

'Assessing and Improving Discharge Process'

Presented by

Ms Nidhi Patel (0309)
MBA Hospital and Health Management
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The IIHMR University, Jaipur

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Contextual Background

Hospitals often come across situations where the available resources fail to deliver desired output, resulting in the increasing bed demand against the capacity. As a resultant there will be an undesirable delay, Post pone of the treatment or cancellation of admission, Patient dissatisfaction and damage to the loyalty, hospital revenue is compromised and competitive edge.

To improvise the availability of the beds in the hospital, the most vital process to work on is patient discharge process. A good discharge process is a must for a hospital to ensure patient satisfaction, quality process towards patient care, bed availability, customer loyalty.

Discharge process is the final part of treatment procedure during patient's length of stay, which leaves patient with upmost satisfaction if it is a Timely discharge.

A fast discharge process can ensure early availability of patient beds, which in turn, can reduce the waiting time of patient admissions or even reduce the incidence of patient rejection due to unavailability of beds (Nagaraju 2005).

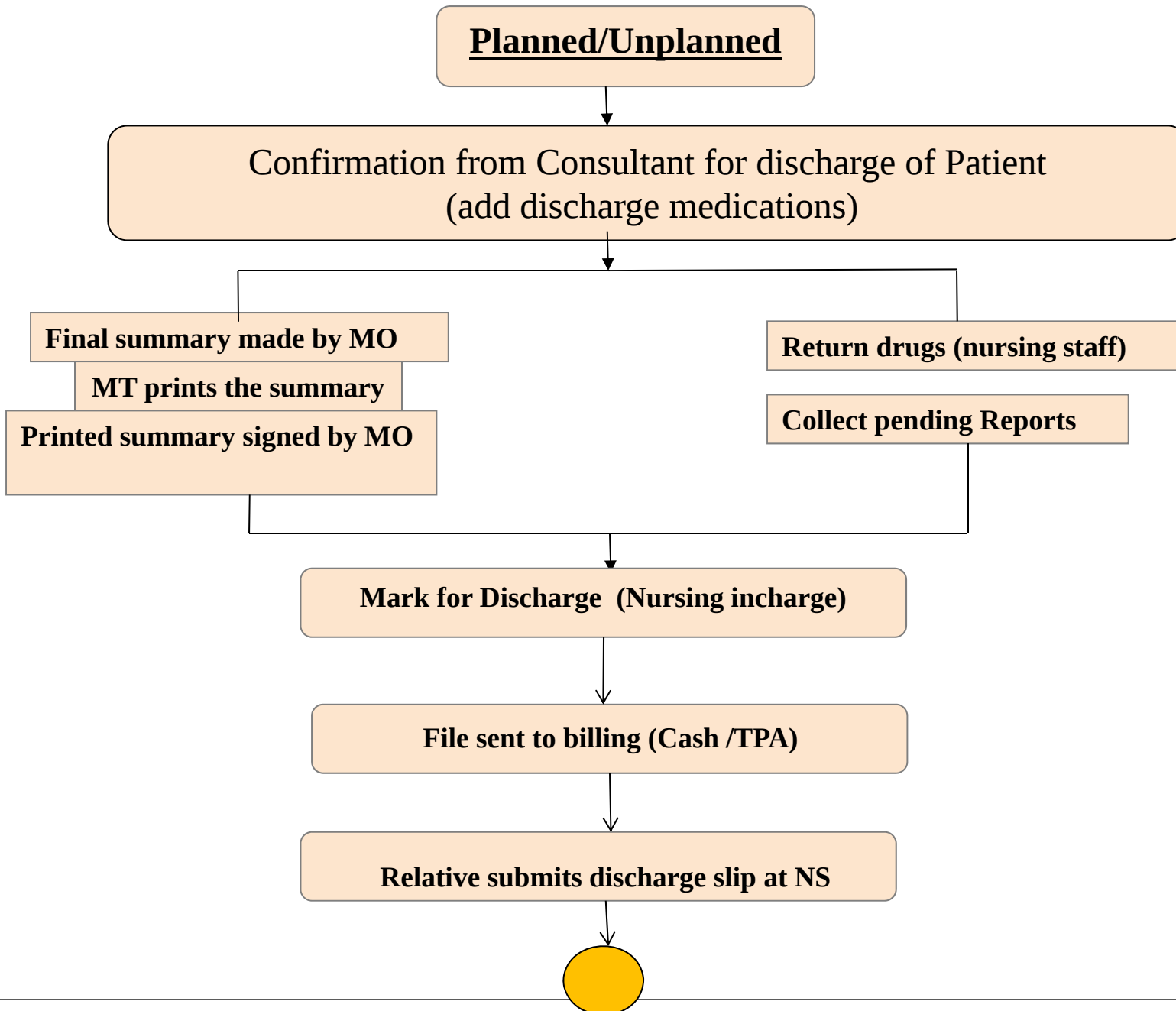
“ The **discharge process** represents the final contact between the patient and the hospital health professionals, and the outcomes of all procedures undergone by the patient are recorded at this stage. Improving the quality of the discharge process should therefore lead to an increase in **patient satisfaction**. As a result patients are likely to return to a health centre where they have experienced an efficient discharge process when they next seek treatment. In turn, **efficiency** and **productivity** are increased at the hospital”.

