A STUDY ON DISCHARGE PROCESS AT THE TERTIARY CARE HOSPITAL, DURGAPUR-WITH SPECIAL REFERENCE TO INSURED PATIENTS

Dissertation Submitted to

The IIHMR University, Jaipur

for the partial fulfillment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

by

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Under the Supervision and Guidance of

DR. SHIV KUMAR TRIPATHI

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Academic Year: 2019-2021

The Mission Hospital, Durgapur

ACKNOWLEGDEMENT

The structure and content of this project have been deeply influenced by many people for whom I wish to express my gratitude.

I am deeply beholden to the **Dr. Satyajit Bose (Chairman, TMH, Durgapur)** and the management of The Mission Hospital, Durgapur for providing me an opportunity to be the part of this organization.

I would like to express my intellectual debt of gratitude to **Ishani Mam (GM)** along with her team for giving me such an interesting projects which gave me profound knowledge of the subject. She has devoted her precious time in the project from starting to completion of the project.

I would like to thank my college Col**. Dr. Ashok Kaushik (Dean Academics and student affairs, IIHMR, Jaipur)** to provide me with a great learning opportunity. I acknowledge **Anshul Sir (Placement committee, IIHMR, Jaipur)** for regular updates and notifications regarding dissertation updates. I would also like to extend my heartfelt gratitude to my mentor **Dr.Shiv kumar (Prof., IHMR, Jaipur)** for guiding me throughout my dissertation.

The collection and my learning would not have been possible without the kind support and help from RMOs, IP Coordinators and Nurses and entire team TMH, Durgapur directly or indirectly involved with me throughout my study period. The cooperation and support helped me to learn and observe the working in the hospitals.

DECLARATION BY STUDENT

I hereby declare that this dissertation titled **"A study on discharge delays at the tertiary care hospital, Durgapur-with special reference to insured patients"** 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 Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Prachi 19/6/21

(Signature)

Dr. Prachi Tyagi

Date: 19/06/21

THE MISSION HOSPITAL DURGAPUR | FUTURISTIC TECHNOLOGY. BRILLIANT MINDS.

Ref: TMH/HRD/OG/June -21/17

Date: 21.06.2021

To Whom It May Concern

This is to certify that **Dr. Prachi Tyagi** has done her three months dissertation on "A study on discharge delays at The Mission Hospital, Durgapur with special reference to insurance patients" from 22.03.2021 to 21.06.2021.

During the period of dissertation she has been found sincere.

We wish her a successful future and career ahead.

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LIST OF ABBREVIATIONS:

- HRM-HUMAN RESOURCE MANAGEMENT
- TAT-TURN AROUND TIME
- TPA-THIRD PARTY ADMINISTRATOR
- NABH-NATIONAL ACCREDITATION BOARD FOR HOSPITALS AND HEALTHCARE PROVIDERS
- ALOS-AVERAGE LENGTH OF STAY
- BOR-BED OCCUPANCY RATE
- HMIS-HOSPITAL MANAGEMENT INFORMATION SYSTEM
- DMO-DUTY MEDICAL OFFICER
- GDA-GENERAL DUTY ASSISTANT
- KRA-KEY RESULT AREAS
- IT-INFORMATION TECHNOLOGY
- QI-QUALITY INDICATORS

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ABSTRACT

Background:. A lengthy and inefficient hospital discharge process is a key component that must be addressed in order to improve quality of healthcare facility. The purpose of this study is to track the discharge process for insured patients with the goal of identifying the primary causes of delays and reducing the cycle time of the discharge process for insured patients. This study suggested various recommendations and improvement strategies to reduce the time taken for the discharge process.

Methodology: The study was carried out in the inpatient department of one the tertiary care hospital in Durgapur (West Bengal). It was an observational research in which all TPA patients who stayed in the hospital for more than 24 hours were monitored and tracked during the training period.

Patients who were discharged from the ward were monitored from 9 a.m. to 6 p.m. (except on Sundays, when no planned discharges were scheduled). The time it takes for each of the five steps in the discharge process, as well as the overall time it takes, is tracked and studied across the length of stay (LOS) and discharge time. Data was collected from the following sources: Data was gathered by viewing different wards on each level, using a discharge monitoring sheet, and interacting with IP Coordinators. The analysis was carried out using MS-Excel, and a root cause analysis was carried out."

Results: During the study period, 206 patients from the inpatient department were observed. According to the findings, the average time required for the discharge process of insured patients is 309 minutes. It was discovered that approximately 67 percent of patient discharges took longer than the standard time prescribed by NABH. The time required by the external insurance company for claim approval (TAT 3) contributed the most to the total time required for discharge, followed by the time required by the TPA desk to send those documents to the insurance company (TAT 2). According to

correlation and regression analysis, TAT 2 and TAT 3 have a strong positive correlation with TAT 5, whereas TAT 1 and TAT 4 do not.

Conclusion: Patient dissatisfaction arises as a result of the lengthy and arduous discharge process. According to the study's conclusions, all personnel participating in the discharge process should be sufficiently staffed, depending on the patient load, particularly in the TPA department, and staff training should be provided. By doing this study, we identified the basic core areas from where the problems are arising. There should be a plan in place for an efficient discharge of all the insured patients. Because discharge time is normally long for insured patients who need to be monitored, the overall time of the discharge process was significantly decreased.
Keywords: Turn around time, discharge delays, discharge process, TPA(Third party Administration)

CHAPTER:1

INTRODUCTION

BACKGROUND: In the previous few decades, the number of insured people who have health insurance has increased. Insured patients are becoming a growing part of the patient population at private hospitals. This patient group has high expectations for the quality of hospital services and has a lesser tolerance for poor quality services.

Discharging patients from hospitals takes a long time and is inefficient, which is a critical component that must be addressed if hospital quality is to improve.

The discharge procedure's TAT (turn around time) is one of the factors used to evaluate a hospital's quality and efficiency. The departure of a patient from a hospital is referred to as a patient's discharge from the hospital. after providing appropriate medical treatment by the attending consultant for a period of time. Patients and their families suffer physical and psychological harm as a result of delayed discharge.

(Preductive modelling for insured patients in a corporate hospital of pune city, 2018).

Patient satisfaction improves when the discharge process is improved. Patients are more likely to return to a hospital with a quick release process. A quick discharge procedure can ensure early availability of beds for new patients, which can reduce the time it takes for new patients to be ready for admission or reduce the likelihood of new patients being rejected due to unavailability of beds.

Only 3.6 percent of patients obtain insurance through commercial healthcare providers. Private hospitals see these insured patients as a high-value target. As a result, the satisfaction of these patients is crucial. Despite this, many hospitals struggle to handle the single most important process of discharge.

