Monitoring Discharge Process Turn Around Time for Smooth Functioning of In-patient department

At

HCG Cancer Hospital, Jaipur

April-May 2021

For the partial fulfillment for the award of the degree of Master MBA

Hospital and Health Management

Academic year, 2019-2021

By

Dr Arpit Tripathi

Under the Supervision and Guidance of

Arindam Das, PhD

(Associate Professor, IIHMR University)

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled Monitoring Discharge Process Turn Around Time for Smooth Functioning of In-patient department at HCG Hospital, Jaipur is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

(Signature)

Name of Student: Dr Arpit Tripathi

Date: 03/07/2021

CERTIFICATE

This is to certify that dissertation titled Monitoring Discharge Process Turn Around Time for Smooth Functioning of In-patient department at HCG Hospital, Jaipur is a record of the research work undertaken by (Name of Student) in partial fulfilment of the requirements for the award of the degree of MBA (Hospital and Health Management)/MBA (Pharmaceutical Management)/MBA (Rural Management) from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide
IIHMR University, Jaipur
Date: 03/07/2021

School Dean
IIHMR University, Jaipur
Date: 03/07/2021

Acknowledgement

“Tell me and I forget. Teach me and I remember. Involve me and I learn.”

-Benjamin franklin

On the road to success, there will be many obstacles and may hinder progress but if you keep practicing and keep moving forward there is no way that anything can stop.

I want to pay my sincere gratitude to my hospital mentor **Sonam Chandak** head operations in HCG Hospital and **Dr. Arindam Das** member of the department of MBA Hospital and Health Management, Indian Institute of Health Management Research, Jaipur for guidance, encouragement, and constant support at every stage of the study.

I would also like to take this opportunity to wholeheartedly thank **JeetSingh Chavan** for giving me this opportunity to do my dissertation in HCG Hospital.

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ABBREVIATIONS

ALOS	Average Length of Stay
BSBY	Bhamashah Swasthya Bima Yojana
CHF	Chronic Heart Failure
GDA	General Duty Assistant
HIS	Hospital Information System
IPD	Inpatient Department
NABH	National Accreditation Board for Hospitals and Healthcare providers
TAT	Turnaround Time
TPA	Third Party Administrator

Abstract-

Title: Monitoring Discharge Process Turn Around Time for Smooth Functioning of Inpatient department At HCG Cancer Hospital, Jaipur

Key Words: TAT, Discharge patients, cash/TPA

Background: The study was conducted at HCG Cancer Hospital, Jaipur to calculate the discharge TAT for the Inpatient department and reasons for the delay.

Objective:

- To monitor discharge process and calculate the turnaround time for both TPA and Cash patients in April 2021.
- To identify the reasons for the delay in discharge and give corrective recommendations for the same.

Methodology: The descriptive cross-sectional study was conducted in HCG Hospital with a sample size involving IPD patients in April 2021. Non- Probability Convenience sampling method was used. The data collection was done by interview, discharge registers, HIS (Hospital Information System.

Result: It was observed that 75 percent of the discharge process took more than 241 minutes or 4 hours to complete the process. Further it was found that remaining 21 percent took 181 to 240 minutes to complete the discharge process. Remaining 4 percent took 121 to 180 minutes to complete the discharge process.

Conclusion: The discharge process is a lengthy one that begins with doctor's advice based on the patient's clinical report then includes a discharge summary, bill preparation, pharmacy approval, and bill clearance. TAT is related to the patient satisfaction. So, the hospital should always try to work and reduce the TAT for discharge processes.

1. Introduction-

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 end with the patient leaving the clinical unit. (8)

The discharge process of the patient is a complex process that begins with the doctor’s advice which is based on the patient’s clinical report followed by discharge summary, bill preparation, pharmacy approval and bill clearance. It is a multistage process which requires effective communications from different departments – inpatients and administrative department. Clinical, financial, legal, and administrative records are all kept as a part of the process. The patient suffering from chronic disease gets admitted to the critical care unit or inpatient department. So, the time taken by the hospital for discharge is an important indicator for patient satisfaction.

