

**STUDY ON
DISCHARGE TAT FOR CASH AND INSURANCE PATIENTS**

at

KIMS HOSPITALS, SECUNDERABAD

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

(2021-2023)

by

Muskan Dugaya

Under the Supervision and Guidance of

Anoop Khanna

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled is “**STUDY ON DISCHARGE TAT FOR CASH AND INSURANCE PATIENTS**” bonafide record of my original researchwork. 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 Information derived from the published or unpublished workof others has been duly acknowledged in the text.

(Signature)

Muskan Dugaya

Date:

Dt: 26-05-2023

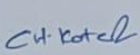
TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Ms. Muskan Dugaya, ID No: 90402940** has undergone the **Internship** in the department of **Corporate Projects** at **Krishna Institute of Medical Sciences** from **27-02-2023** to **26-05-2023**. During the course of her work, found to be good.

We wish her all the best for her future endeavors.

KIMS is 750 bedded, Multi-Specialty hospital. This is accredited with NABH, NABL & ISO 9001:2015 certified.

For Krishna Institute of Medical Sciences Ltd.


Koteswara Rao CH
Sr. Manager - HR
KIMS Groups of Hospitals



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CIN: L55101TG1973PLC040558

CERTIFICATE

This is to certify that the dissertation title “**STUDY ON DISCHARGE TAT FOR CASH AND INSURANCE PATIENTS**” is a record of the research work undertaken by (Muskan Dugaya) 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 her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide

IIHMR University, Jaipur

Date:

School Dean

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Jaipur

Date:

ABSTRACT

Background

Turnaround time for discharges (TAT) is a crucial aspect of hospital administration that has an impact on the effectiveness of healthcare delivery, the standard of care provided to patients, and patient satisfaction. The release TAT is the interval of time between the moment of medical clearance and the patient's actual hospital release. Longer hospital stays, congestion, and delays in admitting new patients are all possible outcomes of failing to pay appropriate attention to the discharge TAT.

Discharge TAT has been a key area of concern as hospital managers and healthcare professionals look for methods to increase the effectiveness and quality of healthcare delivery. The clinical state of the patient, the accessibility of hospital resources, the complexity of the release procedure, the patient's Insurance status, and other variables can all affect the discharge TAT.

The discharge TAT can have a big financial impact in a private hospital environment since it can affect the institution's revenue cycle and payment for services. For authorizing and processing claims, insurance companies often have certain guidelines and procedures, which might cause delays in the discharge procedure.

Given the importance of discharge TAT in hospital administration, an increasing corpus of research is devoted to figuring out what causes delays and coming up with plans to make the release process more effective. By enhancing the effectiveness and quality of healthcare delivery, this study can help healthcare managers and practitioners achieve better patient outcomes and higher patient satisfaction.

Research Question

- What is the average discharge TAT between the doctor's advice time of the discharge and the real discharge initiation time by the nurses in hospitals?
- What is the average discharge TAT between the system checkout and physical checkout by the patient in hospitals?
- What are the reasons that affect discharge?
- What interventions can be used to improve discharge TAT in hospitals?

Objectives

- To manually track the discharge process of cash and insurance patients.
- To identify factors that affect discharge Turn Around Time (TAT)
- To suggest measures to reduce the Inpatient Discharge Turn Around Time

Method

In order to compare the discharge TAT for patients with cash and insurance in a private hospital environment, the study used a mixed-methods approach. In the quantitative data analysis, discharge TAT data for patients with cash payments and insurance were examined, together with information on patient volume, day of the week, and time of day. The qualitative information was gathered by conducting in-depth interviews with administrators and healthcare professionals. The interviews were primarily focused on identifying the critical elements that affect discharge TAT and investigating viable remedies for increasing effectiveness and decreasing delays.

Data from a sample of 100 patients were gathered for the study over the course of two months. Thematic analysis was used to examine the qualitative data, while statistical software was used to examine the quantitative data.

Conclusion:

The typical time required for cash and insurance discharge from a doctor's advice. The Time to Discharge Initiation Time (DA-DI) is established at 15 minutes, while the average turnaround time from March to May is 101 minutes, or 1 hour 41 minutes. Aside from the time required to complete the discharge report, other process TATs are much over the objective. For enhanced service quality, suitable safeguards should be in place to alleviate the limitations of the present hospital discharge procedure. Reducing Inpatient Discharge Turnaround Time has not only improved patient satisfaction at their time of departure, but has also paved the road for patients to be admitted to the hospital to wait less time.

ACKNOWLEDGEMENTS

I would like to express my heartfelt gratitude and appreciation to the following individuals who have been instrumental in my journey at KIMS Hospital.

Firstly, I express my sincere gratitude to **Dr. Renuka** (HOD of Operations), for her invaluable guidance, support, and encouragement throughout my tenure. Her leadership and mentorship have been instrumental in shaping my growth and development as a healthcare professional.

I also want to express my gratitude to my mentors, **Mr. Prabhuniteja** and **Dr. Ayushi**, for their steadfast support and direction while I was working at KIMS Hospital. I am thankful for the chance to have studied from them; their knowledge, skill, and devotion have served as a continual source of encouragement and inspiration.

I also want to extend my sincere thanks to **Dr. Kiran**, the Medical Superintendent of KIMS Hospital, for giving me the chance to work and study in such a prominent healthcare facility. His vision and leadership have been crucial in establishing KIMS Hospital as a premier center of excellence in healthcare.

Finally, I would like to give **Dr. P.R. Sodani** (President, IIHMR University, Jaipur) my heartfelt gratitude for giving me the opportunity to complete this internship. I now like to thank **Mr. Anoop Khanna**, my mentor at IIHMR University, for his exceptional collaboration, priceless direction, and supervision. His meticulous and kind nature are evident in this report. I would also like to express a deep sense of gratitude to the Placement Cell of my esteemed university for guiding me throughout the internship process and for providing time-to-time internship guidelines.

I perceive this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way and will continue to work on the improvements, to attain desired career objectives.

TABLE OF CONTENTS: -

S.NO	TOPIC	PAGE NUMBER
(ii)	Declaration By Student	(iii)
(ii)	Abstract	(vi-vii)
(iii)	Acknowledgments	(viii)
(iv)	Table of contents	(ix-x)
(v)	List of figures	(xi)
(vi)	List of Tables	(xii)
(vii)	Abbreviations	(xiii)
1.	INTRODUCTION	1-33
1.1	Aim	2
1.2	Objectives	2
1.3	Rationale	2
1.4	Process Brief	2-3
1.5	Teams Involved in Discharge Process	3
1.6	Stakeholders in the discharge process	3-8
1.7	Process Flows - Discharge	9-18
1.8	Process Flows – Checkout - Audit	19-22
1.9	Process Flows – Checkout - FC	23-24
1.10	Process Flows – Checkout - Floor	25-28
1.11	Process Flows – Discharge Cancellation	29-30
1.12	Importance of Maintaining Discharge TAT	31
1.13	General problems of discharge process	31-32

1.14	Problem with the discharge process in our hospital	32
1.15	Need for streamlining the discharge process	32-33
2.	LITERATURE REVIEW	34-37
3.	METHODOLOGY	38-41
3.1	Research Questions	38
3.2	Research Design	38
3.3	Study setting	38
3.4	Study Population	38
3.5	Research Approaches	38-39
3.6	Inclusion Criteria	39
3.7	Exclusion Criteria	39
3.8	Study Approach	39-40
3.9	Data Collection Procedure	41
3.10	Ethical Considerations	41
4.	RESULTS	42-46
5.	DISCUSSION	47-55
7.	CONCLUSION	56-63
(viii)	References	64
(ix)	Annexures	65-67

LIST OF FIGURES: -

Figure No.	Description	Page No.
Figure - 1.1	Outpatient and Inpatient	1
Figure - 1.2	Drug Returns slip	14
Figure - 1.3	IP Approximate Bill (before audit)	16
Figure - 1.4	Provisional Discharge Summary	17
Figure - 1.5	IP Approximate Bill (after audit)	21
Figure - 1.6	In Patient Final Bill	24
Figure - 1.7	Check Out Slip	26
Figure - 1.8	Final Discharge Summary	27
Figure - 1.9	Physical Checkout Register	28
Figure – 4.1	Various departments for TAT study	42
Figure – 4.2	Target and Achieved TAT (DA-DI) for Cash patients	44
Figure – 4.3	Target and Achieved TAT (DA-DI) for Insurance patients	45
Figure – 4.4	Target and Achieved Discharge TAT (SC-PC) for Cash and Insurance patients	46
Figure – 6.1	Depiction of Electronic Health Record of KIMS Hospital	57

LIST OF TABLES: -

Table No.	Description	Page No.
Table 1.1	Condition of Auditing the patient bill	20
Table 4.1	Various departments for TAT Study	42
Table 4.2	Target TAT for cash patients and achieved TAT from the study	43
Table 4.3	Target TAT for insurance patients and achieved TAT from the study	43
Table 5.1	Discharge process and the primary team involved	47-48
Table 5.2	Issues causing a delay in (DA-DI) of Discharge TAT	49-51
Table 5.3	Issues causing a delay in (SC-PC) of Discharge TAT	51-54

LIST OF ABBREVIATIONS: -

S No.	Abbreviations	Meaning
1.	TAT	Turn Around Time
2.	DS	Discharge Summary
3.	CS	Case Sheet
4.	IP	In-patient
5.	OP	Out-patient
6.	KIMS	Krishna Institute of Medical Sciences
7.	NABH	National Accreditation Board for Hospitals
8.	RM	Relationship Manager
9.	LAN	Current Bill of the Patient
10.	TPA	Third-Party Administrator
11.	FB	Floor Biller
12.	GDA	General Duty Assistant
13.	OT	Operation Theatre
14.	FC	Financial Counselor
15.	NME	Non-medical Expenses
16.	CT	Cardiothoracic
17.	ENT	Ear Nose Throat
18.	HK	Housekeeping
19.	AE	Audit Executive
20.	PF	Process Flow
21.	DS	Discharge Summary
22.	DAMA	Discharge Against Medical Advice
23.	GRN	Goods Received Note
24.	HIMS	Hospital Information Management System
25.	IT	Information Technology
26.	DA	Doctor's Advice
27.	DI	Discharge Initiation
28.	SC	System Checkout
29.	PC	Physical Checkout
30.	DMO	Duty Medical Officer

CHAPTER – 1: INTRODUCTION

Hospitals use the term Discharge TAT (Turnaround Time) to describe how long it takes to release a patient once their treatment is finished. This covers the interval between the time the doctor decides the patient is stable enough to be discharged and the time the patient is actually released.

Outpatient and inpatient services are the two primary service categories that a hospital primarily offers. A person who obtains ambulatory treatment in a hospital is considered an **“OP- outpatient”** because they don't need to spend the night there. The term **“IP - inpatient”** refers to a person who has been admitted to a hospital in order to receive inpatient hospital care.



Figure- 1.1: Outpatient & Inpatient

Three distinct stages must be experienced by an inpatient in a hospital. Admission comes first, then Intervention and the final stage is discharge. After the required interventions, several processes involving several staff members and departments must be carried out during the patient's release, making the process complicated.

According to Mogli, "Discharge is the release of a hospitalized patient from the hospital by the admitting physician after providing necessary medical care for a period deemed necessary". Discharge is the release of an admitted patient from the hospital," according to Sakharkar. Discharge, according to NABH, is “The process by which a patient is transferred from the hospital while having all pertinent medical reports guarantee stability”.

The discharge process is deemed to have started when the consultant formally approves discharge and ends with the patient leaving the clinical unit. The admission and discharge processes can act as bottlenecks in many hospitals and thus adversely affect the efficiency of the hospital (Davies & Macaulay). It is a very important indicator of the quality of care and patient satisfaction.

Hospitals must have a quick turnaround time (TAT) for discharges since it guarantees that beds are available for incoming patients and shortens hospital stays. Enabling patients to go home sooner and decreasing healthcare expenditures, also raises patient satisfaction.

1.1 Aim

To understand the discharge process of KIMS Hospitals, Secunderabad. And to identify the factors that contribute to the delay in discharge of patients from the Inpatient Department.

1.2 Objectives

- To manually track the discharge process of cash and insurance patients.
- To identify factors that affect discharge Turn Around Time (TAT)
- To suggest measures to reduce the Inpatient Discharge Turn Around Time

1.3 Rationale

The final stage in obtaining excellent patient satisfaction ratings, discharge of patients, necessitates a specific focus when it comes to hospital operations. For proposals to be relevant to current industry standards and to produce ideas on par with the competition, it is important to understand the corporate process in place.

1.4 Process Brief

- Discharge Notification to team
- Discharge process counseling to patient
- Pharmacy returns
- Discharge Medication indents (where applicable)
- Investigation reports printing
- Discharge summary printing

- In-Patient bill readying
- Clearance from OT & IP Pharmacy (where applicable)
- Clearance from the blood bank (where applicable)
- Clearance from F&B
- Clearance from Cath lab (where applicable)
- Bill clearance by patient
- Issue Check out slip
- Counseling on the discharge summary
- Patient checkout
- Room readiness for the next patient.
- Discharge cancellation

1.5 Teams Involved in the Discharge Process

- Nursing – Nurse, Nursing In-charge, Nursing Manager
- Operations – Relationship Manager, Floor Biller
- Audit – Audit Executive
- Admission – Financial Counselor
- Departments – Lab, F&B, Radiology, Blood Bank, Pharmacy
- Consultant
- DMOs
- OT

1.6 Stakeholders in the Discharge Process

The following individuals and their responsibilities in the discharge procedure are listed:

1.6.1 DMO

- Preparing Discharge Summary
- Following up with consultants for getting discharge summary approved

1.6.2 Caregivers

- **Nurses:**
 - Handover discharge returns to Nurse
 - Raising indents of medication, investigations
 - Raising cross consultations requests

- Follow up on pending report
- Print reports and discharge summary after verifying checkout slip
- Explain discharge summary and hand it over along with relevant reports and films where applicable
- Update bed status in HIMS after HK clearance
- Return drugs on system
- Drug tally at time of discharge

- **Doctors:** It is up to doctors to decide whether a patient is ready to be discharged and to make sure that the patient has received all required medical attention and treatment. In addition to writing the post-discharge medications and after-care instructions, the doctor recommends all investigations be conducted on the day the patient is deemed fit for discharge to determine whether there are any complications. They also offer guidelines for scheduling follow-up visits and a drug schedule.

- **Physiotherapists:** After a hospital stay, physiotherapists evaluate their patients' physical capabilities and create rehabilitation plans to assist them to restore their strength, mobility, and flexibility. They also offer guidelines for at-home exercises and safety measures.

- **Dieticians:** Dieticians evaluate the patient's dietary requirements and create diet regimens to satisfy those demands. They provide patients with daily meal plans which are highly nutritious and help them to recover and function as before.

1.6.3 Patient and their attendees:

The patient and their companion both have significant responsibilities to play in the discharge procedure. After getting the required medical attention and treatment, the patient is released from the hospital as part of the discharge procedure. The patient's caregiver's responsibilities throughout the discharge procedure are as follows:

- Providing accurate information: The patient and their attendant must offer the healthcare team, which includes the doctor, nurses, and other healthcare professionals correct information on the patient's medical history, current medical condition, and any other pertinent information.
- Compliance with medications: The patient and their carer must adhere to the doctor's suggested medication schedule, which includes taking medications as directed and on time.
- Follow-up appointments: The patient and their attendant are responsible for scheduling and attending any necessary follow-up appointments with their physiotherapy healthcare providers.
- Understanding discharge instructions: The patient and their attendant must comprehend the discharge instructions given by the medical staff, including the medication schedule, follow-up visits, food restrictions, and any other specific instructions.
- Preparation of discharge: The patient and their attendant must make transportation arrangements, acquire any required medical supplies or equipment, and ensure they have all of their personal items before being discharged.