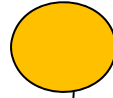
- (Gholipor & Ghomry 2003)

Turn around Time as per the discharge process flow at Zydus Hospital- "Time when Consultrant confirms discharge to the time when final billing is done"

Monitoring discharge turnaround time allows hospital to measure the efficiency of bed management and effectiveness of the operating process within the hospital.

Discharge process flow at Zydus Hospital, Ahmedabad





Discharge Counselling by MO



Patient preparation for Discharge



Patient is ascoted down by Attendant in Wheelchair

Research Questions

- i. What is the Turnaround time of discharge process at Zydus Hospital?
- ii. What are the factors causing delay in discharge process?
- iii. How to Reduce Turnaround Time?

Literature review

- Nancy Kurma(2009) carried out various interventions in her study out of which, the most effective intervention was the color coding of patient as per the bed occupancy. This intervention helped in estimating patient discharge date which in terms is very useful to calculate patient flow.

- Sima Ajami & Saeedeh Ketabi(2007) stated in their conclusion that the consultant round should be distributed so as to avoid queing . A queue is described as the place where customers wait for a server to be free. Since customers' arrival and service times are stochastic they sometimes experience different waiting times, and therefore the average waiting time can be used as a factor in the analysis of a system's performance. The average number of customers waiting in the queue, known as the average length of queue and the percentage of busy periods for the server, known as the utilisation rate, are other performance factors in queuing systems. Also he stated that expected date of discharge should be given by consultant to avoid delay.

- Khyati Udayai & Piyush Kumar(2012) carried out time motion study of to identify the delay at each part of discharge process and he calculated the average score. As well as used Six Sigma application (DMAIC) and intervened the gaps.
- In the Study 'Faster Turnaround time' by Angelo Pellicone & Maude Martocci (2006), used fish bone diagram to analyse the causes of delay in the discharge process.

Objectives

- To understand the discharge process at Zydus Hospitals, Ahmedabad.
- To assess the turnaround time for the discharge process at the hospital.
- To assess the average time taken to complete discharge process at various levels of the discharge event.
- To analyse the Factors causing delay at each step of discharge process.
- To improve the discharge process by carrying out intervention, hence reducing Turn around time.
- To assess the time at which patient physically leave the ward.

Materials and Methodology

Study Type- Interventional study

Study location- Zydus Hospitals, Ahmedabad.

Study duration- 1st March to 30th April, 2017.

Sampling Method- Convenient Sampling

Samples were under consideration of following inclusion and exclusion criteria.

Inclusion:

- All the Inpatient discharges.

