Study on the Discharge Waiting Time of the Cash Patients at Columbia Asia Hospital Yeshwanthpur, Bangalore

By

Akanksha Mamgain

Dissertation submitted for the partial fulfillment of the

MBA Hospital and Health Management

Academic year, 2015-2017

The IIHMR University, Jaipur

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INSTITUTE OF HEALTH MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Dr. Akanksha Mamgain, student of MBA Hospital and Health Management from The IIHMR University, Jaipur has undergone internship training at Columbia Asia Hospital Yeshwanthpur, Bangalore from 13th February, 2017 to 13th May, 2017

The Candidate has successfully carried out the study designated to her during internship training and her approach to the study has been sincere, scientific and analytical.
The Dissertation is in fulfillment of the course requirements.

I wish her success in all her future endeavors.

Dr. Ashok Kaushik
Dean, Academics and Student Affairs
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COLUMBIA ASIA

Certificate of completion of Internship/dissertation (13th Feb 2017 to 13th May 2017)

The certificate is awarded to

Name Dr Akanksha Mamgain

In recognition of having successfully completed her Internship in the department of

Name of Department Operations

and has successfully completed her Project on

Title of the Project : A study on the discharge waiting time of the cash patients at Columbia Asia Hospital Yeshwanthpur, Bangalore

Organization: Columbia Asia Hospital Yeshwanthpur, Bangalore

He/She comes across as a committed, sincere & diligent person who has a strong drive and zeal for learning

We wish him/her all the best for future endeavours

Training & Development

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CIN: U85110KA2003PTC033055

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled '**A study on the discharge waiting time of the cash patients'** is submitted by **Akanksha Mamgain** Enrollment No. **IIHMR-U/01/2015-17/0250** under the supervision of **Dr. Arindam Das** for award of MBA in Hospital and Health of the University carried out during the period 13th February to 13th May embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Signature

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled ...A...STUDY....ON.....THE....DISCHARGE.....WAITING. ...TIME.....OF.....THE.....CASH.....PATIENTS....AT.....COLUMBIA ASIA HOSPITAL YESHWANTHPUR, BANGALORE

Signature of student

DECLARATION

I do hereby declare that I am a student of MBA in Hospital and Healthcare Management, IIHMR University, Jaipur, Rajasthan session 2015-2017.

I would like to state that I have carried out my Dissertation on the topic "**A study on the discharge waiting time of the cash patients at Columbia Asia Hospital Yeshwanthpur, Bangalore** under the guidance of Mr. Varghese John (Operations Manager) at Columbia Asia Hospital Yeshwanthpur, Bangalore for the partial fulfillment for the degree of MBA in Hospital and Healthcare Administration.

This project work is my own and has not been submitted to any of the other Institute or University for the purpose of award of any degree or diploma.

Dr.Akanksha Mamgain

IIHMR University

(2015-2017)

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I am using this opportunity to express my gratitude to everyone who supported me throughout the course of this MBA project and Dissertation. I am thankful for their aspiring guidance, invaluably constructive criticism and friendly advice during the project work. I am sincerely grateful to them for sharing their truthful and illuminating views on a number of issues related to the project.

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I am also very thankful to all the staff of Columbia Asia for their attention towards my work and helping me which greatly added to my project. The administrative and clinical staff of the hospital has been very helpful to me and I would like to express deep gratification to all.

Dr Akanksha Mamgain

IIHMR UNIVERSITY

Batch 2015-2017

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF SYMBOLS AND ABBREVIATIONS

S.No.	Abbreviations	Meanings
1	CARHY	Columbia Asia Hospital Yeshwanthpur
2	CMS	Chief of Medical services
3	CNS	Chief of Nursing services
4	DMAIC	Define measure analyze implement control
5	ENT	Ear Nose tongue
6	HR	Human resource
7	HMIS	Hospital Management Information system
8	I/B	Insurance and Billing
9	ICU	Intensive Care Unit
10	IPD	In Patient Department
11	JCI	Joint commission international
7	NABH	National accreditation board for hospital and healthcare providers
8	OPD	Outpatient department
9	TPA	Third party administrator
10	TAT	Turn around time

LIST OF APPENDICES

S.No.	Appendices	Name
1	Appendix A	The discharge tracking format

INTRODUCTION

Discharge can be defined as 'the processes, tools and techniques by which an episode of treatment or care to a patient is formally concluded by a health professional, health provider organization or individual'. It involves the formation and implementation of a plan for the transfer of the individual from hospital to an alternative setting/home where appropriate.

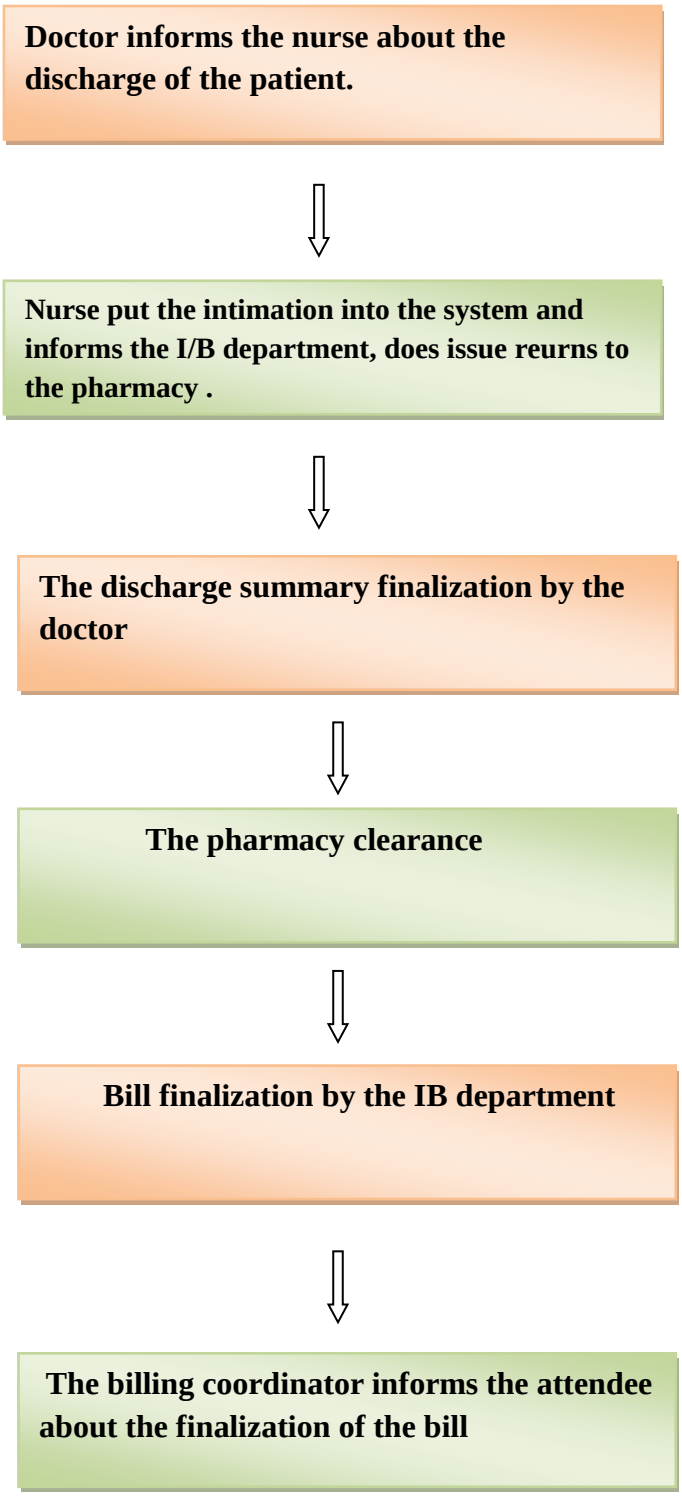
Hospital discharge is one of the lengthy processes in the Hospital. The Discharge of the patient leaves an everlasting impact on the patient regarding the Hospital services. Hence the Discharge time taken by hospital as one of the important quality indicator. Many a times it is seen that the patient is happy and satisfied with the entire treatment and the admission process but the long waiting time in the hospital converts his satisfaction to the dissatisfaction. Hence, maintaining an acceptable level of discharge time provides a competitive edge to the organization. The Hospital discharge process includes clearance from all the departments i.e. nursing, pharmacy, bill settlement, and inform patient regarding appropriate post-hospital treatment as per standard documentation. Every hospital works to improve quality through various measures, one of which is reduction in the discharge time. The total time consumed in the discharge process is a summation of clearance time consumed by each and every department along with other factors related to patients and the process. The present study aims to study the entire discharge process , factors that determine the total discharge time and identify the measures that can reduce the total discharge time**.. Sakarkar defines "discharge as the release of an admitted patient from the hospital".** Discharge process is defined as the process of activities that involves the patient and the team of individuals from various discipline working together to facilitate the transfer of patient from one environment to another. The process comprises of clinical, financial, legal and administrative and recordkeeping aspects starts right from writing of discharge orders to settlements of all kinds of hospital bills is a time consuming process; but if executed in an organized way with assistance from trained medical, para-medical and administrative staff, can be completed as per global standards or those prescribed by hospital accreditation boards like NABH at national level and JCI at the international level.

CARHY is a 168 bedded facility located at gateway center in Yeshwanthpur, the Northwest Bangalore. The Hospital opened in 2008 and provides comprehensive tertiary-level services such as cardiac operations, orthopedics and neuroscience, as well as secondary level medical care. It specializes in Transplants (Kidney, Liver), Interventional cardiology and cardiac surgery, medical and surgical oncology, Bone marrow transplants, cochlear implants and ENT surgeries, Neurological treatments like Deep brain stimulation for Parkinson's disease, Cosmetic surgery, obesity/bariatric surgery and management of high risk pregnancies, among others. It is a JCI accredited facility with conformity to the international standards.

The discharge process is an integral part of continuous quality improvement. The patient satisfaction is somehow directly proportional to a good discharge service. CARHY also focuses on its discharge services. It's been a long time that the hospital is facing many problems related to the discharges of the cash patients. In comparison to other branches of the Columbia Asia Hospital it has been seen that the discharge waiting time for the patients coming to CARHY is high. The cash discharges are also facing the problem of long waiting hours compared to the insurance discharges.

The discharge process is a process which requires the joint coordination of various departments associated with it. The departments which have a significant role to play include the specialties, the pharmacy department, the customer care department, the Insurance and billing department. There are many stakeholders in this process. The stakeholders in the process of discharge are the chief of the Medical services, Chief of the nursing services, the operations manager, the customer care manager, the pharmacy executive, the Floor manager and the floor supervisors. The management in the hospital is continuously working on this process to reduce the discharge waiting time of the cash patients to as low as one hour. Hence improving the discharges waiting time is an important objective of the operations team in CARHY.This is an objective which is highly challenging and essential for the management.

THE DISCHARGE PROCESS



The cashier gives a copy of final bill and a pink slip to the patient as a reference for discharge .

The attendee pays the amount to the billing coordinator

The pink slip is given to the nursing station by the patient

Explaining the discharge summary to the patient

Patient vacating the room

Discharge process at Columbia Asia Hospital Yeshwanthpur Banaglore is comprised of few parameters like:

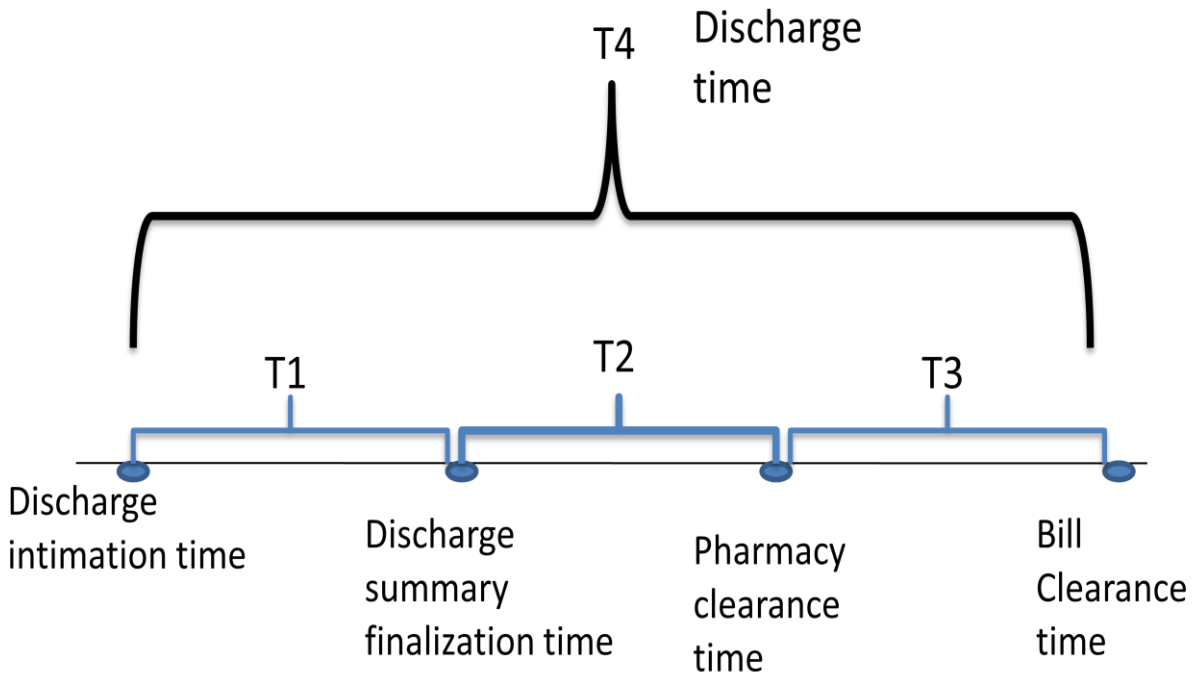
Doctors' Round: This was to declare that the patient was fit for discharge. This was the main driver for the entire discharge process. The doctors generally came for rounds at their respective times morning , afternoon and evening. All the processes associated with the discharge started only after the confirmation of the primary doctor that the patient is ready for the discharge.The Doctors prefer finishing the summaries after completing the rounds and attending all of their patients admitted in the wards.

