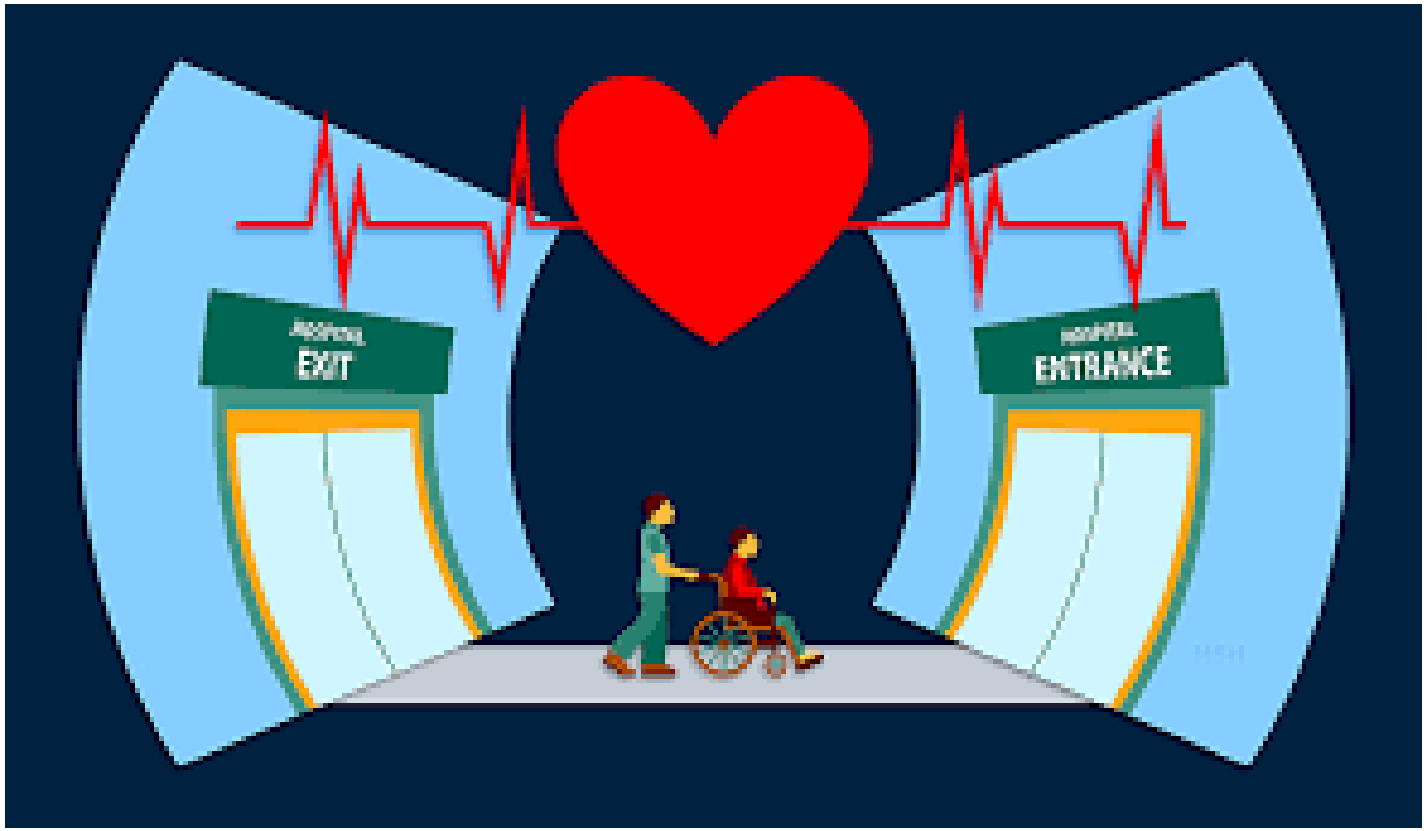
"A STUDY ON DISCHARGE PROCESS TURN AROUND TIME IN IPD PATIENTS"

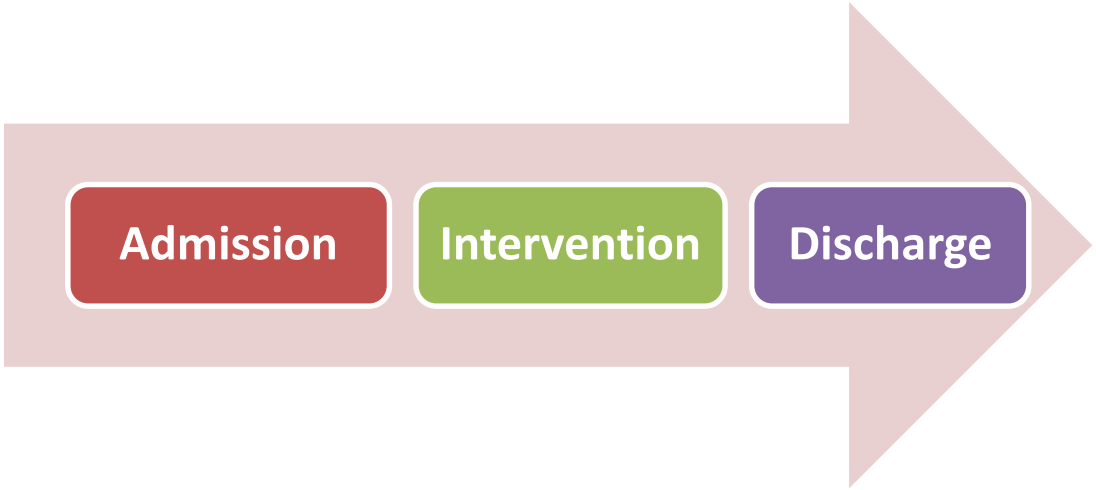
-Apollomedics Superspeciality Hospitals,Lucknow



Submitted by-Dr.Laxmi Koranga

Guide-Veena Nair Sarkar

The inpatient in a hospital has to go through and experience three different stages.