NABH has set a standard of 180 minutes for the completion of the discharge process. Hence, maintaining an acceptable of discharge time provides competitive edge to the organization. (8)

Planned and **Unplanned discharges** are two different types of discharges. In **Planned discharge** the discharge summary is prepared in advance or advised by the doctor a day before and all other dues are cleared. **Unplanned discharge** in this the process starts after doctor completes his morning round followed by summary preparation and bill clearance.

Similarly, we can categorize the patients based on how they pay-

Cash Patients- Patients who pay cash and do not use their insurance are included in this group.

TPA Patients- Patients who claim their money at the time of discharge are claim patients.

Turn Around Time (TAT)-

In general, “turnaround time (TAT) means the amount of time taken to complete a process or fulfill a request. (11)

Key Performance Indicators-

- **Average Length of Stay (ALOS)-**

  (Total number of days stayed by all IP in a year / Total number of admissions/discharges)

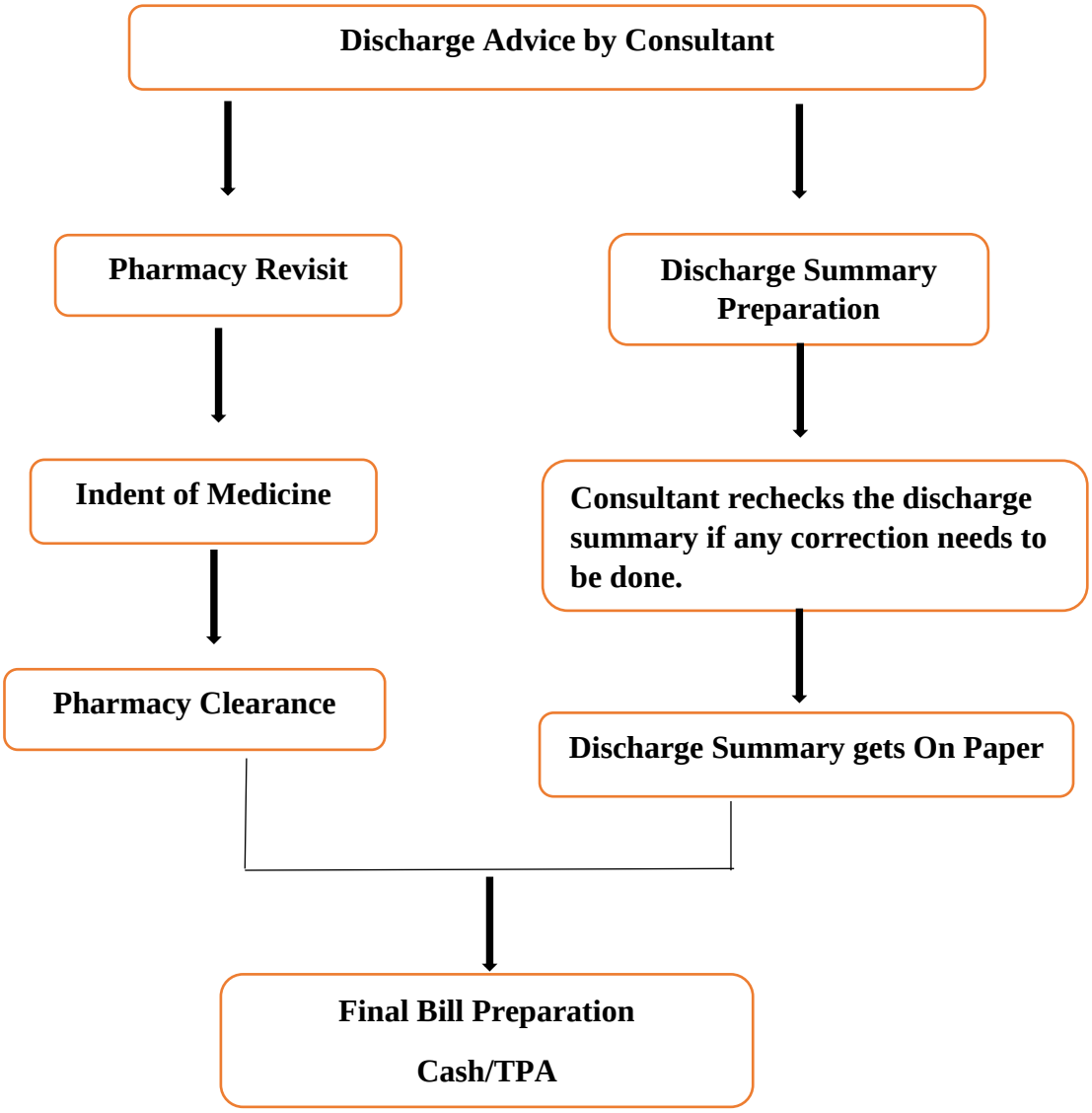
- **Bed Occupancy Rate-**

  (Bed occupied for curative care/Number of beds available for care *365 days)

