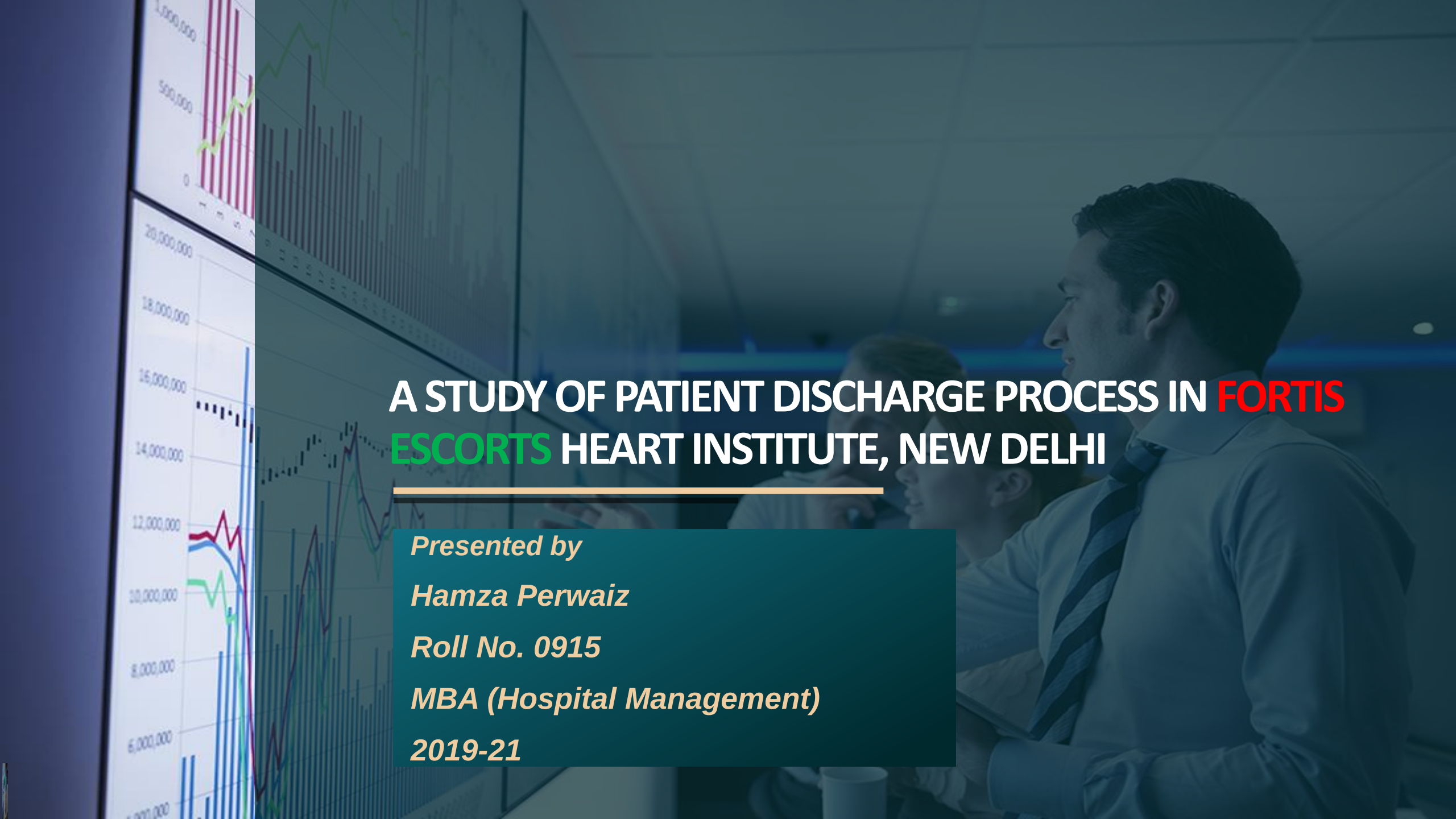

A STUDY OF PATIENT DISCHARGE PROCESS IN FORTIS ESCORTS HEART INSTITUTE, NEW DELHI

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DISSERTATION

- INTRODUCTION
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- CONCLUSION

INTRODUCTION

BACKGROUND OF THE STUDY

- Hospital discharge process is one of the most important factor which contributes towards the good patient experience.
- All the patients wants to leave the hospital as soon as possible once the doctor has allowed it

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.

IMPORTANCE OF EFFECTIVE DISCHARGE PROCESS

- An effective discharge planning is very important for streamlining the process and saving cost for both the hospital and the patient.
- keeps the hospital business going by admitting new and more needy patients.
- shows compliance towards NABH standards which provides a competitive edge to the hospital in the external environment

“appropriate discharge processes enable the list of available beds for admission to be kept current and accurate, and in addition, the managers can obtain useful data by accurate registration of patients in the admission book and calculating there from the admission and discharge dates for each patient”

OBJECTIVE OF THE STUDY

To identify root causes for deviation in turnaround time of discharges.