Exclusion:

- Discharge process of casualty admissions, daycare process/procedure admissions, newborn admission, ICU admission were excluded from the TAT data collection.
- Event of death during hospitalization and discharge against medical advice cases were excluded from the present study.
- Patients discharging at night and sunday discharge are excluded.

Sample Size- Total number of discharges were 875, out of which 421 discharges in Pre-intervention phase and 454 in post intervention phase, which is about 50% of the total discharges occurred during study period.

Data Collection Method- Data was collected by observation of the discharge process at each level, HIMS(HINAI) of Zydus hospital and interviewing staff in. A Tabulated TAT assessment sheet was made to fill in data.

Research methodology:

The study was divided in two phases, Pre intervention phase and Post Intervention Phase.

In Pre intervention phase

Process flow of discharge at Zydus hospitals was understood, by process mapping.

Fish Bone Diagram (Cause-Effect Diagram) was made to understand factors causing delay in discharge process.

Scatter Chart of Discharge informed time and final billing time and physical left out of patient from room was made.

There were several ideas discussed in the brainstorming sessions out of which these Few **intervention** was done, as follows-

- Prior preparation of Rough summary is prepared by Medical Officer and Medical Tran scripter.
- Medical Tran scripter, shift was managed to increase the coverage.
- New Billing Counter was made for Cash Patient at 8th floor, by the management which turned out to be a very effective intervention.

•Color Coding Initiative-

The concept of the color codes red, yellow and green is recognized worldwide. The difference of interpreting them depends on the subject that they are being applied to, indicating a negative stance by red and a positive one by green.

This color codes were linked to each phase of patient stay at hospital and its probability to get discharge. Red color was linked to new admissions, which has very less probability to discharge. Yellow color was linked to the phase to patient stay where his/her expected discharge date is not confirmed. Green code is indicated to phase where the expected discharge dates are confirmed, i.e one or two day prior to discharge.

All the color code indicate various activities to be completed in each phase, in yellow phase pink summary by medical officer is to be made. In Green phase, prepare Rough Summary or Final Summary (confirmed discharge), Collect Pending Reports, Return Medicines. The color codes were marked on the board at nursing station with Stickers to these three Colors.

- Visuals Stating-‘ **Thank You For Planned Discharges**’ was stuck at all nursing station for consultants, which motivated the consultant to do more planned discharges.

- On Job Training** session was done to educate the staff involving in discharge process. Importance of Timely discharge was explained and tips were given to overcome barriers which caused delay. Also the color coding initiative was explained.

At the end post intervention phase was analyzed and comparison was done of both the phases.

Consultant related Factors

No specified date of discharge

Consultant rounds

Patient related Factors

Transportation

Patient wants to go late

Clinical delay Factors

After dialysis

After treatment

After Dressing

After patient is clinically stable

Causes delay in discharge process

Billing Delay

Other Factors

Summary related Factors

Transportation of file and summary (Busy Attendant)

Drug Return not Done

Pending Reports, ICU Stay, OT notes

Delay in summary by MO

Summary recorection

Summary delay by MT

Results and Conclusion:

Pre Intervention Results-

1-Discharge Informed Time on time scale:

Findings showed that the Discharge informed time majorly clustered around 10:00 am as most of the Discharge were confirmed after the consultant rounds.