Nursing clearance and the intimation to the billing department: After checking the nursing activity sheet nursing clearance is given by the nurses. In some cases it is done by the nurses a day before discharge i.e. the day on which the discharge for the next day is planned. This happens in case of the patient planned for the next day for the discharges. The nurses intimate the billing department about the discharge of the patient so that they can proceed with the billing process. They also returns the medical supplies not in use of the patient to the stores and medicines to the pharmacy.

Discharge summary completion: It is the one of the essential part of the discharge process. The summary finalization is done by the doctor by completing the notes on the system. The doctor also writes the medicine of the patient along with the advice. The pharmacy cannot start the process of dispensing of the medicine without the finalization of the summary.CARE 21 is the HMIS system used in the hospitals. Doctors have to complete the summaries in the CARE 21. Once they complete the summary , the discharge tracking sheet on the CARE 21 updates the other departments regarding the completion of the summary and they proceed further with the process. Hence there is an automatic update in the system for the other clearances like nursing/Intimation of the discharge,the medication dispensing and the bill clearance.

Pharmacy clearance: The role of the pharmacy in the entire process is to accept any issue return from the wards as well as the dispensing of the medicine to the patient before the discharge.

Billing clearance: Billing department prepares the billing summary of the patient taking the clearance with other departments. They remove the charges of the medical supplies and drugs returned back from the ward and add the medicine bills dispensed and handover to the patient before discharge.The billing and the insurance department is located on the third floor. There are three customer care executive during day or and one during night to coordinate the process of billing for the discharging patients.Out of these three one person completely takes care of the Insurance/TPA cases.



- T1 is the time taken for the summary finalization and is the difference between the discharge summary finalization time and the intimation time.
- T2 is the time taken for the pharmacy clearance and it is the difference between the pharmacy clearance and the discharge summary finalization time.
- T3 is the time taken for the bill clearance and it is the difference between the bill clearance time and the pharmacy clearance time.
- T4 is the time taken for the discharge of the patient and it is the difference between the bill clearance time and the discharge intimation

RATIONALE

The discharge process in Columbia Asia Hospital Yeshwanthpur is facing many challenges in terms of the long waiting time during the discharge of the inpatients. The cash patients other than the insurance/TPA patients again have to wait long hours for the completion of the process. The long waiting hours have high impact on the satisfaction of the patients. The operations team of the hospital constantly works on the process improvement. The rationale of the study conducted is to analyze the impact of the Discharge management framework on the discharges of the cash patients. The study provides a platform to study the discharge process of the cash patients in last six months and compare to it with the month of March and April.

The study also aims to study the entire discharge process of the hospital in details.

RESEARCH QUESTIONS

1. What is the impact of the Discharge management framework on the discharges of the cash patients in the Columbia Asia Hospital Yeshwanthpur Bangalore?
2. What are the problem areas in the discharge of the cash patients in the past few months ?

OBJECTIVES

- To study the impact of the Discharge Management framework on the discharge waiting time of the cash patients in the Columbia Asia Hospital Yeshwanthpur ,Bangalore
- To compare the discharge process of the cash patients before and after the intervention of the plan.
- To analyze the discharge process of the cash patients and problem areas in the last six months
- To set the targets and focus areas for the coming months.

LITERATURE REVIEW

Discharge is described as a selective process that distinguishes between patients who are able to continue the recovery process outside the hospital and those who are not yet ready to leave (Galai, Israeli, et al., 2003). Achieving safe, timely and person centered discharge from hospital to home is an important indicator of quality and a measure of effective and integrated care (Joint Improvement Team, 2014). Delayed discharge refers to the situation where a patient is deemed to be medically well enough for discharge but they are unable to leave hospital because arrangements for continuing care have not been finalized (Bryan, 2010). The Health Service Executive Special Delivery Unit (SDU) defines delayed discharge as: "**A patient who remains in hospital after a senior doctor has documented in the healthcare record that the patient can be discharged (Health Service Executive, 2013).** One systematic review, found that the percentage of inappropriate use of acute care beds ranged between 15% and 50% (Sheppard, 2010). The issue of delayed discharge from hospital is a longstanding concern nationally and internationally and although it is a common problem, few countries have managed to successfully tackle it (Joint Improvement Team, 2010). According to Hendy et al, (2012), discharge delays are costly for and depressing for patients.

To improve the process of discharge and address inconsistencies in discharge documentation and referral, a national code of practice for integrated discharge planning was published by the HSE in 2008 with local guidelines for nurse / midwife-facilitated discharge planning (HSE 2008, 2009). These have recently been replaced by the Integrated Care Guidance: A practical guide to discharge and transfer from hospital (HSE, 2014). The Health Information & Quality Authority (2013) has developed National Standards for Patient Discharge. Similar planned approaches to patient discharge were introduced through policy and guidance by Departments of Health in England, Wales, Northern Ireland and Scotland. The UK National Health Service programme introduced 'Ready to go' comprehensive guidance on planning the discharge and transfer of patients (DH, 2010). Nevertheless, delays in the discharge of 14 Post-hospitalisation, patients, particularly those who are older and /or who suffer from chronic conditions are considered more at risk

(Mahoney *et al* 2000; Meinow *et al*, 2005). Over the past 20 years a substantial body of literature has emerged on various aspects of the transition from hospital to home. There is research on patient readiness for discharge (Weiss *et al* 2006; 2007; Coffey & McCarthy 2012; Brent & Coffey, 2012), interventions to improve the process (Chapin *et al*. 2014; Schuller *et al*, 2014, Saleh,*et al.* 2010), and examination of the interface between acute and community services (Johnson *et al*, 2013; Arbaji *et al*, 2008, Coffey & McCarthy, 2012). Different service delivery models have been described in the literature including rehabilitation and intermediate care in the UK (Dahl *et al*, 2014) and hospital at home in the US (Sheppard, *et al.* 2010). A number of factors have been associated with delayed discharge including: patient characteristics (Challis, Hughes *et al.* 2014); organisation of care in hospital (Glasby, *et al.* 2006); access to long-term care and community services on discharge (Gallagher *et al.* 2008). Evidence exists that patients who experience delayed discharge have higher risk of negative outcomes, for example increased anxiety (Kydd, 2008); increased exposure to hospital acquired infection.

A comparative time motion study of all types of patient discharges in a hospital by Tak, Kulkarni, and More states that any hospital needs to work on finer aspects of the discharge process, to make it more patient friendly and less time consuming as it directly connects to patient satisfaction. This time motion study recorded the time needed for completion of discharge process for all type of discharges. Turn Around Time(TAT) or Time motion study is a direct and continuous observation of a task, using a stopwatch, video camera etc, to record the time taken to a accomplish a task. It concluded that tedious discharge process contributes to patient dissatisfaction. Another study on time management of discharge and billing process in tertiary care teaching hospital by Janita Vinaya Kumari aimed at ascertaining average time taken for the patient to be discharged. This article on role of discharge planning and other determinants in total discharge time by Mehta, Nair, Rao and Shukla established discharge time, as a crucial quality indicator and presented measures to control the discharge time. The study concluded that planning the discharges reduced the total time of discharge process. Departmental clearance and patient-related factors also impact the discharge time. Hence, an effort should be made to plan as many discharges as possible to enhance the discharge flow process. Failure to synchronize admissions and discharges commonly results when discharges are not managed efficiently. Creating a more

consistent and predictable discharge schedule can help improve flow. Traditionally, hospitals have attempted to "batch" discharges by establishing a set time for all patients to be discharged; however, this approach has been largely unsuccessful. Scheduling the discharge creates a continuous flow process, spreading discharge times throughout the day. This approach streamlines the process, better addresses the needs of patients and families, and helps coordinate the placement of patients who are admitted and transferred with discharges that occur throughout the day.

METHODOLOGY

- ***Type of study :*** Quantitative pre and post interventional study.
- ***Study population*** : IPD Patients in 2nd and 3rd floor from 1st Sep 2016 to 28th Feb 2017 for the pre interventional study and from 1st March, 2017 to 30th April, 2017 for the post Interventional study at Columbia Asia Hospital Yeshwanthpur, Bangalore
- ***Study area*** – 2nd and 3rd IPD floors, Columbia Asia Hospital Yeshwanthpur, Bangalore
- ***Duration of Study*** – 3 Months
- ***Type of Data*** – Quantitative
- ***Technique*** – There were two sets of the data. The data for the pre interventional study was obtained from the HMIS. The post interventional data by direct observation of the discharge process and following up of the patients.
- ***Tool*** – Discharge format is prepared to analyze the data.
- ***Sample size*** –
  - ✓ **For the pre interventional study**: All the patients discharged between the month of Sep 2016 to Feb 2017.
  - ✓ **For the post interventional study**: All the patients discharged between 1st March 2017 to 30th April, 2017.
- ***Sampling technique***- Purposive sampling
- ***Inclusion criteria***-
  - ❖ All cash patients discharged on 2nd and 3rd floor at Columbia Asia Hospital, Yeshwanthpur, Bangalore.
  - ❖ Standard format and protocols followed by the floor staff during discharge.
- ***Exclusion criteria***-
  - ❖ The TPA/insurance patients discharged on 2nd and 3rd floor at Columbia Asia Hospital, Yeshwanthpur
  - ❖ The patients admitted in ICU
- ***Data entry***- Manually
- ***Data Analysis***- Using bar charts, line graphs,tables

PHASES OF THE STUDY

PHASE 1: **The data is collected from the HMIS. It includes the data of the patients discharged between 1st Sep, 2016 to 28th Feb, 2017.**

INTERVENTION PHASE: Meetings, discussions and framing of the discharge management plan with the involvement of all the stakeholders.

IMPLEMENTATION PHASE: This phase involves the implementation of the discharge management plan in the month of March and April.

PHASE 2: It is a post intervention phase. All the patients discharged in the month of April and March are observed and the data is analyzed.

INTERVENTION: The Discharge Management Framework

The discharge of the patient involves the stake of many people and departments. It starts from the intimation of the discharge summary by the doctor to the physical vacation of room by the patients. The smooth running and planned management of the process involves the commitment from each and every person involved in it.

FORMATION OF THE MULTIDISCIPLINARY TEAM

A multidisciplinary team was formed at the outset and included the operations manager, the chief of medical services, chief of the nursing services, the customer care manager, the executive pharmacy, the executive billing , the floor manger , the customer care supervisors on the floor. Following the DMAIC approach, the team set out to define the scope of the project and decided to focus on improving the administrative processes that contributed to delays in discharging patients. Mapping the steps from when the discharge is intimated to the patient leaving the room demonstrated a fragmented process with providers functioning in silos and relying on patients to alert staff to initiate the next step. The team designed the process to a single-piece flow that included status of the discharge process to the entire stakeholder and sent alerts to managers when delays beyond a set threshold occurred. Target discharge time was set at 1hour.Any discharge taking more than 1 hr was considered a delay in the discharge process.

- CMS
- CNS
- Operations Manager
- Customer care manger
- Pharmacy executive
- Billing executive
- Floor managers
- Customer care supervisor

FORMATION OF THE DRAFT DISCHARGE SUMMARY A DAY BEFORE

The CMS is the person who takes care of the medical services and about the doctors. It was decided with the joint consensus of all the stakeholders that the draft discharge summary will be prepared a day before.The doctors usually intimates the patient about the discharge during the time of the discharge and completes the summary later. It was decided that the doctors will confirm the discharge with a draft summary ready on a prior basis. This will help the doctors to finalize it before 12'oclock.The CMS took the responsibility to inform and coordinate with the doctors for the implementation of the plan.

CONVERSION OF THE PLANNED DISCHARGES IN TO THE ACTUAL DISCHARGES (IMPROVING THE EFFICIENCY OF DISCHARE TRACKING QUE)

Care 21 is the HMIS used in the Columbia Asia group of Hospitals. The care 21 contains discharge tracking que as a part of the database system. The estimation given by the doctors regarding the discharge of the patient before admission should be considered. The estimation should be given by the doctors appropriately taking each and every parameter into the consideration. This estimation is actually recorded by the tracking queue for the preparation of the planned discharges. The historical data of the last six months tells that the percentage of the planned discharges and their conversion into actual discharges is around 1 to 2%. The CMS and the CNS decided that they will be focusing on this area. Their objective for the month of April and March will be to convert maximum planned discharges in to the actual discharges.

SHORT COM ALERTS: In Columbia Asia we are using short com message alerts to provide information to each of the stakeholder regarding the discharge of the patient. This service lacks the follow up. It was decided that the short com message alert regarding every discharged patient will be followed by each and every concerned department.