- **Discharge TAT-**

  The discharge TAT can be calculated by the difference between the arrival time and completion time.

Discharge process flow, HCG Hospital, Jaipur-



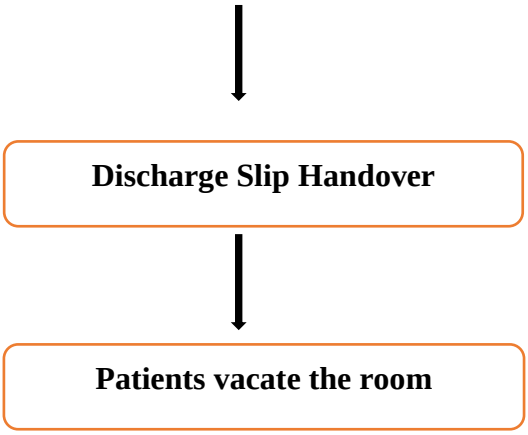


Fig.1: Operations Department, Discharge process of HCG Hospital, Jaipur

Hospital Billing Organogram-

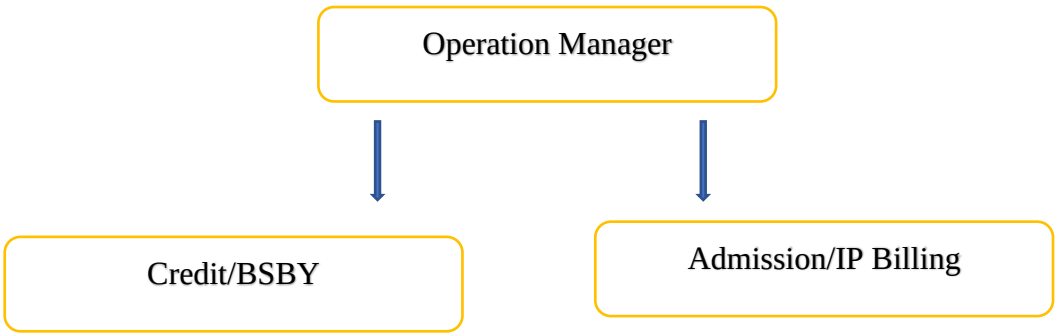


Fig.2: Operations Department, Billing Organogram

Stake Holders of Discharge Process-

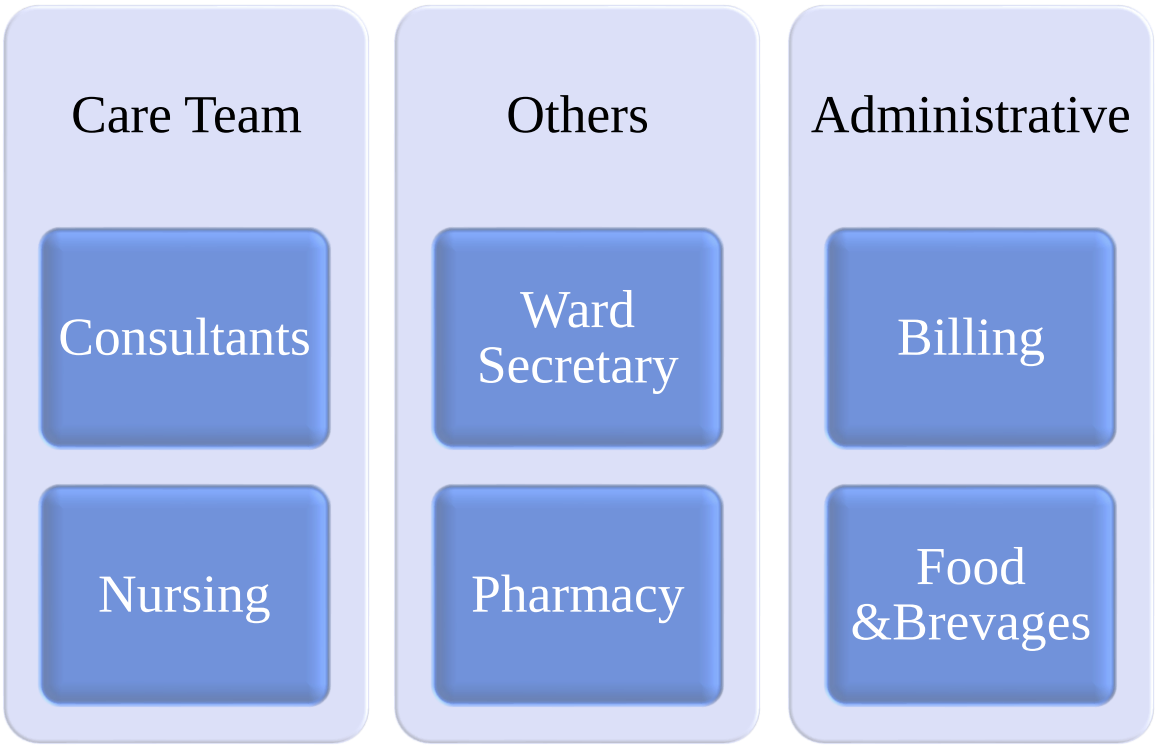


Fig. 3: Stakeholders of Discharge Process

2. Literature Review-

1. Mark V. Williams and Eric Coleman (2009) recognized that move from the hospital to home can be a riskier process and established a study agenda for care transitions. The research covers everything from the development of a new instrument to the evaluation of the new product. O'Leary and his fellow specialists focused on creating discharge summary by electronic medical record to improve quality and reduce time.
2. Mazen Arafeh, Mahmoud A. Barghash, Nirman Hadad, Nadeem Musharbash, Dana Nashawati, Fatina Assaf, Adnan Al-Bashir (2018) The six-sigma process improvement approach was used in this study to shorten the time it took for patients to be discharge from the cancer hospital. From the time the physician signed the discharge form to the time the patient left the room, data on the duration of all activities was collected. Patient shadowing was used to gather information. These data were examined with the help of extensive process maps and cause-and-effect-diagram. The availability of of beds, as well as the satisfaction of patients and their families, improves when they are discharged from hospital in a timely manner.
