharges are delayed for non-medical reasons and these factors mainly include inadequate assessment resulting, late booking of transport and poor communication between hospital” and providers of services in the community medical research 24 November 2011.
- “Hopkins AD and Jones I in his article “Does a dedicated discharge coordinator improve the quality of hospital discharge” suggests that discharge coordinators can improve hospital discharge through supporting the integration of different professionals, overseeing and direct planning and addressing emergent problems in a more responsive way. Quel healthcare”, june1996
- “Shobitha Sunil, Sarala K.S and R G Shilpain their study mentioned that the quality of care provided by the hospital also depends on time taken for completion of discharge process and as per NABH the time completion of discharge process should not exceed 59 minutes and delay in discharge process can be depressing to the patients and also it increases the pressure on hospital beds”. Saveetha school of management India 2017
- “Tierney et.al in his study pointed a range of factors for the delay in discharge in November 2007 which includes:”

- Poor communication among patients and healthcare providers.
 - Requirement of assessment and planning for streamlining discharge process.
 - Insufficiency in Planned discharges
 - Inadequate contribution of patient and family.
 - Over-reliance on unceremonious care
 - Lack of concentration to the special needs of vulnerable groups.
- “Research conducted by Smith reported that a comprehensive approach to patients throughout could yield nearly 25 percent more effective capacities for the average hospital. Accelerating patient placement and discharging patients earlier in the day can significantly impact hospital capacity.” Houston July 2005
 - “Stevens M, Reininga IH AND VAN Horn JR in their study expressed that the quality of medical care provided by the hospitals depends on patient satisfaction. Over many years rating given by the patients are highly satisfied this remains remarkable”. February 2006.

Chapter-2 Methodology

To gain better insight into the possibilities for improvement of the discharge process, data will be collected from medical records, Hospital Management Information system, TPA desk and billing counters. The turnaround time of discharge process will be analysed for cash and TPA patients.

The Fishbone diagram is prepared to know about the main root cause of the delayed discharge that will include Root cause analysis is a problem-solving approach for determining the origins of defects or issues. A factor is referred to be a root cause; if it is removed, a recurrence of bad outcomes is possible.

The data will be collected through observational checklist, Discharge registers, HMIS and In-depth interviews. The observation checklist will include collection of timing of each step of the discharge process. The data analysis would be done through MS Excel.

Data collection instrument would include an observational checklist created on excel sheet, Discharge registers on floors and in-depth interviews. Due considerations of confidentiality and privacy of information would be undertaken in the study.

Discharge Process: The patient's formal care is completed, and he or she is released from the hospital or healthcare institution. A patient is only released after the treating physician determines that he or she has healed entirely or adequately.

3.1 SAMPLE SIZE- IPD discharges from March 2021(888) to April 2021(807).

3.2 DATA ANALYSIS PROCEDURE: Microsoft Excel, Fishbone diagram.

3.3 RESEARCH DESIGN-Descriptive and Analytical study.

3.4 RESEARCH APPROACH- Quantitative Approach

3.5 METHOD OF GATHERING DATA- HIS (Hospital Information System), Discharge registers on floors, TAT checklist, and In-depth interviews.

3.6 ETHICAL CONSIDERATIONS: Data security, privacy, and confidentiality to be maintained.

3.7 NATURE OF DATA

- Primary Data from TAT sheet and Discharge registers present on floors.
- Informal interview with the Nursing staff, Ward secretary, Dieticians, Clinical Pharmacist present on the nursing stations.
- Informal interview with the Billing Executive.
- Secondary Data from Standard Operating procedures (SOP's), Manuals and HMIS (Arcus Air).

3.8 CONCEPTUAL FRAMEWORK:

Because of the increased rivalry in today's market and business climate, organisations must closely monitor and assess the environment and plan to acquire a competitive advantage. Organizations must adapt their operations and structure in order to keep consumers (patients) and preserve profitability in order to remain competitive, particularly when the competitive market is connected with cost and dissatisfied customers. Similarly, as one of the largest service industries, hospitals frequently encounter scenarios in which available resources fail to produce intended results, resulting in an increase in bed demand that exceeds available capacity. As a result, there will be an unfavourable delay, treatment postponement or cancellation, patient dissatisfaction and loyalty damage, hospital income will be harmed, and the competitive edge will be lost. The most important method to improve the availability of beds in the hospital is to focus on the patient discharge process. To ensure patient satisfaction, quality patient care, bed availability, and customer loyalty, a hospital must have a good discharge process. The discharge process is the final step in the treatment process during a patient's stay, and if it is completed on time, the patient will be completely satisfied. A quick discharge process can assure early availability of patient beds, which can reduce patient admission wait times or possibly lessen the risk of patient rejection owing to bed shortages.