To assess alignment of the discharge turnaround time in Fortis Escorts hospital to Hospital's Operating Policy.

To provide suggestions for improving the discharge process.

RESEARCH QUESTION

The study aims to address the following research questions:

1. In how many months of the year 2020-21, the discharges turnaround time are in compliance with the per hospital's operating policy?
2. What has been trend of turnaround time in the last 1 year?
3. What were the major causes which contributed towards the deviation in discharged time?
4. How can we improve the patient discharge system at FEHI, Okhla, New Delhi.

LITERATURE REVIEW

‘The Discharge Process-From a Patient’s Perspective’

by Maura Krook, Marie Iwarzon and Elina Siouta in the year 2020

Another research titled as ‘Improving Early Discharges with an Electronic Health Record Discharge Optimization Tool’ led by Michael F Perry et.al in May 2020 focused on implementing a tool known as Discharge Optimization tool (DOT) to discharge at least 25% of the patients from th ehospital before noon, which they called as Discharge Before Noon (DBN). This study was conducted in a paediatric hospital. The concerned team in the hospital created a Discharge Optimization tool and embedded it cantrally in the care team standard worklflow to communicate anticipated time until discharge. Percentage of patients discharge before noon was the primaty outcome of the study while provider utlization of the DOT, tool accuracy and the patient LOS was the secondary outcome of the study.

‘Improving Early Discharges with an Electronic Health Record Discharge Optimization Tool’

by Michael F Perry et.al in May 2020

One of the research titled as ‘The Discharge Process-From a Patient’s Perspective’ authored by Maura Krook, Marie Iwarzon and Elina Siouta in the year 2020 focused on describing the patient’s experience of their discharge process (9). In one University Swedish Hospital, a descriptive study was conducted by interviewing 15 interviews. Following interviews, a qualitative content analysis was done through the help of collected data. This study concluded that information, confidence, communication, participation and accessibility are the factors which are very much important in future development of the discharge process. This study also found that there should be a collaborative approach from nurses, doctors and administration for the proper intimation of discharge process. A more patient centric and individualized approach to a discharge process would ensure proper patient governance.

‘Barriers to Early Hospital Discharge: A Cross-Sectional Study at Five Academic Hospitals’

By Jeff Zoucha et.al, 2018

Another research titled as ‘Barriers to Early Hospital Discharge: A Cross-Sectional Study at Five Academic Hospitals’ led by Jeff Zoucha et.al. aimed to identify and determine the frequency of barriers contributing to delays in placing discharge orders. This was a prospective, cross-sectional study (11). At 8 AM, 12 PM and 3 PM, doctors and physicians were surveyed and those patients were identified whose definite or possible discharges were there. They were also asked to identify specific barriers to writing discharge orders. The primary outcome of the study was specific barriers to discharge orders while discharge order time for high versus low team census, teaching versus nonteaching services, and rounding style were the secondary outcomes. Caring for other patients on the team or waiting to staff patients with attendings was the most common barrier for definite discharges awaiting patient improvement and ancillary services to complete care were the most common barriers for possible discharges.

‘Re-engineering of Discharge Process’

by Michael F Perry et.al in May 2020

- Another research led by Martinez Ramos, Emilio Flores and Uris Sellas was performed in 2015. This study focused on proving that the hospital discharge process improves the exit time of the patient through re-engineering and proper planning of the process (12). A working group was formed, retrospective data were analyzed and improvement areas were identified to re-engineer the discharge process. Time of patient when he/she got discharged was the dependant variable of the study. The study was divided into 3 parts which were, pre-intervention, inter-intervention, and post-intervention. After identifying the improvement areas the mean discharge release time decreased by fifty minutes between pre-intervention and post-intervention periods. The difference between planned discharge and unplanned discharge was that the discharge release time was 25 minutes lower in planned discharge as compared to unplannned discharge.

‘Nurses Knowledge, Perception and Practice Toward Discharge Planning In Acute Care Settings: A Systematic Review’

by Audayi Hayajneh et.al

This study aims to find and measure nurses' knowledge, perception, and practices towards discharge planning. It was a systematic review following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (13). Obstacles included low-level knowledge of patients' activities and discharge; inability to define Discharge Process; debates over the timing of beginning, implementing, and preparing discharge; patients and their family members' negative attitudes toward Discharge Process; and perceiving Discharge Process as excessive, time-consuming paperwork for which the physician is responsible. It was found that the improvement in discharge process in acute care settings can be achieved by better time management.