3. Rachel MacDonell, Brennan, Orla Woods, Stephanie Whelan, Breda Cushen, Lucia Prihodova (2020) the research indicated that improvement activities are linked to better results, such as shorter lengths of stay, when they are carried out correctly, according to the data. Re-admissions or the usage of the healthcare resources are both possible outcomes. According to research, staff compliance has improved.
4. Molly J Horstman, Whitney L Mills, Levi I Herman, George Shelton, David H Berger, Annand D Naik (2017) Researchers carried out semistrucutred interviews as part of their evaluation and patient re-engineered discharge intervention adapted for surgical patients. Discharge instructions had various positive roles in post-discharge care, according to the participants. Participants reported having trouble contracting providers after discharge, prompting them to devise workarounds to get over system hurdles. Team training methods and tactics, including as team strategies and tools to improve performance and patient safety, could be adapted to the situation.
5. Yael Rachamin, Thomas Grischott, Stefan Neuner-Jehle (2021) carried out study and research design was Grant's mixed method process evaluation approach has been extended to trials with multilevel clustering, took convenience samples of 15 chief physicians (of 21 hospitals), 60 senior HPs, 65 junior HPs, and 187 GPs. Both quantitative and qualitative approaches were used. Grant et al's process assessment methodology

proved useful in examining the implementation of a complicated and diverse intervention at several levels in a hospital.