Chapter-4 Data Analysis and Results

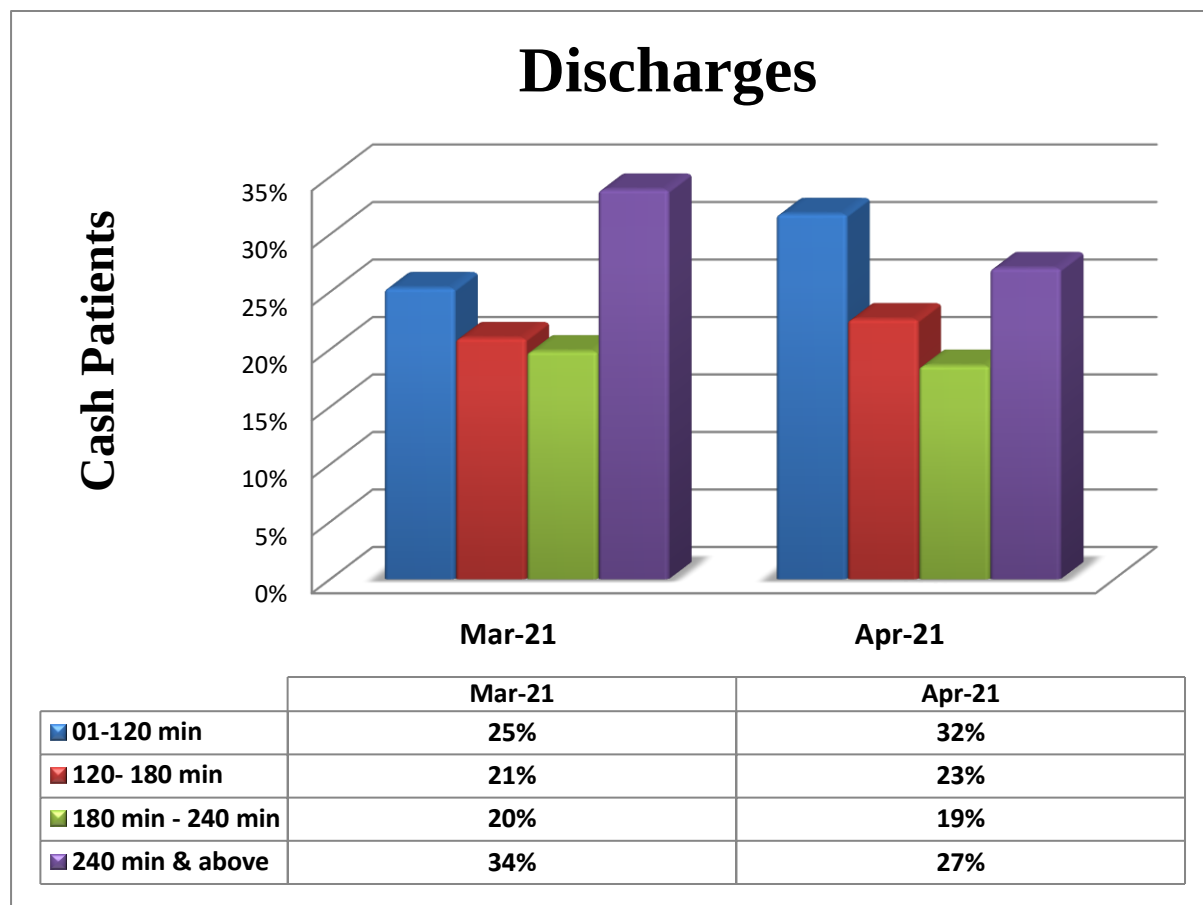


Figure 10: Graphical representation of discharges as per the TAT (from doctor advice to final discharge).

The graph depicts that there were only 23% discharges that was happening in the time frame of 2hrs, but in April-2021 a steady increase has been seen in the number of discharges in the time frame of 2hrs. In April it increased to 32 % after certain interventions in billing of long stay patients.