- As per NABH*, “Discharge is a process by which a patient is shifted out from the hospital with all concerned medical summaries ensuring stability. The discharge process is deemed to have started when the consultant formally approves discharge and ends with the patient leaving the clinical unit.”

- National Accreditation Board for Hospitals and Health Care Organizations has set a standard of 180 minutes for the completion of the discharge process.

*National accreditations board of Hospitals and health care providers (NABH), accreditation standard guidebook for hospitals, 4th edition Dec 2015, Access, Assessment and continuity of care (AAC) p. 28-31

Discharge is one of the major key factor for patient satisfaction but often there is a significant delay between a patient being identified for discharge on the ward round to actual discharge from the unit.

Discharge delays cause patient flow constraints which **negatively impacts patient satisfaction, hospital capacity and financial performance.**

Delay in Discharge of the patient also **increases the pressure on beds** of the hospital.

Delayed discharge also increases the **patient's exposure to hospital-acquired infections.**

A patient staying longer than the stipulated time is responsible for **unnecessary utilization** of the hospital resource and is sheer waste.

Discharge Turn Around Time-is the time from the initiation of a discharge process to the time of the completion of the discharge process.

Problem Statement:

- The increased turnaround time in the discharge process of Apollomedics Superspeciality Hospitals, Lucknow.

Research Questions:

- What is the average turnaround time of the discharge process in IPD patients of hospital?
- What are the factors leading to an increased turnaround time in the discharge process of IPD patients in hospital?

Research Objectives:

- To find out the average discharge turnaround time in IPD patients.
- To find out root causes of the factors leading to delayed discharges.
- To provide implementable solutions to decrease the turnaround time in the discharge process of IPD patients.

METHODOLOGY

Research Design: Interventional study

Period of study: 3 months

Setting: Apollomedics Superspeciality Hospitals, Lucknow

Study Location-

- Emergency Department and ICU
- Mother and Child Ward
- Economy Suites
- Private Suites

Study Population:

Inclusion Criteria: IPD Patients

Exclusion Criteria: OPD Patients

Sample design: Convenience sampling technique

Sample size: Pre-intervention Phase-101 patients (including 6 TPA patients)

Post-intervention Phase-125 patients (including 15 TPA patients)

Mode of data collection: Primary data through observation

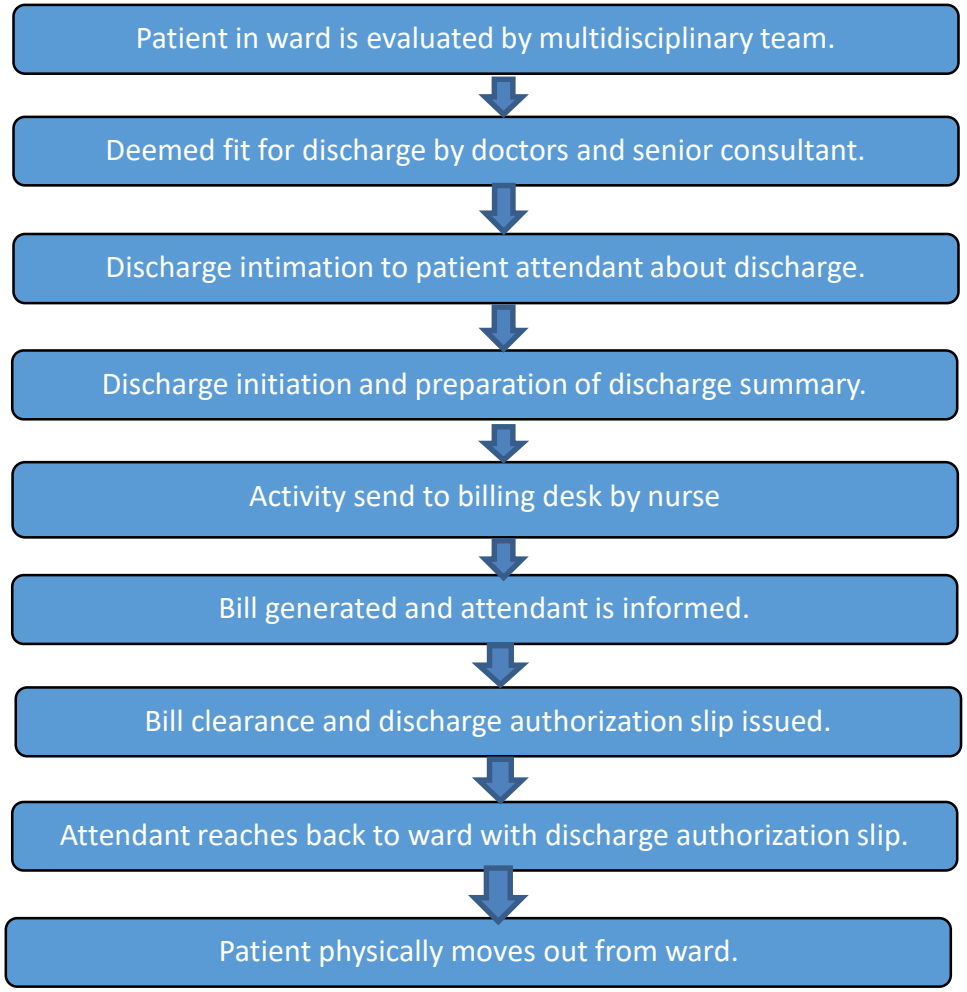
Data Analysis: Data analysis performed using Microsoft Excel.

Source of Data:

The present study has been conducted in 3 phases on 226 patients admitted from 4th Feb, 2019 to 12th April, 2019.