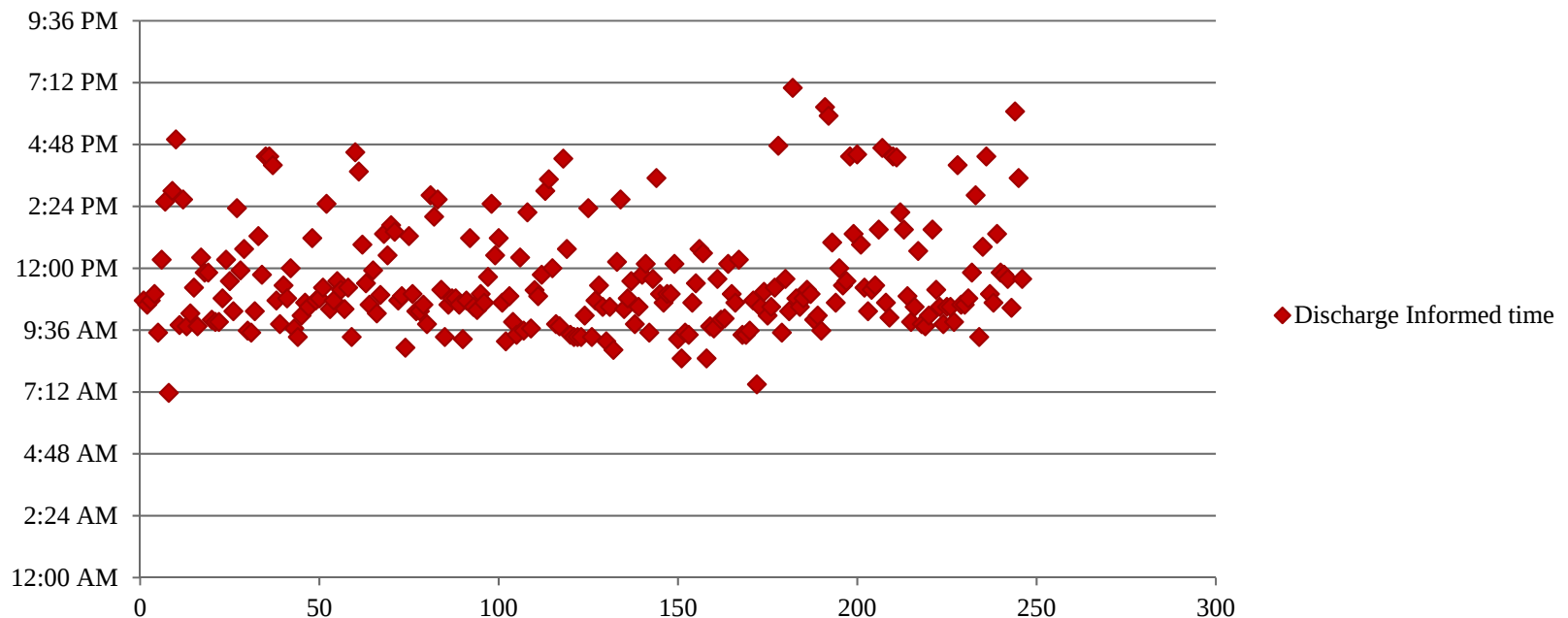


Chart 1 Final billing Time on time scale:

2-Final billing Time on time scale:

Findings showed that the billing time was clustered around 12:00 pm while patient physically left time was clustered around 1:30 pm, which indicated that patient there was a huge gap of time between both the events. Although the billing is done patient is physically present in the room, which indicated that time taken for patient preparation and counseling is more leading to occupied bed.