Parameters	Mar-21	Apr-21
Discharges	888	807
No. Of days	31	30
Avg. Discharges per day	28.65	26.9
Total length of stay days	3272	3544
ALOS	3.68	4.39

Table1: Parameters- ALOS and discharges per day.

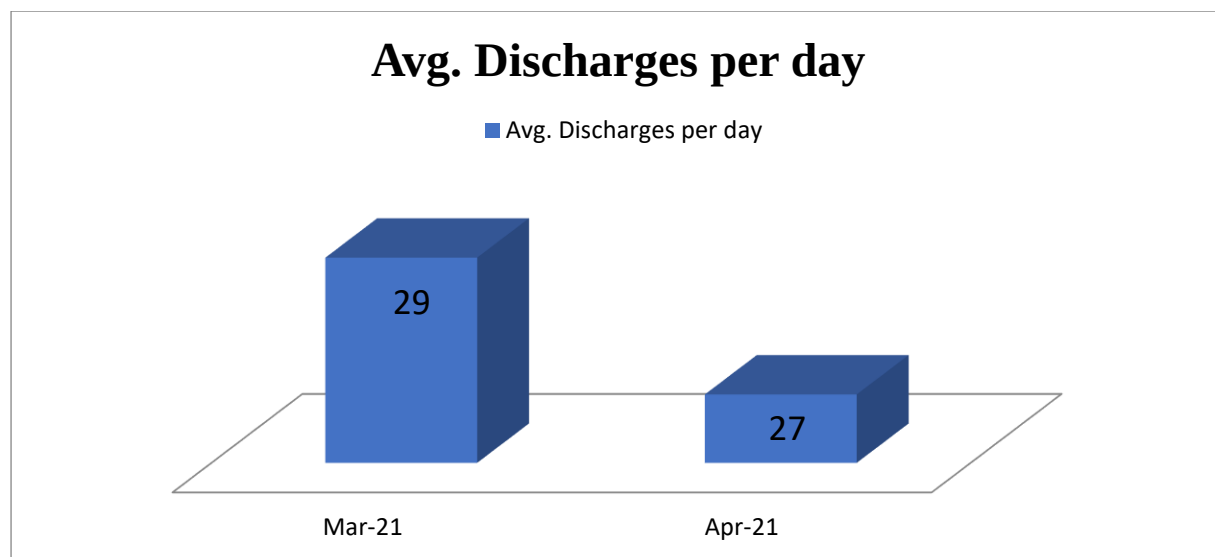


Figure 11: Average number of discharges per day in Mar, Apr-2021

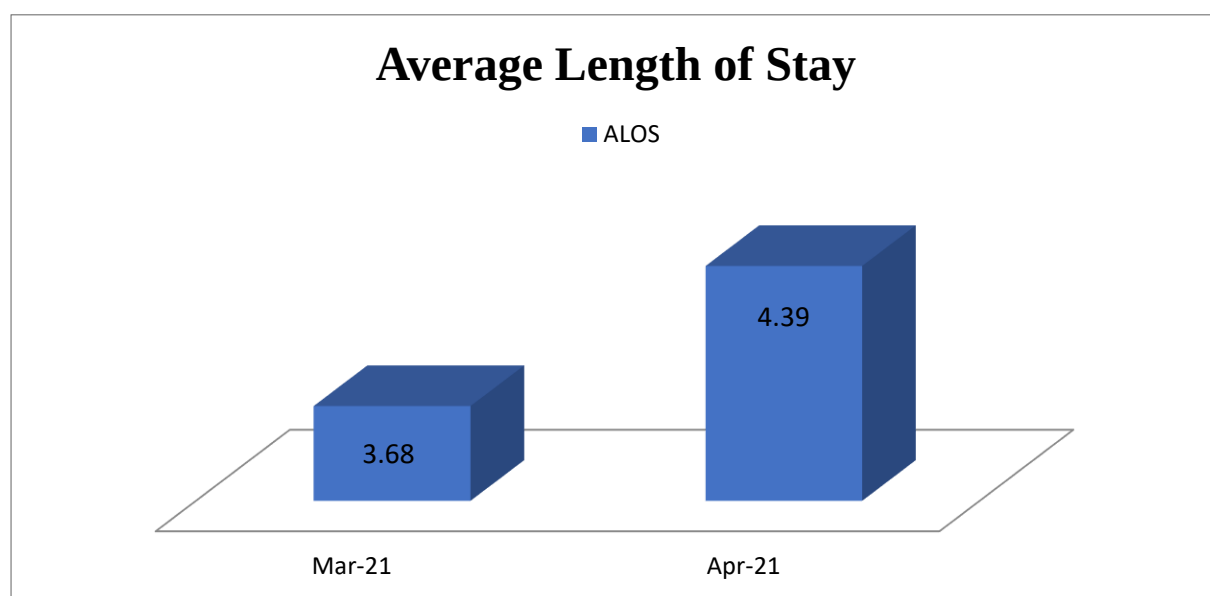


Figure 12: Average length of stay (ALOS) in Mar, Apr-2021.

The average duration of hospitalisation is often employed as an efficiency metric. Short stays will decrease the cost of discharge and transition of care from hospital to less expensive post-acute care, provided all other parameters remain uniform. For hospitals, a shorter SL is useful. The costs of treating HAI are not to be paid and new patients have greater room. For the assessment of the efficiency of an institution, the average length of stay (ALOS).

According to the healthcare research and quality agency, the national mean for a hospital stay is 4-5 days. The ALOS of the hospital for two months stands out to be good and there is a slight increase in April 2021 due to COVID-19 patients.