During pre-intervention phase, discharge process of IPD patients was mapped and 101 patients' data was collected, analyzed to give findings and recommendations, in intervention phase actions were taken to reduce discharge TAT and then post intervention 125 patients' data was collected and analyzed to see the effects of interventions taken.

Discharge process flow of Apollomedics Superspeciality Hospitals, Lucknow



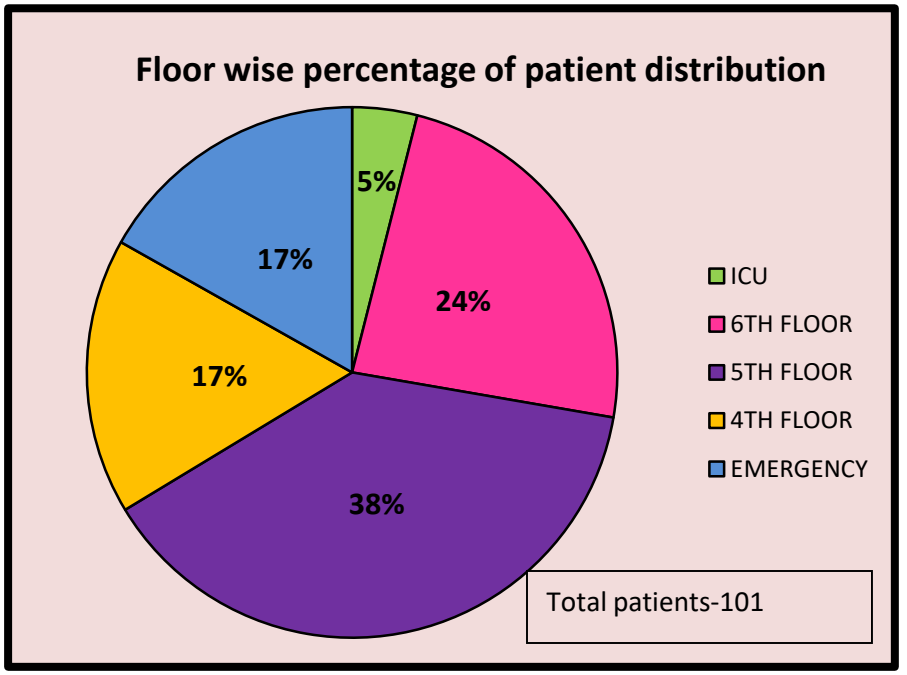
Time Gap is noted between: -

- Time at which patient/attendant intimated for discharge and time final bill activity is send to the billing desk by nurse.
- Time between bill activity send from ward and time bill activity received at billing desk.
- Time taken in rough summary corrections and getting it signed by senior consultant.
- Time between activity is received at billing desk and start of billing process.
- Total time taken in billing process.
- Delay time due to pending pharmacy indents, OT indents and lab confirmation.
- Time between attendant informed and time at which attendant reaches billing desk.
- Time consumed in bill explanation.
- Time consumed in bill payment and issue of discharge authorization slip.
- Time taken by attendant to reach back to ward after discharge authorization slip is issued.
- Time gap between attendant reaching back to ward and final physical moving out time of patient from ward.