CORRECTIVE ACTION FOR THE SPECIALITIES: On the basis of the historical data of the last six months there are few specialties which came up with the highest waiting time. These specialties include Nephrology, Neurology, Neurosurgery, Urology,

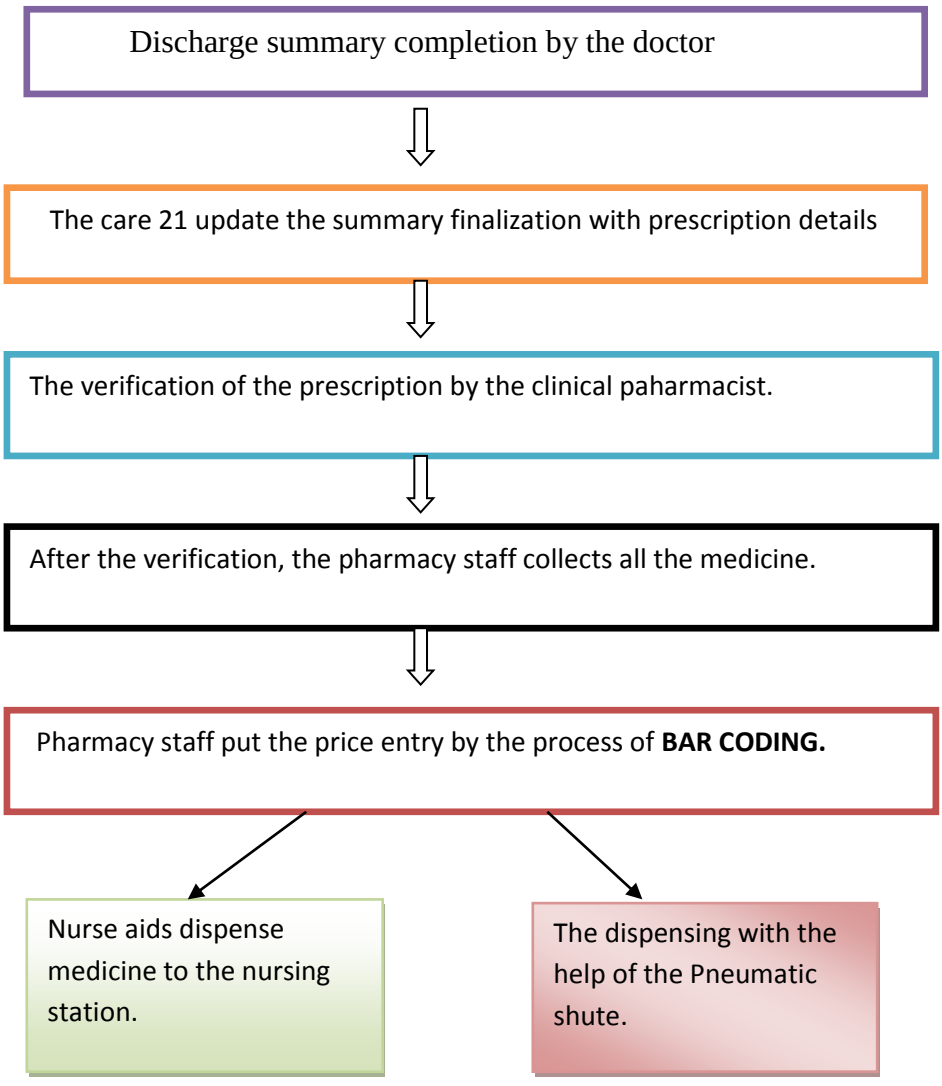
Gastroenterology, Medical oncology. The summary writing is basically done by the registrar doctors or the physician assistant. In department like neurology and neurosurgery there are consultants who take care of the patient .For summary writing there is no registrar staff available? There is one physician assistant and she completes the summary. She has to first get it approved by the doctor and then she completes it. Hence this department needs a requirement of a registrar doctor. It was decided taking the HR into loop to recruit a registrar doctor in the department of neurology and neurosurgery. Medical oncology is again a department which shows high discharge summary completion time .The department caters 40 to 50 patients a day which include the chemotherapy patients, the follow up patients, emergency patients, and new patients for the clinical assessment. There were 3 registrars in the beginning who used to make the summary. These registrars also complete the summary of the IP patients of the clinical hematology. The percentage oF the clinical hematology patient in IP is comparatively low. These registrar doctors also prepares the advice for the patients coming daily in the OPD.The department is one of the busiest department and hence there is also a requirement of the registrar doctor in the department, The HR was informed about the requirement.

Gastroenterology is another department where the delays in the summary completion have been observed. The department has two main consultant doctor and the others are the registrars. Most of the time the doctors are busy in the procedures. The CMS and the CNS along with other stakeholders decide to speak to the department to manage the summary timing accordingly. It was also decided to put it duty wise where one registrar doctor will be doing the summary completion In the departments of Internal medicine, gynae,paediatrics, orthopedics again the workload is high. There are 3-4 registrars appointed in each of this department. Most of the time the delay is because doctors complete the summary after seeing all the patients. It was decided to put one registrar doctor on a duty to complete the summary. A Rota of the duties will be formed by each department itself.

Urology is another department of concern. This department has good patient flow but there is continuous delay in the discharge summary completion in the past few months. Here there is a need of a registrar doctor quiet from a long time. The doctors are most of the time

busy in the surgery and rounds and they complete the surgery as soon as they get free time. The HR along with the CMS decided to recruit a registrar doctor for the summary completion.

PHARMACY EXECUTION: Pharmacy is another important area which requires a proper execution of services for the effective discharge process. Looking at the past 6 months data it is seen that it takes on an average 45 minutes for the dispensing of the medicine. This time itself takes a major part of the target discharge time which is 1 hr. The pharmacy executive is the person who takes care of the department. It was decided along with the pharmacy executive to streamline the discharge process by their effective contribution. Being a JCI accredited hospital the prescription verification by the clinical pharmacist is an essential element of the process.



- Executive pharmacy will audit that all the drugs are labeled before coming to pharmacy from receiving bay itself: Most of the time the drugs are not with the label and the pharmacy staff waste much of the time in printing out the labels.
- Bar coding definitely takes more time but is again an essential element. Hence it was decided to have regular maintenance check for the machine so that it does not stuck in middle of the process.
- Verification of the prescriptions should be done as soon as the update comes.
- Most of the time the staff are busy with other works like issue returns, inventory management, report preparations etc. They do not update the system regularly and hence miss any new prescription update of a discharged patient. This needs to be monitored by the pharmacy executive.
- One person is responsible for the discharges in the pharmacy. The pharmacy executive along with the operations manger decided to put one person more to the discharges during the peak hours between 11a.m to 3 p.m...

FINANCE AND BILLING FOR THE DISCHARGE OF THE CASH PATIENTS

The intimation of the patient is updated in the care 21 software by the nurses.

↓

The billing coordinator once checking up with the system begins the process.

↓

The billing coordinator calls up the pharmacy and intimates them as well.

↓

The billing coordinator continuously track the status of summary

↓

The billing coordinator gets the clearance from other departments like blood bank, laboratory, radiology for the finalization of the bill.

↓

With the finalization of the summary and the clearance from other departments the final bill summary is prepared.

↓

The call is given to the patient attendee to clear the bill .In case the attendee is not there the respective room's nursing wing station is contacted.

↓

Attendee walks in the billing department for the payment

↓

Coordinator explains the patient regarding any query

Floor manager counselors

Issues which involve the rounds of the doctor, clinical services , cost of consumables, they send the patient to the floor manager.

↓

Manager Billing

Issues related to discount, bill summary, international patient issues are taken care by the Manager billing

Finance

The issues related to estimation of the bill, the patient is send to the finance counselors who sits in the ground floor.

After resolving the issue the patient is given a **pink slip** for the nursing station and a copy of a bill for the reference of the gate pass.

The past historical data says the high waiting time during the clearance of the bill.

- It was decided to streamline the process.
- Most of the time the billing coordinator informs the nursing station and not the attendee. The nurse on the nurse station is sometimes busy with the n number of works and hence a delay can occur in providing information. Hence it was decided with the customer care manager, billing manager that the call will be given to the patient attendee as well as the nursing station.
- The billing department was not recording the time when they were calling the patient. The delay on the part of the patient was not tracked by them. Hence it was decided to record the time when they are informing the patient.

FLOOR MANAGERS AND THE CUSTOMER CARE SUPERVISORS:

- **Floor manger is the person who is well versed with all the issues on the floor. He/she takes care of all the matters on the floor including all those matters which are responsible for the patient dissatisfaction. Discharge being one of the major reason behind it needs their special attention and follow up.**
- **It was decided that the floor managers along with the floor supervisors will follow up the summary completion , if required themselves speaking to the doctors, pharmacy and finance.**

Table 1: THE DISCHARGE MANAGEMENT FRAMEWORK

Elements	Aim	Targets
Formation of a multidisciplinary team	Periodic review on the discharges of the cash patients	To bring the discharge waiting time for the cash patients to 1 hr.
Draft summary concept	Discharge summary finalization before 12 o'clock	To bring the discharge summary finalization time to 30 mins.
Planned discharges conversion to actual discharges	Streamlining of the discharge process	Increase the conversion rate of planned to actual discharges
Recruitment of the Registrar doctors	To speed up the discharge summary finalization	Appointments of the registrar doctors
Use of shortcom sms facility	To follow up a discharge patient	Immediate corrective action for the delayed discharge .
Pharmacy –discharge updating	To reduce the time for pharmacy clearance	To bring down the pharmacy clearance time to 20 mins
Monitoring of the barcoding process in pharmacy	To reduce the delay in the pharmacy clearance time	To bring down the pharamcy clearance time to 20 mins

Table 2 : THE DISCHARGE MANAGEMENT FRAMEWORK

Elements	Aim	Targets
Monitoring of the prescription verification process in the pharmacy	To reduce the delay in the pharmacy clearance time	To bring down the pharamcy clearance time to 20 mins
The allotment of an extra staff for the discharge medication handling in the pharmacy.	To reduce the delay in the pharmacy clearance time	To bring down the pharmacy clearance time to 20 mins,
Streamlining the billing process	To reduce the delay in bill clearance time	To bring down the bill clearance time to 15 mins.
Bill summary finalization information to patient as well as to the nursing staff	To follow up the patient	To reduce the waiting time of the patient
Recording the timings of informing the patient	To follow up the patient discharge	To capture the delay on the part of the patient
Redifining the roles of Floor Manager	To follow up the discharges of the patients	To decrease the waiting time of the patient during the discharge
Redifining the role of the Floor supervisors	To follow up the discharges of the patients	To decrease the waiting time of the patient during the discharges
Use of technology to update each	Proper communication of information	Immediate response and corrective action

Data Analysis

Figure 1

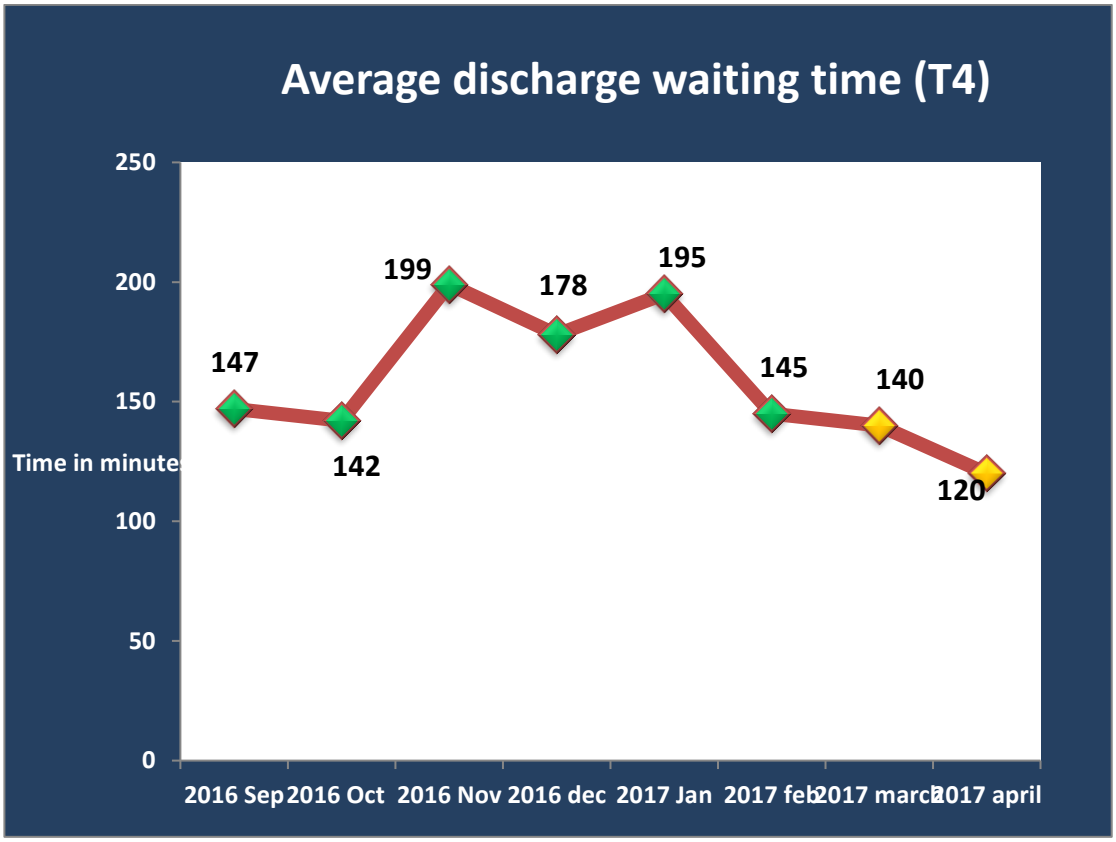


Figure 1:

The figure shows the decreasing trend of the Average discharge waiting time. The average time for the entire discharge process was more in the last months and gradually shows a decrease in the month of April and March.

Figure 2

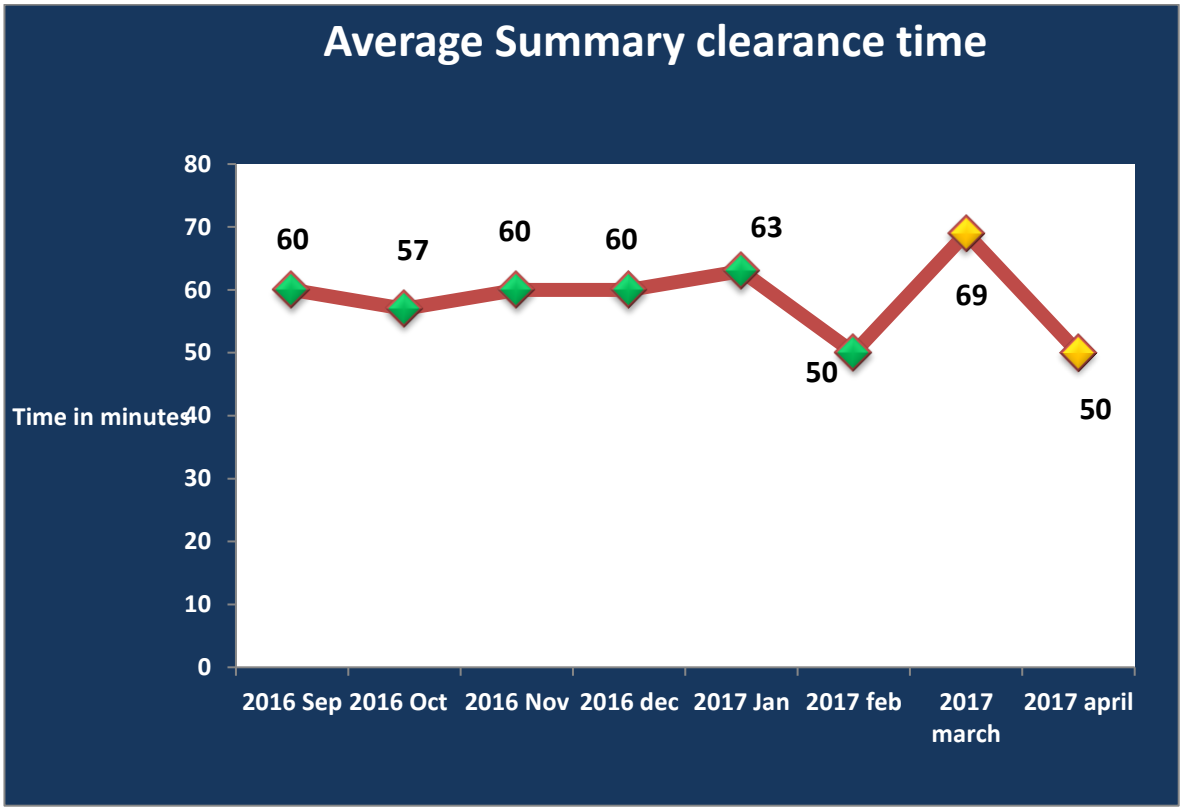


Figure 2:

The figure shows the decreasing trend of the Average discharge summary finalization time. The average time for the entire discharge process was more in the last months and gradually shows a decrease in the month of April and March.