1.6.4 IP/OP/ Cath Lab Pharmacist

Their job is to review the nurse's request for a return of the drugs, dispatch staff to collect the goods from the pharmacy that need to be returned, examine the medications and then grant clearance to the pharmacy so that the next step may be taken.

1.6.5 F&B, Blood Bank

- Post clearance after discharge notification

1.6.6 Relationship Manager/ Floor Manager

- Counsel patients on discharge process
- Enquire about ambulance requirement.
- Collect feedback from patient.
- Follow up with patient once the bill is handed over for system check out (bill settlement)

- Physical check out: Once bill is settled, RM to follow up for vacating room (within 1 hour)
- Ensure room readiness and eventually update the room readiness after the house keeping clearance
- Ensuring Discharge process is accelerated
- Handle real time escalation ensuring the actionable issues are closed as soon as possible in coordination with the respective departments

1.6.7 Floor Biller

The primary responsibility of a floor biller is to create the patient's LAN bill, update it daily with all services rendered, and then, at the time of discharge, create an estimated bill that is forwarded for audit.

- Raise discharge flag
- Check if ward charges are correctly billed in system
- Coordinate with Lab/radiology/Departments for pending indents approvals (not selected/approved)
- Update bill after all clearances have been received
- Call off services after Bill updates are complete
- Update professional fees
- Check if ward charges are correctly billed in system
- Revoke Ward charges, if delay is due to Hospital Operations
- Re-update bill in case of audit findings
- Print final Approximate bill & hand over to patient in room
 - Clarify quick queries regarding bill

1.6.8 Audit Executives

- Reviewing medical records: The bill auditor may check the patient's medical file to make sure that all charges are accurately listed in and backed up by the necessary paperwork.
- Analyzing billing data: To make sure that all costs are legitimate and that the patient isn't being overcharged, the bill auditor may examine the billing information.

- Ensuring compliance with regulations: The bill auditor is in charge of making sure that the hospital or healthcare institution is charging in accordance with all relevant regulations, including Medicare or Medicaid rules.
- Identifying errors or discrepancies: Finding inconsistencies or problems in the billing data: The bill auditor may find inconsistencies or errors in the billing data and work with the billing department to fix them.
- Audit OT Sheet within 24 hours after surgery (daily activities)

1.6.9 Financial counselor

- Reviewing insurance coverage: The financial advisor may go through the patient's insurance plan and explain its advantages as well as any possible out-of-pocket expenses.
- Assisting with billing inquiries: The financial counselor may assist patients with their billing inquiries and explain the prices on their bills.
- Identifying payment options: The financial counselor can assist patients find available payment options and explain how to make payments and collect balance amount at the time of discharge.
- Providing financial assistance Information: If patients are having financial difficulties, the financial counselor may be able to give them information on financial aid programs.
- Coordinating with other staff members: In order to make sure that patients are receiving the help they need, the financial counselor may coordinate with other staff members, such as nurses and social workers.
- Close and issue IP final bill and payment receipt to patient at time of discharge
- Issue check-out to patient.

1.6.10 Insurance backend/TPA/ Insurance Department

- Verifying insurance coverage: The patient's insurance coverage may be confirmed by the insurance backend, TPA, and insurance department, who will also make sure that all required documentation is filed.
- Claims management: These divisions are in charge of overseeing the claims procedure and making certain that all claims are presented truthfully and promptly.

- Coordination with healthcare providers: To ensure that all costs are accurately recorded and that any required modifications are made, the insurance backend, TPA, and insurance department may work closely with healthcare providers.
- Bill conversion: The floor biller sends the LAN bill to the insurance backend for conversion into a final bill that complies with insurance requirements, which is subsequently created and delivered to insurance.
- Payment processing: The insurance backend, TPA, and insurance department are in charge of handling insurance company payments and making sure the patient's bill is paid correctly.

1.6.11 Security team

Every floor has a security employee who collects the patient's checkout slip, confirms that the patient has been discharged and paid the bill, and then enters the patient's information into the register with the IP number, name, room number, and physical checkout time. The surveillance also records the moment that the housekeeping staff entered the room after the patient had vacated the room.

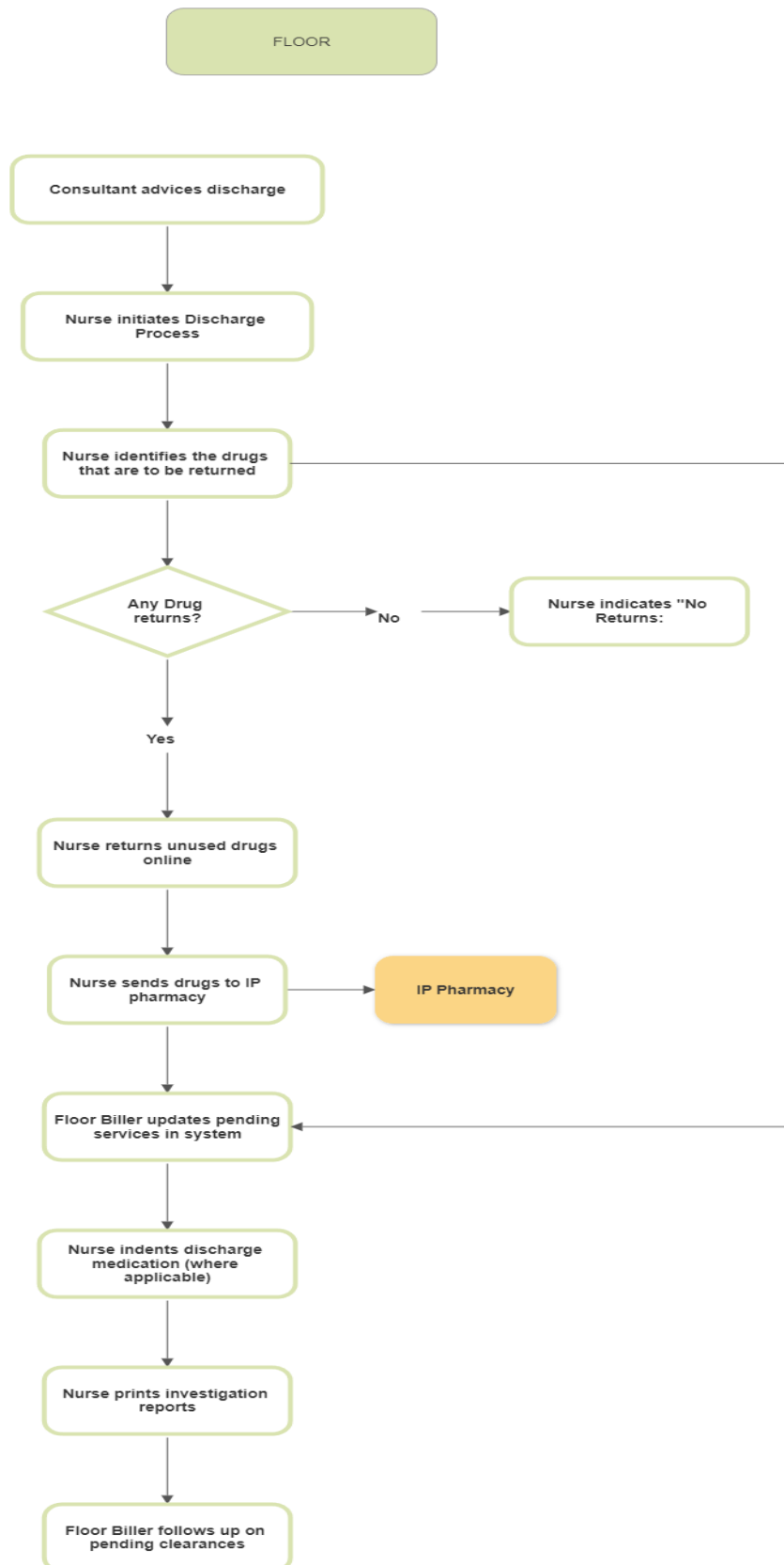
1.6.12 Transport Team

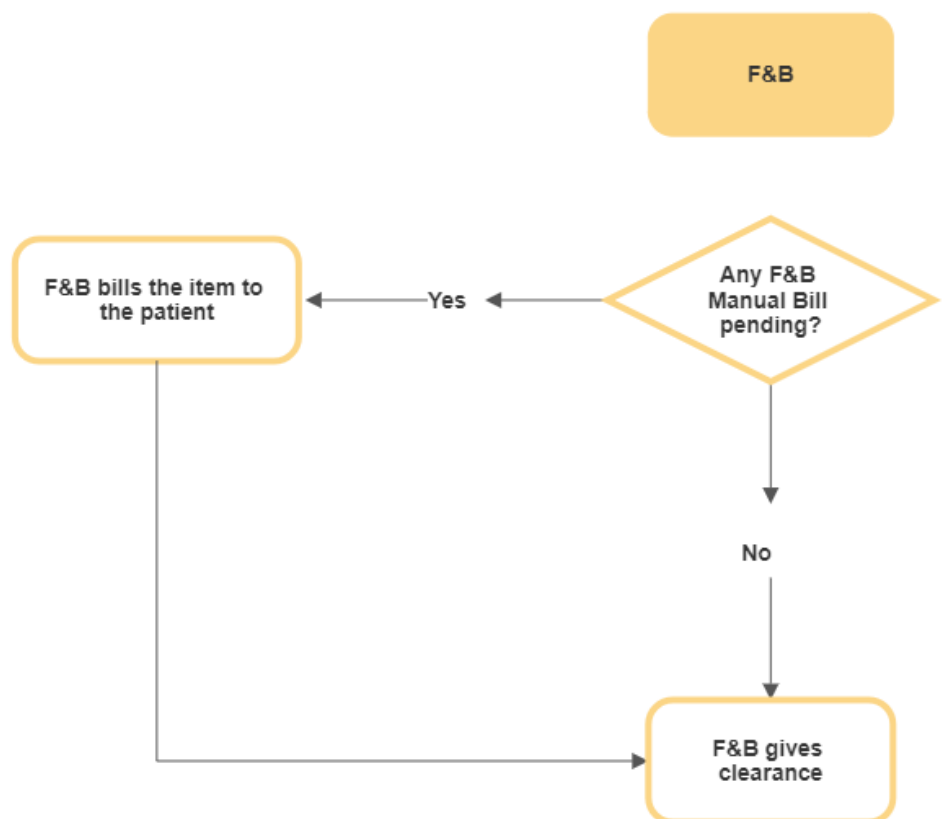
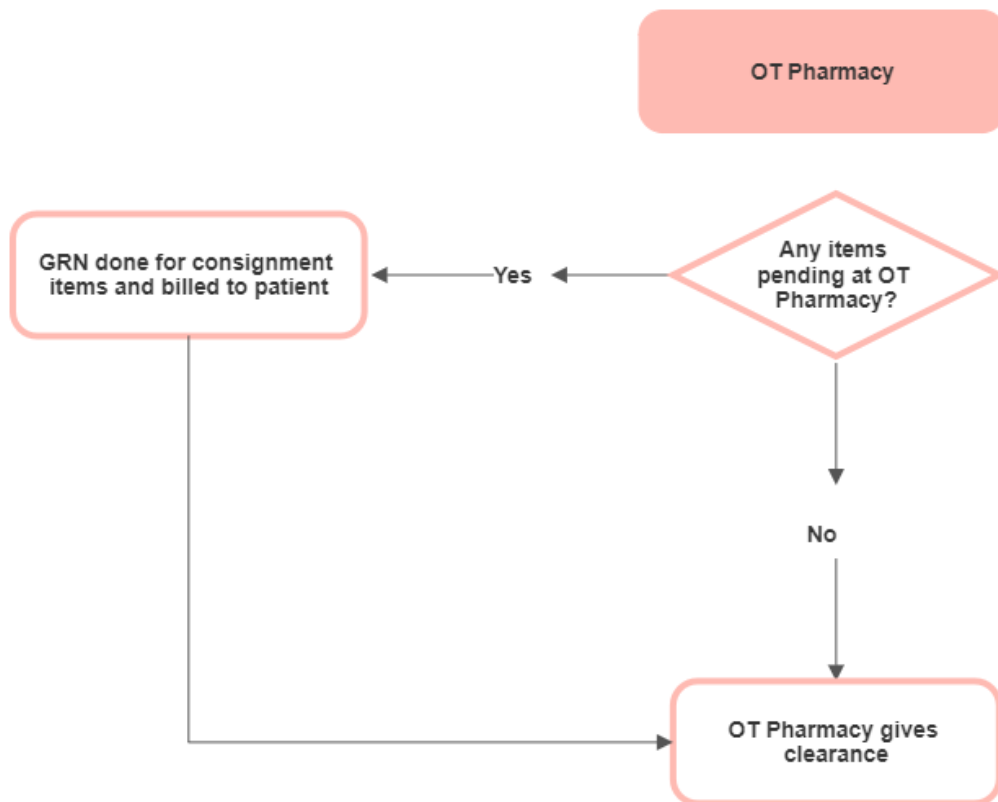
The transport team is in charge of organizing the patient's movement from the patient's bed to their chosen method of transfer, such as an automobile.