‘Reducing and optimizing the cycle time of patients discharge process in a hospital using six sigma DMAIC approach’

by S. Arun Vijay

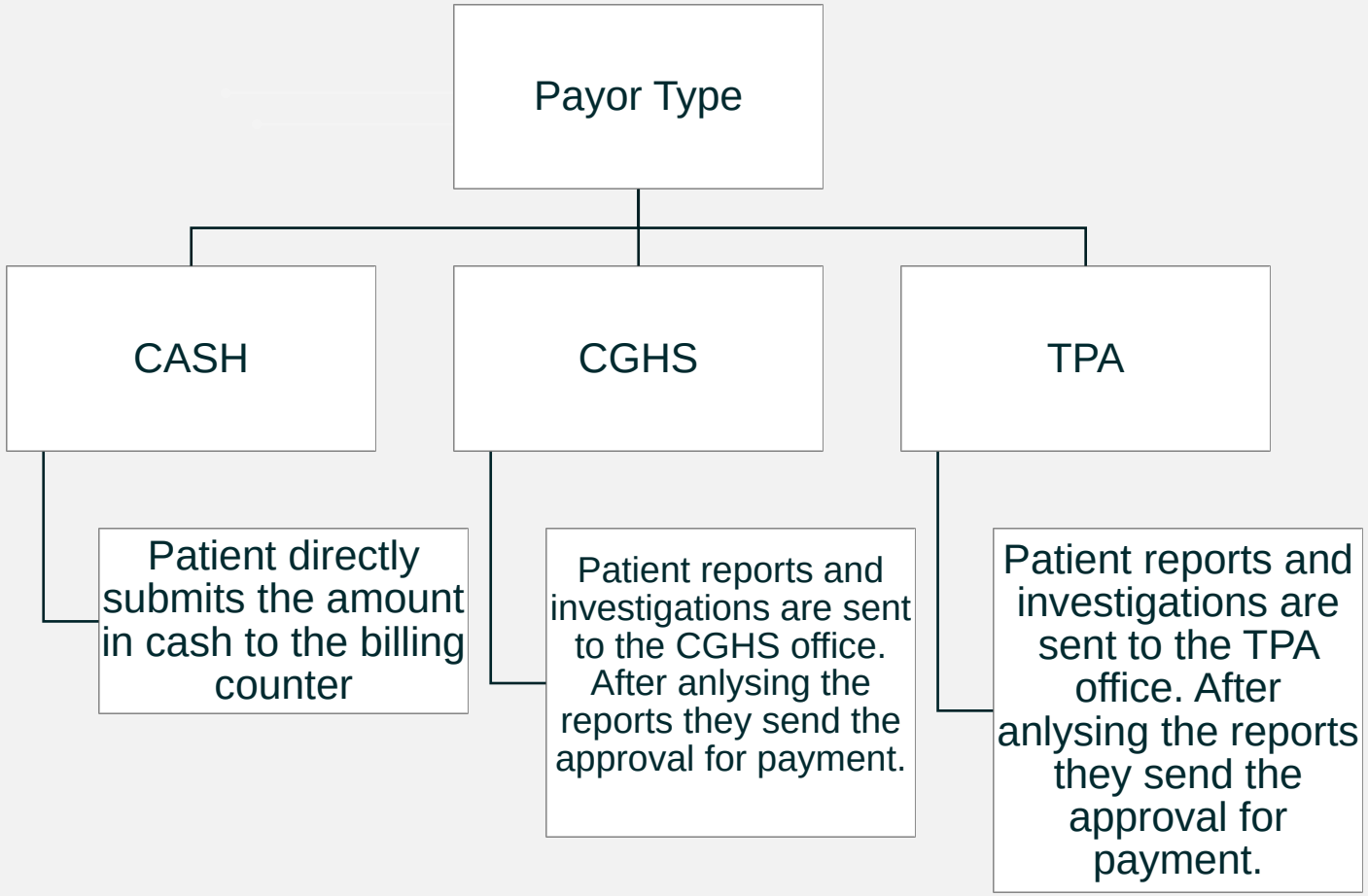
Another research has been done in this domain titled as ‘Reducing and optimizing the cycle time of patients discharge process in a hospital using six sigma DMAIC approach, led by S. Arun Vijay. Using the DMAIC model of six sigma, this study aims to improve the cycle time of the discharge process of the patients in a hospital present in India. (14). Through the use of different quality tools the study was conducted in the 5 phases of six sigma DMAIC model. The findings of this study suggested numerous improvement strategies for the reduction of cycle time of the process. After implementing the improvement strategies, the cycle time of the process was reduced by 61%. In order to provide control measures, a control plan check sheet was developed.