Figure 3

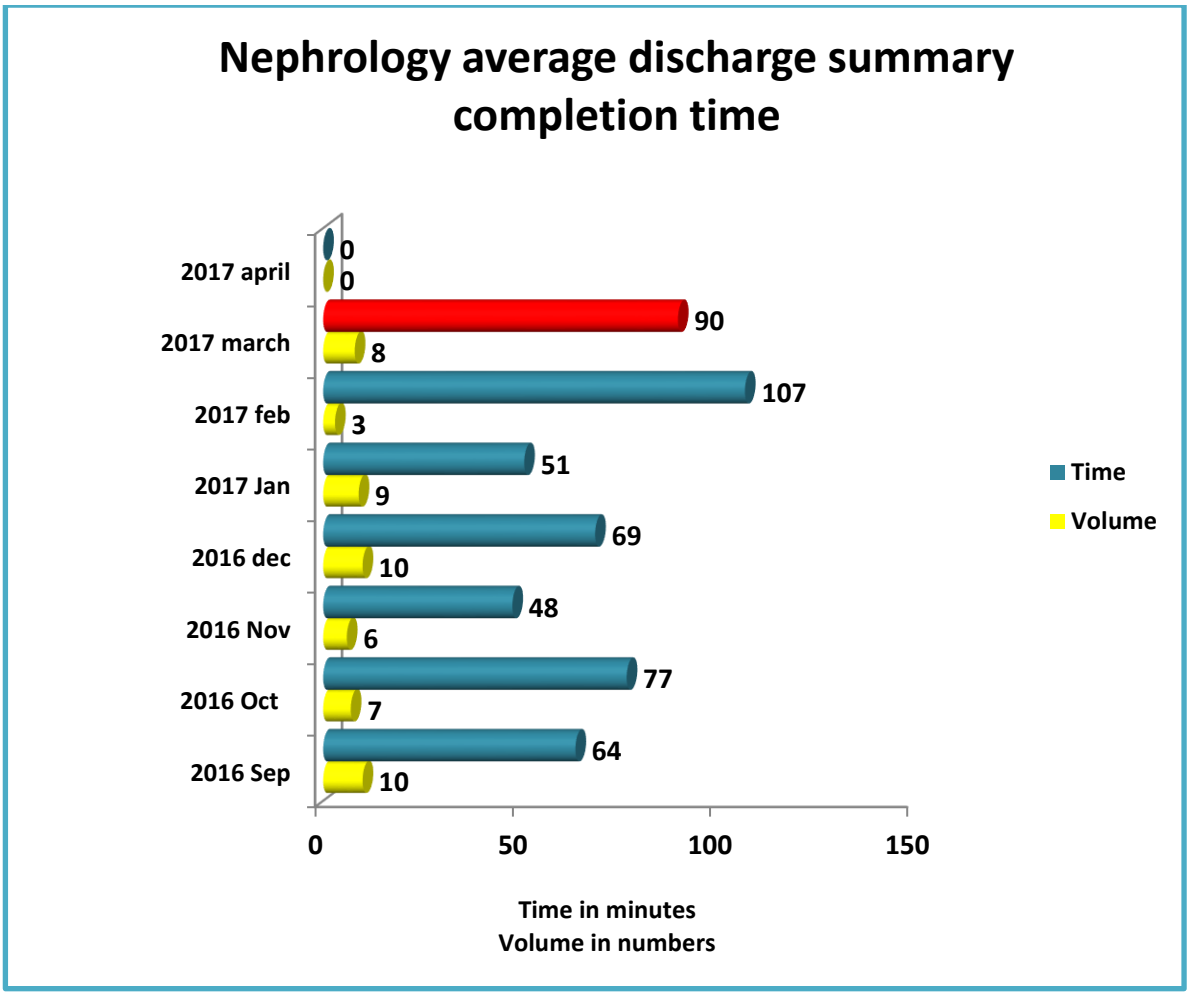


Figure 3:

The figure shows that it took on an average 90 minutes for the completion of the discharge summary in the months of April for the nephrology cash patients whereas 107 minutes during the month of February. It is comparatively high to other months.

Figure 4

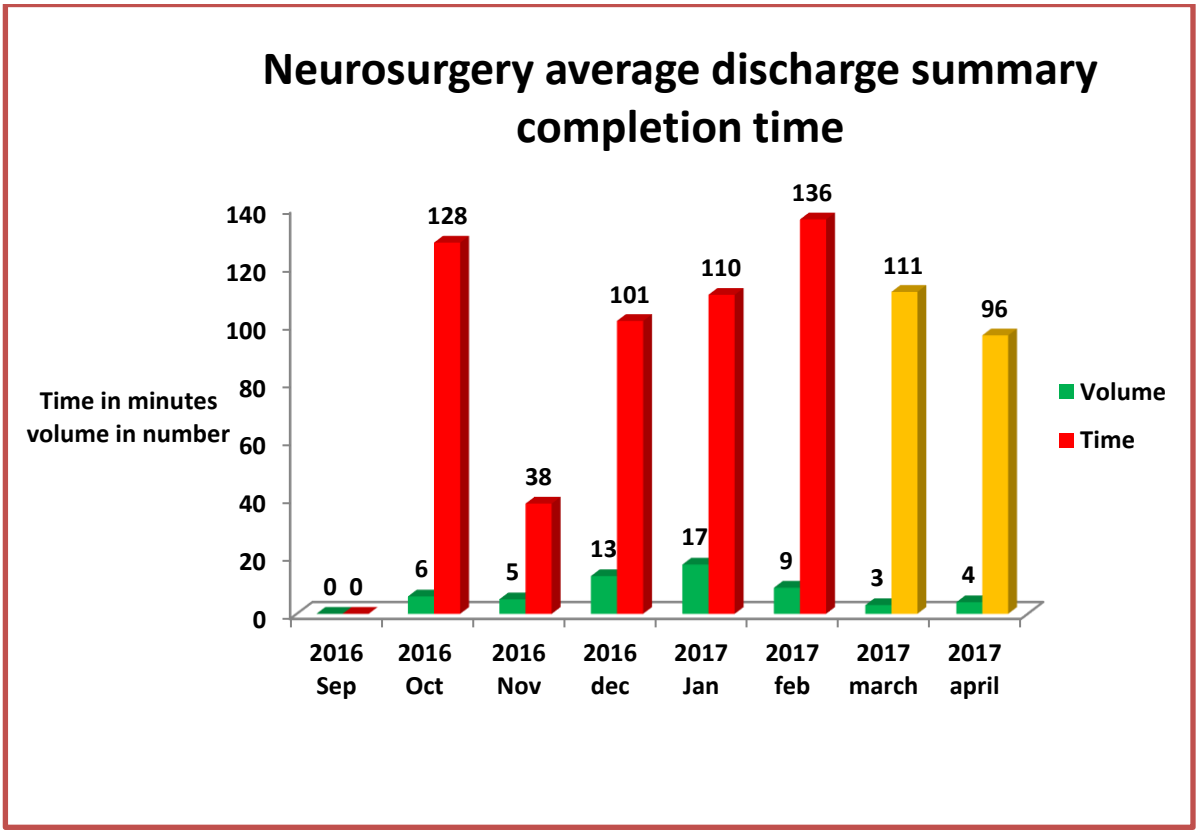


Figure 4

The trend of the summary completion time in neurosurgery is almost similar to the past six months data. There is no marked changes seen in the months of March and April.

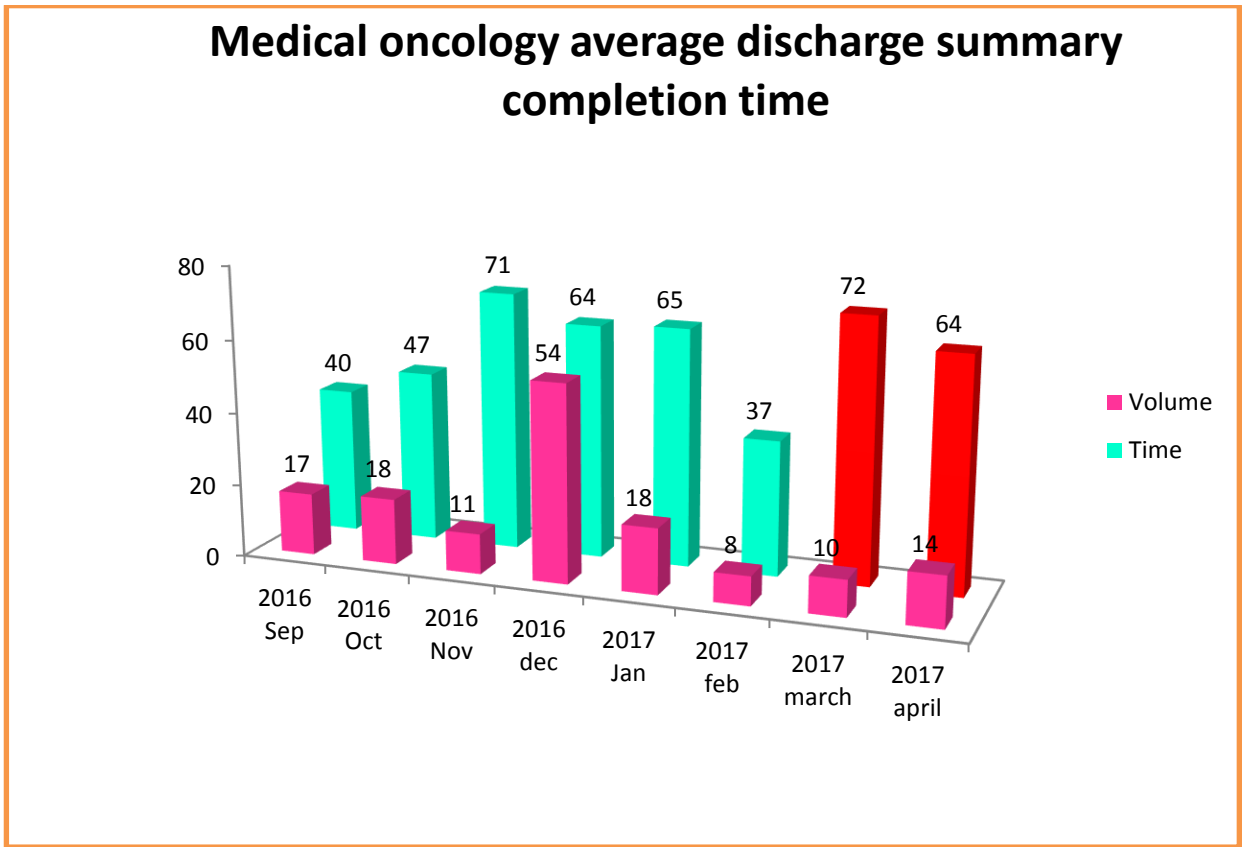


Figure 5

Figure 5

The figure shows the similar trend both before and after the intervention of the discharge management framework in the department of medical oncology. It is again 72 mins and 64mins for the month of March and April respectively.

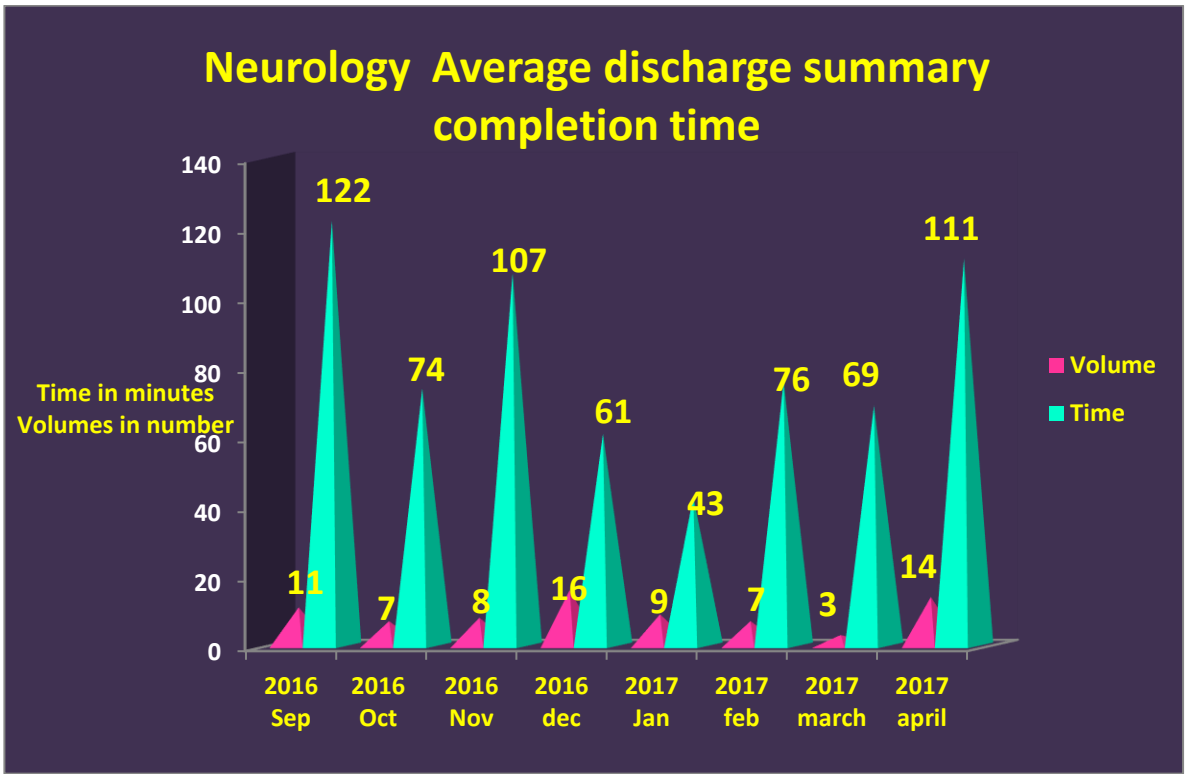


Figure 6

Figure 6:

The trend shows the continuous increase in the discharge summary finalization time . In the months of march and april it is again as high as 69 mins and 111mins respectively. On the other hand the volumes are comparatively less.