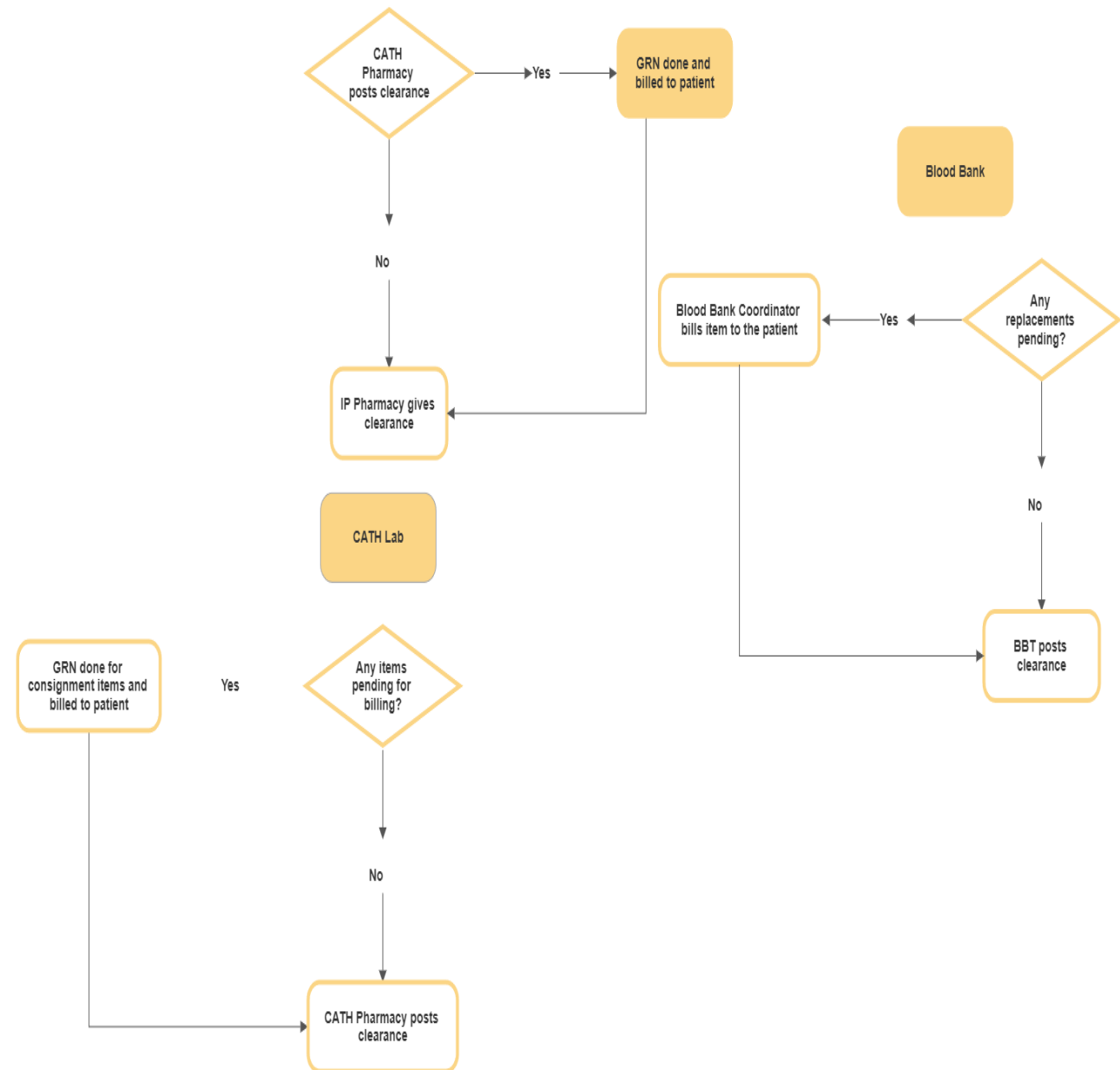
1.6.13 Housekeeping/ GDA staff

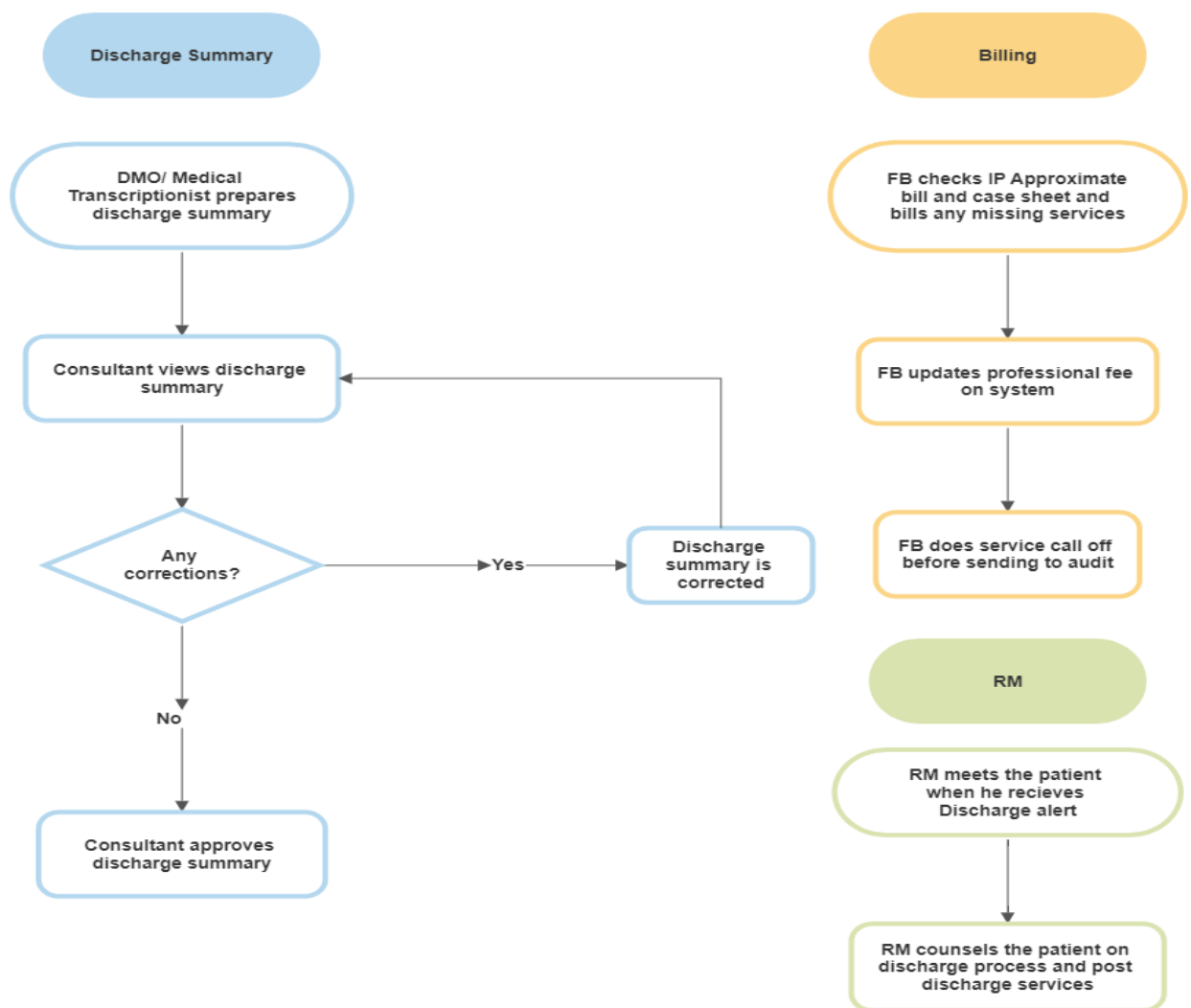
The housekeeping staff is in charge of meeting all of the patient's needs, including room cleaning and any other general assistance. They are also in charge of thoroughly cleaning the room after the previous patient has left it so that the new patient may enter. The patient must be transferred from the bed to the OT or another designated place for discharge GDA employees. Stretchers, wheelchairs, or other forms of transportation are used.

1.7 PROCESS FLOWS – Discharge









1.7.1 Consultant advises discharge

When a patient is deemed physically and psychologically healthy enough to be discharged from the hospital, the doctor will give discharge advice as the first step in the release procedure.

Most often, the senior doctors who are on rounds observe the patient's condition and recommend discharge; however, if a resident doctor is on rounds and recommends discharge to the patient, the discharge is approved by a senior consultant or surgeon, and only then is the patient subjected to additional treatment.

- Consultant notifies the patient of discharge
- Consultant/DMO updates advice in the case sheet
- Consultant/DMO writes downtime of advice (if not, the nurse writes time of advice in nurses notes)

1.7.2 Nurse Raises Discharge Flag

- Nurses initiates the discharge procedure in the HIMS software as soon as the doctor recommends it so that the other department engaged in the discharge process may be ready in advance and the discharge TAT can be monitored.
- The following departments are intimated about patient discharge:
 - Blood Bank
 - IP Pharmacy
 - OT Pharmacy/Cath Pharmacy
 - F&B
- Once intimation is received, departments will post clearances on the system
- Departments must ensure that clearances are given online. In cases where online clearance cannot be given, manual clearance needs to be given.

1.7.3 Nurse identifies the drugs that are to be returned

The first step after discharge initiation is returning any drugs that were left because they were pre-ordered in advance.

- Nurse identifies the drugs that are eligible to be returned from the patient medication box.
- The kind of drugs that can be returned are Unused diapers & bed baths, or unopened syrups, IV Fluids, syringes (seal not opened), Tablets (full strip) can be reused.
- The kind of drugs which cannot be returned are Syrups where the seal is broken, cut strips IV medicines where the seal is broken, wet wipes where the seal is broken

1.7.4 Nurse returns unused drugs online

- Nurse places return request against indent on the system on i- portor software

1.7.4 (a) Nurse indicates "No returns" in HIMS if there are no medications for return

- Nurse indicates "No returns" in System
- Pharmacy views "No returns" Status and posts clearance

1.7.5 Nurse sends the drugs to IP Pharmacy

- Nurse prints return slip from HIMS
- Nurse packs returnable drugs along with return slip & sends to the pharmacy (Pharmacy staff comes to the ward and collects return medications after physical verification along with Nurse. The return acknowledgment is printed and signed by both pharmacy staff and nurses. Physical return can be done either in real-time or periodically during the day)
- Once the Pharmacy acknowledges the return request, charges will be automatically deducted from the bill.

KIMS TEST					
Minister Road, Secunderabad - 500 003					
Tel : 040-44885000, Fax : 040-27840980					
CIN - US5101AP1973PLC040558					
Drug Returns					
26-Jun-2018 To 26-Jun-2018					
Print Date & Time: 26-Jun-2018 4:39:44 pm					
Item Desc	Item Code	Quantity	Return.Qty	Requested.By	Accepted.Dt
Return No : DRI48464	26-Jun-18	4:39:45PM			
IV SET-LL(BBRAUN)	IVSU21	2	1	Super User	
DULCOFLEX SUPPOSITORIES ADULT	DULC07	2	2	Super User	

Figure – 1.2: Drug Returns slip

1.7.6 Floor Biller updates pending services in system

Each floor has four wings, and each wing has a different floor biller. The patient's services are continually updated on the bill by the biller, but the IP approximate bill is only created at the time of discharge. The biller has one hour, to create the approximate bill.

- Once FB receives clearances, FB starts billing the case sheet.
- Floor Biller checks case sheet and updates any pending services.
- Floor Biller follows up with departments for any pending indents and informs to approve so auto billing can happen.

1.7.7 Nurse indents discharge medication – if applicable

- Nurse checks case sheet for discharge advice and indents discharge medication only after confirming with the patient in case they want to buy it from another pharmacy store (for cash patients).

- If, patient is convinced to buy medicines from hospital nurse indicates the indent as 'Discharge Medication'.
- Pharmacy dispenses the medicines.
- Nurse verifies the medication and keeps it aside.
- Patients are asked to purchase discharge medicines as it is not covered in Insurance (for Insurance patients).

1.7.8 Nurse prints tests/service reports

- Nurse prints reports that have not been printed previously & files them.
- If a report is verified but not approved, Nurse calls the department & informs them to approve the report.
- Provisional reports cannot be printed.
- Ward Nurse hands over all approved reports to the patient (original copies for cash patients/duplicate copies for credit & insurance).

1.7.9 Floor Biller follows up on pending clearances

- The floor Biller checks if any clearances are pending. (IP pharmacy, OT pharmacy, Radiology for reports / films, Laboratory for reports, F&B, Blood bank, Cath-lab pharmacy)
- Floor Biller calls the applicable department and informs them to post clearance.

1.7.10 FB checks IP approximate bill and bills any missing services

- FB retrieves IP Approximate Bill
- FB opens case sheet & checks for any missed services.
- If any services are missed in the bill, FB updates items in the bill

KIMS Hospital Enterprises Pvt.Ltd.
1-112/86 Survey No 55/ee,
Kondapur, Serlingampally,
Hyderabad, Telangana.

IP Approximate Bill
17-Jul-2018 To 20-Jul-2018

Approx. Bill No :
UMR No :
S-W-D-B/O :
Admitted Ward : BLOCK-2 TWIN SHARING / 338A
Department : NEURO SURGERY
Age / Sex : 47Y(s)/FeMale
Referred By : WALKIN

20-Jul-2018 01:39 PM
17-Jul-2018 06:30 PM
Dr. PHANI RAJ. G.L
PRAGATHI NAGAR
HYDERABAD, TELANGANA

Service Cd	Services / Investigation	Qty.	Rate	Amount
Consultation Charges				
DIET		2	375.00	750.00
DIE0001	DIET CONSULTATION	2	700.00	1,400.00
INTERNAL MEDICINE/GENERAL MEDICINE				
DM0014	Dr. PAPA RAO N	1	6,187.00	6,187.00
Professional Charges				
ANAESTHESIOLOGY		1	1,546.00	1,546.00
DM0036	ANASTHETIST - Dr.PRATAP REDDY G	1	20,000.00	20,000.00
DM0131	ASST. ANASTHETIST - Dr.ASST.ANAESTHETIST	1	24,750.00	24,750.00
NEURO SURGERY				
DM0003	CONSULTANT - Dr.PHANI RAJ. G.L	1		

Figure – 1.3: IP Approximate Bill (before audit)

1.7.11 FB updates professional fee on system.

- FB updates professional fees on system as per policy after enquiry with doctor, if applicable.

1.7.12 FB does service call off before sending to audit

- FB calls off services in HIMS. When the approximate bill is prepared, the services are canceled known as service call off. In other words, because every treatment that has been rendered has been invoiced, the patient will no longer get any more services.
- Audit team is informed to come and audit the IP Approximate bill to convert it into final bill and give to the patient.

1.7.13 Relationship Manager meets patient when he receives discharge alert.

- RM meets patient/attendant in the room after discharge initiation

1.7.14 RM counsels the patient on discharge process and post discharge services

- RM counsels patient on Discharge Process
- Once billing is over, the bill will be handed over to you in your room. We request one of your attendants to be available to receive the bill, and kindly clear the bill immediately at Financial Counselor desk in floor. (Cash)
- Once your bill is prepared, we will submit the claim to the insurance company (TPA), as soon as we receive approval which may take around 3-5 hours. Our

insurance team will keep you informed on the status. Once your approval is obtained, please meet financial counselor to clear your dues. (Insurance)

1.7.15 DMO / Medical Transcriptionist prepares discharge summary

- DMO / medical transcriptionist prepares discharge summary in HIMS.
- Alert goes to a doctor that discharge summary is prepared.

1.7.16 Doctor views discharge summary

- Doctor goes through discharge Summary
- In case any corrections are needed in discharge summary, consultant makes corrections or informs DMO / Medical Transcriptionist.

Provisional Discharge Summary			
Patient Details			
Name/Age/Gender	Mrs M. L. D. Ashokra / 22 Years/F	Mobile No	9035206800
Admn No	HT1810002450	LINK No	LINK 18100018000
Admn Dt	17 Jul 2018	Discharge Dt	22 Jul 2018
Doctor Name	Dr. Vaidesh Rao Vaidhala	Specialization	Internal Medicine
Address	Kudalgaon, Hyderabad, Telangana, India	Ward/Room/Bed	BLOCK A - 31002 R22 10/2 10
CONSULTANT			
Dr. Vaidesh Rao Vaidhala MBBS, MD, DPM, DNB, FRCPC, FRCGS			
DIAGNOSIS			
DENGUE FEVER WITH THROMBOCYTOPENIA			
CHIEF COMPLAINTS			
C/o Fever with chills since 3 days, p/v bleeding since yesterday night. H/o vomiting 3 days back.			
PRESENT HISTORY			
Patient admitted in hospital with C/o Fever with chills since 3 days. B/v bleeding since yesterday night. H/o vomiting 3 days back. No H/o rash, pain abdomen, SOB, melena. LMP 5TH JULY 2018. Outside reports s/o PLT 45000 and Malaria positive. Patient was admitted for further evaluation and management.			
PAST HISTORY			
Nil.			
ON EXAMINATION			
conscious, coherent, cooperative, oriented. R: 93 /min P: 120/80 mm of Hg RD: 99% on room air RR: 100 /min S: S1 S2 heard. No murmurs. Peripheral pulses palpable. I: B/L Airway Entry + G: P/A - soft, no organomegaly. Bowel sounds heard. S: CCS 15/15. Pupils: B/L. NS N6. Ocular movements intact. No motor deficits. Reflexes normal. B/L plantar flexor med.			
VESTIGATIONS			
Parameter	Result		

Figure – 1.4: Provisional Discharge Summary

1.7.17 Consultant approves discharge summary

- Doctor approves the summary
- Digital sign of the doctor is captured
- If doctor is unavailable DMO/ Medical Transcriptionist calls doctor and informs about the discharge summary. After confirmation from consultant, DMO approves in the system.