"In India, insurance claims are frequently delayed since no single place exists where claims may be validated. Furthermore, hospitals and medical day-care centres are not

listed on a single platform, resulting in delays in insurance claims. In an age where everything is digital, the flow of information of medical records between hospitals and insurance companies must become more seamless, according to GS1 India, an industry standards body..

The general consensus among insured patients and healthcare executives is that the average time to discharge insured patients is between 3 and 4 hours. A patient who stays in the hospital for longer than the allotted time wastes the hospital's resources.

The hospital is having issues with delayed discharges, which is causing patient dissatisfaction. It was also causing a shortage of open beds for incoming admissions. Communication and cooperation between disciplines had broken down. Because the discharge process was inefficient, it was critical to identify bottlenecks and adopt preventative and corrective actions in order to improve it. However, a study was conducted to determine the TAT of insured patients and to determine the main causes of delays in the discharge process in order to recommend measures that should be taken to reduce queries that cause delays, resulting in time and effort savings for hospital executives, patient satisfaction, bed availability for emergency and elective admissions, and revenue generation.

In this study tracking for the discharge process of insured patient is done, with the objectives to find out the major causes of delay , and to recommend solution for reducing them and also to make proper discharge planning for all the insured patients.

The whole discharge process is divided into four sub-process for arriving TAT.

TAT 1: Time taken by GDA staff to handover the discharge summary from wards to insurance desk

TAT 2: Time it takes for the insurance desk to compile and send the final bill, together with the discharge summary, to the External TPA for approval.

TAT 3: The time it takes for the insurance company to issue a final approval

TAT 4: After receiving clearance from the insurance company, the time it takes to settle the final bill is calculated.

TAT 5: Time taken for the entire discharge process, which begins with the doctor's counsel and ends with the patient emptying the bed (total time for the entire process), i.e. TAT 1, TAT 2, TAT 3, and TAT 4.

Bed Status of The Mission Hospital, Durgapur

The hospital is licenced to operate 363 operational beds, all of which are operational. Here is a breakdown of the distribution.

Floors	Wards	Capacity	Total
8th Floor	Private Room	06	**14**
	Deluxe	05	
	Deluxe Suits	03	
7th Floor	Semi Private Room	06	**60**
	IP	05	
	General	17	
	Neuro Female	19	
	Neuro Male	13	
6th Floor	Semi Private Room	06	**58**
	IP	05	
	Ortho General	17	
	SICU	14	
	HDU	11	
	Step Down	05	
5th Floor	Pediatric Ward	10	**46**
	NICU	12	
	Mother Care/ Crib	15	
	Dialysis	09	

4th Floor	Cardiac Ward	22	**22**
3rd Floor	CTVS ITU A	12	**37**
	CTVS ITU B	18	
	OT	7	
2nd Floor	CCU 1	13	**60**
	CCU 2	14	
	Cath Lab	3	
	MICU 1	18	
	MICU 2	12	
1st Floor	General Male	39	**57**
	General Female	18	
Ground Floor	Emergency	09	**09**
Total			**363**

Figure: Bed status of the Hospital

The hospital has separated the NICU (Neonatal intensive care unit) in the following areas based on their level of care:

Level 1: A baby who requires only basic care after birth.

Level 2: A baby who requires more care than a level 1 baby. (If necessary, a centerline or other minor piece of equipment may be used.)

Level 3: A baby who requires more care than a level 2 baby requires more care than a level 2 baby. (Ventilation or other life-saving devices)

Each hospital has its own discharge policy. The Mission Hospital in Durgapur has the following discharge guidelines:

1. At the time of discharge, the ID band is removed.

2. Discharge procedure

- The discharge procedure is only carried out if the treating doctor signs a written order.
- The treating doctor documents and signs the discharge summary
- Discharge summaries are prepared in two duplicates, one of which is provided to patients and the other of which is filed in the patient case sheet.
- The discharge summary for TPA patients is created in accordance with insurance company regulations.
- Every patient leaving the hospital receives a discharge summary.
- In the scenario that a patient leaves the hospital against medical advice, a treatment summary is provided.

Discharge Summary contains the following information:

- Date of Admission
- Date of discharge
- Reason for Admission
- Significant Diagnosis
- Diagnosis and Therapeutic Procedure Performed
- Significant Physical and other findings
- Significant Medication and other Treatment
- Patient’s condition at the time of Discharge
- Discharge medication to be taken at home
- Follow up instructions
- Instructions during urgent care are required

If a patient dies, the discharge summary also includes the reason of death; a copy of the patient's death summary is made, one copy is delivered to the patient's party, and the other copy is filed in the Patient case sheet.

Quality Indicators for Discharge Process

Patient tracking

Hospital discharge time benchmarks

Length of stay of patients

Discharge monitoring sheets

TAT Analysis

Bed management

TAT data is recorded on a track sheet during the various stages of the discharge process.

For the arrival of TAT, the entire discharge procedure is subdivided into five subprocess

MISSION OF THE ORGANIZATION

The Mission of The Mission Hospital, Durgapur is is to decentralise superspecialty healthcare and offer it to every doorstep in Eastern India, outside of the metropolis, and to heal patients with devotion, honesty, and gentle loving care.

VISION OF THE ORGANIZATION

The Mission hospital Durgapur will be known as a leading healthcare institution dedicated to providing exceptional patient experiences, improved clinical outcomes, and enhanced health outcomes for patients while adhering to fiscal and social commitments.

OBJECTIVES OF THE ORGANIZATION

• To provide staff with ongoing and frequent training in order to bring out the best in them and increase quality.
• To promote patient happiness, understand the needs of the patients and maintain professional standards.
• To provide prompt, efficient, pleasant, and helpful customer service.

Goals of the Organization:

- Focus on our patients and provide high-quality service
- Continuously enhance all of our services through quality management
- Involve all of our partners in our efforts to improve quality.
- Give people the authority to make sound judgments.
- Have the utmost regard for one another and value variety
- Make use of training and teamwork
  Open lines of communication to allow all employees to reach their full potential
- Employee efforts should be recognised and rewarded.
- Take all reasonable steps to provide the safest possible environment for patients, visitors, staff, and anyone else who comes into contact with the Hospital.
- Measure the effectiveness of our efforts and track progress toward attaining Visi on
- Maintain the highest standards of conduct in protecting the public and the enviro nment

SIGNIFICATION OF RESEARCH: The time it takes to get discharge from the hospital has always been a research area, and there has been a constant effort to shorten the time it takes to get out of the hospital. The main source of unhappiness among insured patients has been identified as the delay in the discharge process**.** This study will be very helpful for effective discharge planning of all the insured patients. As effective discharge planning reduced the total time of discharge process substantially as discharge time is usually high for insured patients that need to be controlled.