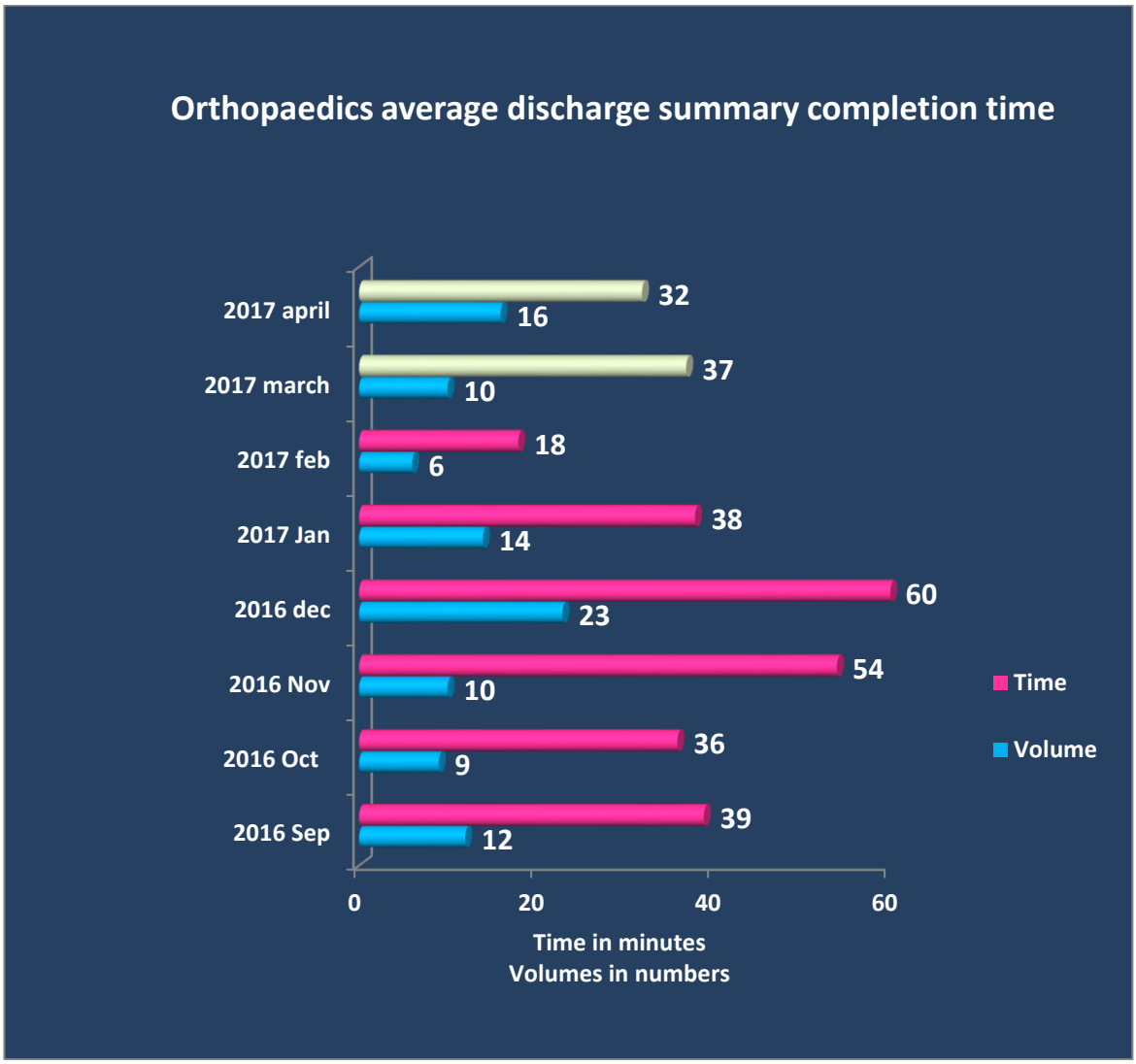


Figure 7

Figure 7

The trend for the orthopedics department is decreasing for the summary finalization time.

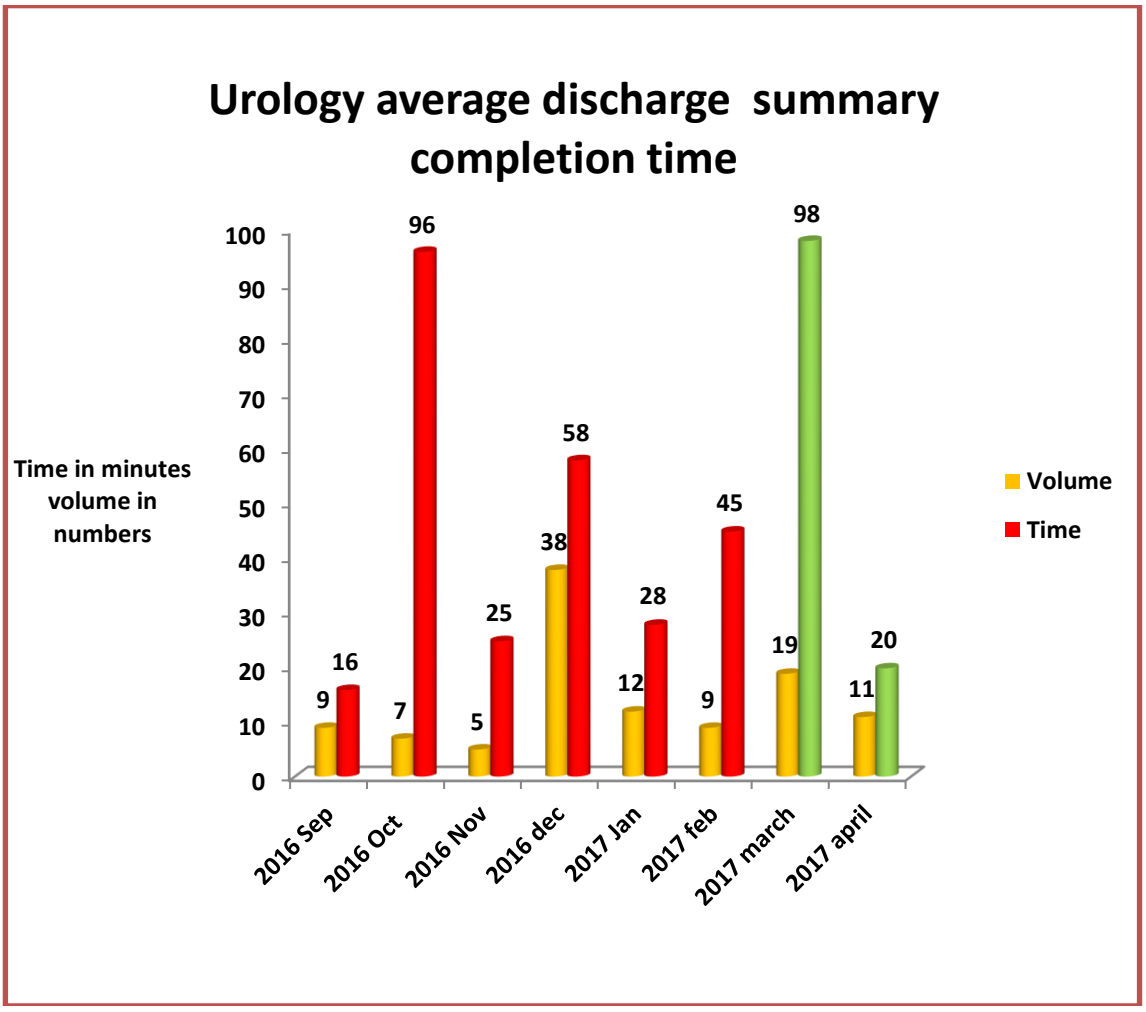


Figure 8

Figure 8:

The figure shows the status of the discharge summary finalization time for the department of the urology. The scores have fallen drastically during the month of April.

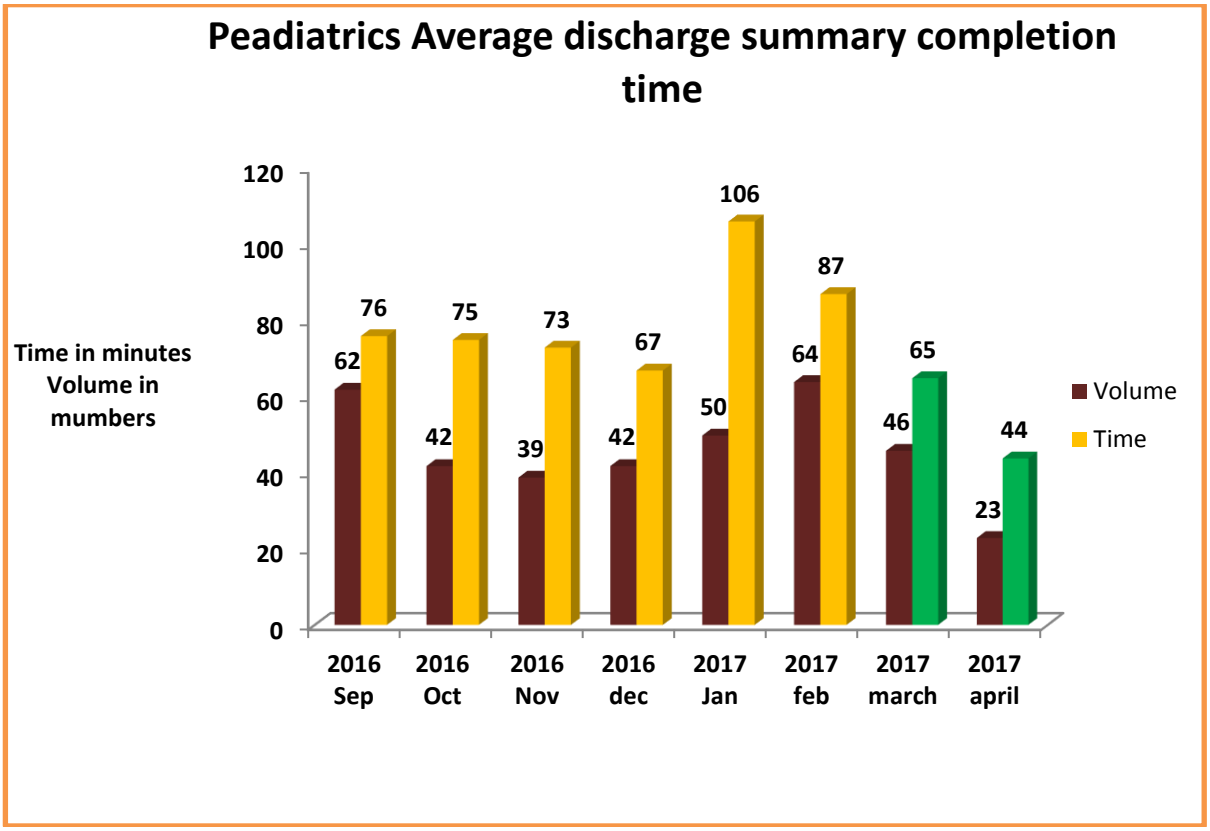


Figure 9

Figure 9:

The discharge summary completion time in the department of pediatrics has come down to 44 minutes in the month of the April.

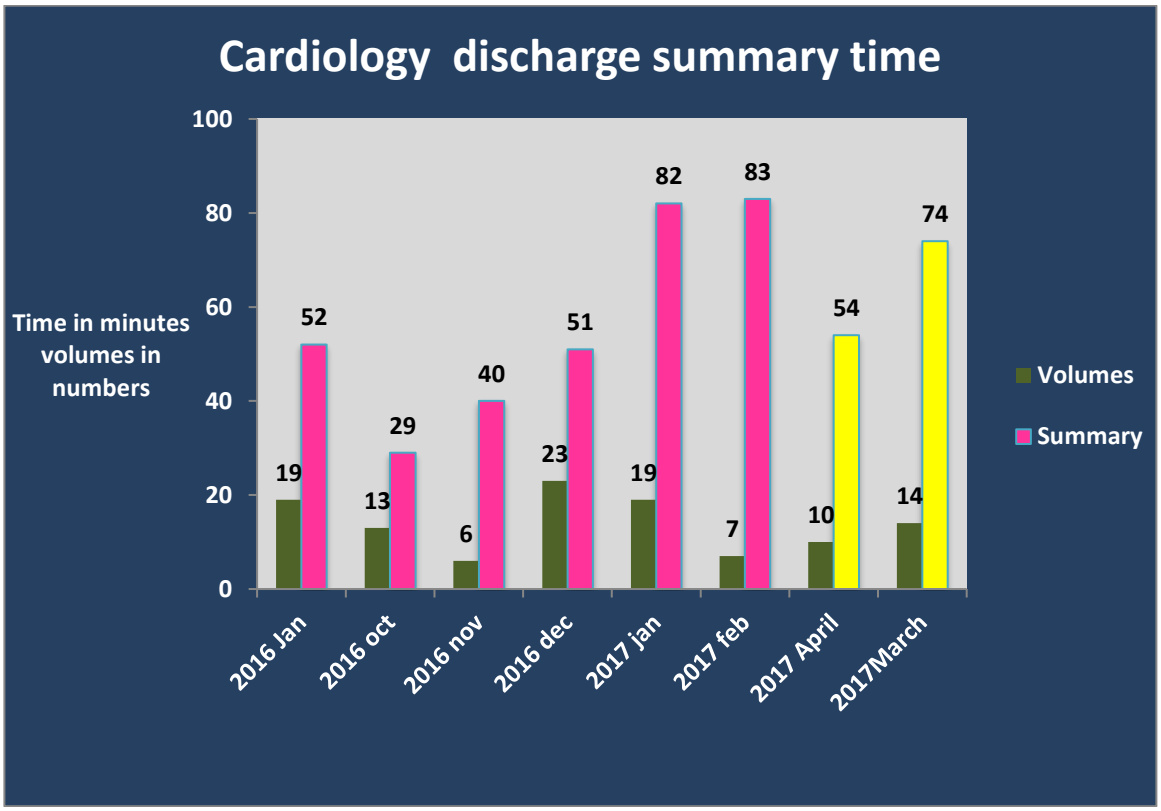


Figure 10

Figure 10

The cardiology department took 54 mins and 74 mins in the month of March and April respectively.