1.7.18 IP Pharmacy gives clearance

- IP Pharmacist posts clearance after acknowledging returns

1.7.19 OT Pharmacy gives clearance

- In case of a surgical procedure, the OT pharmacy verifies whether or not all of the medications and supplies were properly indented and listed so that it can be billed accordingly and then clearance is given.
- OT Pharmacy clears pending indents & informs IP Pharmacy

1.7.20 F&B gives clearance

- F&B posts clearance after completing billing of all pending manual bills.

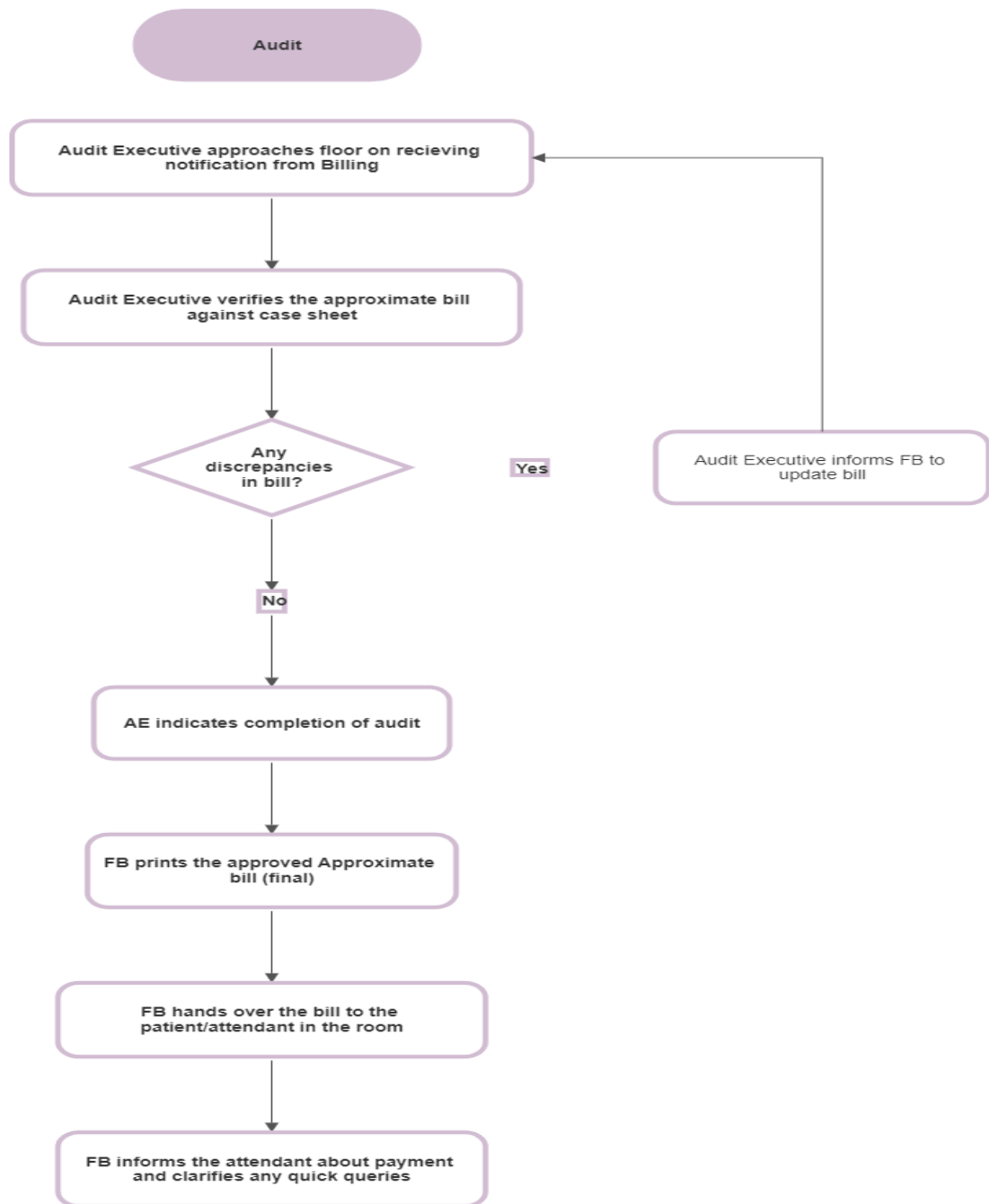
1.7.21 Blood Bank gives clearance

- Blood bank technician checks if any replacements are done or not.
- Blood Bank technician gives clearance after receiving the discharge alert from the Ward.

1.7.22 Cath Lab Pharmacy gives clearance

- Cath Lab Pharmacist identifies if any items are pending for billing or not.
- Cath Lab Pharmacy gives clearance after receiving the discharge alert from the Ward.

1.8 PROCESS FLOWS – Check out – Audit



1.8.1 Audit executive approaches floor on receiving notification from Floor Biller

- Floor Biller notifies audit on HIMS / phone call that bill is ready for audit
- Audit Executive approaches floor after receiving alert

1.8.2 Audit executive verifies the approximate bill

- Audit Executive audits bill against case sheet and review the bill in accordance with KIMS's billing procedures, looking for any services that were incorrectly or excessively charged.
- Audit checks
 - i. OT sheet for OT Hours, OT equipment, Surgeon Name
 - ii. IP Billing sheet for Bedside services & equipment
 - iii. Cross consultation visits & Doctors Progress Notes for Consultant visits,
 - iv. Physiotherapy & Dietician Sheet
 - v. GRBS sheet
 - vi. Ward transfer report for room charges
 - vii. IP Pharmacy billed items > Rs 500
 - viii. Blood Bank stickers

Table – 1.1: Condition of Auditing the patient bill

If any missing item or discrepancy is found in the bill	If the bill is correct
• Audit Executive notes down the service name & quantity on HIMS or the audited Bill • AE simultaneously writes down the billing executive's name & value of discrepancy for use in the internal audit report. • AE notifies the billing executive of the differences • Auditor revokes service call-off • FB updates bill with missing items. • FB calls off service after updating • AE re-audits updated bill.	• Bill is printed and signed • Bill is handed over to the concerned person.

KIMS Hospital Enterprises Pvt.Ltd.
1-112/86 Survey No 55/ee,
Kondapur.Serlingampally,
Hyderabad, Telangana.

IP Approximate Bill
17-Jul-2018 To 20-Jul-2018

Date : 20-Jul-2018 01:39 PM
Approx. Bill No :
UMR No :
S-W-D-B/O :
Admitted Ward : BLOCK-2 TWIN SHARING / 338A
Department : NEURO SURGERY
Age / Sex : 47Y(s)/FeMale
Referred By : WALKIN

Of Admission : 17-Jul-2018 06:30 PM
Consultant : Dr.PHANI RAJ. G.L
Registration No :
Address : PRAGATHI NAGAR
HYDERABAD, TELANGANA

Service Cd	Services / Investigation	Qty.	Rate	Amount
Consultation Charges				
DIET		2	375.00	750.00
DIE0001	DIET CONSULTAION			750.00
INTERNAL MEDICINE/GENERAL MEDICINE		2	700.00	1,400.00
DM0014	Dr. PAPA RAO N			1,400.00
Professional Charges				
ANAESTHESIOLOGY		1	6,187.00	6,187.00
DM0036	ANASTHETIST - Dr.PRATAP REDDY G			6,187.00
DM0131	ASST. ANASTHETIST - Dr.ASST.ANAESTHETIST	1	1,546.00	1,546.00
NEURO SURGERY		1	20,000.00	20,000.00
DM0003	CONSULTANT - Dr.PHANI RAJ. G.L			20,000.00
		1	24,750.00	24,750.00

Figure – 1.5: IPApproximate Bill (after audit)

1.8.3 Audit executive indicates completion of audit

- Audit Executive indicates completion of audit in system

1.8.4 Floor Biller prints the approved approximate bill (final)

- FB, after receiving alert of audit completion, takes print out of the IP Final approximate bill from system

1.8.5 LAN Bill Closure

- The patient's current bill, or "LAN bill," is created with the service call off and the LAN bill is closed after no more services are rendered or invoiced

For Cash Patients

1.8.6 FB hands over the bill to the patient/attendant in the room

- FB goes to patient room & hands over the bill to the patient
- FB clarifies queries, if any

1.8.7 FB informs attendant about payment & clarifies any quick queries

- FB informs patient to go to financial counselor for further query management
- FB informs about payment policy/refund policy

For Insurance Patients

1.8.8 FB hands over the bill to the Insurance Backend

- The final bill is handed over to insurance backend for bill conversion
- The bill is converted as per insurance policy norms

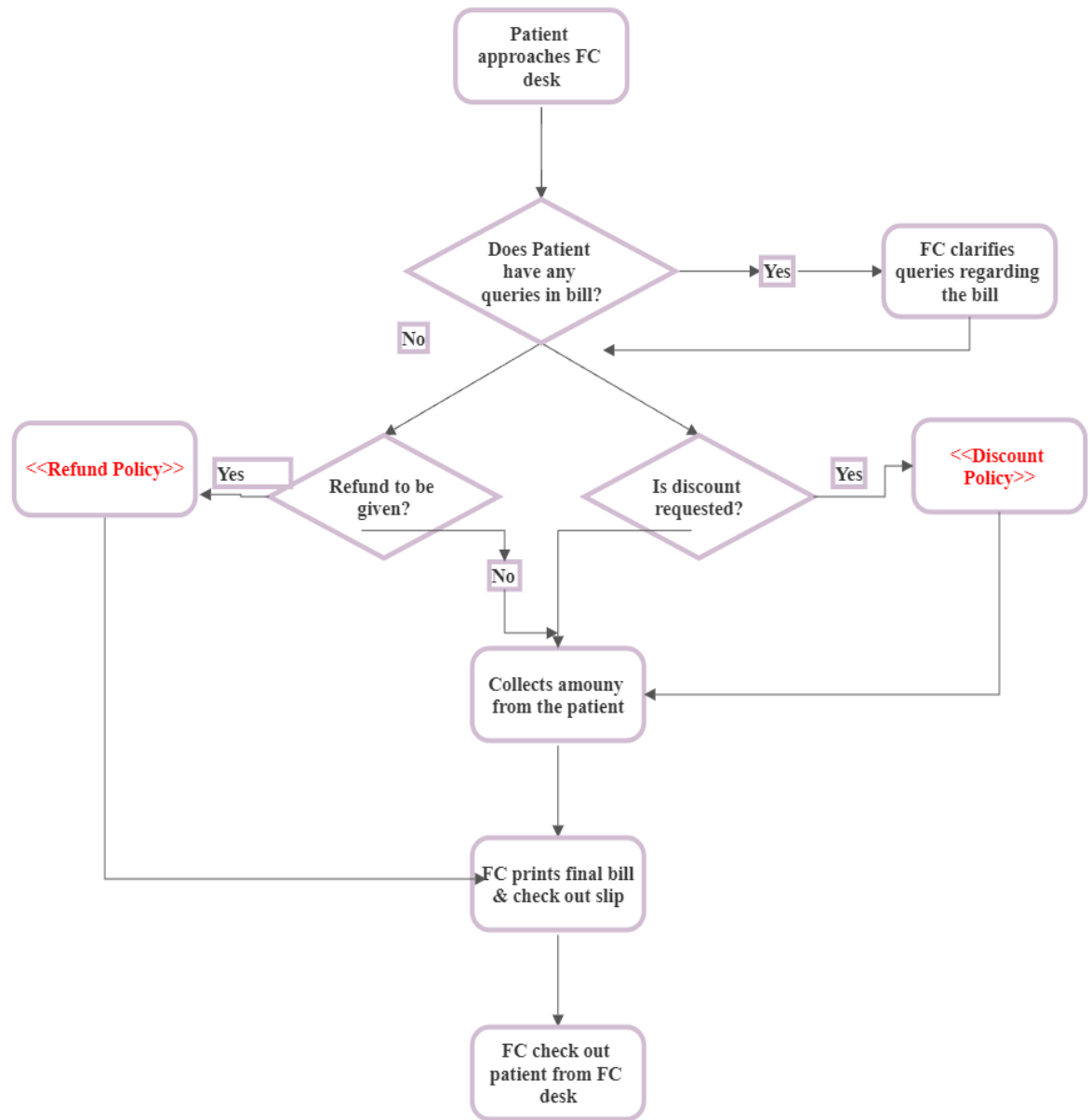
1.8.9 Bill goes for Audit

- The bill converted is then audited again by the audit executive
- After audit and correction (if any) the bill is sent to Insurance company as post-auth submission.

1.8.10 Approval/Query of the bill

- Then the bill is sent to the insurance company as post-auth
- If the Company has some query regarding the bill it is solved and reverted until they approve the post-auth.
- If the company directly approves the bill, the NME cost is billed and sent to patient for payment.

1.9 PROCESS FLOWS – Check out – FC



🌈 For Both (Cash and Insurance) Patients

1.9.1 Patient approaches financial counselor

- Patient goes to financial counselor and takes a token
- Patient approaches FC when his number is displayed

1.9.2 FC clarifies queries regarding the bill

- If patient says he has queries regarding the bill, FC clarifies the doubts.

1.9.3 FC collects amount from the patient

- FC collects remaining amount from the patient.
- Patient makes payment in the form of cash/card
- FC does entry in the system & generates payment receipt.