6. Alexander F Glick, Jonathan S Farkas, Joseph Nicholson and other (2017) carried out research and study selection was experimental or observational studies in the inpatient or ED settings in which discharge instructions were assessed. Data collected from PubMed and allied health literature. The result came out to be that parents make mistakes related to knowledge and execution of discharge related instructions.
7. Kerstin Ulin, Lars-Eric Olsson, Alex Wolf, and Inger Ekman (2016) carried out study between February 2008 and April 2010, the researchers looked at 248 hospitalized individuals with chronic heart disease.The control group received standard treatment from February 2008 to April 2009, while the intervention group received PCC from May 2009 to April 2010. The results showed PCC discharge process by allowing patients to participate in the planning of their ongoing care.
8. Shahnawaz Hamid, Farooq A Jan, Haroon Rashid (2017) this study was conducted in general medicine and general surgery ward. It was an observational type of study in which all the patients who were discharged from the department from 10 am to 8 am were included except on Sundays. The result came out be that according to NABH standards time were exceeding for all type of patients. They should work upon their policy regarding discharge process.
9. Harvey Newnham, Anna Barker, Edward Ritchie (2017) The research was carried out to review the hospital discharge communication, which methods were performed and preferred by patients and healthcare providers, to boost the awareness among the patients. The result showed healthcare and patients prefer using technology to give discharge information because it improves patient's awareness about its medical status and discharge instructions.
10. Nelleke van Sluisveld, Anke Oerlemans, Gert Westert and others (2017) carried out this study, mixed method approach was used with 23 individuals and four focus groups with post ICU patients, managers, nurses, and physicians working in the ICU and general ward. The interviews yielded 66 barriers and facilitators linked to the intervention, professional issues, social factors, and organizational aspects. The discharge process be improved by improving handover communication and creating specific discharge criteria in the discharge process.

3. Objectives-

- To monitor discharge process and calculate the turnaround time for both TPA and Cash patients in April 2021.
- To identify the reasons for the delay in discharge and give corrective recommendations for the same.

4. Methodology-

HCG-The Tertiary Care Hospital is one of the India's most distinguished tertiary care hospital. HCG Hospital Jaipur is NABH accredited and provides medical, surgical, and radiation oncology services. It has 10 dedicated beds for bone marrow transplant unit with stringent and infection control practices.

- **Research Design-** Descriptive Cross-sectional Study.
- **Sample Size-** IPD discharges of April 2021. Being a single specialty (Oncology) and due to covid number of discharges were less.
- **Sampling Method-** Non-probability Convenience Sampling
- **Data Collection Technique-** Interview, discharge registers, HIS (Hospital Information System)
- **Tools and Techniques-** Microsoft Excel and Fishbone Diagram

5. Plan of Analysis-

IPD discharge data was gathered in April 2021. The data came from the discharge registers, the hospital information system, and in-dept interviews with nursing personnel, pharmacists, and the billing department.

Turn Around Time (TAT)-

In general, "turnaround time (TAT) means the amount of time taken to complete a process or fulfill a request. (11)

$$\textbf{Average TAT} = \frac{\text{sum TAT of all patients}}{\text{Total number of patients}}$$