Discharges for Mar-2021				
Med. Discharge to Actual Discharge (888)	Self-pay (781)	Self-pay Discharges	Insurance (107)	Insurance Discharges
< 1.5 hr	127	16%	04	4%
1.5hr - 2hr	79	10%	06	6%
2hr - 3hr	166	21%	09	8%
>3 hr	409	52%	88	82%

Table 2: Total time taken from Medical Discharge to Room vacant (actual discharge) for the month of Mar-2021.

The above table depicts that there only 16% of self-pay patient discharges in less than 1.5hr. There were many reasons for the delay as maximum that is 52% of the self-pay and 82% of the insurance patients are discharge in more than 3hrs.

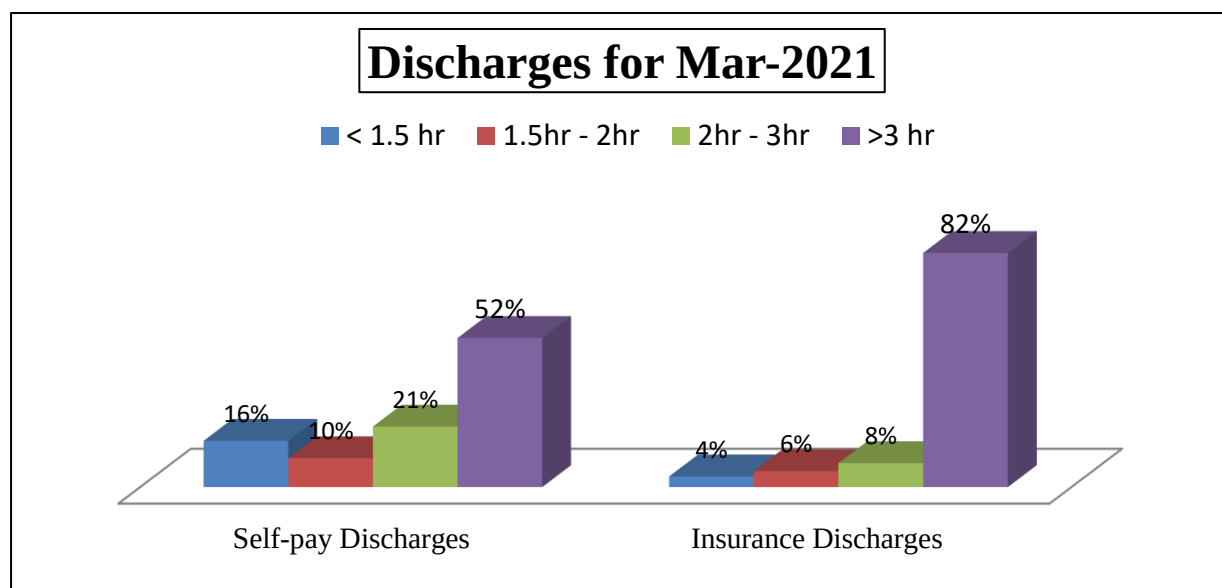


Figure 13: Graphical representation of total time taken from Medical Discharge to Room vacant

The graphical representation shows that there is a lot of improvement to be done in the operations of the discharge process. For analysing the reasons, the discharge TAT checklist was observed and analysed in excel. A detailed analysis on the delay factors is done.