1.9.4 FC prints final bill & check out slip for System Checkout

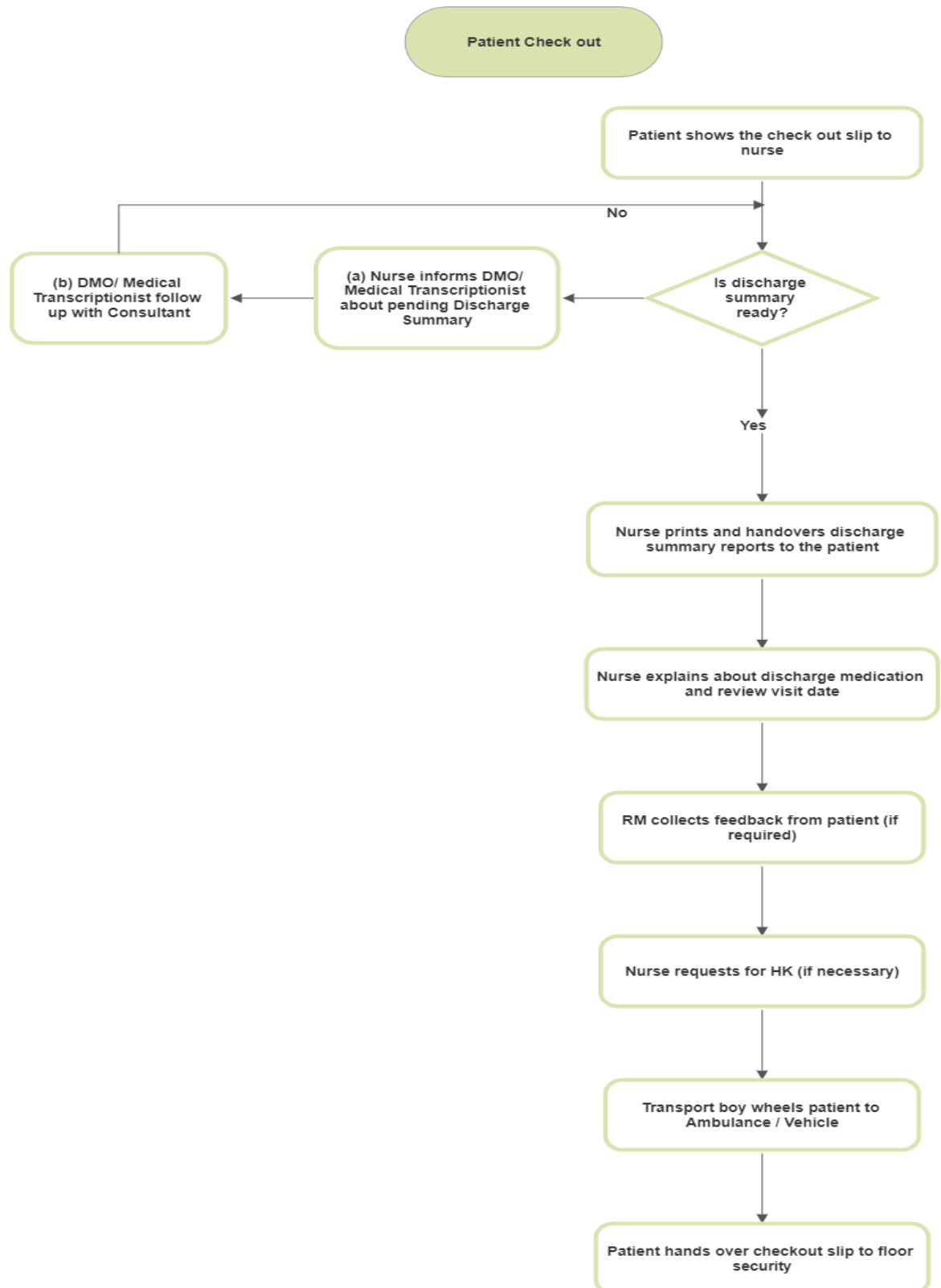
System checkout refers to the patient's payment of the bill, either with cash or through their insurance provider.

- FC prints final bill & hands over to patient - For cash payments, the payment is taken at the FC department, and for insurance payments, the post-auth amount is received in the FC department itself. The patient must pay the NME in cash or via online transfers.
- FC prints checkout slip & hands over to patient - Patient get two copies of the checkout slip from FC one to be submitted at the nurse station and one to the security person for noting the physical checkout of the patient without any dues.

In Patient Final Bill					Semi Detailed
Bill No	:		Admission No	:	
Bill Date	:	20-Jul-2018 02:57 PM	Discharge Date	:	20-Jul-18
Patient Name	:		S-W-D-B/O	:	
Date Of Admission	:	17-Jul-2018 06:30 PM	UHR No	:	
Consultant	:	DR. PHANI RAJ. G.L	Age / Sex	:	47Y(s)/FeMale
Department	:		Admitted Ward	:	BLOCK-2 TWIN SHARING / 338A
Address	:	PRAGATHI NAGAR HYDERABAD, TELANGANA	Referral	:	WALKIN
			SAC code	:	
Hospitalisation Charges From 17-Jul-18 6:30:38PM To 20-Jul-18 2:58:38PM					
Service Code	Services / Investigation	Qty.	Rate	Amount	
Consultation Charges					2,150.00
DIET					750.00
DIE0001	DIET CONSULTAION	2	375.00		750.00
INTERNAL MEDICINE/GENERAL MEDICINE					1,400.00
DM0014	DR. PAPA RAO N	2	700.00		1,400.00
Professional Charges					61,764.00
ANAESTHESIOLOGY					10,827.00
DM0131	ASST. ANAESTHETIST - DR.	1	2,165.00		2,165.00
	ASST.ANAESTHETIST				
DM0036	ANASTHETIST - DR. PRATAP REDDY G				

Figure – 1.6: In Patient Final Bill

1.10 PROCESS FLOWS – Check out – Floor



1.10.1 Patient shows checkout slip to Nurse

- Patient goes back to floor and shows checkout slip to Nurse

KIMS Hospital Enterprises Pvt.Ltd.
1-112/86 Survey No 55/ee,
Kondapur, Serlingampally,
Check Out Slip

UMR No.	Discharge Date 24-Jul-2018
Admn. No.	ward Name BLOCK-2 TWIN SHARING
	Bed No. 340B
Patient Name	_____
Doctor Name	Dr.PHANI RAJ. G.L
Department	NEURO SURGERY
Total Bill Amount	290,779.00
Due Authorized By	J.Prabhakar Chakravarthi
Due Amount	290,779.00

Signature 

Prepared By 20001380	Prepared On 24-Jul-2018	05:49:55 PM
Printed By 20001380	Printed On 24-Jul-2018	05:49:39 PM

Figure – 1.7: Check Out Slip

1.10.2 Nurse informs DMO/ Medical Transcriptionist about pending Discharge

Summary – if applicable

- If discharge summary is not ready / approved, Nurse informs DMO / Medical Transcriptionist about pending discharge summary.

1.10.3 Nurse prints and hands over discharge summary, reports to the patient

- Nurse prints approved discharge summary
- Nurse collects all reports & discharge summary from case sheet
- Nurse enters pending reports of patient on discharge summary.
- Nurse hands over the reports & DS to patient and discharge medication if applicable.

KIMS
Krishna Institute Of Medical Sciences Ltd.
Survey No. 55/RE, 1-1-12/96
Kondapur, Saranagar, Hyderabad - 500084
Phone/Fax : 040-67502050/040-67505151
Email : kims@kims.co.in, Website : www.kims.co.in

Discharge Summary

Patient Details			
Name/Age/Gender	Mrs M L D Abhishek /27 Years/F	Mobile No	9440300889
Admission No	IPLE190002450	UPPER RES	190018100018388
Admission Dt	17 Jul 2019	Discharge Dt	22 Jul 2019
Doctor Name	Dr. Venkatesh Rao Velchala	Specialization	Internal Medicine
Address	Kondapur, Hyderabad, Telangana, India	Ward/Room/Bed	WICK-2 33rd E/210/210

CONSULTANT
Dr. Venkatesh Rao Velchala
MBBS, MD (INTERNAL MEDICINE)

DIAGNOSIS
DENGUE FEVER WITH THROMBOCYTOPENIA

CHIEF COMPLAINTS
C/o Fever with chills since 3 days.
B/v bleeding since yesterday night.
H/o vomiting 3 days back.

PRESENT HISTORY
Patient admitted in hospital with C/o Fever with chills since 3 days. B/v bleeding since yesterday night. H/o vomiting 3 days back. No H/o resp, pain abdomen, sores, melena. LMP 5TH JULY 2019. Outside reports s/o HbC 41000 and Malaria positive, patient was admitted for further evaluation and management.

PAST HISTORY
NIL.

ON EXAMINATION
Conscious, coherent, cooperative, oriented.
HR: 91 /min
BP: 120/80 mm of Hg
SpO2: 99% on room air
Temp: 100 F
CVS: S1 S2 heard, No murmurs. Peripheral pulses palpable.
RS: B/L Airway Entry +
GSI: P/A - soft, no organomegaly, bowel sounds heard.
CNS: GCS 15/15. Pupils: B/L. NS. NR. Ocular movements intact. No motor deficits. Reflexes normal. B/L plantar flexor normal.

INVESTIGATIONS

Parameter	Result
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Figure – 1.8: Final Discharge Summary

1.10.4 Nurse explains about discharge medication and review visit date

- Nurse explains the administration of discharge medications & diet to be followed
- Nurse explains the review appointment process & what to do in case of emergency

1.10.5 RM collects feedback from the patient (if required)

- RM hands out feedback tab / feedback form to collect feedback (if required)

1.10.6 Physical Checkout of the patient

Physical checkout occurs when the patient leaves the room in person, accompanied by attendants and their belongings, and is in a stable state.

PC is documented using the checkout slip provided by the FC department when paying a bill, and the time the patient departs is recorded in a register along with the date and time the housekeeping staff cleaned the room and prepared it for the next patient.

38 Date - 3/5/23

Room No.	Patient's Name	Room No.	Time	Time	Time
1/ 9001	Siddi Reddy Naga	02876	6:00am	0	6:20
2/ 9091-L	D. Asha	03617	12:21PM	0	12:50
3/ 9022	Mazia Seetha Raman	03773	1:32 PM	0	1:55
4/ 9002	Balasubrahmanyam. V	03549	15:25PM	0	15:50
5/ 9092-L	P. Vindhya	02410	5:04PM	0	5:25
6/ 9033-A	Surya Narayana. S	03660	5:25PM	0	5:45
7/ 9035-B	APPASA: Rando Ranga Rao	02321	1:01PM	0	1:25
8/ 9009	Jaya Pradha G	03179	11:20PM	0	11:45
9/ 9037-2	M. Nageshwar	03614	8:09PM	0	8:20
10/ 9075-B	T. Jayadeva Rao	03719	8:11PM		
11/ 9066	AMMED SHARIF	02134	7:08PM		
12/ 9075-A	SAIBAH MOUVA	03143	7:26PM		

Figure – 1.9: Physical Checkout Register

1.10.7 Nurse requests for HK (if required)

- Nurse requests HK (with wheelchair if necessary)

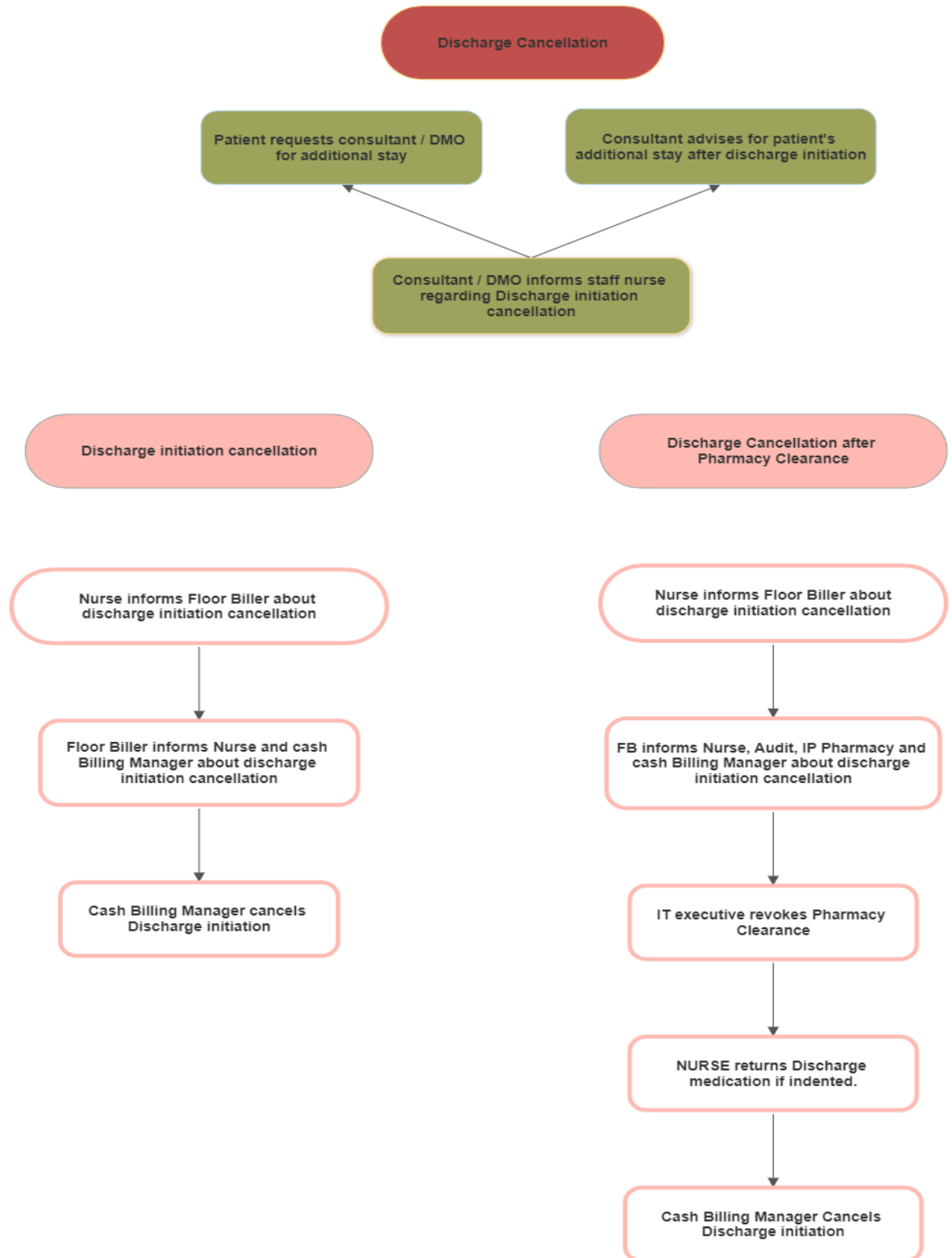
1.10.8 Transport Boy wheels patient to Ambulance/Vehicle

- Transport boy wheels patient to vehicle / Ambulance.

1.10.9 Patient handovers checkout slip to floor security for Physical Checkout

- Patient hands over checkout slip to security near the lift/entrance of the floor.

1.11 PROCESS FLOWS – Discharge Cancellation





1.12 Importance of maintaining Discharge TAT

It is impossible to overestimate the significance of discharge TAT (Turnaround Time) in hospitals. For the following explanations, it is essential:

(1) Patient outcomes: It may be significantly impacted by the TAT for discharge. Longer hospital stays can put patients at greater risk of developing infections, problems, and other negative outcomes. A shorter TAT for release guarantees that patients receive prompt, appropriate care and treatment while lowering the likelihood of problems.

(2) Patient satisfaction: Higher levels of patient satisfaction can be attributed to a prompt and effective discharge procedure. Patients want to get home as quickly as possible, and a shorter TAT for discharge can assist them in doing so. Higher patient satisfaction ratings and more patient confidence in healthcare practitioners may result from this.

(3) Hospital Efficiency: Improving hospital efficiency For hospitals to run effectively, TAT is crucial. It decreases patient wait times in the emergency room and frees up beds for incoming patients. As a result, the hospital's patient flow may be enhanced, and crowding may be decreased.

(4) Medical expenses: Prolonged hospital stays can be costly for both patients and medical staff. Healthcare providers may save money and ease the stress on patients by shortening the length of stay for patients.

(5) Compliance with regulations: Discharge TAT is subject to regulations in several nations. To avoid fines and keep their operating licenses, hospitals must abide by these rules.

1.13 General Problems of Discharge Process

Discharge TAT (Turnaround Time) issues that hospitals may encounter have the potential to negatively affect patient outcomes, hospital operations, and patient satisfaction. Here are a few of the typical issues:

(1) Delayed discharge: Patients who are unable to leave the hospital for a variety of reasons, such as pending diagnostic tests, waiting for physician clearance, or awaiting insurance approval, experience delayed release. This may result in hospital overpopulation and worse patient satisfaction.

(2) Ineffective patient discharge procedures: Poor patient discharge procedures might hinder hospital operations and postpone patient discharges. Longer discharge durations may be caused by a variety of factors, including insufficient discharge instructions, delays in acquiring medical supplies or prescriptions, and breakdowns in communication between healthcare teams.

(3) Limited resources: Hospitals may struggle to successfully control discharge TAT because to a lack of manpower and equipment. While limitations of medical equipment might delay getting the essential equipment for patients after release, shortages of nursing personnel or discharge planners can delay the discharge procedure.