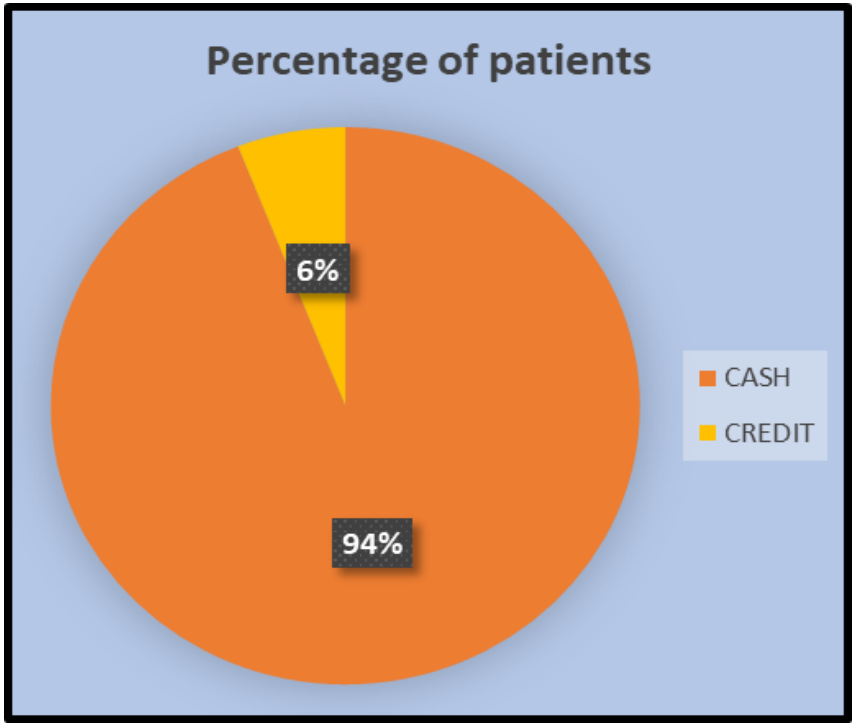
PRE-INTERVENTION PHASE

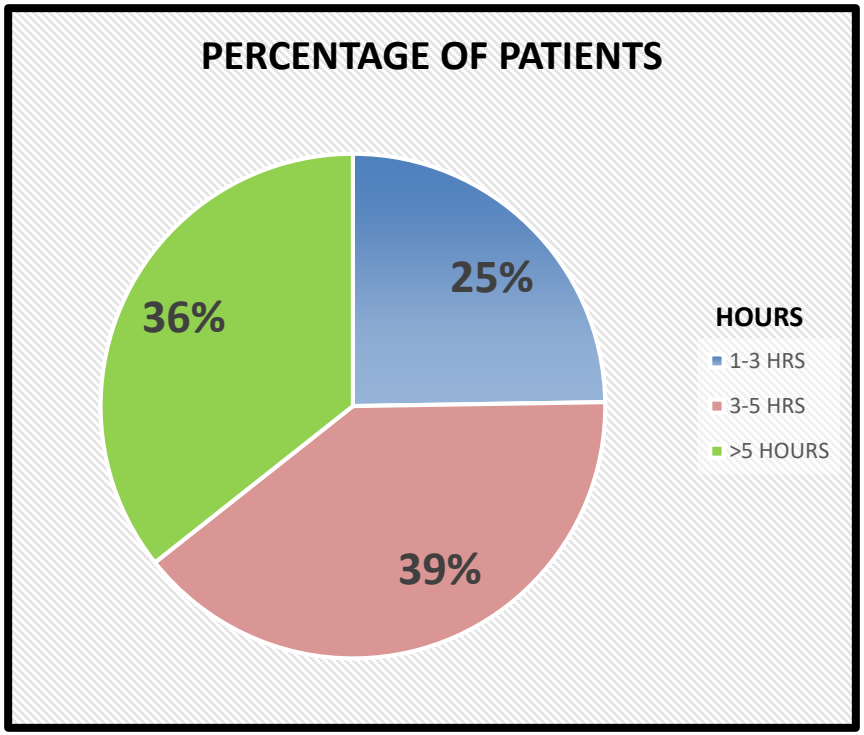
During the pre-intervention phase data of around 101 patients was collected through observation. Data of patients was collected randomly from all the floors. Process of discharge and data collection was initiated as soon as the discharge was intimated to patient/attendant by the doctor.

Floor	Number of patients	Percentage
ICU	5	5%
Emergency	17	17%
6th Floor	24	24%
5th Floor	38	38%
4th Floor	17	17%



After the data was collected for 101 patients, the results were analysed to find out average discharge turnaround time.



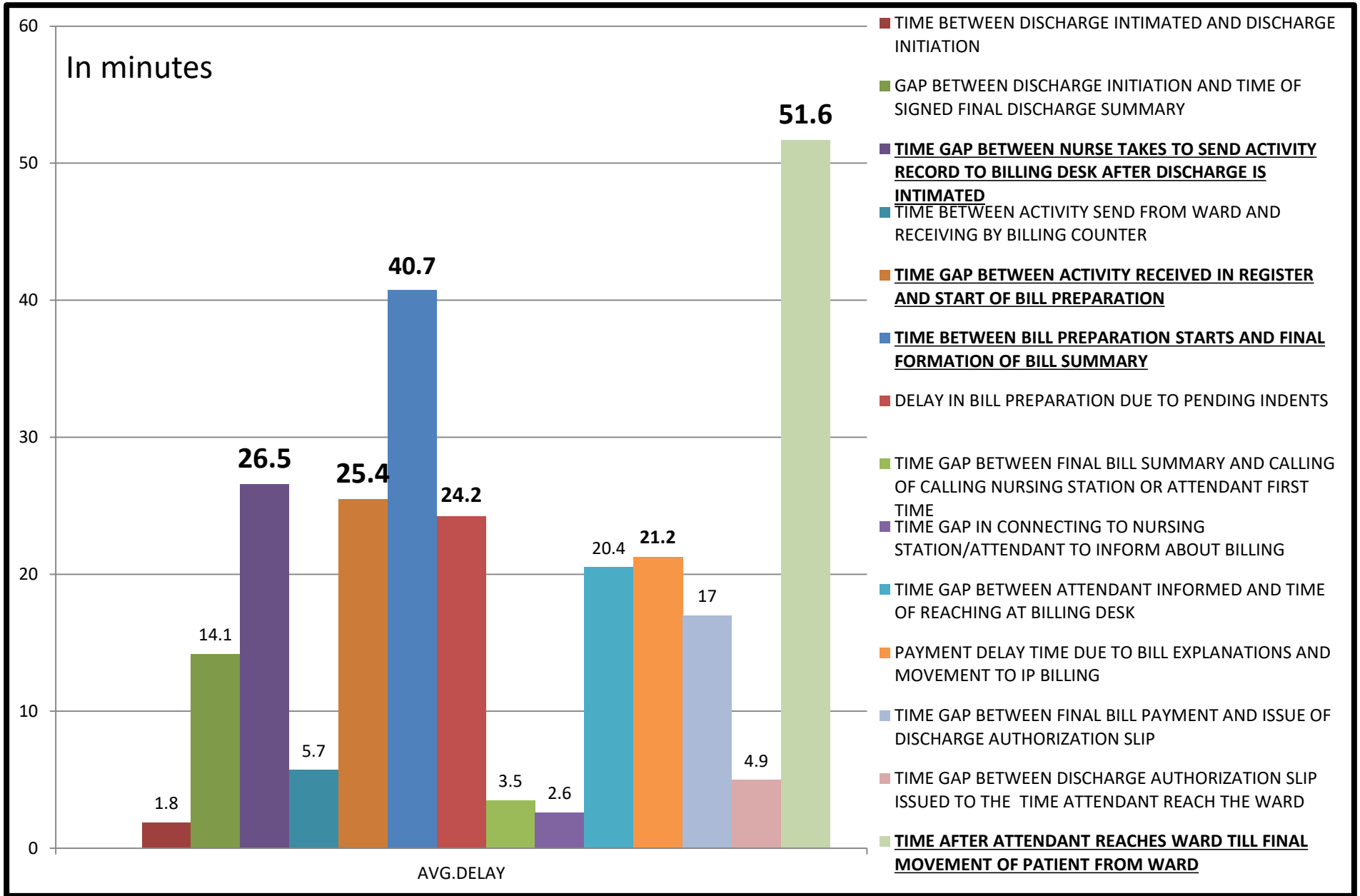


Out of 101 patients there were only 25% which got discharged within 1-3 hours, 39% of patients discharged between 3-5 hours and there were 36% of patients who took more than 5 hours in getting discharged.