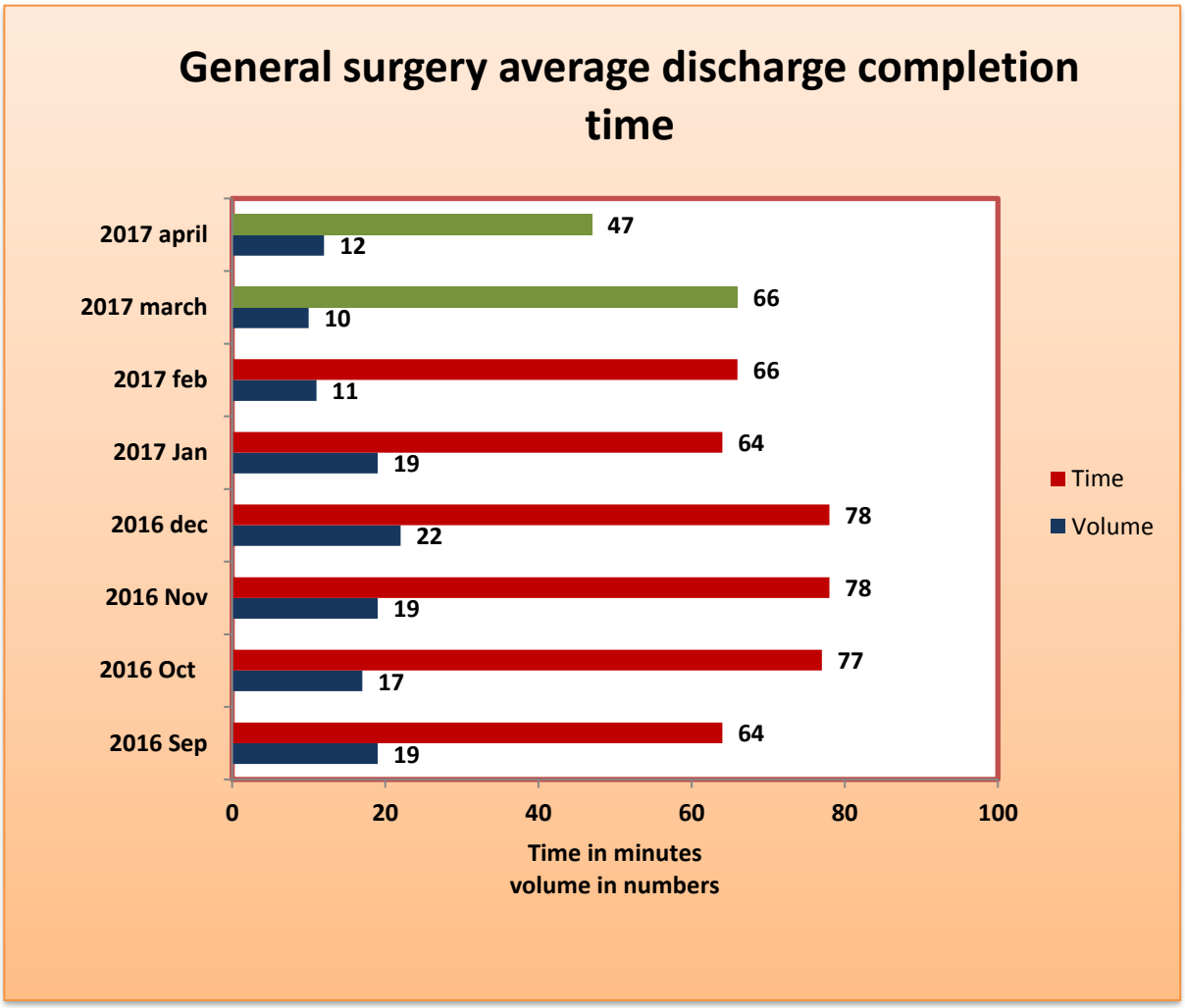


Figure 11

Figure 11

The time taken for the completion of the discharge summary finalization in the department of General Surgery is 66 mins and 47 mins for the month of March and April respectively.

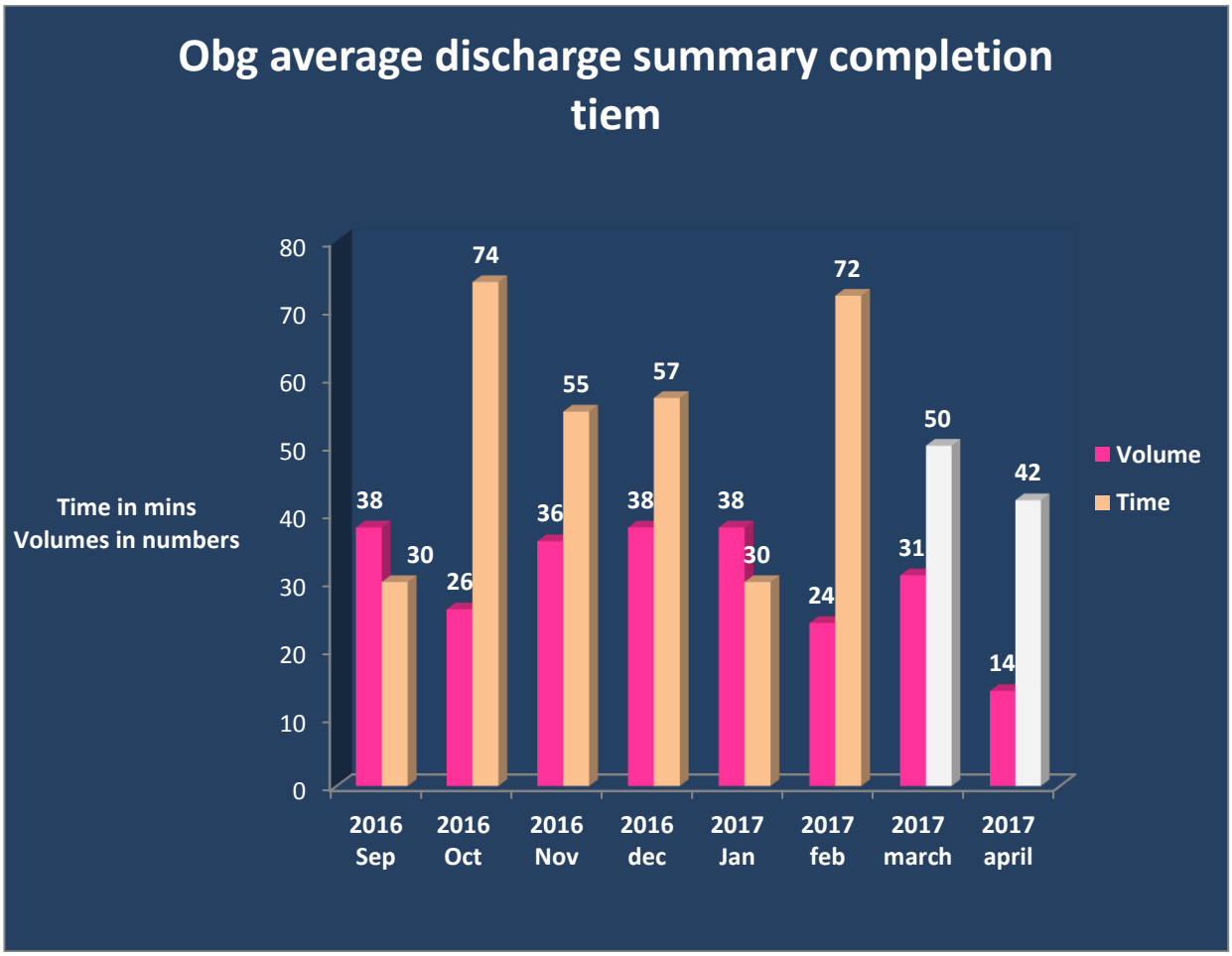


Figure 12

Figure12

The department of OBG has shown a decreasing trend in the summary completion time.

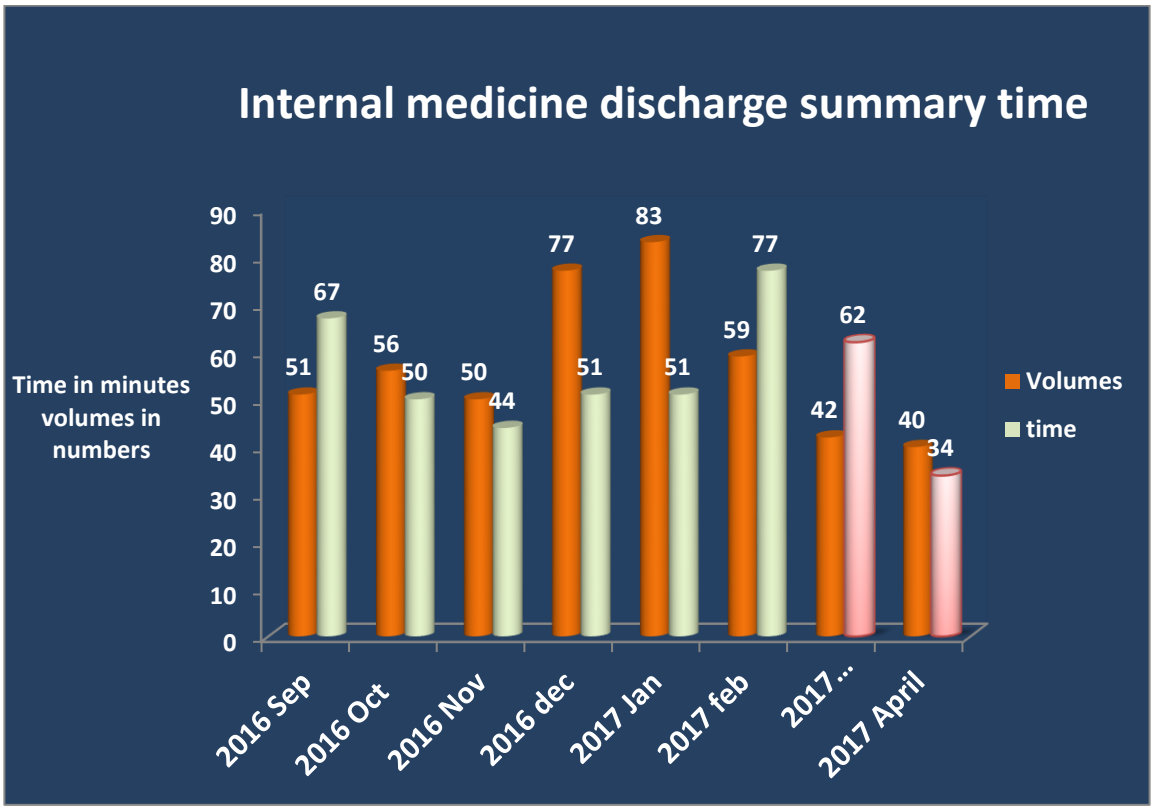


Figure 13

Figure 13

The department of Internal medicine also has shown the decreasing trend in the discharge summary completion time during the months of March and April.