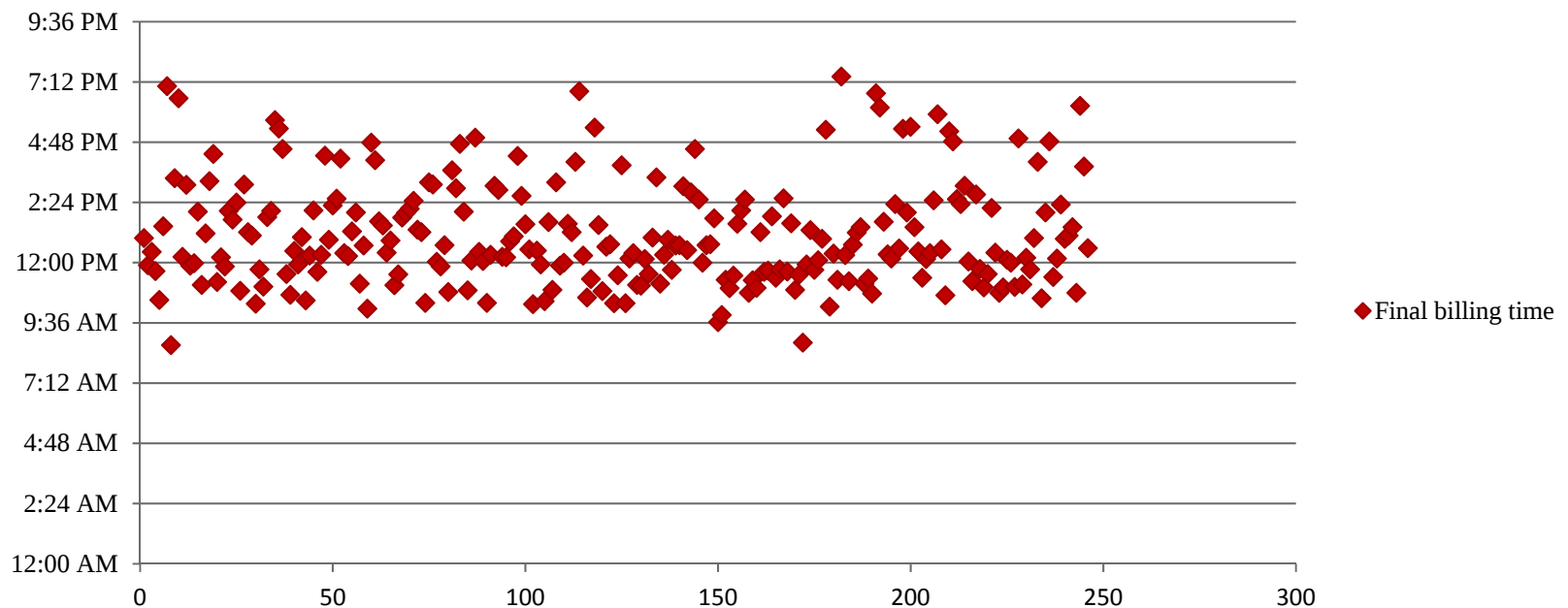


Chart 1 Final billing Time on time scale:

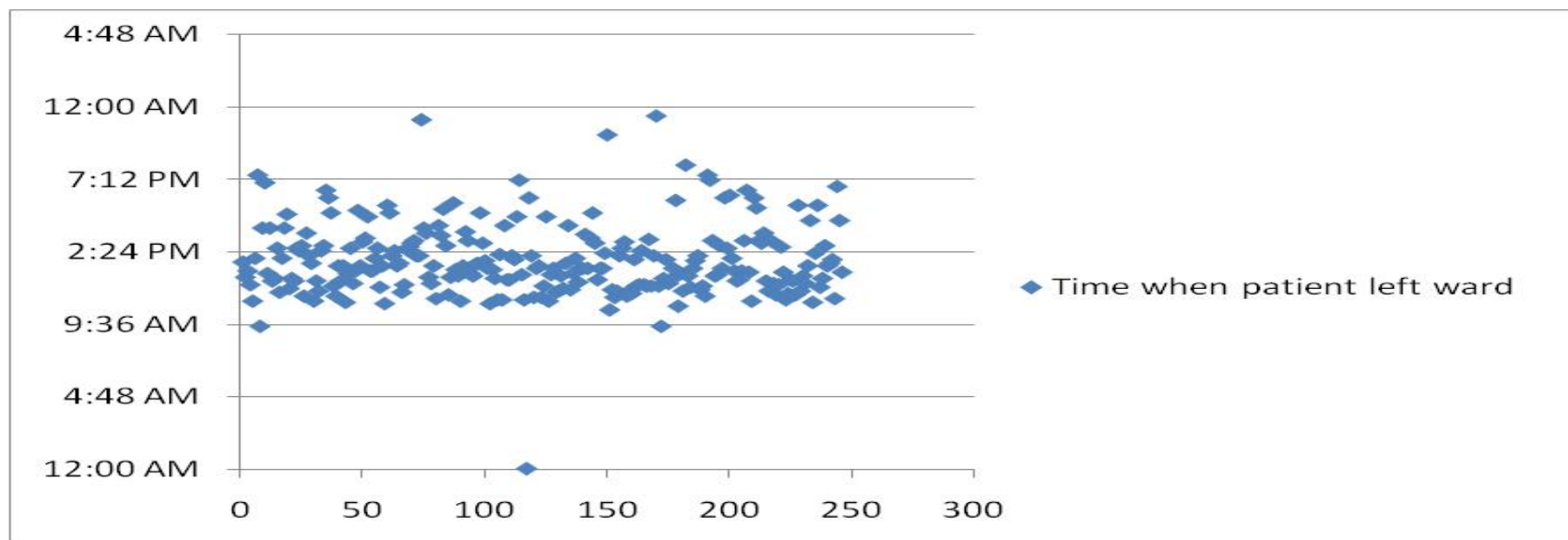
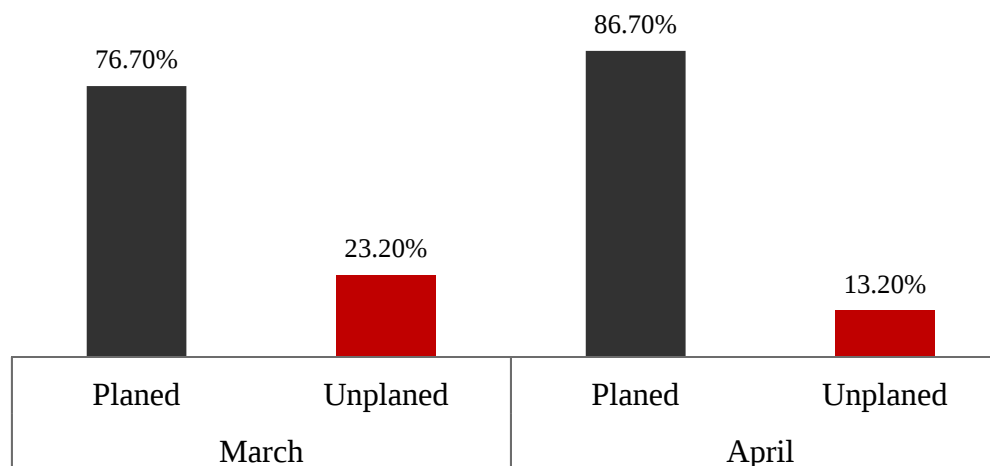


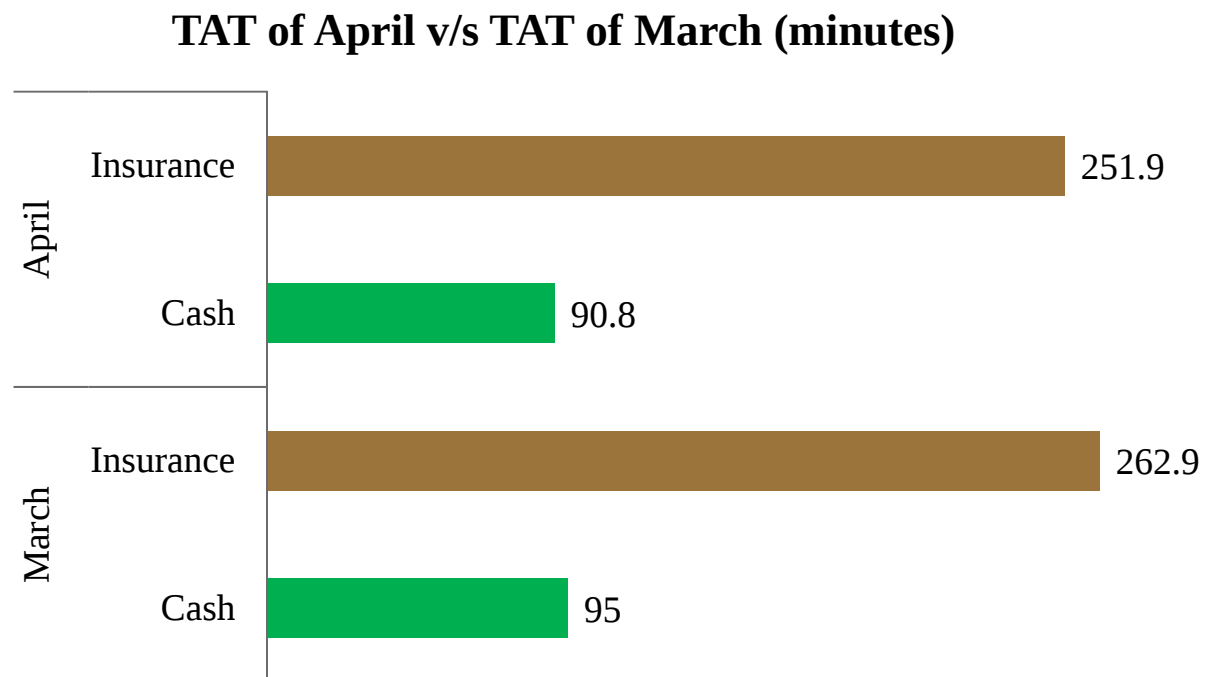
Chart 3 Time when patient physically Left.