(4) Social and financial hindrances: Patients may have social or financial hindrances that may prevent them from being discharged from the hospital. As an illustration, patients can need extra help from their loved ones or carers, or they might need to make arrangements for transportation, home health care, or other support services. The process of discharge may be slowed down by these obstacles.

(5) Regulatory compliance: Hospitals that violate the discharge TAT criteria may be subject to fines or other regulatory action.

effective discharge management TAT mandates that hospitals recognize and solve these issues right away. Discharge TAT may be improved via the use of techniques including shortening discharge procedures, giving clear and concise discharge instructions, and removing social and financial obstacles. These actions will eventually improve patient outcomes, hospital efficiency, and patient satisfaction.

1.14 Problem with the Discharge Process in our Hospital

At the KIMS Hospital which is 750-bedded, 100-120 cash and insurance discharges typically take place each day. The management's main concern is the delayed discharge process, which has a negative impact on patient satisfaction and as the hospital is very busy, delayed discharges occupy beds unnecessarily and prevent new admission.

1.15 Need for Streamlining the Discharge Process

Streamlining the discharge process in hospitals is critical to ensure efficient operations, and better-improved patient outcomes and satisfaction. The discharge procedure has to be streamlined for the following reasons:

(1) Reducing Length of Stay: Simplifying the discharge procedure can aid in shortening hospital stays. This can shorten wait times in the emergency room and free up beds for incoming patients. Reduced hospital stays can also save expenditures for patients' and providers' healthcare.

(2) Improving patient outcomes: As patients move from hospital treatment to self-care, the discharge procedure is crucial. A smooth and successful discharge procedure helps guarantee that patients get the guidance and assistance they need to appropriately manage their diseases. Better patient outcomes and a lower risk of readmission can result from this.

(3) Enhancing patient satisfaction: Patients and their families may experience stress throughout the discharge process. Hospitals may increase patient satisfaction and lower the chance of complaints or unfavorable evaluations by simplifying the procedure and cutting out on delays.

(4) Ensuring compliance: Discharge TAT is subject to regulatory regulations in several nations. Hospitals can comply with these requirements and avoid fines or regulatory action by streamlining the discharge procedure.

(5) Enhancing hospital efficiency: Improving hospital productivity may be accomplished by streamlining the discharge procedure. It can lighten the pressure on nurses and other healthcare workers, giving them more time for other important responsibilities.

In conclusion, expediting the discharge procedure is essential to raising patient happiness, lowering healthcare costs, ensuring regulatory compliance, and boosting hospital productivity.

CHAPTER -2: LITERATURE REVIEW

The following is a review of the literature on the subject of the study on the discharge TAT for patients with cash payments and insurance, with an emphasis on the TAT between (the doctor's recommendation time and discharge commencement time) and (the patient's bill payment time and physically leaving the room of the patient).

S No.	Authors (Year)	Study Location	Sample Size	Sampling Technique	Salient Features
1.	Sharma et al. (2021)	New Delhi, India	300	Convenience Sampling	The study discovered that for insurance patients compared to cash patients, the TAT between the doctor's advice time and the discharge start time was much greater. For people with insurance, the TAT between paying the bill and leaving the room physically was likewise much longer.
2.	Shah et al. (2020)	Mumbai, India	250	Simple Random Sampling	The study discovered that insurance patients had longer TATs than cash patients between the time of the doctor's advice and the start of the discharge process, although the difference was not statistically significant. For insured patients, the TAT between paying the bill and leaving the room was likewise longer, although this time the difference was not statistically significant.

3.	Jadhav et al. (2019)	Pune, India	400	Stratified Sampling	The study discovered that insurance patients had longer TATs than cash patients between the time of the doctor's advice and the start of the discharge process, although the difference was not statistically significant. The time interval (TAT) between when the bill was paid and when the patient actually left the room was much longer for insurance patients.
4.	Singh et al. (2018)	Lucknow, India	150	Convenience Sampling	The study discovered that for insurance patients compared to cash patients, the TAT between the doctor's advice time and discharge start time was much greater. For people with insurance, the TAT between paying the bill and leaving the room physically was likewise much longer.
5.	Patel et al. (2021)	Surat, India	450	Simple Random Sampling	For insurance patients compared to cash patients, the mean TAT from the time of the doctor's advice and the beginning of the discharge process was much longer. For insured patients, the average TAT between paying the bill

					and leaving the room was likewise noticeably longer.
6.	Singh et al. (2020)	Delhi, India	300	Convenience Sampling	Insurance patients had a longer mean TAT from the time of the doctor's recommendation and the beginning of the discharge process, but the difference was not statistically significant. For insured patients, the average TAT between paying the bill and leaving the room was much longer.
7.	Sharma et al. (2019)	Jaipur, India	200	Stratified Sampling	For insurance patients compared to cash patients, the mean TAT from the time of the doctor's advise and the beginning of the discharge process was much longer. For insured patients, the average TAT between paying the bill and leaving the room was likewise noticeably longer.
8.	Gupta et al. (2018)	Lucknow, India	350	Quota Sampling	Insurance patients had a longer mean TAT from the time of the doctor's recommendation and the beginning of the discharge process, but the difference was not statistically significant. For insured patients, the average TAT between paying the bill and leaving the room was much longer. Insurance patients had a longer mean TAT from the time of the

					doctor's recommendation and the beginning of the discharge process, but the difference was not statistically significant. For insured patients, the average TAT between paying the bill and leaving the room was much longer.
9.	Kumar et al. (2017)	Chennai, India	250	Simple Random Sampling	For insurance patients compared to cash patients, the mean TAT from the time of the doctor's advice and the beginning of the discharge process was much longer. The typical time between paying the bill and leaving the room was not recorded.
10	Jaiswal et al. (2022)	Mumbai, India	500	Stratified Sampling	For insurance patients compared to cash patients, the mean TAT from the time of the doctor's advice and the beginning of the discharge process was much longer. For insured patients, the average TAT between paying the bill and leaving the room was likewise noticeably longer.

CHAPTER – 3: METHODOLOGY

3.1 Research Questions:

- What is the average discharge TAT between the doctor's advice time of the discharge and the real discharge initiation time by the nurses in hospitals?
- What is the average discharge TAT between the system checkout and physical checkout by the patient in hospitals?
- What are the reasons that affect discharge?
- What interventions can be used to improve discharge TAT in hospitals?

3.2 Research Design:

Hospital discharge turnaround time (TAT), which is the length of time it takes for a patient to be released from the hospital after receiving medical clearance, may be measured using a cross-sectional research design.

For this kind of study, information was gathered all at once from a sample of patients who had been advised to be released from the hospital. The length of time between the doctor's advice time of the discharge and the real discharge initiation time by the nurses and the time between the system checkout (payment of the bill) and physical checkout by the patient in hospitals was tracked.

The sample comprises patients from various wards and medical conditions, and the sample size was representative of the population of interest which was cash and Insurance patients from all departments.

3.3 Study setting: The study is conducted in KIMS Hospital, Secunderabad (India).

3.4 Study population: The study population will consist of 100 patients of all age groups who are discharged from the hospital.

3.5 Research Approach:

Qualitative Approach: This method entails obtaining comments from staff, family, and patients regarding their experiences with the discharge procedure. Interviews with open-ended questions

on communication, information sharing, and delay reasons with the discharge process were used as qualitative measurements. With this strategy, it's possible to pinpoint discharge process flaws.

Quantitative Approach: In this method, particular metrics for the discharge process are measured, such as the interval between deciding to discharge and actually initiating the discharge request in HIMS or the interval between the final bill payment to physically vacating the room by the patient so that it gets prepared for the new patient to come-in. Quantitative measurements offer objective information that may be used to monitor development and pinpoint areas in need of improvement.

Understanding and enhancing the discharge process requires both qualitative and quantitative techniques. Healthcare organizations may better understand their discharge TAT and make targeted adjustments to enhance patient outcomes by integrating both types of data.

3.6 Inclusion Criteria:

- All age groups (pediatrics to geriatrics).
- All the cash and Insurance patients.
- Covering all medical as well as surgical cases.
- Includes both planned and unplanned discharge.
- All the departments namely – (ENT, cardiology, CT, pulmonology, neurology, neurosurgery, Gastroenterology, gynecology, spine surgery, pediatrics, vascular surgery, internal medicine, urology, orthopedics, oncology, biopsy)

3.7 Exclusion Criteria:

- Patients who are discharged against medical advice (DAMA)
- Patients who are transferred to another facility,
- Corporate patients that are admitted
- Patients who expire during hospitalization.

3.8 Study Approach

- Sample Size Calculation: Convenience sampling is used to calculate the sample size. The hospital has 750 beds, and every day, between 100 and 120 patients are discharged with cash and insurance. Every day, one wing (department) is selected for observation, with an average of three to four cash and insurance discharges every day; adding in Sundays and holidays, we arrived at a sample size of one hundred for the observation.

- Sampling Technique: The study's participants were chosen using a convenience sampling approach. There are 20 wings total with beds for IP patients spread across 5 stories and 4 wings on each floor. Each wing has samples collected from it, and the delayed causes for each wing's discharge time are recorded. Each wing is associated with a certain department, but if a bed becomes available in another wing, the patient is transferred there.
- Study Instruments: This study uses a number of modes to retrieve information regarding discharges - the first one is the HIMS (hospital information management system) for real-time information and the data maintained by nursing staff and floor billers. Also, the case sheet of the patient is verified to check the doctor's round happened on time, discharge advice if it is a planned discharge, and discharge medications and procedures
 - HIMS (hospital information management system)
 - Daily reporting sheets
 - Physical checkouts register
 - FC Module (for system checkouts)
 - Remedinet (software for insurance)
 - I porter (software for pharmacy returns, wheelchairs or stretchers)
- Operational Definitions:
 - (i) **Doctor's Advice Time** – It is defined as the point at which a doctor determines that a patient is both physically and medically stable and may leave the hospital.
 - (ii) **Discharge Initiation Time** – It is defined as the time When a nurse raises a discharge request in the EHR so that further procedures can be carried out.
 - (iii) **LAN bill handover to patient**
 - Cash - When the final bill with all the services billed in it is prepared and handed over to the patient.
 - Insurance – When the bill is prepared and sent to the Insurance backend for insurance bill conversion after that it is submitted to the insurance company. Then it is approved and the remaining amount which has NME is paid by the patient.
 - (iv) **System check out** - the time when there is full payment done from the patient's side either by cash or bill settled by the insurance company.

- (v) **Physical checkout** – when the patient and their attendants vacate the room with their belongings.

3.9 Data Collection Procedure:

Data will be collected from medical records and hospital information systems as well as manually during the whole discharge process from doctor's advice time to physical checkout. The discharge TAT will be calculated as the time interval between the doctor's advice time for discharge and discharge initiation time by the nurse in HIMS and system check out (bill payment) at FC and physical checkout of the patient at security. The data will also be cross verified by case sheets of the patients and other daily reporting sheets along with information retrieval by communicating with the staff and patients for delay reasons.

3.10 Ethical Considerations

Data security and confidentiality are upheld throughout the study; patient information, such as IP numbers, names, and diagnoses, is not displayed. Additionally, patient confidentiality is upheld by protecting information about the types of investigations performed on patients and the medications they are given.

To safeguard patient privacy and the confidentiality of their medical records, maintaining data security is essential during the hospital discharge process research. Obtaining the necessary permissions and approvals from relevant authorities, such as hospital ethics committees and regulatory bodies; utilising secure data storage and transfer methods, such as encrypted communication channels and password-protected databases; de-identifying patient data by removing or encrypting personally identifiable information; and restricting access to the data to authorised individuals are some actions that can be taken to ensure data security in such studies.

Both the Staff and the patients must verbally give their approval. When two people provide their explicit approval for their photos to be taken and used in the dissertation report, it is said that they have both been informed of the aim of the photography. It is crucial to remember that the participants have the right to revoke it at any moment. Oral Informed consent from staff, mentors and patient was taken to click their photographs and to use it for dissertation.

CHAPTER – 4: RESULTS

We have selected a diverse selection of departments representing various disciplines for our study of discharge TAT (turnaround time) on cash and insurance patients. These divisions consist of:

Table 4.1: Various departments for TAT Study

Gastroenterology	Urology
General Surgery	Oncology
Gynaecology	Nephrology
Internal Medicines	Neurology
Paediatrics	Orthopaedics
Rheumatology	Plastic surgery
General Surgery	Pulmonology
Spine surgery	Cardiology
Vascular surgery	CT
Pulmonology surgery gastro	Obstetrics
Biopsy	Urogynaecology
Gynaecology	Urology

Our study's selection of these departments seeks to give a thorough grasp of the discharge TAT for distinct patient categories across multiple medical departments while also capturing a wide variety of specializations.

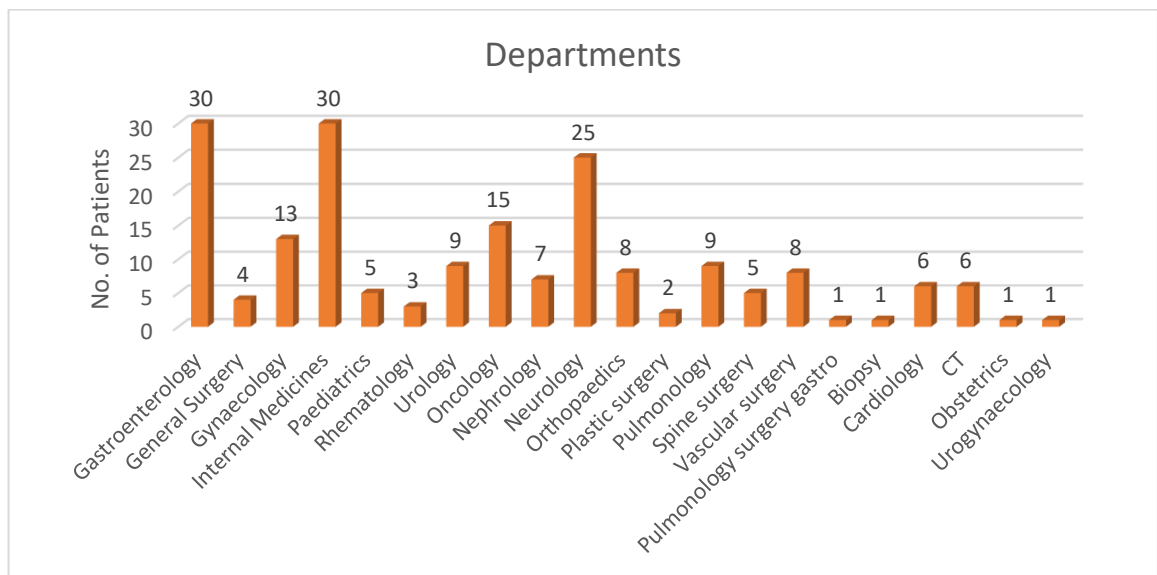


Fig – 4.1: Various departments for TAT study

Table – 4.2: Target TAT for cash patients and achieved TAT from the study

Process	Target	Samples: Mar 2023 – May 2023				
		Total Samples	Achieved the TAT (Numbers)	Did not achieve the TAT (Numbers)	Average Discharge TAT (in mins)	Remarks
DA-DI	15 mins	50	12	38		
Planned	15 mins	7	2	5	125 mins	Above Target
Unplanned	15 mins	43	10	33	97 mins	Above Target
SC-PC	60 mins	50	29	21	74 mins	Above Target

*DA – Doctors Advice Time

*SC – System Checkout

*DI – Discharge Initiation Time

*PC – Physical Checkout

Table 4.3: Target TAT for insurance patients and achieved TAT from the study

Process	Target	Samples: Mar 2023 – May 2023				
		Total Samples	Achieved the TAT (Numbers)	Did not achieve the TAT (Numbers)	Average Discharge TAT (in mins)	Remarks
DA-DI	15 mins	50	14	36		
Planned	15 mins	8	4	4	32 mins	Above Target
Unplanned	15 mins	42	10	32	64 mins	Above Target
SC-PC	60 mins	50	37	13	60 mins	Within Target

Table-4.2 and Table-4.3 furnish the detailed results of the study along with the targets set by the corporate. It can be observed that for both cash and insurance patients, the time taken for both the discharge initiation after doctor's advice is above our standard TATs except the SC-PC of Insurance patients which exactly touches out TAT.