Table below shows average turnaround time during pre-intervention phase of study:

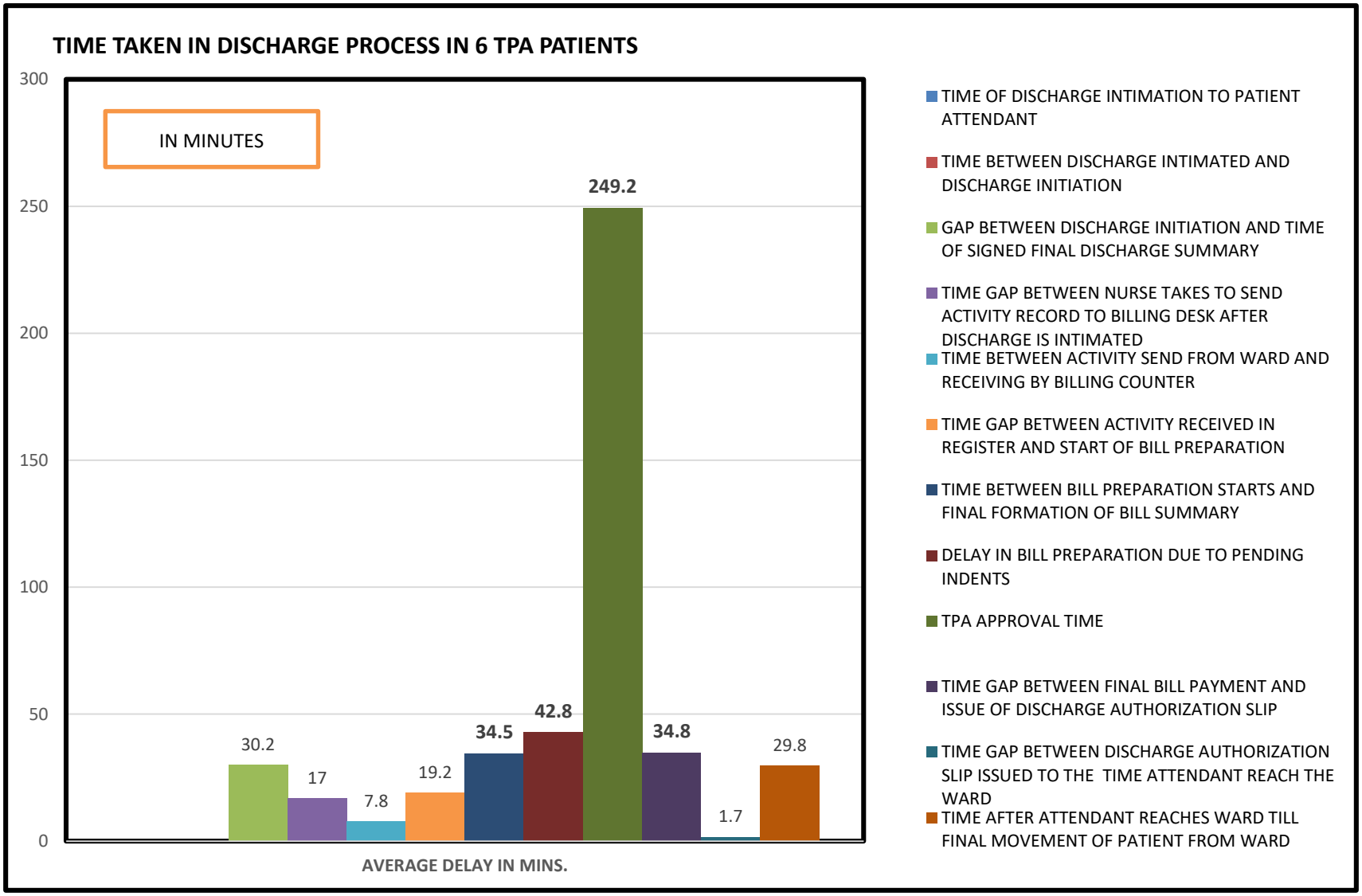
PRE INTERVENTION PHASE	AVERAGE TAT OF PATIENTS (HH:MM:SS)
AVERAGE TAT OF 101 PATIENTS	04:23:00
AVERAGE TAT OF 6 TPA PATIENTS	07:07:00
AVERAGE TAT OF 95 PATIENTS	04:14:00

Average turnaround time of 95 cash patients (4 hrs 14 mins.) was then subdivided to find out average time taken in various steps involved in discharge process.



- The graphs shows that maximum time was consumed after the patient reaches ward with discharge authorization slip.
- Time consumed in final bill preparation was also a major cause of delayed discharges.
- Another major reason causing delayed discharges was because nursing was taking too much time in sending final discharge billing activity sheet to billing desk.
- Other reasons were, delay due to queuing of discharges due to limited staff or unavailability of staff or delay due to pending indents.

Average turnaround time of 6 TPA patients (7 hours, 7 mins.) was also subdivided to find out average time taken in various steps involved in discharge process.



This graph shows Average time taken (in minutes) in various steps of discharge process in TPA patient.

- This graphs shows that in cases of insured patients maximum time was consumed in getting approval from TPA.
- Time consumed in clearing pending indents was also a major cause of delayed discharges.
- Another major reason causing delayed discharges was because of time consumed in billing which was done manually in excel.
- Process of patient handover after the discharge authorization slip is issued by bill clearance remained cause of delayed discharges.