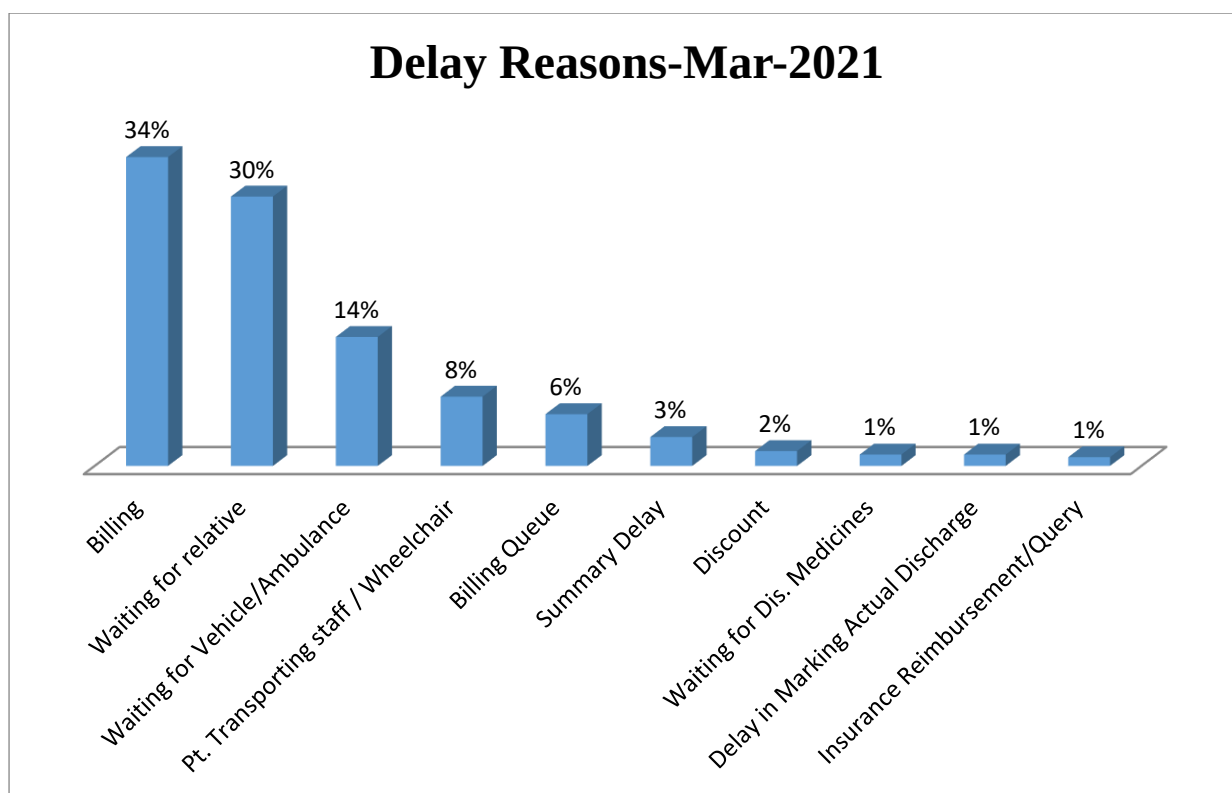


Figure 14: Graphical representation of number of delay factors in Mar-2021.

After doing a detailed analysis it was found that billing and Patient/bystander waiting for relatives to arrange funds or for vehicle is major concern and the three reasons are accounting for 78% of the delays. The patient transporting staff is also not available in 8% of cases at the time of discharge. These reasons clearly show the gaps in the discharge process. After seeing billing as a major reason for delay, a billing executive is appointed for long stay patients separately and KPI's like discharge TAT are linked to the performance review for the staff of the IPD section.