Flow chart of Discharge process at The Mission hospital:

Definition of Terms-

Discharge: The point at which a patient is released from the hospital and either goes back home or is moved to another healthcare centre.

Average length of stay: The average period of time a patient spends in a hospital

The bed occupancy rate: It is a measure of how well a hospital's available bed capacity is being used. It shows the percenta**.**

Discharge Summary: A discharge summary is a letter written by the doctor, containing important information about the patient.

Initiation Time:. Time at which after all services have been accounted for, the nursing team initiates discharge in the system.

Approval Time: The time it takes for an insurance company to approve claims for services provided to a patient

Room clearance Time: The time when the patient, with all of his or her stuff, leaves the room where he or she was staying.

Physical Discharge: when patient exactly vacate the bed.

Delay: The time elapsed between the allowed time for discharge and the actual flow time is referred to as the delay in discharge from the ward.

OBJECTIVES OF THE STUDY:

- To estimate the Discharge Turn Around time for insured patient
- To identify factors causing delays in discharge time
- To study the bottlenecks in the discharge process resulting in delays
- To suggest strategies to reduce time taken in discharge, if required.

RESEARCH QUESTION:

1. What is the Discharge turn around time of insured patients
2. What are the factors that cause delays
3. What are the bottlenecks resulting in delays in discharge process of insured patients

CHAPTER:2

REVIEW OF LITERATURE

- **Preductive modelling for turn around time(TAT) of discharge process for insured patients in a corporate hospital of Pune City**, **Jan 2018, kasturio Shukla, Shrishti Upadhyay-** The indicators of discharge delays were investigated in a study of reimbursed in-patients. The TAT for delivering the summary report to the TPA department and accepting the final bill from the insurance company were found to have the largest predictive effect on overall TAT.
- **Insured Patient's Discharge Delays, Dec2018, Ankit Singh, Priya Singh-** The first main reason of delay in the discharge process of insured patients in this study was revealed to be the time it took for evacuation summaries to arrive the in-house TPA department, as well as the time it took for the external insurance company to approve the invoices and discharge summaries.
- **Using Predictive Modeling to Help Hospitals Improve Discharge Processes, July 2020, Sayed Hisham, Shahina Abdul Rasheed, Brayal Dsouza**- The purpose of this study was to find out what factors influence discharge TAT and how those factors could be used to predict discharge in the hospital of interest. The study was validated and predicted the TAT with 77 percent accuracy after identifying the essential components that affect the discharge process.
- **Using the Six Sigma dmaic Approach, minimizing and enhancing the cycle time of the patient discharge process in a hospital jun 2014, S.Arun Vijay-** The use of Sigma DMAIC methodologies to minimise and optimise the patient

discharge process was validated in this study, which focused on medical and surgical departments. The adoption of Six Sigma dmaic has been demonstrated to have a positive influence on lowering patient discharge time. Multidisciplinary team members were also reported to play a significant effect in minimising patient discharge time.

- **Caregiver perception of the reason for delayed hospital discharge, NOV 2017, TM Minichiello, Andrew D A uerbach**-. Nurses were found to be more prone than housestaff or attending physicians to blame improper communication \ for postponed discharge. Nurses were also more likely to blame round delays
- **A research project on how to handle the discharge and billing process in tertiary care., Jan 2012, JV Kumari**- The average duration for patients to be discharged in a tertiary care teaching hospital was 2 hours 22 minutes, according to this study. The intra processing time for the discharge process was found to be longer than the inter processing time

- **An investigation into the role of third-party administrators in Indian health insurance, April 2016-** The study's main findings were that policyholders are less aware of TPA's presence, that They rely significantly on their investment advisors, and clients have little knowledge of cashless hospitalisation services provided by empanelled institutions.

- **Role of discharge planning and other determinants in total discharge time at a large tertiary care hospital, Shweta Mehta, Jayesh Nair**- The study found that scheduling emissions reduced the time duration of the discharge process by a significant amount.The time it took to discharge insured patients who needed to be monitored was significantly longer. Discharge time is also affected by department clearance and patient-related factors.
- **David Anthony, VK Chetty, Anand Kartha,**. Re-engineering the hospital discharge is the subject of the paper "Re-engineering the Hospital Discharge: An Example of a Multifaceted Process Evaluation." Transferring patient care from the hospital team to primary care and other community providers at the time of discharge is a high-risk procedure characterised by disorganized, semi, and haphazard care, which leads to errors and negative outcomes. After completing a

rigorous comprehensive process analysis, we got significant insight into the myriad patient safety hazards associated with the discharge process. The methods described here resulted in a re-engineering of the discharge process, allowing for the establishment of a clinical trial as well as significant improvements in patient care.

- **Christopher G. Maloney, Et.al.**. According to the study, "A Tool for Improving Patient Discharge Process and Hospital Communication Practices: the Patient Tracker," hospital bed demand frequently exceeds resources, creating delays in hospital admissions, transfers, and cancellations of surgical procedures. For the most efficient use of current beds, effective strategies must be in place. Developing such strategies in university hospitals is a difficult task.. We built and deployed a web-based software solution called "Patient Tracker" to manage the discharge process, avoid admission delays, and prevent surgical procedure cancellations.
- **Harmanjot Kaur, Roopjot Kochar. "A Study on Discharge Process of Discharged Patients of a Multispecialty Hospital Ludhiana** ,In his research, he believes that removing patients from hospitals is a complex and time-consuming procedure. Discharge strategy is a plan of developing an individual discharge plan for a patient before they leave the hospital to ensure that they are released on time and with suitable post-discharge services.
- **David Anthony, VK Chetty, Et.al. "Re-engineering the Hospital Discharge: An Example of a Multifaceted Process Evaluation"** states that We are identifying high-risk patients, documenting crucial components of the discharge process, and identifying sources of error that can effect outcomes by forming a multidisciplinary team to apply different epidemiologic and quality control methodologies. The various approaches taken to handle this problem have given us significant insight into the tangle of difficulties that surround it.

- **Muhammad Umair Majeed, Dean Thomas Williams,** Et.al. "According to the study, "Postpone in discharge and its impact on inappropriate hospital bed tenancy," senior patients are more likely to require additional resources to assist their discharge, making them more prone to prolonged hospital stays. We wanted to measure and describe hospitalisation (LOS) for all patients over and

under 65 years old in an acute hospital setting, as well as calculate the type and reason of days lost while under the care of a single surgical unit.