Fishbone Diagram-

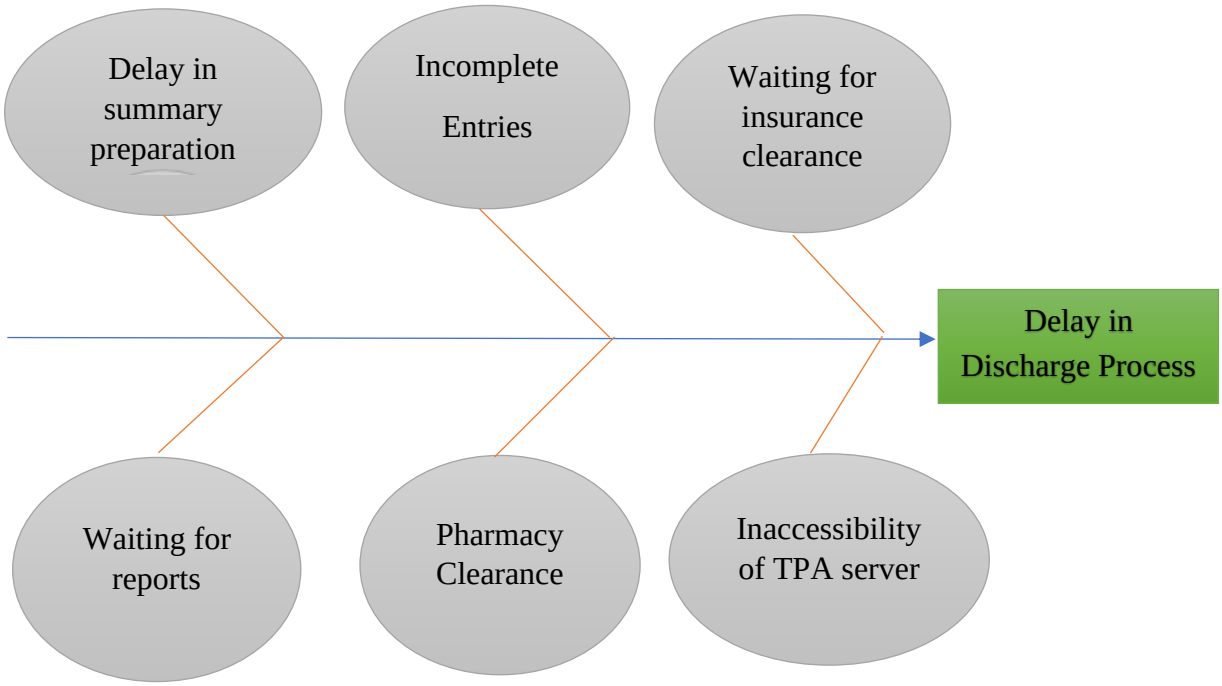


Fig. 4: Showing reasons for delay in discharge process

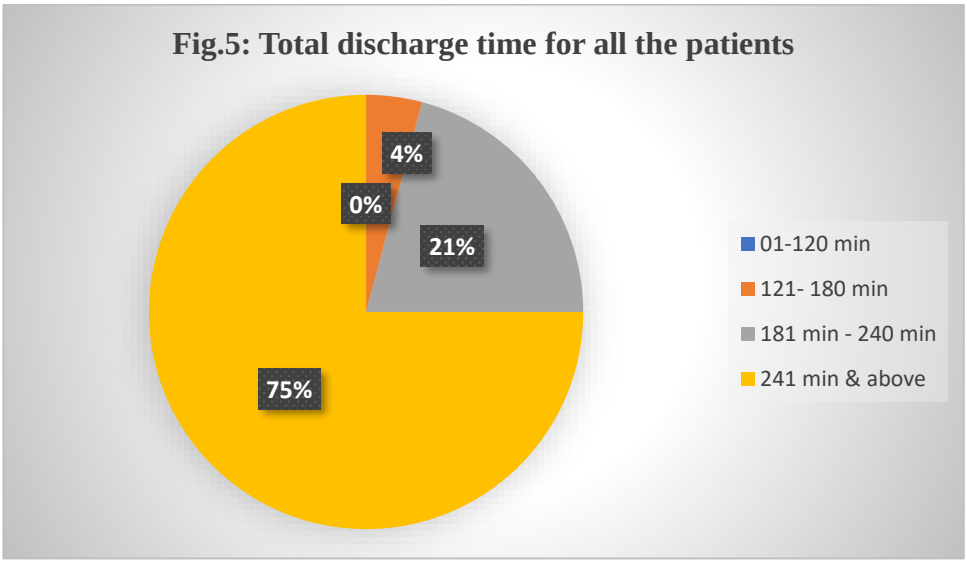
This fishbone diagram is also known as cause-and-effect diagram. Here it is used to display the delay in the discharge process. In this diagram the problem is stated in the far-right corner in the box, which is connected to the central spins represents the cause.
The delay is the discharge process can occur due to following reasons: -

- **Consultant/Physician-**
  - Delay in discharge summary preparation.
  - Incomplete documentation
  - Doctor's signature missing in discharge summary leads to delay in discharges.
  - Changes in the discharge summary
  - Absence of staff leads to delay in discharge process.
  - Late generation of billing sheet.

- **Pharmacy-**
  - Medicine Return
  - Absence of any medicine leads to changes in discharge summary.