Discharges for Apr-2021				
Med. Discharge to Actual Discharge (856)	Self pay (763)	Self-pay Discharges	Insurance (93)	Insurance Discharges
< 1.5 hr	161	21%	04	4%
1.5hr - 2hr	90	12%	01	1%
2hr - 3hr	178	23%	05	5%
>3 hr	334	44%	83	89%

Table 3: Total time taken from Medical Discharge to Room vacant (actual discharge) for the month of April 2021.

As per the above table the self-pay patient discharges is increased from 16% to 21% after the intervention of assigning billing executive for the billing of long stay patients and it's a result of better coordination among the departments, but still the benchmark is not archived.

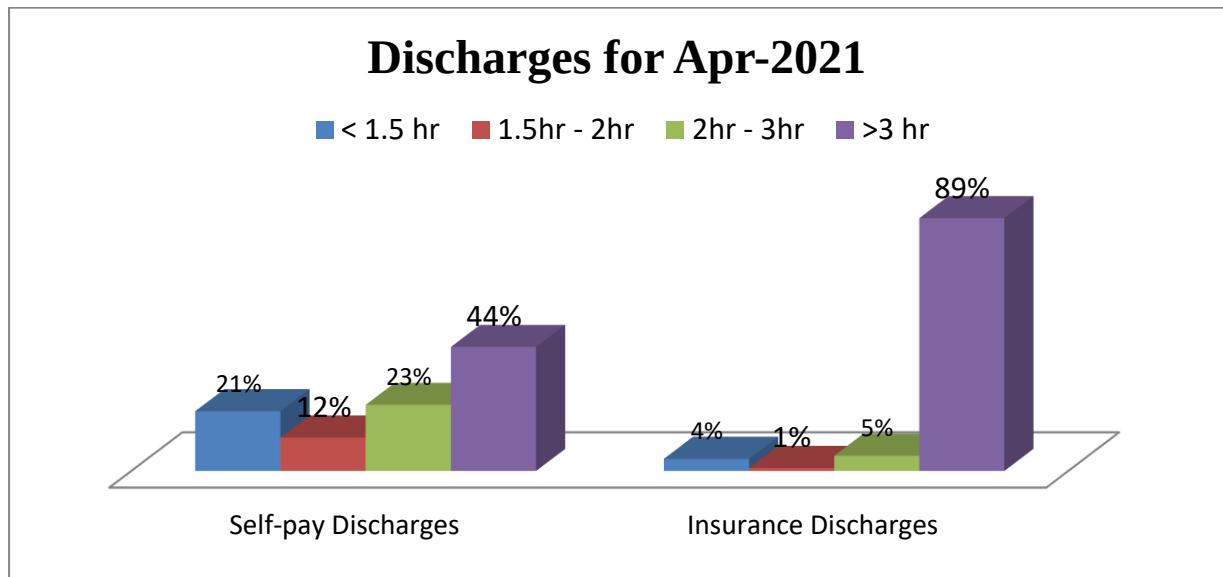


Figure 15: Graphical representation of total time taken from Medical Discharge to Room vacant.

After the invention also there were 44% self-pay patient discharges and 89% patient discharges that are taking more than 3 hrs for the discharge process. The detailed analysis was done again from the discharge TAT sheet.