- **Harris., KevinEl-Eid, Ghada R. DHA**, Et.al. According to the study, "Improving Hospital Discharge Time: The purpose of "A Successful Implementation of Six Sigma Methodology" was to see how effective Six Sigma methodologies were at improving the patient discharge process. The cost of trying to be discharged was the key outcome (time from discharge order to patient leaving the room) The percentage of patients with discharge orders written before noon, the percentage of patients who left the room before noon, the length of stay (LOS) at the hospital, and the LOS of admitted ED patients were all recommended control variables.

- **Sheetal Bishnoi**. **"Re-Engineering of the Discharge Process at MSSH"** defines. Long and unproductive in-patient procedures are a typical source of worry for hospitals. It not only annoys patients and their families, but it also delays new admissions. The study shortens the hospital discharge process by removing a few stages.

CONCEPTUAL FRAMEWORK

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CHAPTER:3

METHODOLOGY

Study period: 19th March -19th June 2021

Type of study: Cross sectional study

Method: Primary data was collected on a day to day basis for study include discharge summaries on regular patient feedback from patients and staff and Discharge process of all the insured patients during study period was observed.

Location: The Mission hospital, Durgapur (West Bengal)

Nature of Data: During the dissertation, primary data was collected from the hospital in compliance with the stated objectives

Sample Size: There are 4 types of bill payment options:

-**Self Paid**- Patients who must pay for all or part of their services are referred to as self-pay patients. Uninsured or full-payment self-pay customers will receive a discount on prices based on their individual or socioeconomic status to ensure access to treatment.

-**TPA-** A Third Party Administrator is a company that handles insurance claims that are covered by the Mediclaim policy. In general, these administrators are self-contained, although they can sometimes function as an agent for the insurer. Insurance Regulatory

IRDAI issues licences to these organisations.TPA patients are those whose hospital bills are being paid by third party.

-**Employers Paid**- Health insurance provided by your employer is known as employer-sponsored coverage. This is also known as employer-provided health insurance, and it may cover both current employees and retirees. Typically, your business provides qualified employees with a choice of group health plans and pays a portion of the premium cost

-**CGHS**- The Central Government Health Scheme (CGHS) is a government-run health-care programme... The Central Government Health Scheme (CGHS) is an unique health plan for government employees. Wellness Centres (formerly known as CGHS Dispensaries) / polyclinics provide medical services under the Allopathic, Ayurveda, Yoga, Unani, Sidha, and Homeopathic medical systems.

Inclusion in the study-TPA patients who all stayed for more than 24 hours in the hospital were observed and tracked during the tenture of training time.

Exclusion in the study-

*1.*Patients who were freed from OT, ICU, and ED

2. Patients who receive their discharge from the DORB.

Data was collected from the following sources: Data was gathered by viewing different wards on each level, using a discharge monitoring sheet, and interacting with IP Coordinators. The analysis was carried out using MS-Excel, and a root cause analysis was carried out."

Sampling Plan: The time it took for each of the five steps in the discharge procedure, as well as the overall time it took, was tracked and studied across the length of stay (LOS) and discharge time.

Method for Data collection: Observation and communication with Hospital Personnel. Primary data of all the insured patient admitted during study time period was collected based on patient discharge check list

Data collection Tool: Observation checklist, In-depth interview with the hospital personnel, Hospital information system timing

Sampling method: Simple purposive sampling

Ethical Consideration: All the participants were informed about the objectives of study. Data was collected from those who have voluntarily participated. Participants were informed that their information will be kept confidential. Before collecting data from participants informed consent were taken from them.

RESEARCH LIMITATION: The study's drawbacks are as follows:

- The research is centred on a single hospital in Durgapur, Kolkata.
- The study duration is only three months long.

SIGNIFICATION OF RESEARCH: The Research was conduct to determine the constants that causes prolongation in the release of Insured patients from the hospital and to plan strategies to reduce the time taken in a tertiary care hospital. Furthermore this study will be helpful for effective discharge planning of the insured patients.

Flow chart of Discharge process

Fig: Gantt Chart for proposed study

S. no.	Task name	(Time in weeks)	1	26th March-30th March	3rd April-8th April	12th april-17th april	19th April-24th April	.26th April-1st May	3rd May-8th May	10th May-29th May	31st May-5th June	7th June-12th June	13th june-19th June
1.	Understanding work place environment	2 weeks											
2.	Preparation of data collection tools	1 week											
3.	Data collection	5 weeks											
4.	Data analysis	1 week											

CHAPTER:4

RESULTS

DATA ANALYSIS:

Data was transcribed and tabulated in MS Excel and imported in SPSS-20 for analysis

TAT was converted into minutes

The output of analysis is shown in Table below

Descriptive Statistics	Min	Max	Mean	Std. Deviation
TAT1 (Time it would take for discharge Summary to reach the TPA desk from inpatient area)	7	60	14.36	6.048
TAT 2(Time taken to compile and send the final bill along with discharge summary to the external TPA , after receiving the discharge summary	10	328	53.06	54.825
TAT 3(Time taken by External TPA to give final approval, after receiving the discharge summary and bills from the hospital	30	430	194.8	90.329
TAT 4 (Time it takes for the patient's ultimate bill to be cleared)	10	255	47	33.277
TAT 5(Time spent on the entire discharge process, which begins with the doctor's recommendation and ends with the patient emptying the bed.)	57	1073	309.2	100.268

In the further analysis, bivariate correlation was carried out to find out the vital sub processes affecting the overall TAT i.e. TAT 5.The Pearson correlation found is depicted in table below

Correlation between TAT 5 and TAT 1, TAT 2, TAT 3, TAT 4

	TAT 1	TAT 2	TAT 3	TAT 4
TAT 5	0.50	0.80	0.77	0.29
P Value	0.062	0.360	0.776	0.299

Hence from the above table it was found that TAT 2 and TAT 3 have moderately strong and positive correlation with TAT 5, followed by TAT 4. TAT 1 has weak positive correlation with TAT 5.

To develop a model so as to identify the key sub process affecting TAT in the insured patient, Linear Regression is done, on considering TAT 5 as outcome variable and TAT 5 as covariates.