4-Comparison of Planned V/S Unplanned Discharges of March and April- The results proved that there was Decrease in unplanned discharges of April 10%. Planned V/S Unplanned



5-Comparison of Turnaround time of March and April-

As shown in table, TAT of Cash patient is improved by 5 minutes and TAT of Insurance is improved by 11 minutes as a result of interventions which was done.

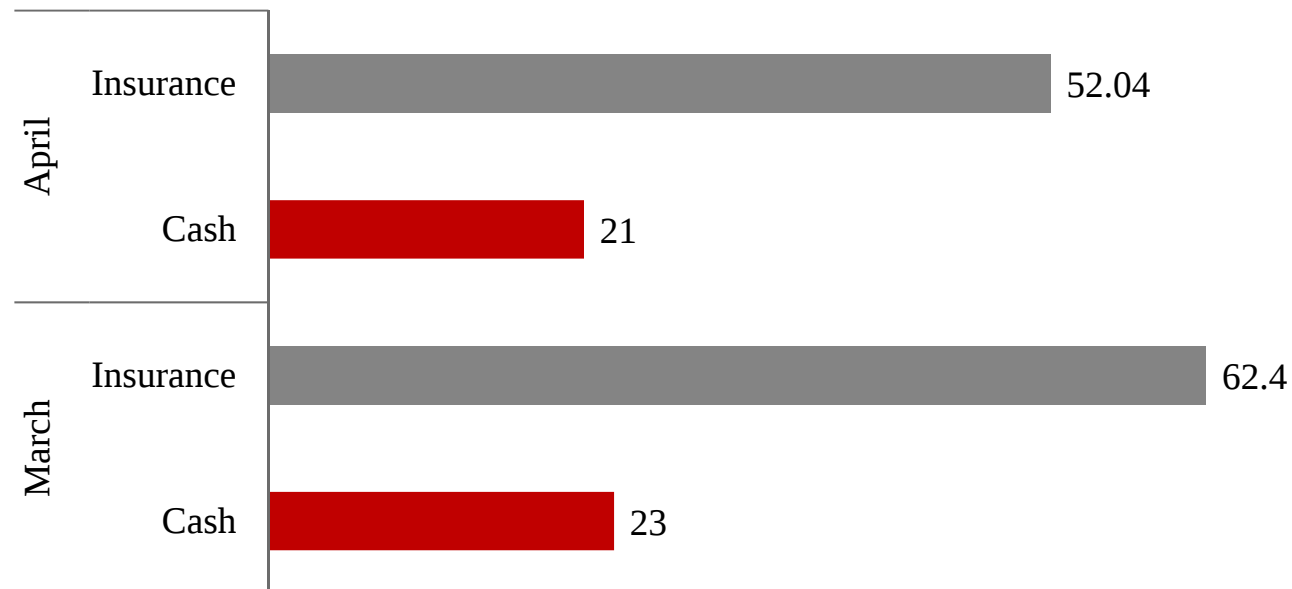


6-Comparison of time taken in Mark For Discharge from Discharge informed Time of March and April-