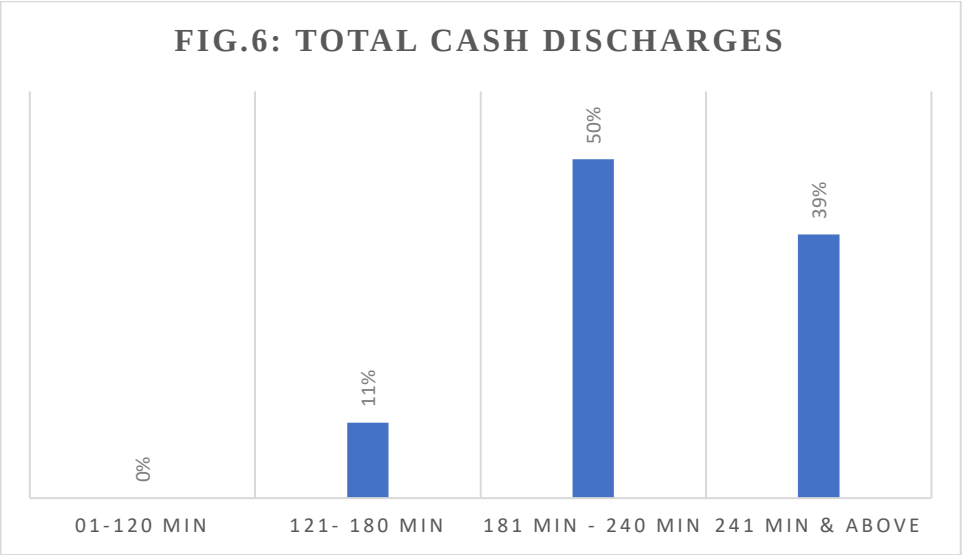
- **Administrative section-**
  - Incomplete documents lead to delay in discharge process.
  - Inaccessibility of server leads to delay in payment of TPA patients.
  - Waiting time for the approval in TPA reports.

6. Results-

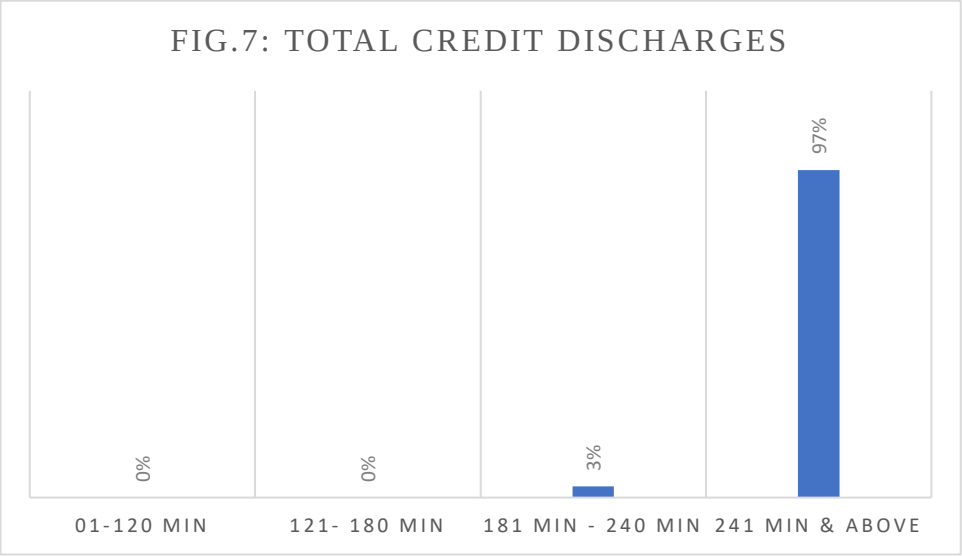


This study was performed to check the TAT for the discharge process of all IPD patients in April month. The results of the same are given in Fig.5. It was observed that 75 percent of the discharge process took more than 241 minutes or 4 hours to complete the process. Further it was found that remaining 21 percent took 181 to 240 minutes to complete the discharge process. Remaining 4 percent took 121 to 180 minutes to complete the discharge process.

According to the NABH the entire discharge process should take 180 minutes maximum to complete. To achieve the NABH criteria, the hospital should investigate and plan a strategy to reduce discharge time as per NABH guidelines.