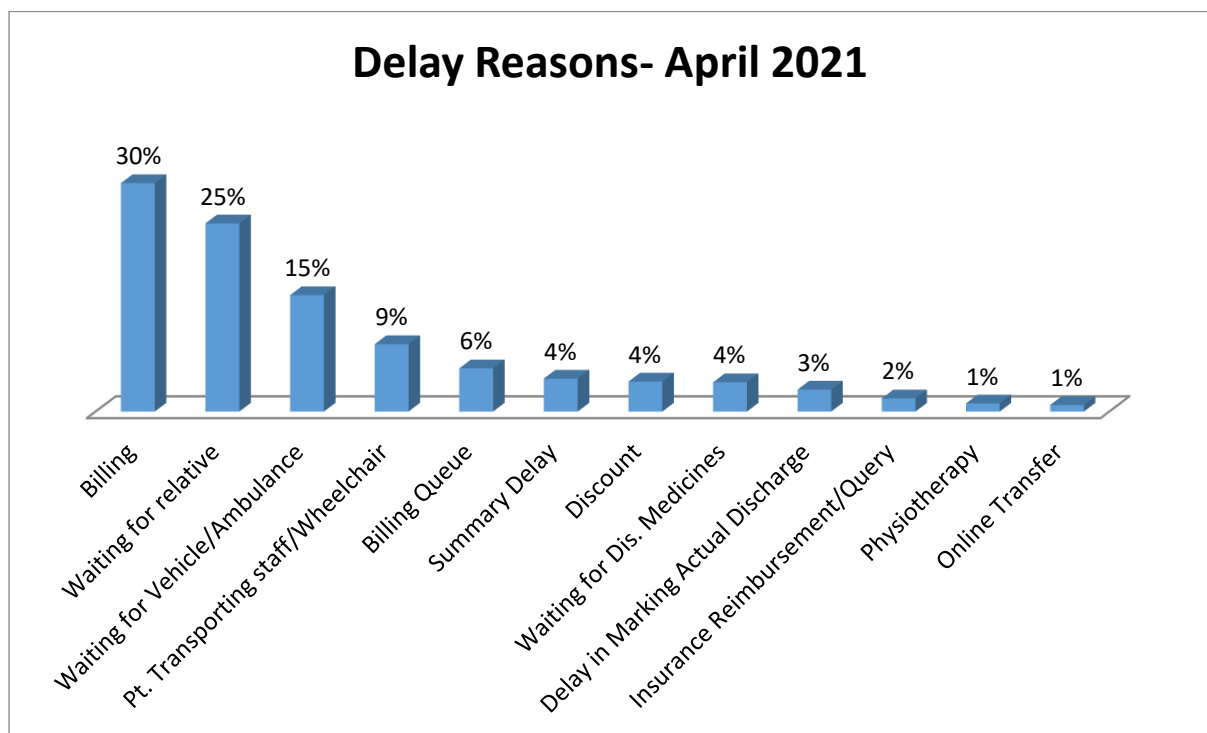


Figure 16: Graphical representation of number of delay factors in Apr-2021.

Fig. 16 shows that after the intervention the delay reason for billing is decreased from 33 to 30%. There was also a 5% decrease from 30 % to 25% for the delay reason waiting for relatives. This graph also shows that this month also the discharge TAT was delayed by 9% because of the Patient transporting staff are not there on time. Still more interventions are needed to make the billing process more convenient. For making the billing process convenient a in-depth interview was done for the billing executives to find out the gaps in the process flow of billing of IPD patients.

Chapter-5 Observations

5.1 Observations from IPD Billing

- The package of CABG patients should be incorporated in the software, as it takes about 60-120 min for bill preparation of CABG patients.
- In around 50% of discharges bills may miss entries.
- There may be technical error or IT issues while billing related to medicine return.
- It was seen that the time taken to finalize the bill after checking the entries for a patient with length of stay of 4-7 days is 15 min to 40 min.
- If in case the medical discharge is marked without checking orders entries, it may take extra time for the billing personnel to follow up with nursing team for rectifying the same.

5.2 Observations from Inpatient feedback

The detailed feedback on patient satisfaction in IPD is taken by the floor coordinators. The complaints and suggestions received from the patient regarding the discharge process are as follows.

- Delay is getting the discharge summary.
- Improper coordination between the departments.
- Discharge process can be a bit faster
- Billing process is delayed.

(The complaints and suggestion are taken directly from the patient feedback App).