FINDINGS DURING PRE-INTERVENTION PHASE:

Below were the reasons of delayed discharges that were found out in Apollomedics Superspeciality Hospital, Lucknow.

Reasons for delay after discharge was intimated and final formation of discharge summary:

- Doctors form rough summary beforehand but wait for the consultant to approve the final discharge summary.
- Late round of senior consultants.
- Doctors attending other patient treatment so keep the discharge summary on hold.
- Delay due to repeated corrections made in summary.
- Doctors not available on wards due to meeting scheduled during working hours.

Reasons for delay in sending activity record form to billing: -

- Nurses attending other patients and forget to send activity to billing.
- Drugs not returned by nurse to pharmacy on time.
- Late acknowledgment of drugs by the pharmacy.
- In MCH ward delay due to baby pending bill activity.
- GDA’s not available.

Reasons for delay in final bill preparation: -

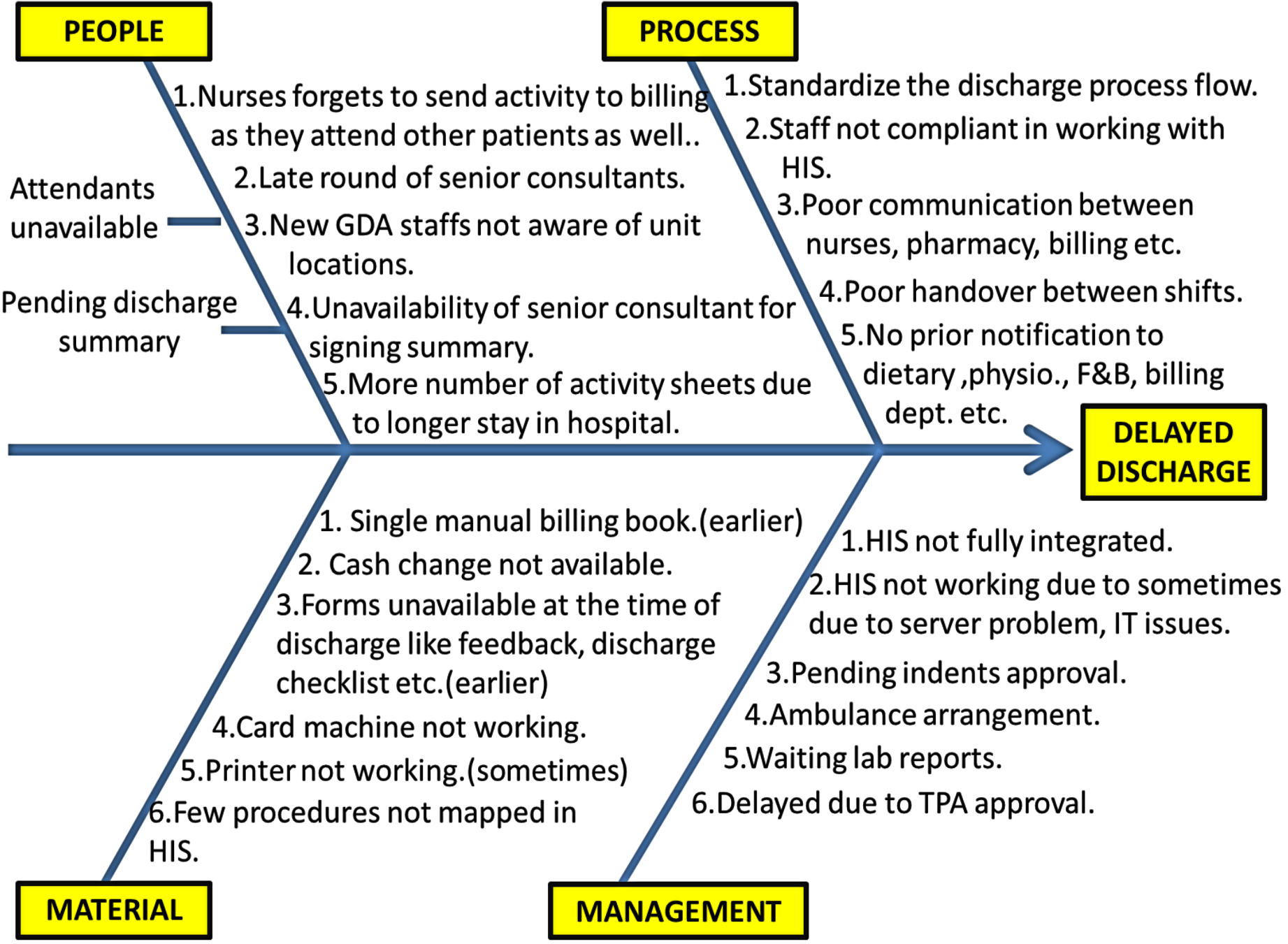
- Billing staff busy in making other patients bill thus leading to queuing of discharges.
- Bill kept on hold because of pending confirmation (USG etc.)
- Approval pending from pharmacy for indent confirmation.
- Missing transactions.
- Overwriting in activity sheets by nurses.
- Billing staff busy in giving estimates of surgeries, implants etc.
- Billing staff giving detailed explanation to other patients in middle of preparation of patients.
- Limited number of billing clerks.

Reasons for delay in bill clearance and final payment: -

- Time consumed in bill explanation to attendants.
- HIS showing pending discharge summary.
- Card machine issues.
- Arrangement of cash for bill payment by attendant.
- Staff busy in making bills of other patients.
- Confusion between doctor advice to stay and patient wants to leave against medical advice.
- Single manual billing book.
- Change cash not available with billing cashier.