Variables	R2	Adjusted R2	Standard error of estimates	P value
TAT 1	0.003	0.001	100.56	0.062
TAT 2	0.12	0.125	93.99	0.360
TAT 3	0.603	0.601	63.43	0.776
TAT 4	0.08	0.085	96.13	0.299

From the above table it can be seen that R2 value of TAT 2 and TAT 3 is greater as compare to TAT 1 and TAT 4 which explains the maximum variance of TAT 2 and TAT 3 in TAT 5.Therefore , the two sub process affecting the overall TAT are TAT 2(Time taken to compile and send the final bill, along with the discharge summary, to the external TPA, after receiving discharge summary and billing cards) and TAT 3(Time taken by external TPA to give the final approval after receiving the discharge summary and the bill from the hospital)

Fig:A Pie chart illustrating Turn around time less than 3 hours and more than 3 hours

Interpretation: Around 32 percent of the 206 patients were compliant according to the aim. The majority of patients (approximately 68 percent) took more than 3 hours to get discharged .Ideally all the procedure of discharge process of insured patients should be done within 3 hours and should not take more than that time period.

Fig: showing number of Discharges before and after 3pm

Interpretation: The majority of insured patients were discharged after 3 p.m., according to the findings. TPA patients should be discharged by 3 p.m., but only 56 patients out of a total of 206 were discharged before 3 p.m., while roughly 150 patients were discharged after 3 p.m.

Around 25% of the 206 patients were compliant as per the aim.

Fig: Discharge summaries reaching time to TPA

Interpretation:.
The majority of discharge summaries arrived after 12:30 p.m., causing delays in the disc harge procedure. Discharge summaries should be transmitted from wards to TPA desk b y 10:30 a.m., but only 30% of the total 206 summaries arrived before 10:30 a.m., and ro ughly 32% arrived between 10:30 a.m. and 12:30 p.m. There was delay due to delay in preparation of final discharge summary in the ward.

Fig: Billing cards reaching to TPA

Interpretation: Most of the billing cards arrived after 12:30 p.m.; however, billing cards and discharge summaries should arrive at the TPA desk before 10:30 a.m.

Only 17 percent of billing cards arrived at the TPA desk before 10:30 a.m., 40 percent between 10:30 and 11:30 a.m., and 13 percent between 11:30 and 12:30 p.m. The delay was caused by a delay in pharmacy clearance, as the pharmacy was overburdened due to the Covid problem. In addition, all unplanned discharges cause billing clearance delays; ideally, pharmacy clearance should be completed one day prior to discharge date.

Analysis of delay in discharge process	**:** To analyse the causes of delays in discharge process for the period between from April 2020 to June 2020, data was collected through Observation checklist, In-depth interview with the hospital personnel, Hospital information system timing tract sheet Pareto analysis is done on the collected data, with the help of minitab.

Fig: Pareto chart of TPA patients

As seen in the table above, the top three categories were found to be responsible for 80% of overall delays.

The majority of the delays were caused by patient party delays; most of the time, the patient party wanted to have lunch before leaving the hospital. Patients were often not given bill estimations, resulting in a cash shortage at the time of discharge.

Another cause for the delay was the late arrival of bill cards and discharge summaries. The DS and bill cards should arrive by 10 a.m., so that the rest of the operations may be completed on time.

The third most common cause of discharge delays is the failure of the external insurance company to approve the claims. In most cases, the insurance company took more than 5 hours to approve the claim. The reason for the delay in approval was due to incomplete documentation being submitted by the internal TPA desk

Other variables that cause delays in discharge in 20% of cases include delays induced by consultants' terrible handwriting, delays in finalising the discharge summary by them, and by filling incomplete patient information in the paperwork by them.

Other factors include issue during billing and unplanned discharges.

Analysis of Queries: To analyse the queries for the period between April 2020 to June 2020, data was collected through the electronic mail address of in house TPA department. Pareto analysis is done on the collected data, with the help of minitab.

Pareto Chart of TPA Queries

As seen in the table above, the top four categories accounted for 80% of total queries received from external insurance companies. Data was collected using electronic mails of queries received in the TPA desk from the insurance company , majority of the queries arrived when the patient past history were not mentioned, report of exact diagnosis were not written, Grade of surgery(Grade 1,2,3 or 4) were not properly mentioned and when past habits of patient like alcohol and tobacco consumption were not mentioned. Other queries include incomplete past policy papers, treating doctor not justifying the need of treatment, exact etiolgy is not mentioned, proper duration of the disease is not mentioned, documents which are submitted by patient is not clear ,self declaration of patient is not clear or not sent etc.

The consultant doctor not accurately filling out the patient details is the main source of most of the queries that have arrived, and sometimes their handwriting is another cause. As a result, the organisation has requested that the patient's information be written accurately and in legible handwriting, in order to decrease the possibility of future queries, the patient party should present the legitimate and exact documents that are submitted at the TPA desk