On analyzing the 50 study samples of DA-DI and 50 samples of SC-PC (cash patients), the achieved overall discharge TAT for (DA-DI) is 125 mins or 2 hours 5 mins (Planned Discharges), 97 mins or 1 hour 37 mins (Unplanned Discharges) and 74 mins or 1 hour 14 mins (SC-PC) (Table 4.1). Whereas the target set by the corporate for cash patients is 15 mins for (DA-DI) and 60 mins for (SC-PC). The achieved TAT is higher than the target TAT by 110 mins (Planned Discharges), 82 mins (Unplanned Discharges) for (DA-DI) and 14 mins (SC-PC) which is identified as a major gap.

Similarly, analyzing the 50 study samples of DA-DI and 50 samples of SC-PC (Insurance patients), the achieved overall discharge TAT (DA-DI) is calculated to be 32 mins (Planned Discharges), 64 mins (Unplanned Discharges) 60 mins or 1 hour (SC-PC) (Table 4.2) which is in our target limit. Whereas the corporate has set 15 mins for (DA-DI) and 60 mins for (SC-PC) as the target. In this case, the achieved TAT is higher than the target TAT by 17 mins (Planned Discharges), 49 mins (Unplanned Discharges) for (DA-DI) and SC-PC exactly touches out TAT and has 0 min gap. which is a bit lesser as compared to the difference observed in cash patients.

Process TAT (DA-DI) were calculated for the 50 study samples of cash patients and 50 samples of Insurance patients (Fig 4.1).

This revealed.

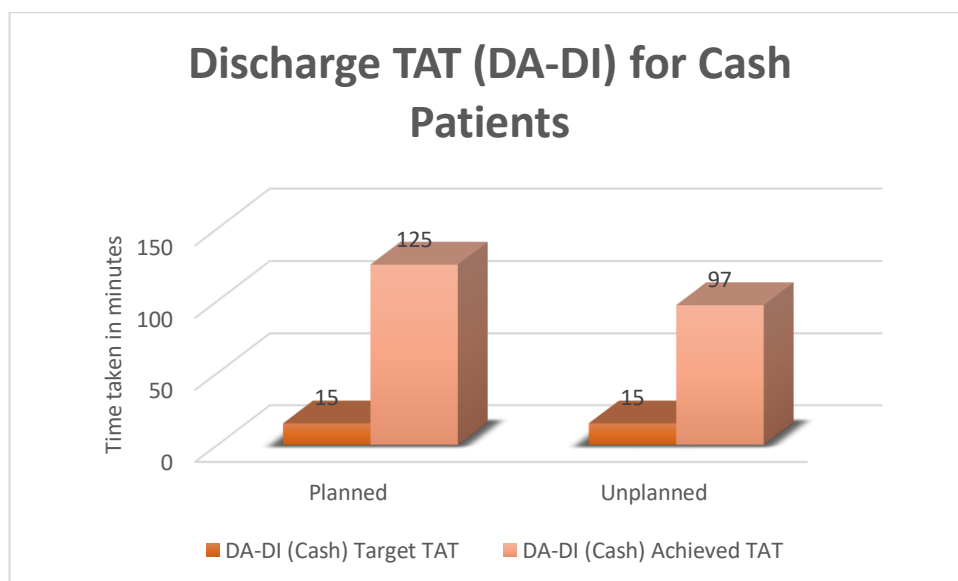


Fig: 4.2: Target and Achieved Discharge TAT (DA-DI) for Cash patients

- CASH PATIENTS –
 - Planned Discharges - TAT is 125 minutes which is higher than the 15 minutes target.
 - Unplanned Discharges – TAT is 97 minutes which is higher than 15 minutes target

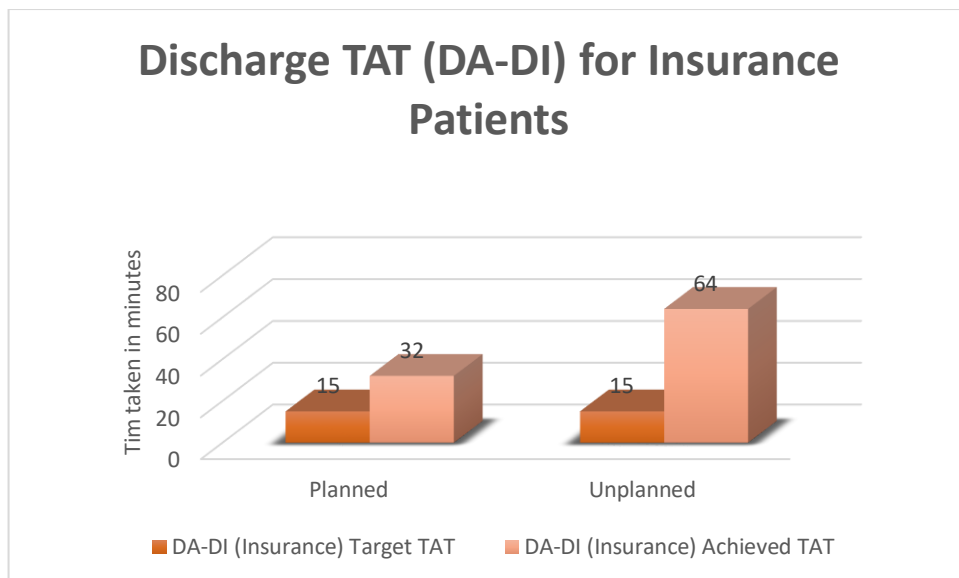


Fig: 4.3: Target and Achieved Discharge TAT (DA-DI) for Insurance patients

- INSURANCE PATIENTS – TAT is 57 minutes which is higher than the 15 minutes target.
 - Planned Discharges - TAT is 32 minutes which is higher than the 15 minutes target.
 - Unplanned Discharges – TAT is 64 minutes which is higher than 15 minutes target

Similarly, process TAT (SC-PC) were calculated for the 50 study samples of cash patients and 50 samples of Insurance patients (Fig 4.2).

This revealed.

- CASH PATIENTS – TAT is 74 minutes which is higher than the 45 minutes target.
- INSURANCE PATIENTS – TAT is 60 minutes which is exactly in the TAT limit.

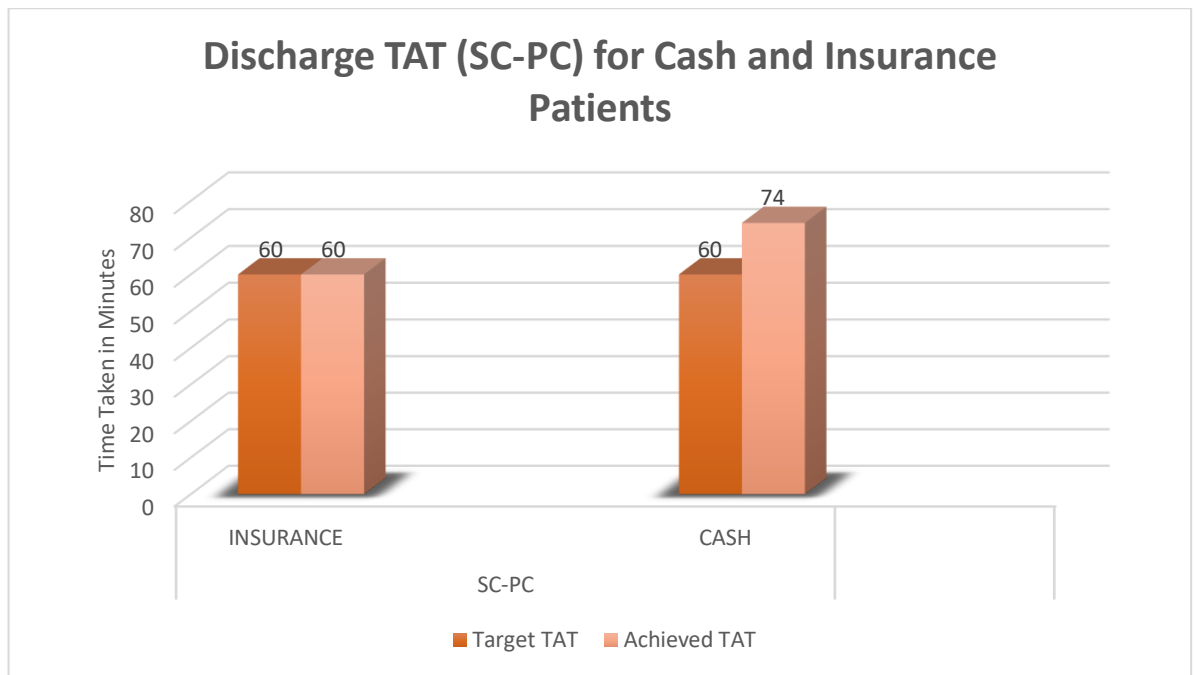


Fig: 4.4: Target and Achieved Discharge TAT (SC-PC) for Cash and Insurance patients

On analyzing the 50 study samples of DA-DI (cash patients) out of which 7 cases were planned discharges and in 43 cases discharges were advised on the same day (unplanned). This shows that only 14% of the discharges are planned. The achieved discharge TAT for (DA-DI) is 125 mins or 2 hours 5 mins (Planned Discharges) and 97 mins or 1 hour 37 mins (Unplanned Discharges) and 74 mins or 1 hour 14 mins (Table 4.2 and Fig 4.4). Whereas the target set by the corporate for cash patients is 15 mins for unplanned cases and for the cases which are planned one day prior, the discharge must be initiated on or before 8 AM or after Doctor's confirmation or cross consultation. The achieved TAT is higher than the target TAT by 110 mins (Planned Discharges), 82 mins or 1 hour 22 mins (Unplanned Discharges) which is identified as a major gap.

Similarly, analyzing the 50 study samples of DA-DI (Insurance patients) out of which 8 cases were planned discharges and the remaining 42 discharges are unplanned which leaves the percentage of planned insurance discharges to be 16%.

The achieved discharge TAT for (DA-DI) is 32 mins (Planned Discharges) and 64 mins (Unplanned Discharges) (Table 4.3 and Fig 4.4). Whereas the target set by the corporate for cash patients is 15 mins for unplanned cases and for the cases which are planned one day prior, the discharge must be initiated on or before 8 AM or after Doctor's confirmation or cross consultation. The achieved TAT is higher than the target TAT by 17 mins (Planned Discharges), 49 mins (Unplanned Discharges) which is again identified as a major gap.

CHAPTER – 5: DISCUSSION

Table – 5.1: Discharge process and the primary team involved

S NO.	Process	Activity type	Team involved
1.	Discharge Planning	Sequential	Doctors
2.	Discharge advice	Sequential	Consultants/ Resident Doctors
3.	Discharge initiation	Sequential	Nursing/ (clearances from OT, Cath lab and IP Pharmacy, F&B, Labs, Radiology and Blood Bank)
4.	Summary Finalization	Parallel (Like summary finalization and discharge initiation being two parallel activities)	Duty Medical Officer (DMO)/ Typist/ Nurses
5.	IP Approximate Bill generation	Sequential	Floor Biller with inputs from doctors and other departments followed by auditing of the bill by Audit Executive
6.	Discharge counseling	Parallel (Bill preparation and discharge counselling to patients being done parallelly)	Relationship Manager or Floor Manager
6.	Final Bill generation	Sequential	Floor Biller
7.	Bill settlement	Sequential	Financial Counselor Department/

			Patient attendants
8.	Checkout	Sequential	Nursing Station/Security
9.	Insurance approval for Insurance patients	Sequential	Floor Manager/ Insurance Backend/ FC

Discharge Initiation on HIMS

For prompt and effective patient release, nurses must adhere to timely discharge initiation on the hospital information management system (HIMS). Here are some justifications on why it matters:

- Improved Patient Flow: By quickly starting the discharge process on HIMS, nurses can make sure that it is begun without delay, which may assist streamline patient flow and cut down on the total amount of time that patients spend in the hospital.
- Better Resource Allocation: Hospitals are able to better deploy resources, like as beds, personnel, and equipment, to fulfil the requirements of arriving patients when discharges are initiated promptly on HIMS. This can lower expenses and increase the hospital's general effectiveness.
- Accurate Patient Information: Nurses may make sure that patient information is appropriately documented and easily available to other healthcare professionals participating in the care process by starting the discharge process on HIMS. By doing this, you can make sure that patients continue to receive the right care and attention even after they leave the hospital.
- Compliance with Regulatory Requirements: Prompt discharge initiation on HIMS can assist hospitals in ensuring that they are in compliance with rules governing patient care and discharge.
- Improved Patient Satisfaction: Nurses can assist cut wait times and make sure that patients leave the hospital as fast and painlessly as possible by starting the discharge procedure as soon as feasible. The reputation of the hospital can be improved and patient satisfaction increased as a result.

Table 5.2: Issues causing a delay in (DA-DI) of Discharge TAT

Area	Personnel Involved	Issues
Ward	Consultants	- No specific time for rounds (in case of confirming the planned discharges) - Resident doctor advice discharge which is further confirmed by senior consultants which takes time. 3 hours delay in cross-consultation IP patient was taken to OPD in wheelchair for doctor's review.
	Nurses	- Pharmacy returns before initiating the discharge request on HIMS to comply with TAT. - Negligence by nurses busy in other works - IP Pharmacy indent delayed. - Unprofessionalism by nurses – They did not know about planned discharges and no one took in charge of who initiated the request. They made the false assertion that the floor biller made the request. - Delay in pharmacy clearance by 1 hour from the nursing end. 1 hour delay in initiation because of pharmacy returns
	Physiotherapists	Delay in physiotherapy session which delayed initiation as doctor advised discharge after a physiotherapy session.
	IP, OT, Cath lab	Pharmacy delay (transporter came late)

	Pharmacy	• Discharge is cancelled by doctor but to cancel the discharge on HIMS, OT clearance is needed and there is a delay from OT side (personnel not receiving call). • Delay in OT pharmacy clearance • Pharmacy clearance was delayed by 1 hour, as the bed bath was damaged and additional payment was to be charged from the patient. • Delay in pharmacy return by half hour because a pack of wipax was found open • Discharge revoked as one item was not indented by OT Pharmacy • Delay in discharge initiation by a day because urine culture report was pending and the pathologist convinced patient to do it from hospital.
	Blood Bank	• Cross Matching of blood took so long that patient had to stay for one more day and discharge cannot be initiated.
	Miscellaneous	• Lack of nursing staff 22 patients in a wing and hardly one or two are the staff nurses which looks after the discharge process • 15 discharges in a day in single wing which makes it harder to process and initiate every discharge on time.
IT Issues		• Delayed pharmacy returns because i-porter had some technical issues • Typist's system was not working • System lag or error
Insurance Staff		• Conversion of patient from cash to

	Insurance. so, discharge is not initiated yet waiting for the pre auth approval from insurance company.
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Physical Checkout (PC)

Complying with physical check-out in discharge TAT is essential for the hospital to offer patients prompt and efficient care. Here are some reasons on why it is important:

- Timely Discharge: Quick physical checkout guarantees that patients are released on time, which can free up beds for incoming patients and improve hospital efficiency.
- Patient safety: Physical checkout enables medical staff to confirm that patients are prepared for discharge and have all they need to complete their rehabilitation at home. This covers prescriptions, appointments for further treatment, and guidelines for after-discharge care. This can lessen the possibility of readmissions and other unfavorable situations.
- Legal Compliance: Appropriate physical checkout aids the hospital's efforts to adhere to legal and regulatory standards pertaining to patient treatment and discharge.
- Positive Reputation: Quick and efficient physical checkout can aid the hospital in establishing a good name for itself in the neighbourhood, which can assist draw in more patients and raise patient satisfaction.