Cause and Effect Diagram

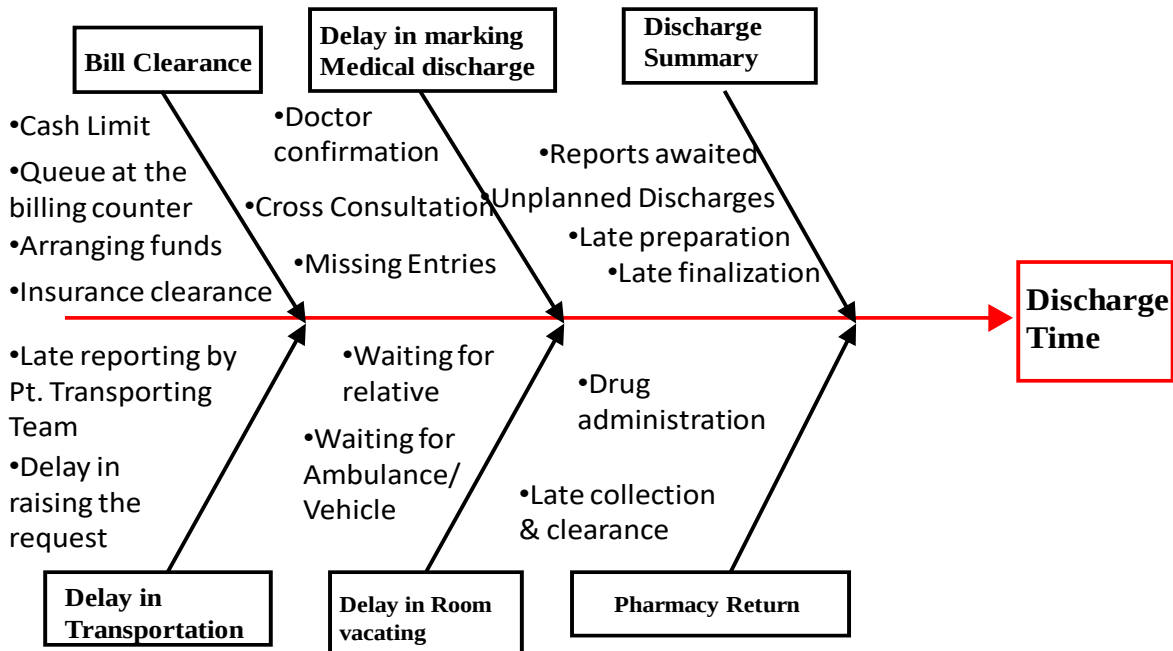


Fig 17: Cause and effect diagram.

The fishbone diagram resembles a fish's skeleton. The problem (effect) is written in a box on the far right of the diagram to build this diagram for a quality-of-care concern. To the left of the box where the problem is written, a central line (spine) is drawn. After that, diagonal lines (fish bones) are drawn off the central line (spine). These diagonal lines indicate several groups of the problem's causes.

The factors presented in Fig. 4 were revealed during the observation period and were classified into six categories, according to the categories usually classified using the method of Ishikawa diagram. The Ishikawa cause diagram allowed organizational-related variables like standardisation and process, communication problems, and workload to be considered, all of which can affect discharge TAT.

Chapter-6 Recommendations

Administrative personnel, doctors, and nurses must collaborate for successful discharge planning, performance criteria should be reviewed on a regular basis, and creative ideas should be welcomed.

Based on the findings, it is recommended that, for all types of discharges, to shorten the turnaround time of the discharge process and to make the discharge procedure more patient friendly.

- Planned discharges should be increased as it will reduce the delay of factors like medicine return, nursing delay, pending orders, and missing entries.
- Financial counseling should be done in the HIS as the option is available and financial counselors should get it customized.
- The Financial counselors may get the advance payment for admission through an online payment gateway, so that cash limit can be maintained, and it would help at the time of discharge.
- The nursing team should update order entries on the same day.
- Investigation reports should be collected on the same day from respective departments, or the department may send reports to respective floors.
- If the discharges are planned, the doctors can prepare discharge summary in advance, such that the delay in discharge process can be reduced.
- The coordination between the nurses, ward secretaries, pharmacists, billing executives, floor managers and doctors must be improved to reduce the discharge delays.
- Staff recruited for these departments should be trained in discharge process and should have efficient communication skills for better interaction with patients/relatives.
- Reminder messages/emails can be sent to bystanders as the bill gets prepared and online payments should be encouraged.
- After receiving request from nursing team, the Patient transporting staff shall be made immediately available.

CONCLUSION

The inpatient discharge process is a complicated procedure that requires the cooperation of all hospital departments and personnel. It is difficult to discharge a patient in a timely manner. The length of time it took for patients in the hospital to be discharged was examined in this study. It was discovered that the time spent clearing the bill contributed the most to the total time spent on the discharge procedure. Billing clearing can be lowered with appropriate manpower and improved communication skills. As a result, the length of time it takes to release a patient not only increases patient satisfaction but also aids hospital bed management.

In conclusion, finally, we have a lot of control over admission and discharge standards, as well as duration of stay. There is a huge potential to restructure patient routes and enhance patient flow, resulting in considerable advantages for bed management and hospital throughput, eventually improving patient care quality and safety.

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