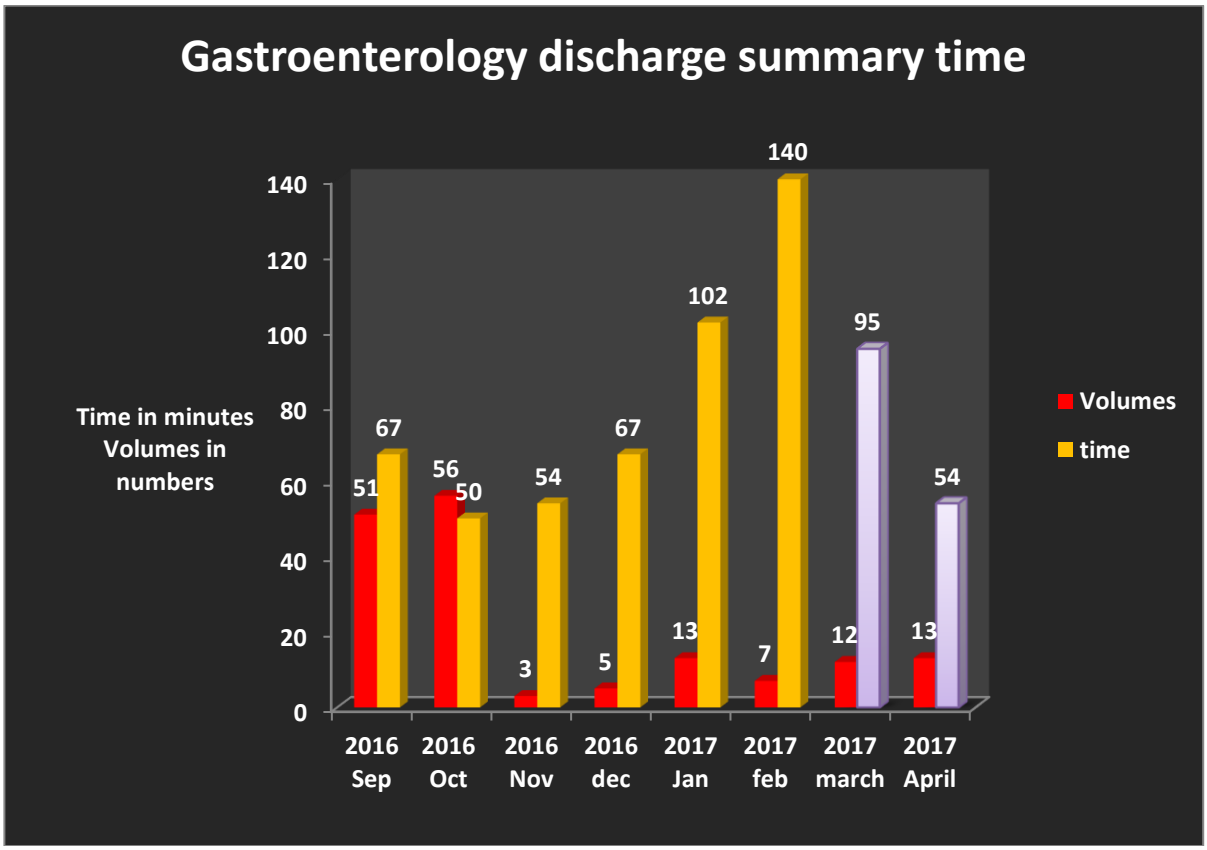


Figure 14

Figure 14

The figure shows the decreasing trend but the time is as high as 140 minutes during the month of February.

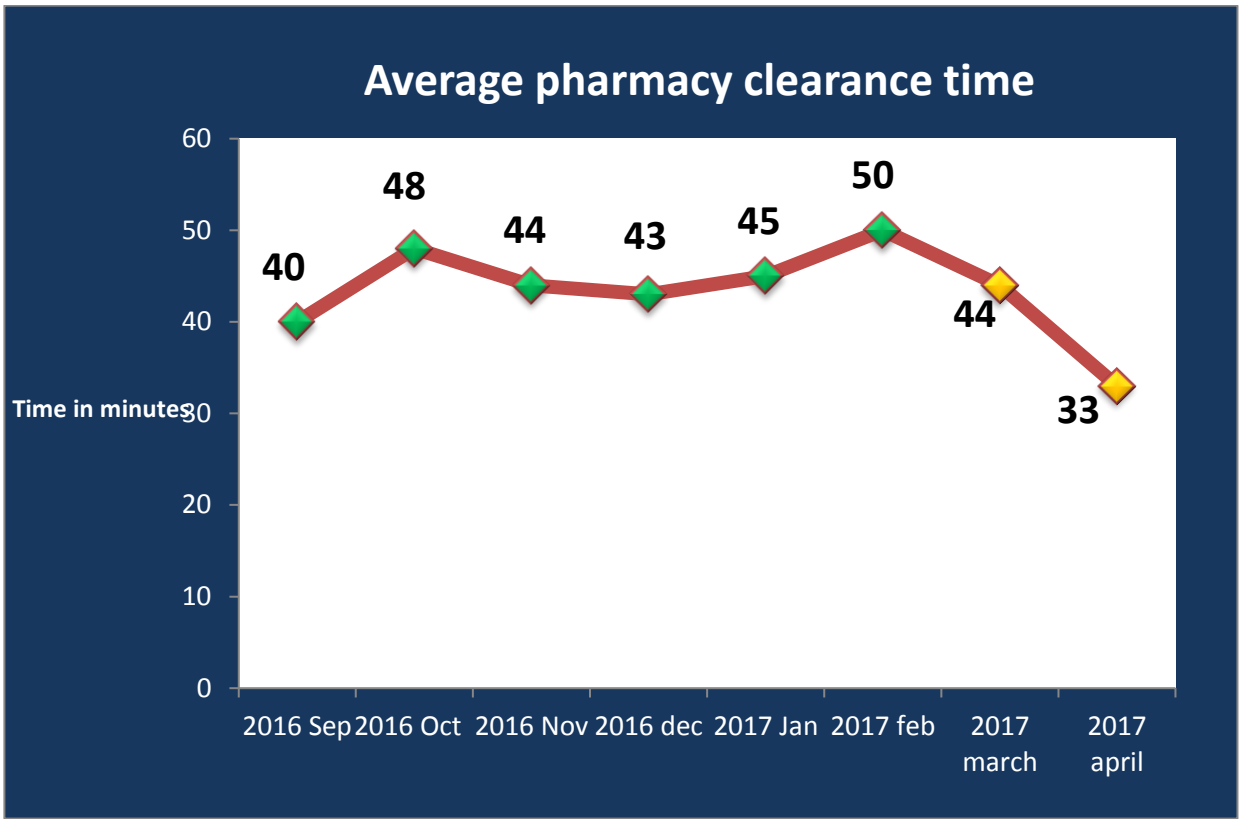


Figure 15

Figure 15

The figure shows decreasing trend in the pharmacy clearance time.It has decreased to 33 mis in the month of April.

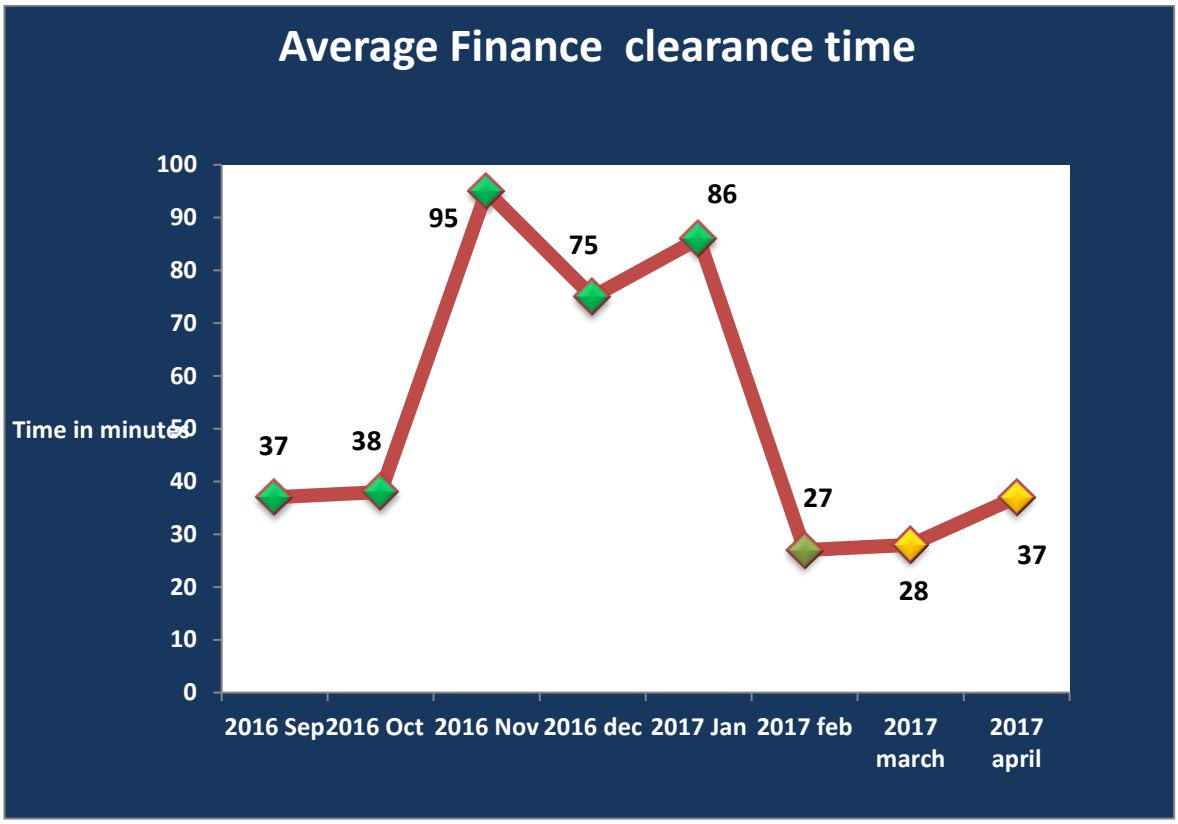


Figure 16

Figure 16

There is a decreasing trend in the financial clearance. The values have dropped down to 28 mins and 37 mins respectively.

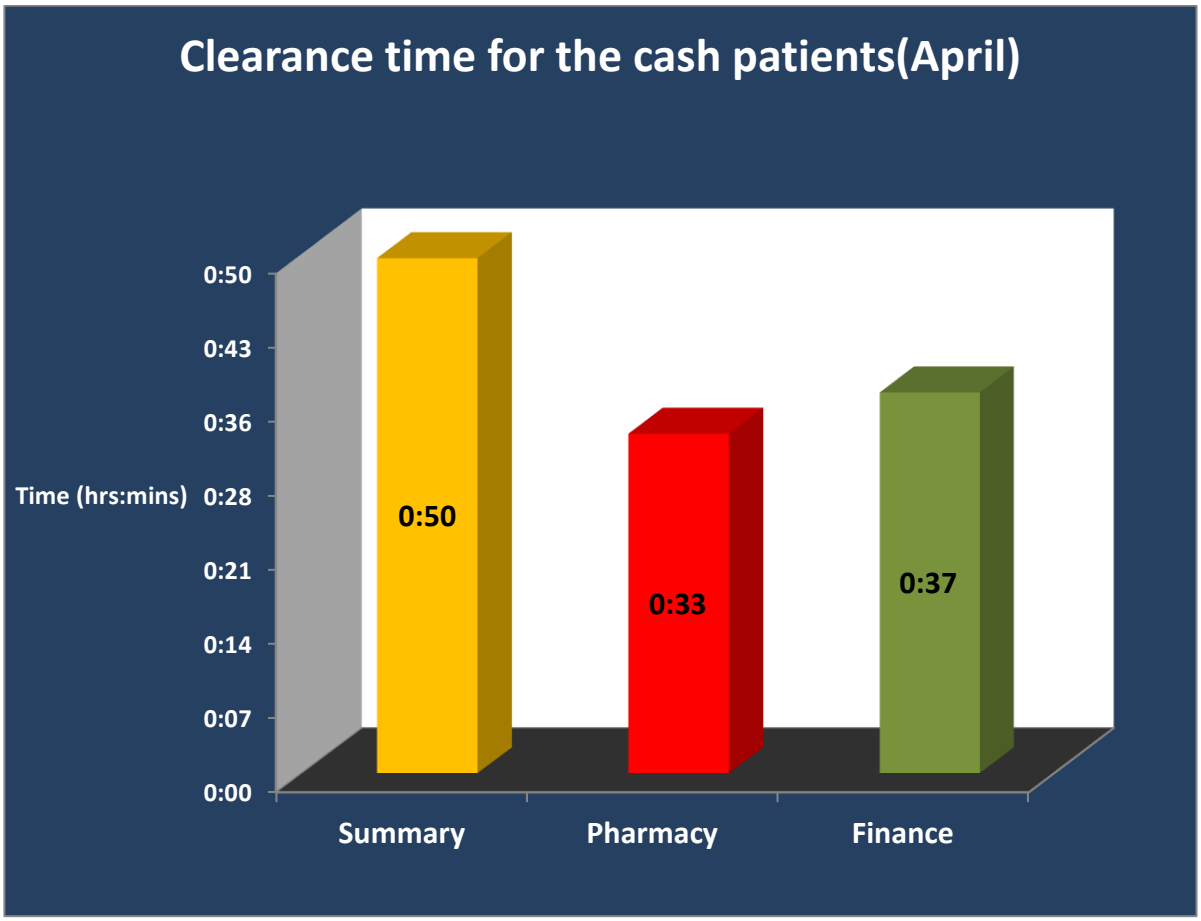


Figure 17

Figure 17:

The figure shows the distribution of time at various parameters in the month of April. The maximum time was taken by the summary finalization followed by finance and pharmacy took the 33minutes which is the least.