On observation a multitude of causes was found to be responsible for the delay in discharge TAT After both cash and Insurance patients which is entailed in Table 5.3

Table 5.3: Issues causing a delay in (SC-PC) of Discharge TAT

Area	Personnel Involved	Issues
Ward	DMO	• Discharge summary not prepared and

		approved on time. • Unavailability of typists resulting in further delay in the process.
	Consultants	• Doctor had to confirm some medication and cross check the same for discharge summary hence physical checkout delayed by 2.5 hours. • Doctors are not signing or approving DS due to their busy schedule in OPD or OT. • Physical checkout delayed because patient was waiting for final doctor's visit. • Patient had some doubt regarding the injection which he wanted to clear from the doctor, but the doctor and all the staff was in OT.
	Nurses	• Physical checkout was delayed because Foley's catheter was not removed for 1 hour after system checkout • Discharge Summary being given late to the patient and explained.
	Miscellaneous	• Patient attendees are not aware of 60 min check out time post the bill clearance. • Lack of communication among staff and between staff and patient regarding discharge process.
	F&B	• Usually lunch serving hours are 12:30-1:30 in all the wards but sometimes it gets delayed by 15 minutes and the patient who wanted to have lunch and go are compromised further delaying the physical checkout.
	FC	• Delay in clearing a doubt regarding payment

		to FC which took 2.5 hours and further delayed the physical checkout.
	Security Team	• Security podium is only present on one side of the lift and not on other side so some patients go without giving checkout slip to the security. • Security (especially night shifts) fail to maintain record of physical checkout of every patient which results in missing data.
	Transport Team	• Patient waiting for stretcher • 18 minutes delay in bringing wheelchair
IT Issues		• System lag or error • Time of physical checkout is not accurately shown in EHR. It shows the time when nurse releases the bed not when the patient physically vacated the room.
Insurance	Insurance Staff	• Delay in replying to queries • Approval of Insurance is not frequently checked
	Doctors	• Delay in replying to the medical queries (requires a letter by the doctors)
Miscellaneous	Patients and their Attendants	• Unavailability of patient's attendants for some discharge procedures (like summary explanation and handover). • Unwillingness of patient to go on the same day of doctor advising discharge. • Discharge process took time and delayed approval resulting in patient staying for one more day. • Delay in collecting the discharge

		medications by attendants. • Patient requested the nurse to change the hand of cannulation from right to left as it was paining. • Waiting for the transport facilities or the attenders after clearing the bill • Delay in checking out because of lack of awareness, lack of preparedness • Delay in arranging cash
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Other reasons which hamper the discharge process:-

- Wrong timings written on display board
- Wrong patient is displayed on board when another patient is in the room
- Display board about discharge patients and their timings are not updated timely
- Extra room rent charged to patient even if it's not the delay in process from patient side and one day is extended.

(Agrawal & Pandey, 2018) recommends that everyone who is involved in the discharge process should be aware of the targets which would motivate them to enable the completion of each part of the process in time. It is also suggested that there is a strict environment for following the set standards.

This could be achieved by allocating a person with the sole responsibility of coordinating and live tracking the discharges from the time they are advised. This person should also be able to communicate with the different departments in case a delay is identified during the live tracking process. In addition to this, each executive can be assigned an additional task to supervise and manage each part of the discharge process, and report to the coordinator for discharge.

Garg & Pathan, 2018) suggests that any update with the patient such as treatment or procedure prescribed should be logged in by the doctors daily. This could also help with reducing the time taken to type the discharge notes in the end especially if it is a planned discharge

As we also know that planned discharges considerably reduce the TAT, we are encouraged to adopt a different approach. The suggestion is to track the patients from the time of admission keeping the tentative date of discharge in check. This arises from the perception that the length of stay of a patient can be tentatively calculated depending on the procedure treatment that the patient is admitted for, the morbidity of the patient and finally their cooperation with their doctors. When an alert is set on the system for an intimation prior to the tentative date of discharge it becomes easier for the ward secretaries/nurses to get in touch with the doctors to start preparing for the process. This also helps in increasing the number of planned discharges.

In case of surgeries scheduled and completed for the patients, the nurse in charge should also be assigned the duty to perform OT or Cath store returns and obtain the clearance instead of waiting till the time discharge is advised. This will reduce the time taken to initiate the discharge process.

To avoid patient confusion and to prepare them better for arranging cash, the outstanding bill amount can be updated to them by the end of each day. This offers them a general idea regarding the total bill amount to be settled by them by the end of their stay in the hospital.

The billing department must also be encouraged to adopt the FIFO (First In First Out) method to be just to the patients. In order to answer the medical queries put forth to the Insurance Billing department, a person with medical knowledge or prior experience with the same could be diverted for a particular duration of time in the day when the discharges happen the most.

This study is limited in the fact that it is observational in nature and the interventions by the corporate to reduce the discharge TAT could have contributed to the improvements observed from Mar to May. A robust discharge program was in place prior to the start of this project and no formal efforts to intervene with the program happened during the duration of the study. However, the suggestions given above could further optimize the process, further decreasing the Discharge TAT and help in achieving the set targets.

The study serves as a baseline for any further interventions with the discharge process by the corporate or by an educational team to undertake projects to improve process efficiency.

CHAPTER – 6: CONCLUSION

The standard time taken for cash and Insurance discharge from Doctor's Advice Time to Discharge Initiation Time (DA-DI) is set at 15 minutes whereas, the achieved turnaround time from March to May on an average is 101 minutes or 1 hour 41 minutes. Apart from the time taken to finalize the discharge summary, other process TATs are also way above the target. There should be proper ensures in place to mitigate the shortcomings of the current discharge process in the hospital for better service excellence. Reduction of Inpatient Discharge Turnaround Time has not only proved to improve in patient satisfaction during their time of departure but also pave way to reduce the waiting time of patients who are to be admitted in the hospital.

6.1 Suggestions and Recommendations

A new EHR system has been created and is presently being implemented to improve live tracking of patients' electronic health records (EHR) and speed the discharge procedure. In order to document every step of the discharge procedure, including those involving cash, insurance, and corporate patients, we prepared a discharge tracker with our mentors as part of this initiative.

The discharge tracker is intended to give real-time updates on each patient's discharge status, including their current situation, any chores or problems still in need of attention, and the anticipated time of discharge. To make sure that everyone is on the same page and pursuing the same objectives, this information is shared with all members of the healthcare team, including nurses, doctors, and support workers.

The tracker is connected with our EHR system as well, making it simple for us to access and modify patient data as required. In order to provide high-quality care and maintain patient safety, it is essential that we have correct and up-to-date information regarding each patient's care and treatment.

6.1.1 EHR (Electronic Health Record)

Discharge Tracker									
Discharge Initiated XX Pending Pharmacy Clearance XX Pending LAN Bill Closure XX Pending Summary Approval XX Pending Insurance Submission XX Pending System Checkout XX Pending Physical Checkout XX Pending Housekeeping XX Patient Name/IP No. Payer Type Insurance General Insurance Corporate Doctor All Patients Doctor Nursing Station Departments Select									
SN o.	Patient Name	Payer Type	Docto r	LAN Closur e	Dis Sum	Sys Cout	Phy Cout	Total TAT	Comment s
1.	Name IP No.	Ins Wing	Name Dept			SC	PC	Xh Xm	+

Fig 6.1: Depiction of Electronic Health Record of KIMS Hospital

6.1.1.1 Top Status Bar

- The status bar, which is located right below the term "discharge tracker" at the top, displays the current status of each patient's discharges.
- Numerous boxes, each with a different color to signify a separate step of the process, are displayed.
- The status bar contains information on :-
 - Discharge initiated
 - Pending pharmacy clearance
 - Pending LAN Bill closure
 - Pending summary approved
 - Pending Insurance submission (for Insurance patients)

- Pending system checkout
- Pending physical checkout
- Pending housekeeping

These are broadly the major different steps of the discharge process and one cannot be completed if the previous step is not cleared.



6.1.1.2 Patient Information

- A search engine that enables healthcare practitioners to look for patients by name or IP number has been developed to make it easier to hunt down patients' discharge status. Upon finding the patient, a drop-down box with the payment type—cash, insurance, or corporate—appears.
- Healthcare practitioners can follow patients of a certain payment type for analysis by choosing the relevant payer type from the drop-down menu. This makes it possible for the medical staff to keep an eye on the status of discharge like Is the LAN Bill of the patient closed? or if the patient left the room? Etc.
- Overall, the search feature and drop-down menu are useful tools for healthcare providers since they give them rapid access to crucial data on the many types of payers for patients as well as other crucial indicators. Healthcare providers may allocate resources more wisely and give their patients better treatment by utilizing these technologies to track patients' progress.
- A second drop-down box has been created to enable healthcare staff to search for patients based on their nursing station, a particular doctor, departments, or all patients in addition to the search option for patients' names or IP numbers.
- Healthcare practitioners can look for patients at a particular nursing station, such as the 9A, 9B, or 9C wing, or based on the doctors who treated them by choosing the relevant option from the drop-down menu. Another option for finding patients is to utilize the search box to look for them by department, such as cardiology, ENT, urology, nephrology, and others.

- A list of patients whose discharge has been started in the HIMS will be shown once the required patient has been discovered using the search tool's payer type, nursing station, doctor, or department criteria. The time stamps on this list allow medical personnel to follow each stage of the discharge procedure.

Patient Name/IP No.	Payer Type	Doctor	Select
	Insurance	All Patients	
	General	Doctor	
	Insurance	Nursing Station	
	Corporate	Departments	

6.1.1.3 Discharge tracker

The HIMS system shows certain fundamental patient information, such as the patient's name, IP number, payer type, wing, name of the treating physician, and department. These specifics help medical personnel rapidly identify the patient and comprehend their unique treatment requirements.

The system makes use of a color-coded system to keep track of every phase of the discharge process. The whole name of the process is displayed next to the time a step was finished, and it is highlighted in green when it is finished. This makes it simple for medical practitioners to distinguish between phases that have been finished and those that are still in process.

There are certain sub-steps for each phase of the procedure that may be accessed by clicking on the step itself. This gives more explicit information about the particular duties that must be fulfilled in order to accomplish the phase. Healthcare practitioners can see any bottlenecks or delays that might be influencing the discharge process and take appropriate action by monitoring the completion of each sub-step.

Overall, the color-coded monitoring system and thorough sub-steps offer healthcare personnel a simple and effective approach to monitor the discharge procedure and guarantee that each patient receives the best care possible. Hospitals can boost overall efficiency, enhance patient outcomes, and save costs by expediting the discharge procedure.

The HIMS system not only records the timestamps for each stage of the discharge procedure but also determines the overall turnaround time (TAT) for each patient. It is easy to see how long it took for the patient to be released from the hospital thanks to the total TAT, which is shown in hours.

The system also has a comments area where users may contribute context and details regarding the discharge procedure. This enables medical experts to provide any pertinent remarks or notes concerning the discharge procedure, such as any delays or potential mismanagement concerns. By integrating this data, healthcare workers may give a more thorough account of the patient's treatment and highlight areas in which the discharge procedure needs to be improved.

The stage of the discharge procedure is also listed in the comments section, making it easy for medical personnel to determine which step or sub-step the criticism relates to. This degree of specificity ensures that the suggestions are pertinent, implementable, and useful for informing upcoming changes to the discharge procedure.

SN o.	Patient Name	Payer Type	Docto r	LAN Closur e	Dis Sum	Sys Cout	Phy Cout	Total TAT	Comment s
1.	Name IP No.	Ins Wing	Name Dept					Xh Xm	+

(1) CASH PATIENTS

- LAN Bill Closure

DI	Discharge Initiated
DR	Drug Returns
PR	IP Pharmacy Received
IP	IP Pharmacy Clearance
OT	OT Clearance (for surgical patients)
BL	Billing Start

FE	Professional Fee Entry
CO	Billing Service Call off
AS	Audit Started
BA	Billing Audit Done
LC	LAN Bill Closed

- Discharge Summary

DI	Discharge Initiated
SA	Summary Approved

- System Checkout

LC	LAN Bill Closed
CS	Clearance Submitted
DT	Discharge Token Raised
SC	System Checkout

- Physical Checkout

SC	System Checkout
PC	Physical Checkout

(2) INSURANCE PATIENTS

- LAN Bill Closure

DI	Discharge Initiated
DR	Drug Returns
PR	IP Pharmacy Received
IP	IP Pharmacy Clearance

BL	Billing Start
FR	Professional Fee Requested
PI	Professional Fee Information Received
FE	Professional Fee Entry
CO	Billing Service Call off
AS	Audit Started
BA	Billing Audit Done
LC	LAN Bill Closed

- Discharge Summary

DI	Discharge Initiated
SA	Summary Approved

- System Checkout

IA	Insurance Final Approval Received
CS	Clearance Submitted
DT	Discharge Token Raised
SC	System Checkout

- Physical Checkout

SC	System Checkout
PC	Physical Checkout

Overall, the creation of the discharge tracker and our continued work to enhance our EHR system have made it easier for us to simplify the discharge procedure and give our patients better care. We are able to increase efficiency, lower mistakes, and give our patients better care by keeping track of every step of the discharge procedure and making sure that everyone has access to the same data

6.1.2 Operational Suggestions

- Conduct regular training sessions and workshops for staff members involved in the discharge process.
- Implement a comprehensive discharge management system that integrates all departments involved, streamlines communication, and monitors the progress of each discharge case. (Discharge Planning Team)
- Regularly update display boards with accurate timings and patient information to avoid confusion or delays.
- Aware patients and attendees about the 60-minute checkout time post-bill clearance.
- Allocate specific staff members responsible for initiating discharge requests to ensure accountability.
- RM must ensure that nurses provide discharge summaries to patients on time and ensure proper explanations of them.
- Install additional security personnel on each side of the lift.

6.1.3 Digitalization of Discharge Process

- Improve communication between patients and attendants - Similar to the doctor's app, there should be a patient app that allows patients to track their discharge process, see the status of their treatment reports, diagnoses, and medications, and raise questions by speaking to an agent in the app (similar to customer services).
- In the doctor's app, there can be a feature of discharge advice in which doctors can advise discharge from their phone and it can be notified to all the departments involved in the discharge process and DA can be captured.
- There should be a security pin (OTP) that has to be entered while requesting pharmacy returns which can only be obtained by initiating the discharge request on HIMS.
- Discharge summary approval can be digitalized by the doctor's app where the doctor can see the DS and approve it on the app.
- System must be checked regularly for lags and IT issues.
- The security who updates the patient's Physical Checkout details on the register can update it on EHR. For capturing real-time of patient vacating the room.

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