Reasons for delay after clearance of bill and final physical leaving of patient from the floor:

- Corrections in rough summary and getting it signed by senior consultant.
- Waiting for ambulance or other transport means.
- Waiting for the investigation reports or other receipts collection.
- Time taken by nursing staff in arranging file properly.
- Medication explained by nursing.
- Counseling by doctors, baby counselor etc.
- Attendant wants to meet doctor to take any advice regarding patient.
- Time consumed in changing dress, washroom, feeding milk to baby etc.
- Time consumed in explaining and filling Feedback form.
- GDA’s not available.



Root Cause Analysis Diagram of delayed discharges

After findings all the reasons of delayed discharges and completion of the pre-intervention phase of study, few recommendations were given keeping the root causes of delayed discharges in consideration.

Recommendations after pre-intervention phase:

1. Discharge process should be standardized.
2. Early discharge planning and prioritization for discharge patients.
3. Pending indents should be cleared before initiation of discharge.
4. Timely finalization of discharge summary.
5. Deployment of more billing clerks.
6. After intimation, inform and educate the patient about discharge process and tentative time.
7. Briefing about the roles and responsibilities of ward secretary and nursing coordinator.
8. Prior information about running bill so that attendant arrange cash for bill payment.

9. Timely Transport arrangement.
10. Fully Integrated HIS.
11. Training of staff about HIS. (how to raise medication, transfer etc.)
12. Pending OT indents should have cleared on the same day of surgery.
13. Treatment packages should be discussed with the billing staff as attendants are not willing pay any extra amount other than package amount.
14. Nurses' notes and handover form should be separate and proper handover between doctors, nurses and mangers.
15. Early rounds of senior consultant.
16. Better communication among stakeholders of discharge process through creation of WhatsApp group for fast discharge process.

INTERVENTION PHASE

During the intervention phase few of the recommendations were implemented in an attempt to reduce turnaround time of discharges.

Actions that were implemented: -

1. Hiring of more billing clerks for billing.
2. Pending indents were cleared every night before initiation of discharge process.
3. List of pending pharmacy/ OT / Lab. Request was made and notice was given to the concerned department.
4. After intimation, counseling of the patient and attendant about discharge process and tentative time for which in-patient information sheet was prepared containing all the details of discharge process
5. Explicit delineation of roles and responsibilities of ward secretary and nursing coordinators, for this job description was created for both.
6. Prior information about running bill so that attendant arrange cash for bill payment.

7. Fully Integrated HIS.
8. Discussion about treatment packages with the billing staff and doctors.
9. Better communication among nursing team leaders and billing staff regarding planned discharges through hospital extension.
10. Formation of planned discharges list by nursing staff of every floor at night.
11. Distribution or dissemination of planned discharges list to billing staff, dietician, physiotherapy department, pharmacy, ward secretary, floors managers etc.
12. Bill was updated by billing staff after receiving information about planned discharges from MOD or nursing.
13. Early discharge planning for discharge patients.
14. Training of staff regarding how to raise medications/ procedures / lab requests in HIS.
15. Separate nurses' notes form and handover form.
16. Handover between doctors, nurses and manager on duty was improved by maintaining proper registers.

Recommendations that could not be implemented during intervention phase were:

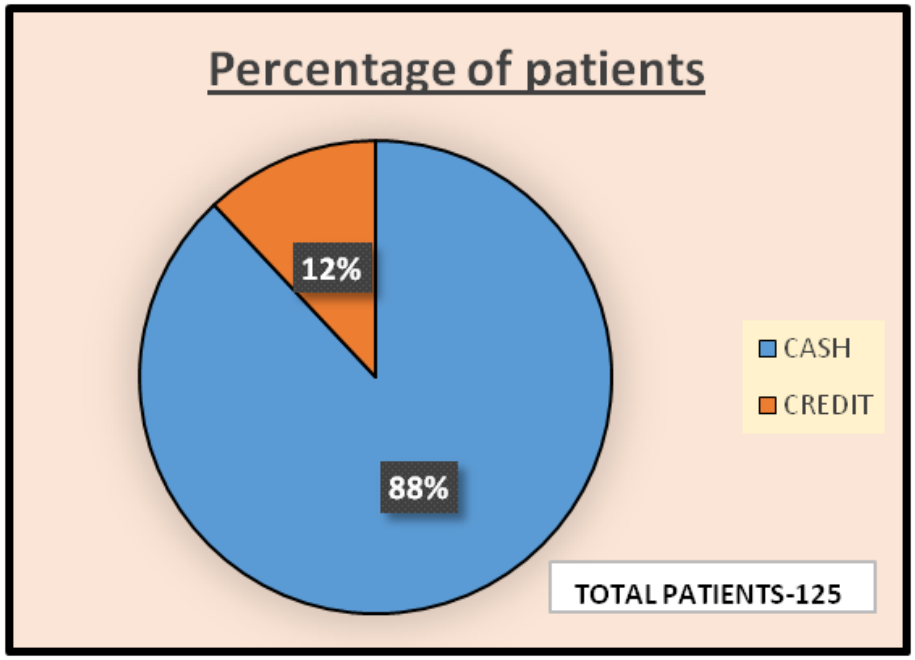
- Discharge process could not be standardized because after discharge intimation to patients, final discharge bill activity was sent to billing desk without preparing discharge summary.
- Early discharge planning and prioritization for discharge patients not followed regularly in every floor.
- Timely finalization of discharge summary was still a problem faced because night doctors did not prepare discharge summary of planned discharges.
- Time wasted in making corrections in discharge summary and getting it signed by senior consultants.
- Senior consultant's rounds were still a problem due to which finalization of discharges was kept on hold.
- Sometimes pending OT indents clearance / OT pending implant bill created an issue.
- Frequent training of new nurses regarding HIS.