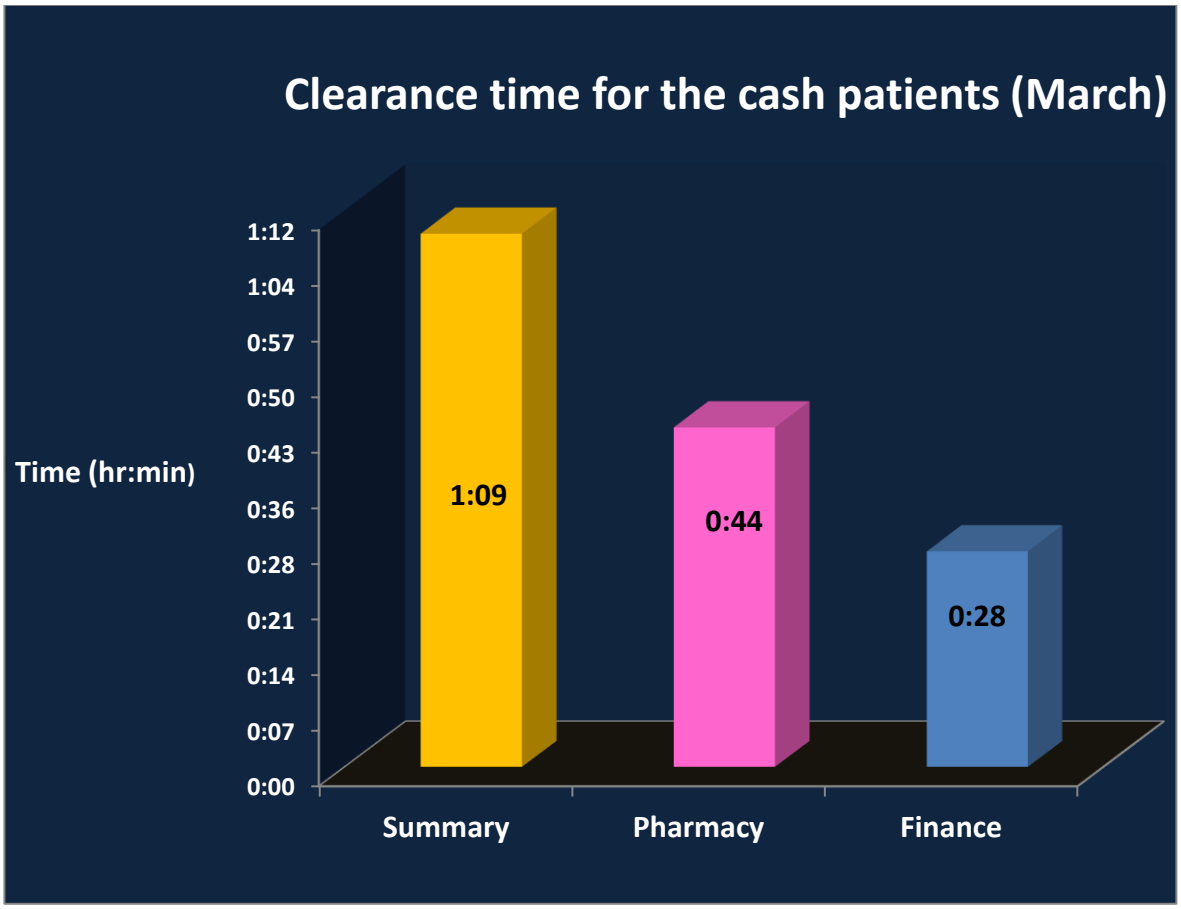


Figure 18

Figure 18

The figure shows the distribution of time at various parameters in the month of March. The maximum time was taken by the summary finalization followed by pharmacy and finance taking the least time that is28 mins

RESULTS: **The study is done in two phases: The pre interventional phase and the post interventional phase. The data is collected with the same discharge format for the comparison of the results of the two phase study:**

➢ THE PREINTERVENTIONAL STUDY

- The average waiting time after the analysis of the six month data was 167 mins . This was 107 mins more than the set target.
- The average time taken for the finalization of the discharge summary was 60 mins.
- The average pharmacy clearance time of the past six months which is from Sep 2016 to Feb 2017 is 45mins.
- The average waiting time for the clearance of the bill for the pre interventional study was 59mins.
- The Average time taken by the Department of Nephrology for the completion of the discharge summary was 69mins.
- The Average time taken by the department of Neurology and neurosurgery for the completion of the discharge summary of patients was 68 mins and 103 mins respectively.
- The average time taken by the Medical oncology department in finalization of the discharge summary was 60 mins.
- The average time taken by the department of orthopedics to complete the summary was 41mins.
- The obg department took average 53 mins to finalize the summary.
- The department of the cardiology took 56 mins for finalizing the summaries.
- The department of internal medicine took on an average57 mins to finalize their summary.
- General surgery took 71mins to finalize the discharge summary.
- The department of Urology took 59mins.
- The department of the gastroenterology took average 80mins to finalize their summaries.
- The department of pediatrics took on an average 80 mins to finalize their summary.

➢ THE POST INTERVENTIONAL STUDY

- The average waiting time taken after the intervention of the Discharge management framework was 130 mins . This was 22% less than the pre interventional Average discharge time.
- The average time taken for the finalization of the discharge summary was 58 mins .
- The average pharmacy clearance time after the intervention is 39 mins.
- The average waiting time for the clearance of the bill for the post interventional study was 33mins. It was 45% less than the time taken in the past few months.
- The Average time taken by the Department of Nephrology for the completion of the discharge summary is 90 mins.
- The Average time taken by the department of Neurology and neurosurgery for the completion of the discharge summary of patients is 103mins and 103 mins respectively.
- The average time taken by the Medical oncology department in finalization of the discharge summary was 68 mins.
- The average time taken by the department of orthopedics to complete the summary was 35 mins.
- The obg department took average 46 mins to finalize the summary.
- The department of the cardiology took 64 mins for finalizing the summaries.
- The department of internal medicine took on an average 48 mins to finalize their summary.
- General surgery took 57 mins to finalize the discharge summary.
- The department of Urology took 45 mins.
- The department of the gastroenterology took average 75 mins to finalize their summaries.
- The department of pediatrics took on an average 55 mins to finalize their summary

TABLE 3: Comparison of the results of pre and post interventional study

Element	Pre-interventional phase	Post-interventional phase	Result
Average discharge waiting time	167 minutes	137 minutes	3o minutes
Average summary finalization time	60 minutes	58minutes	2 minutes
Summary finalization time Internal Medicine	57 minutes	48 minutes	9minutes
Summary finalization time obg	53minutes	46minutes	11minutes
Summary finalization time gastroenterology	80 minutes	75minutes	5minutes
Summary finalization time neurology	81minutes	90minutes	9minutes
Summary finalization time pediatrics	81minutes	55minutes	26minutes
Summary finalization time nephrology	69minutes	90minutes	21minutes

TABLE 3: Comparison of the results of pre and post interventional study

Element	Pre-interventional phase	Post-interventional phase	Result
Average discharge waiting time	167 minutes	137 minutes	3o minutes
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Summary finalization time neurology	81minutes	90minutes	9minutes
Summary finalization time pediatrics	81minutes	55minutes	26minutes
Summary finalization time nephrology	69minutes	90minutes	21minutes

TABLE 4: Comparison of the results of pre and post interventional study

Element	Pre-interventional phase	Post-interventional phase	Result
Average discharge waiting time	167 minutes	137 minutes	3o minutes
Average summary finalization time	60 minutes	58minutes	2 minutes
Summary finalization time Internal Medicine	57 minutes	48 minutes	9minutes
Summary finalization time obg	53minutes	46minutes	11minutes
Summary finalization time gastroenterology	80 minutes	75minutes	5minutes
Summary finalization time neurology	81minutes	90minutes	9minutes
Summary finalization time pediatrics	81minutes	55minutes	26minutes
Summary finalization time nephrology	69minutes	90minutes	21minutes

Table 5: Comparison of the results of pre and the post interventional study.

Element	Pre-interventional phase	Post-interventional phase	Result
Discharge summary time orthopedics	41minutes	35minutes	6 minutes
Discharge summary finalization neurosurgery	103 minutes	103 minutes	-
Discharge summary finalization general surgery	71minutes	57minutes	16minutes
Discharge summary finalization urology	59minutes	45minutes	14 minutes
Summary finalization cardiology	**56 minutes**	**64mins**	**8minutes**
Discharge summary finalization Nephrology	69 minutes	45 minutes	24 minutes
Discharge summary finalization time Medical oncology	60 minutes	68 minutes	8 minutes
Average pharmacy clearance time	45minutes	39minutes	6minutes
Average finance clearance time	59minutes	33minutes	26minutes

TABLE 6: Comparison of the results of pre and post interventional study

Element	Pre-interventional phase	Post-interventional phase	Result
Average discharge waiting time	167 minutes	137 minutes	3o minutes
Average summary finalization time	60 minutes	58minutes	2 minutes
Summary finalization time Internal Medicine	57 minutes	48 minutes	9minutes
Summary finalization time obg	53minutes	46minutes	11minutes
Summary finalization time gastroenterology	80 minutes	75minutes	5minutes
Summary finalization time neurology	81minutes	90minutes	9minutes
Summary finalization time pediatrics	81minutes	55minutes	26minutes
Summary finalization time nephrology	69minutes	90minutes	21minutes

DISCUSSION:

The discharge process in any hospital like Columbia Asia is highly challenging process. The efficiency of this process decides the quality service of the organization. The patient satisfaction is directly proportional to the waiting time during the discharge. The entire study focused on the discharges of the cash patients admitted in2nd and third floor wards. After the analysis of the data collected from both the pre-implementation and post-implementation phase of the study it is seen that there were changes seen in the process. There were not many major changes but certain areas definitely have shown a decreasing trend.

The overall discharge waiting time has shown a reduction of 30mins which anyhow effects the operation activity .The average discharge time T4 is actually dependent on its other three elements T1, T2 and T3. The joint contribution of these three elements can reduce T4to a great extent. Presently it is not seen in the data in comparison to the previous months.

The focus area of the discharge management framework was on the discharge summary completion. Certain specialities like General surgery, pediatrics and Urology have shown good reduction in the summary finalization time. In pediatrics the reduction is more than 25 mins which is in itself a good number. The department has actually shown improvements in this area. The appointment of the registrar doctor in the department is a factor associated with it.

Urology is another department which has shown minor reduction in the waiting time. One of the registrar doctors is appointed in this department for the summary finalization. The change has an association with this factor also. Initially there was no registrar in the department for the finalization of the summary.

The continuous follow up of the supervisors and the floor manager is again an another important reason for the reduction of summary finalization time in some of the departments. General surgery is again a good example . The workload in this department is comparatively high.

On the other side there are certain departments which have not shown any change infact some of them have come up with increased numbers. Neurology, Neurosurgery, Medical oncology , cardiology have shown no improvement in the discharge summary finalization timings. The department of the Nephrology has shown increase trend compare to the previous years data. The department of Gastroenterology is still with the same high scores of more than 1 hr.

There are also departments like obg and orthopedics which have constantly maintained low scores comparing both pre and post intervention data inspite of their high volumes of cases.

The pharmacy clearance time on the other hand is continuously showing the decreasing trend both before and after the intervention.The average time though is 45 minutes which must come down to 15 to20 minutes maximum.. In the past six months it was maximum during the monthof February which is around 50 minutes.The pharmacy clearance time then came down to 44minutes in March and 33minutes in the month of April.

The finance clearance has drastically dropped by streamlining the process. The billing department now keeps the note of the time when they actually inform the patient. They provide information to both the patient attendant as well as the nursing station of thee ward. They make a note and record the time of providing information so that in case of any delay they are answerable. Most of the time there was delay on the part of the patient for which they have no record to show it as a patient delay. The new process is hence highly effective in this area.

Hence it is seen that there are many areas where there is a need to rethink upon. The conversion of the planned discharges into the actual discharges is still the same as it was previously. This suggests that doctors are not working on it as seriously as required from the operations point of view.

The completion of the draft summary a day before has actually started and the doctors are actually doing it. There is a need to locate those departments who are not following the concept of draft summary. The futuristic approach of this project will be targeting those specialties where the scores are constantly high and there are no changes seen meanwhile. The CMS is the person who has a major role to play in this area. He is the one who can

speak to the doctors and make assure that each and every doctor whether old or new in the hospital prepare the draft summary a day before. This process should finally become the culture of the organization.

The comparison of the two phases of study has shown that there is a lack in the monitoring of the the discharge management plan from the side of the management. There is a need to monitor the implementation of the Discharge Management Framework periodically on the weekly basis by the multidisciplinary team.The discharge status of cash patients with a daily analysis and issues related to the discharges should be discussed daily in the morning meeting with the general manager and all the HODs of the respective departments.

Pharmacy time should come down to 20 minutes and the areas like verification of medicines, the dispensing of the drugs, the bar-coding mechanism monitoring should be done regularly by the pharmacy executive to keep an eye on the problem area at the department level.There should be a mapping and requirements on the side of each and every speciality for the registrar Doctor along with the help of the Human resource staff.

The futuristic targets are to bring the summary timing as low as 25 to 30 mins. The target for the pharmacy clearance is not more than 20 mins . The time taken by the finance department should come down to 10 to 15 mins. The overall average timing for the completion of the discharge process should be within an hour.

Table 6

S.NO	Action points	Responsibility
1	The weekly review of the discharge management framework	multidisciplinary team
2	Daily review of the discharge issue and action plans in the morning meetings	Multidisciplinary team with the general manager
3	**Monitoring of the implementation of the draft discharge summary .**	CMS and the floor manager
4	**Conversion of the planned discharges into the actual discharges**	CMS with the customer care department
5	Recruitment of the registrars	HR with the help of the concerned department
6	Formation of the checklists for each and every essential activity during the entire discharge process	Customer care department
7	Monitoring of the drug verification process in pharmacy including the TAT	Pharmacy executive
8	Monitoring of the bar-coding process in the pharmacy including the TAT	Pharmacy executive
9	Monitoring the utilization of the Pneumatic Shute in the dispensing.	Pharmacy executive
10	**To focus on the Insurance patients discharge waiting time**	I/B department
11	**To prepare checklist for the patients coming to the billing department .**	I/B department

LIMITATIONS

The limitation of the study is that the time period of the study was short for the implementation results. The limitations of the study are related to the pre, post intervention observational design that limits ability to control for all possible confounders. Acuities of patients and staffing levels of the different stakeholders are possible confounders that we did not account for. Our outcomes were captured from an administrative database that is prone to error. In addition, we did not complete a cost analysis or look at patient satisfaction. The Pre-interventional study is done on the basis of the data collected from the HMIS of the hospital and is prone to error.

CONCLUSION

The discharge process in the Columbia Asia Hospital Yeshwanthpur is facing challenges regarding the long waiting hours for the patients. The long waiting time is not only associated with the Insurance patients but also with the cash patients equally. The study was done to understand the problems in the discharge of the cash patients in the hospital. The Discharge management framework was implemented to streamline the process and to bring changes in the discharge process by reducing the waiting time. The pre and the post interventional study results have definitely shown changes but the major process redefining changes are still lacking. This suggests that there are many other angles of the process to focus upon. This is again one of the important quality parameter which influences the services of the hospital. The discharge management framework can bring useful results to the organization but the uniformity of the approach and its implementation is lacking in various departments. The proper control and monitoring by regular follow ups with the doctors, nurses, pharmacists, and customer care is the need of the hour. Results have shown that in some of the department the timings have gone down on the contrary there are departments doing worst. The overall success of the project depends upon the futuristic results showing decreasing results in all the specialties and departments by the strict implementation and follow ups of the Discharge Management Framework.

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ANNEXURE A: THE DISCHARGE TRACKING FORMAT

MRN	Pt Name	Room Num	Admitting Doc	Speciality	Payment Mode	Discharge intimated time	Discharge summary finalised time	Time taken for discharge summary	Pharmacy clearance time	Time taken for pharmacy clearance	Bill clearance time