TAT(minutes)=Mark for discharge-Discharge Informed Time

As Shown in Table and Chart, Time taken for Mark for discharge is reduced by 2 minutes, and in Insurance Patients it is reduced by 10 minutes

TAT(minutes)=Mark for discharge time-Discharge informed time



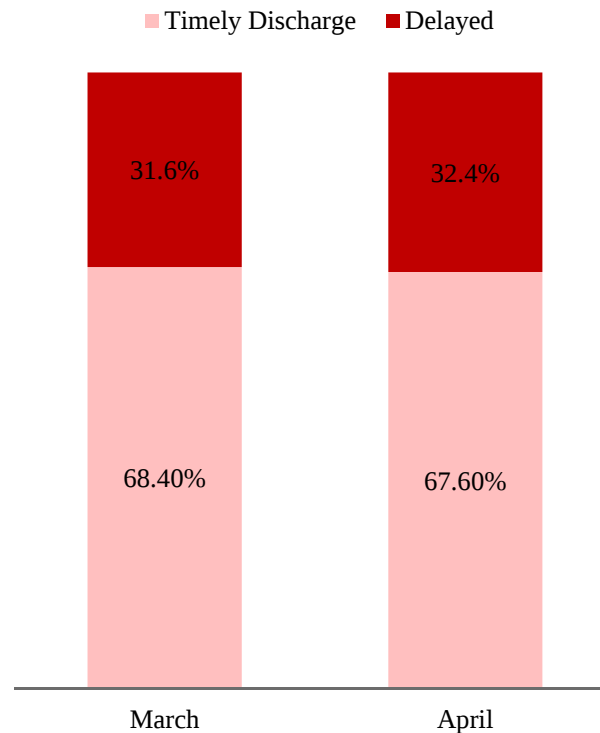
7- Discharge process Flow of Patient-

The timely discharge and delayed discharge that occurred in march was 68.3% and that of April was 69.9% .Hence only 1.5% timely discharges in cash patients are increased with the help of interventions. No improvement in Insurance Patients.

**Discharge process flow
(cash)**



**Discharge process flow
(Insurance)**



Conclusion-

The study aims at understanding analyzing and improving the discharge process at Zydus Hospitals by using the turnaround time as a tool for evaluation of efficiency discharge flow. The study shows a customized analysis of discharge process at the hospital in consideration of various departments which were directly involved in the discharge process. The study point-outs the possible delay causing area in discharge process. In the post Intervention phase few interventions was made and which lead to a considerable improvement in Turnaround time of Post intervention discharges , But still there is scope of improvement in terms of increasing the ratio of Timely discharge.

Recommendations-

- Training Program
- Expected date of discharge should be estimated by Consultants.
- An assessment of billing phase with time motion study which me help in finding the exact delay causing area.
- A more detailed analysis of patient vacant time by more reliable component of data.

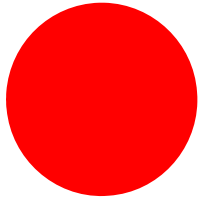
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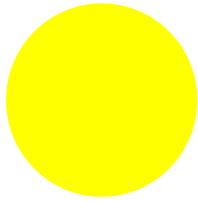
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Color Status Indicating Patient Status with respect to Discharge

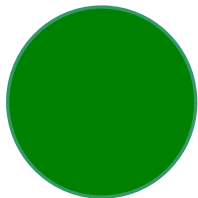


Newly Admitted Patient



Patient undergoing Treatment and less likely to Discharge.

- Prepare Pink Summary



Patient Expected to Discharge within within 24 Hours

- Prepare Rough Summary or Final Summary (confirmed discharge)
- Collect Pending Reports
- Return Medicines

Thank You