POST INTERVENTION PHASE

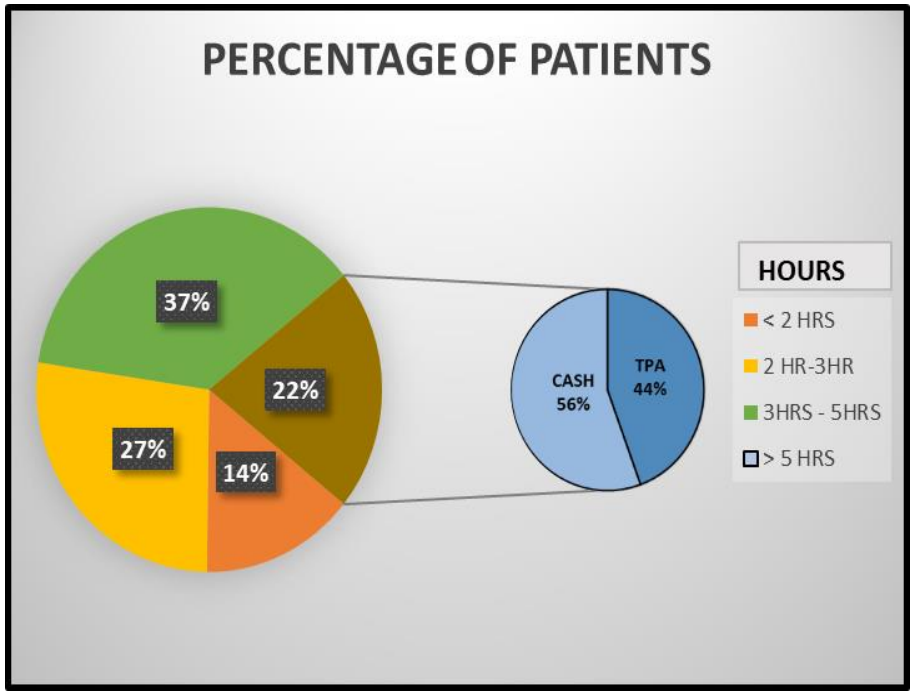
Post intervention data was collected for a period from 9th March,2019 till 12th April 20, 2019, 125 patients' data was collected on a random basis and the results were monitored after the same to see the difference in average turnaround time.

Out of 125 patients,

CASH/CREDIT	PATIENTS	PERCENTAGE
CASH	110	88
CREDIT	15	12



Data was collected from all floors, analyzed and classified according to number of hours taken in discharge process.



AVG. TAT IN HOURS	PATIENTS	PERCENTAGE
< 2 HRS	18	14.4
2 HR-3HR	34	27.2
3HRS - 5HRS	46	36.8
> 5 HRS	27	21.6

From the figure it is clear that 14% of patients got discharged within 2 hours and 27% of patients got discharged between 2-3 hours but even after implementation phase there were 22% patients whose turnaround time exceeded 5 hours, out of these 22%, 44% were TPA patients and rest were cash patients.

Table below shows average turnaround time during post-intervention phase of study:

POST INTERVENTION PHASE	AVERAGE TAT OF PATIENTS (HH:MM:SS)
AVERAGE TAT OF 125 PATIENTS	03:38:23
AVERAGE TAT OF 15 TPA PATIENTS	05:54:00
AVERAGE TAT OF 110 CASH PATIENTS	03:19:56

CONCLUSION

After analysis of data it was found that overall the average turnaround time was reduced to 3 hours 38 minutes 23 seconds after intervention from 4 hours 23 minutes that was before intervention. Overall decrease of 45 minutes 23 seconds was seen in average discharge turnaround time.

PHASE	AVERAGE TAT OF PATIENTS
PRE INTERVENTION PHASE	04:23:00
POST INTERVENTION PHASE	03:38:23
DIFFERENCE IN AVERAGE TURNAROUND TIME	45 MINS 23 SECS

Pre & Post Intervention average TAT (HH/MM/SS)

FINDINGS AFTER POST INTERVENTION PHASE:

- Less practice of Planning discharges by doctors.
- Late rounds of senior consultants.
- Pending finalization of discharge summaries by senior consultants due to repeated corrections in discharge summaries.
- Mistakes and overwriting in discharge activity sheet by nurses like Oxygen, BiPap, Infusion, DVT, Nebulization, Nimbus – start time and stop time not mentioned and number of hours used not mentioned.
- Physiotherapists' visits not mentioned in activity but raised in system by nurses.
- Transfusion Charges not raised in system and not mentioned in activity sheets.
- Number of Blood products used in patients not mentioned properly in billing activity.
- Number of times Nebulization done not mentioned in activity and not properly raised in system as well.
- Nurses not writing consultants' visits properly.
- Delay in sending billing activity after discharge intimated to patient by doctor.
- Billing staff time wasted in confirming these things from nursing staff. Everytime billing staff calls at nursing station they don't get proper answer because nursing staff are not clear themselves and billing kept on hold till they receive in written with sign from concerned.

RECOMMENDATIONS AFTER POST INTERVENTION PHASE

- An effort, should be made to plan as many discharges as possible to enhance the discharge flow process.
- Briefing of doctors for early ward rounds and timely finalization of discharge summaries.
- Checking each inpatient bill at night and encouraging duty doctors to promote discharge summary indentation preparation before morning shift will also contribute to improvements.
- Frequent training of nursing staff for how to raise requests and procedures in HIS.
- Proper and regular training of nursing staff about how to fill activity sheet.
- Guide nursing staff to update and send final discharge activity to billing desk within 15 minutes after intimation of discharge.
- The discharge turnaround time must be regularly monitored to keep a track of all delays and control these immediately.
- To maintain these improvements, we must equip hospital staff with the knowledge to adequately track and analyze our discharge data in real time so that we can further reduce discharge turnaround time.


Thank you!