The total number of cash discharges in April month in HCG Hospital is 18. The TAT for cash discharges is mentioned in Figure.6. It was observed that 50 percent of the discharge process took 181 to 240 minutes. Further the 39 percent of the discharge process took 241 minutes or above. Remaining 11 percent took 121 to 180 minutes to complete the discharge process.



The total number of credit discharges occurred in April month in HCG Hospital was 30 during April 2021. The TAT for credit discharges is mentioned in Figure.7. It was observed that 97 percent of the discharge process took 241 minutes and above. Further only 3 percent of the discharge process took 181 minutes to 240 minutes. The reason for the delay in the discharge process is due to delay in discharge summary or correction in discharge statement. Another cause for the delay in discharge process is the time it takes for approval.

7. Discussion-

The study is conducted to know about the discharge process in the hospital. As we all know it is a complicated process which requires coordination and communication with different departments (IPD and Administrative). The study was conducted in HCG Hospital, Jaipur where the sample population is taken from IPD patients in April month. The discharge process is monitored by discharge registers and hospital information system and gaps resulting in delay in discharge process were identified, discussed thoroughly.

The reasons for delay are mentioned by cause-and-effect diagram. The quantitative data is used to prepare charts and graphs. It was observed that 75 percent of the discharge process took more than 241 minutes or 4 hours to complete the process. Further it was found that remaining 21 percent took 181 to 240 minutes to complete the discharge process. In case of cash discharges, it was observed that 50 percent of the discharge process took 181 to 240 minutes. The reason for the delay in case of cash discharges is misplacement of file, and discharge summary error. For TPA discharges 97 percent of discharge process took 241 minutes and above. Only 3 percent of the discharge process took 181 to 240 minutes. The reason for the delay in discharge process is due to delay in discharge summary by physician, or missing statement in summary, and the time it takes for approval. To improve the discharge following suggestions have been made.

8. Conclusion-

The study was carried out at HCG Hospital Jaipur to keep track of the turnaround time for IPD patients (Cash and TPA) and to ensure that the discharge process run well. The discharge process is a lengthy one that begins with doctor's advice based on the patient's clinical report then includes a discharge summary, bill preparation, pharmacy approval, and bill clearance. It is a multistage procedure that necessitates excellent communication between departments IPD and administrative departments. TAT is related to the patient satisfaction. So, the hospital should always try to work and reduce the TAT for discharge processes. In case of cash discharges, it was observed that 50 percent of the discharge process took 181 to 240 minutes. For TPA discharges 97 percent of discharge process took 241 minutes and above. This time can be reduced if the nursing staff and physician

will complete all the documents in the timely manner. Planned discharges can be encouraged, which will relieve the nursing staff of some of their responsibilities and discharge summaries can be prepared ahead of time for planned discharges. The nursing staff can keep eye on GDA to see if it is doing its job efficiently. We can lower the TAT this way.

9. Recommendation-

The main aim of the research is to maintain the smooth functioning of the discharge process and improve the discharge time for both cash and TPA patients to increase patient satisfaction and reduce discomfort.

The recommendations are based on the data findings: -

- The format of the discharge process can be included in hospital management system or can be attached to the patient's file in which entry can be made by doctors, nurses, pharmacist, and billing. To maintain smooth functioning and for constantly checking the discharge time.
- To improve the discharge process there should be effective communication between the departments (IPD department, pharmacy, billing).
- For maintaining the smooth functioning of the discharge process the discharge summary can be prepared overnight for planned discharges and changes can be made in the morning so as the reduce the delay in the discharge process.
- Record should be updated on the same day by the nursing staff.
- The nursing staff should check all the documents whether the activity or summary is made or not.
- One person from each department might be assigned the task of monitoring for mistakes in the discharge process.
- In the case of TPA patients, the approval process takes time so, the initial documentation work can be done more precisely to reduce the discharge time.
- Staff must get training on the discharge process.
- Billing of cash and TPA patients can be done in different counters. This will reduce the discharge time.

10. Limitations-

- HCG Hospital is a single specialty (Oncology) that solely treats cancer patients, the sample size is smaller.
- The HIS system is not fully integrated, the TAT is manually recorded.
- The data for the delay in TPA is not available so this can be the limitation of the study.

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