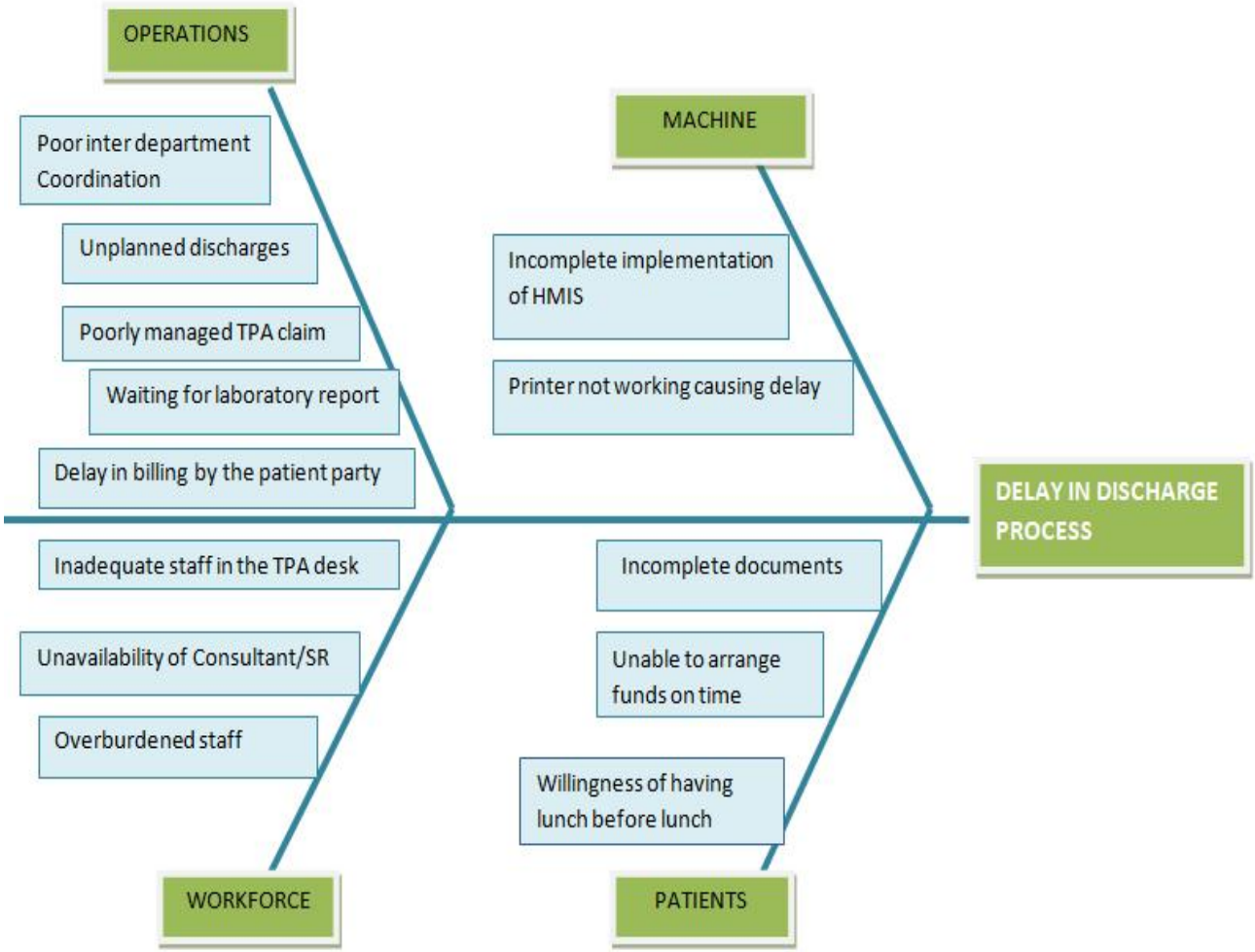

Fig: Fish bone Analysis: To identify reasons for delay in discharge

Integration: from this above root cause analysis diagram we can see the main causes of delay of discharge.

Basically 4 causes were identified –Operations , Machine, workforce and patients

1)Operation cause: all the operations in the hospital leading to delay are-

- Poor-interdependent coordination-Poor communication in healthcare has several consequences, including decreased quality of care, poor patient outcomes, resource waste, and high healthcare expenditures. Failures in communication have a negative impact on patient and provider comfort.
- Unplanned discharges-Acute-care transfer to a hospital or emergency department to maintain a condition or evaluate if an acute-care admission is necessary based on an emergency department examination. Discharge delays are unavoidable due to unplanned discharges.
- Poorly managed TPA claim-Sometimes the TPA department does not properly compile the paperwork and sends them to an external TPA, causing a delay in discharge.
- Waiting for laboratory claim-Delays can develop as a result of the time it takes for test reports to arrive. Reporting errors also cause delays.
- Delay in billing by the patient party-Due to a lack of cash, the patient party does not pay the bill on time, or is willing to have snacks before departing. Oftentimes, the bill is higher than they expected.

2)Machine: Causes which were due to improper implementation of technology includes-

- Incomplete implementation of HMIS-In-patient data collection and processing, regular availability of HMIS tools, data utilisation, and electronic data administration are the primary concerns leading to delay.
- Printer not working properly-The failure of the printer causes a delay in the completion of the discharge summary, causing overall delay in discharge process

3)Workforce:

- Inadequate staff in the TPA desk-doctor's get overburdened due to inadequate staff, due to current covid situation most of the staff were indulge in covid patients.
- Unavailability of the consultant/SR- Most doctors were treating covid patients, which prevented them from signing and cross-checking the final discharge summary, causing delay in completion of DS
- Overburdened staff- Many employees complained that they had not taken any breaks since the initial wave of Covid-19 and that they were still not getting

them. Several nurses said they had worked multiple shifts and were utterly fatigued.

4)Patients:

- Incomplete documents- In certain situations, patients did not provide all required documentation, which resulted in a delay in discharge. The majority of the time, the patient had not expressed concern or provided proper identifying verification, causing the insurance company to inquire.
- Unable to arrange funds on time-some time delay occurred due to shortage of cash by the patients. Bill estimation should be given before1-2 days of actual day of discharge
- Willingness of having lunch before discharge:Sometimes Patients did not always pay their bills on time because they decided to have their lunch before leaving the bed. Organization should arrange a waiting room where they may eat lunch and wait for their vehicle.so that they can vacant the room as soon as they clear out the hospital bill.

DISCUSSION

PROBLEM IDENTIFIED

Various factors contributing to delay in the discharge process were identified These were divided into 5 main components:

A. Delay in transferring discharge summary by GDA from wards to TPA desk

The discharge summary was not handed over to the insurance desk in a timely manner by GDA workers. This could be due to a number of factors, including

being overworked as a result of the Covid issue or being active in other tasks, such as patient care.

If units don't have enough personnel to deliver the treatment that patients require based on their level of acuity, reimbursement may suffer. Clearly, any healthcare organisation depends on education, teamwork, and planning.

B. Delay caused by patient party in billing

The main reason for delay is;

- Patients party willing to do lunch before leaving hospital: The patient party must be asked to vacate the bed as soon as the hospital payment is paid. Organization should set up a waiting room where they may eat lunch and wait for their vehicles.
- Bill is over estimated than the factual value: Prior to the day of discharge, proper counselling of the patient's family on the hospital bill should be conducted.

  On the day of admission, a bill estimate should be issued.
- Lack of cash: Healthcare consumerism is growing, and with the steady growth in high-deductible health plans, individuals are becoming more savvy and interested in learning more about their healthcare costs.

  It is the job of the provider to not only deliver excellent healthcare but also to meet the patient's financial needs. Patients want to know how much they owe and are usually prepared to pay a reasonable amount for their medical bills, but they are now more likely to shop about for healthcare.sHowever, providing estimates entails a significant amount of communication.
- Errors on the bills

  I've listed the procedures to take when disputing a medical bill to help navigate what may be a confusing process.
  - Keep meticulous records.
  - Obtain a detailed bill.
  - Quick Consultation with the physician.
  - In order to file an insurance appeal, contact to the external TPA company
  - Use the services of a patient advocate.

- Rush on the billing counter:

C. Delay in approval of claim by the insurance company

The main reason for delay in claim is-

- Inappropriate details of the patients: Complete all the forms with accurate patient information. A checklist of all necessary documents should be made and delivered to the patient only at the time of admission. So that the patient can hand over all of his or her documentation to the TPA desk.
  Patient should be required to provide a document with a clear photo of their face, as most patients submit documents with blurry pictures of their faces, prompting insurance company questions.
- Incomplete documents sent to them, an incomplete medical record reveals that care was not provided in a timely manner. There are gaps in the data that imply poor clinical treatment. displays a lack of adherence to company policies is used to back up claims of carelessness
- Doctors handwriting is not clear
- The hospital may take longer than usual to deliver the discharge report to the health insurance company.
- Failure to follow the proper pre-authorization claims procedure
  It is preferable to opt for cashless treatments for pre-planned medical procedures. And the first step should be to obtain pre-authorization.
  There are some procedures that must be taken in order for this process to commence, including:
  -Obtaining a pre-authorization form from the health insurance company or the TPA desk at the hospitas
- The hospital may decide to submit the final bill to the insurance company later.
- The sooner the final bill is received, the sooner it can be scrutinised and the claims settlement procedure can begin.

D. Delay in the preparation of final discharge summary

There are various reasons for this like-

- Doctors round is not fixed: The doctor's appointment must be rescheduled. Doctors' rounds are not established in the current situation, and doctors frequently arrive at the ward late, causing delays in the creation of discharge summaries, which is critical because the doctor's approval of the final discharge statement is crucial.
- Multiple correction of rough discharge summary by the consultant- A systematic, standard discharge summary form ensures that all pertinent information is provided, allowing the receiving physician to respond to the patient's hospitalisation more swiftly.

  One such option is standardisation. One of the best solutions is to create discharge summary templates. Community physicians should be included in this process, according to experts.
- Cross referral at the last moment
- Unplanned discharge: Unplanned discharges should be avoided.As discharge process takes more time in case of unplanned discharges.
- Delay in getting pharmacy and lab clearance- Of course, relying solely on technology is not a good idea. We should have a pharmacy technician who is in charge of overseeing the process, including educating end users, to ensure we get the most out of the system. Both of these resources provide significant time and cost savings that significantly outweigh the initial investment expenditures.
- Delays in completing the discharge report have been linked to a greater rate of readmission, emphasising the need of sending this document in a timely manner.

E. Delay in sending discharge summary , billing cards and all other documents by the internal insurance desk to the external TPA company for the approval of claim

- This is due to the fact that most paperwork, such as discharge summaries and billing cards, do not arrive on time. These documents should be delivered before 11 a.m., yet only in 20% cases time is met.
- After an inpatient hospital stay, the discharge summary (DS) is a document that covers the diagnosis, comorbidities, treatments, problems, and future treatment plan for a specific patient. Junior medical staff fill out the DS, which is then delivered to the general practitioner (GP).

Completing a DS takes time and effort, and most DSs are not completed within the required time frame.

- Completing a DS takes time and effort, and most DSs are not completed within the prescribed time range after a patient is discharged. Completing DSs takes time away from junior doctors, which costs the hospital money in overtime pay.

F. Proper implementation of HIS is missing within the hospital

- The main challenge confronting while implementing HIS in the hospital is deficient manpower, unmanageable patient load due covid pandemic, equivocal quality of services.
- Because improper health IT use has such a high danger of putting patients at risk, it is critical that management ensures that the technology is correctly administered. Hiring a field-experienced leader is a straightforward method to improve the process considerably.
- When it comes to integrating HIS, the following measures are crucial.

1. Get ready-Long before the technology arrives, successful healthcare technology implementation begins. Healthcare IT News claimed that one of the keys to effective adoption of electronic health records was having the correct leadership and having a common vision. Find the ideal project manager who can lead the transformation and get the rest of the team on board.
2. Preparation-Ascertain that a clear implementation plan is in place and that the plan functions on a realistic schedule. Binder's buddy realised that the vendor's planned timeframe would not provide for opportunity to educate and create support among physicians. It's a recipe for disaster to rush or minimise provider training. Allow enough time for training and discussion among team members.
3. Exercising:Hospitals are more prone to patient safety risks when users are unfamiliar with technology. When a practise is introducing health information technology, for example, plug and play is not an option, according to the National Institute of Health. Unfortunately, technology is not something that can simply be turned on and used.

4. Checks for progress:Create pre-planned progress checks to see if the project is on track. Identify issue areas and come up with solutions if it isn't at the level it should be. Hospitals that lack the resources to detect issues should seek out resources that can do so on their behalf. For example, allows hospitals a free test to see if their medication-processing systems are performing as stated by the vendor. Binder shared his findings.

Average Time Taken for each process involved in a discharge process with their standard time:

Sub process	**Standard time**	**Present scenario**	**What should be done**
TAT 1	8-10 min	14.3 min	The job burden on the GDA employees should not be excessive. As soon as they obtain the discharge summary and billing cards from the wards, they should handover them to the TPA desk.
TAT 2	10-12 min	53.06 min	Before 10:30 a.m., wards should send discharge summaries and billing cards to the TPA desk. So that all of the documentation may be compiled on time and sent to the insurance company for approval. All investing records supporting diagnosis, patient self-declaration,

			past history, and bill estimate should be sent with caution. Checklist of the paperwork that insurance companies require should be mades
TAT 3	120-180 min	194 min	All investing records supporting diagnosis, patient self-declaration, past history, and bill estimate should be sent with caution. A list of the documents required by the insurance company should be created. As a result, there is no possibility of documents being misplaced. The TPA desk should make every attempt to respond to enquiries as soon as possible.
TAT 4	15-20 min	47 min	As soon as the patient receives approval, they should be asked to pay the cost. A day before the discharge date, give the patient party a bill estimate.
TAT 5	240 min	309.2 min	Patients should have access to a waiting room where they can wait for

			their automobiles.

In the above graph we can see that all the sub process of discharge are taking more than the standard time. The compliance rate is found very low.

The following improvements could be possible:

1)During discharge summary

S.No.	Reasons	Solutions
1	Multiple corrections were made to the discharge summary	Doctors can utilise their specific mail ID for writing summaries after HIS integration, which helps and eliminates multiple corrections at the typing pool
2	On the day of clearance, cross referrals typically made at the last minute.	On the day before final discharge, cross referrals should be completed
3	Planned transfers after 7pm in the evening	Planned transfers that are late should be treated as unscheduled discharges.
4	Reporting inefficiencies in the laboratory	Verification of test reports in a timely manner speeds up the discharge process.

2) When it comes to payment processing

S.No.	Reasons	Solutions
1	Reluctance of the patient to pay/take the patient back to the house	Billing integration should begin as soon as possible.
2	Shortage of funds by a financial patient	Rehabilitation and recommendation to

		a government hospital must provided.
3	TPA patient: petition denial, health insurer issues	TPA patient: Queries should be solved as soon as poosible
4	Corporations patient: petition rejections, pharmaceutical indenting	The HIS update will bring pharmaceutical information up to date in a timely manner.

When transmitting the discharge summary to the typing pool, TPA station, or administrative desk

S.No.	**Reasons**	**Solutions**
1	GDA personnel are not available on the floor	Staffing of the GDA and its focused distribution
2	At the typing pool, discharge summaries have piled up.	Integration of HIS, devoted typing pool

CONCLUSION

This research shows that there is a delay in the release of insured patient and hospital official need to address these multiple dynamics associated with delays in the discharge process.

The time it would take for a health insurer to approve a claim, according to this study, is the leading cause of discharge delays ,after submitting discharge summaries and bill cards by TPA desk and time taken by TPA desk to transmit all covered patients' documentation to the insurance company. It was concluded that TPA desk is taking time in compilation of all the documents, as they receive most of the documents after 10:30am from the wards,because they receive most of the paperwork after 10:30 a.m. from the wards, this is an internal issue that can be resolved if all of the wards can provide all discharge summaries and bills for planned discharges to the TPA desk by 10:30 a.m. The other cause is external but can be controlled if the queries are compiled and analyzed, keeping the Pareto principle in mind, the vital information can be revealed which can be used to develop strategies to reduce queries which are received by the insurance company

By doing this study, we identified the basic core areas from where the problems are arising. There should be a plan in place for an efficient discharge of all the insured patients. Because discharge time is normally long for insured patients who need to be monitored, the overall time of the discharge process was significantly decreased.

CHAPTER:5

SUGGESTIONS TO REDUCE TIMELINESS OF DISCHARGE PROCESS

- Periodic Training to staff to be given what all's identity is associated with the discharge process.
- A discharge summary template should be prepared so that final discharge summary could be prepared on time
- Discharge summaries along with bill cards should be sent to the TPA desk by 10:30am
- A ward facilitator should be on pleased to guide with and screen the workflow.
- GDA staff who brings discharge summary and bill cards should be asked to handover the documents as soon as possible, as delays in transferring of documents from wards to TPA desk leads to delay in compiling and sending those documents to insurance company.
- Unplanned discharges should be avoided.
- The problem of understaffing in the insurance desk should be solved by appointing more staff
- Doctors visit in the ward should be done by 9am
- Discharge summary should be completed one day prior to day to discharge, in case of planned discharge
- There ought to be legitimate guiding of patients in regards to release date and essential of charging preceding the day of release ought to be finished. Timely intimation of billing should be done
- The billing counter staff ought to be exhaustive and ought to have all ideal information
- Here are some of the attributes that a hospital or healthcare institution's front office executive must possess:

  1)as well as a professional appearance, as this promotes professionalism.

  2) Being friendly and cheerful

  3)Responsible and disciplined

  4)Be able to communicate in a variety of languages, particularly the regional language of the hospital or healthcare facility.

  5)Excellent interpersonal skills - ability to work as part of a team and get along with a wide range of people

  6)Organizational skills and multitasking abilities

  7)Technical expertise

  8)The ability to remain calm under duress

- Appropriate feedback regarding discharge process must be taken from the patients and there ought to be legitimate component set up for investigation of those structures
- The patient's party must be requested to appear to the TPA desk as soon as the insurance desk calls.
- Delay in billing by the patients must be avoided, patient billing should be done as soon as approval comes from the insurance company.
- Inter department communication should well built
- The Good discharge planning should be made. The fundamentals of good discharge planning:
    - ✓ The discharge planning process is broken down into ten steps.
    - ✓ Begin planning before to or at the time of admission.
    - ✓ Determine whether the patient's needs are simple or complex.
    - ✓ Within 24 hours, create a clinical management plan.
    - ✓ Organize the process of discharge or transfer.
    - ✓ Within 48 hours of admission, schedule a discharge date.
- With good planning and organisation, it should be ensured that GDA staff is available to support patients throughout the discharge process.
- When a medical record entry error occurs, suitable error correction processes must be followed.

  -Make a line through the entry (thin pen line).

  -Fill in the blanks with your initials and the date.

  -Give the rationale for the mistake (i.e. in the margin or above the note if room).

  -Make a record of the correct information.
- There should be discharge planner on each wards. A discharge planner is a hospital employee whose job it is to ensure that patients are discharged to the best possible setting for their recovery. That environment is frequently the patient's own residence.
- Additionally, implement the medicine administration process safer throughout the hospital. The possibility of picking errors is reduced by storing medications in lockable cabinets that direct nurses to the correct medication. Furthermore, it facilitates improved stock management and ensures that the appropriate drug is available when and where it is required. It also frees up nursing time that can be put toward face-to-face patient care. Because everyone of our healthcare staff

members has their own login for the drug cabinets, they no longer have to waste time looking for keys. They can also save time ordering controlled medicines (CDs) because the cabinet will automatically place an order when the stock runs out.

- It's a good idea to keep track of your progress. Progress Notes are a section of a patient's medical record where healthcare practitioners record notes to chronicle a patient's clinical state or accomplishments during a hospitalisation or outpatient care.
- It should be ensure that KPIs utilised in doctor performance appraisals must include discharges signed by him/her, as well as if they are completed on time and without difficulty, and the appraisal should be done accordingly.
- Waiting room should be allotted to patient party so that they can vacant the bed after bill settlement, where they can wait for vehicles or can do lunch.
- Behaviour of Nurses and Other employees are also seen to be causing delays in a few cases, thus employees should be adequately trained and provided incentives so that they are motivated to execute their jobs completely.
- It is impossible to stress the necessity of providing good discharge instructions to interact with both patients and primary care physicians. Discharge instructions serve a variety of functions. They tell the patient of their diagnosis, whether known, suspected, or tentative, as well as their treating physician's name.

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ANNEXURE

A	*B*	*C*	*D*	*E*	*F*	*G*
Time of arrival of discharge summary	*Time of arrival of bill*	*Time at which bills and discharge summary sent to External TOA COMPANY*	*Time at which approval by external company is received*	*Time of arrival of patient to TPA desk*	*Time at which patient pay the bill*	*Time at which patient party vacant the bed*

a	*b*	*c*	*d*	*e*	*f*	*g*	*h*
s. no.	*date*	*Patient name*	*IPD NO*	*Department*	*floor*	*Consultant doctor*	*Category: Cash/TPA/Corporate*

a	*b*	*c*	*d*	*e*	*f*	*g*
Discharge order by consultant	*Informing patient party regarding patient discharge*	*Time of receiving patient clearnce*	*Time at which DRAFT of discharge summary is prepared*	*Discharge summary corrected by doctor*	*Time at which final discharge summary is prepared*	*Time at which discharge summary is sent to TPA desk*