CONCEPTUAL FRAMEWORK

A hospital admits three types of patients in terms of mode of payment :-

- Cash Patients – Patients who pay out of pocket for the in patient services availed through cash.
- CGHS Patients – CGHS stands for Central Government Health Scheme. These are the patients availing inpatient services in the hospital for which the payment is done by the central government as per the norms of Central Government Health Scheme.
- TPA Patients - TPA stands for Third Party Administrator. These are the patients availing inpatient services in the hospital whose payment is managed by a thirtd party insurer.

CONCEPTUAL FRAMEWORK



METHODOLOGY

Study Design *- This study utilizes a descriptive cross-sectional research design. This is the particular study design because the study is conducted for a short period of time which means it's basically a snapshot of the entire process.*

Sampling Technique *– The sampling technique which will be used in this study is convenience sampling since the sample will be drawn from the part of a population.*

Sample Size *– The sample size is 1878 patients after following the inclusion and exclusion criteria. The sample was drawn from HIS.*

Inclusion Criteria *– Cash patients both covid and non-covid admitted in Fortis Escorts Hospital, Okhla.*

Exclusion Criteria *– TPA patients, CGHS patients, Corporate patients have been excluded from the study.*

Data Collection Method *– The data collection method used is secondary method as the data related to discharge turnaround time will be extracted form Hospital MIS (OneFortis).*

Data Collection Plan *– This is a descriptive study and the data will be collected for a period of past 1 years from June, 2020 to June, 2021 for all kinds of discharges whether TPA or cash patients.*

Data Collection Tool *- Data will be collected through Hospital MIS (OneFortis) for the past 3 years. Apart from that, past records and documents present related to discharges will also help the study to proceed.*

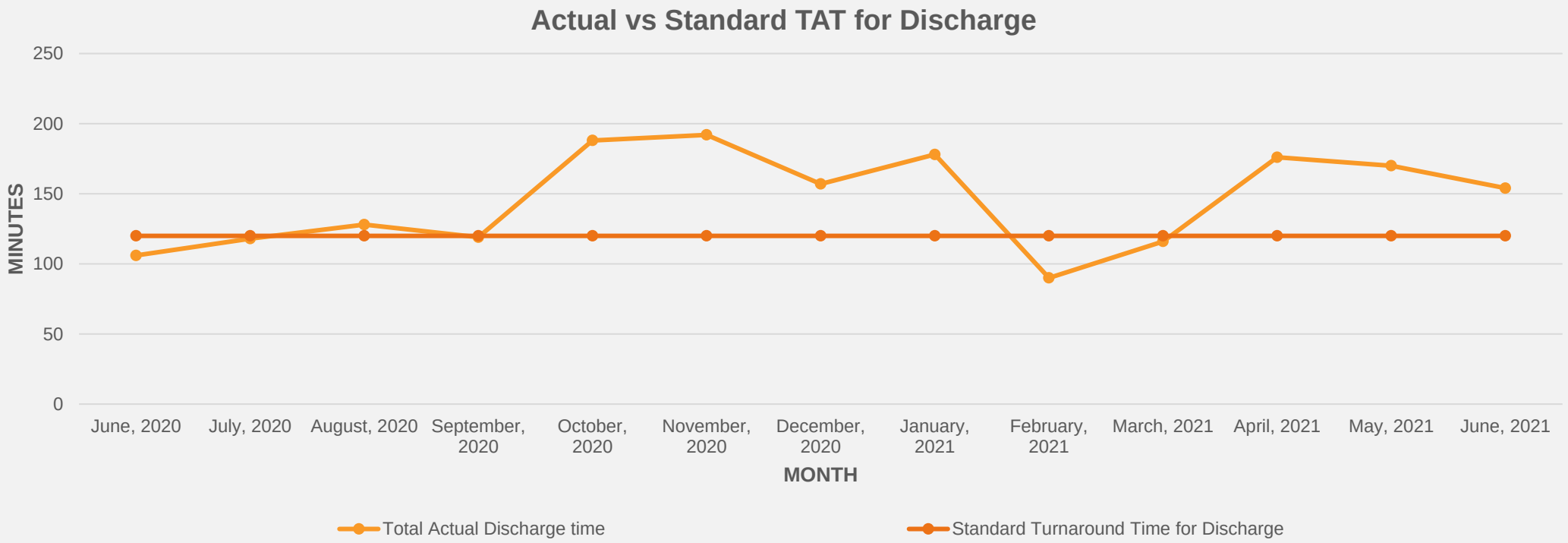
FINDINGS

The following data were obtained through HIS (OneFortis) from June 2020 to June 2021. There are 5 classifiations of data which were obtained through the HIS. These classifications are as follows :-

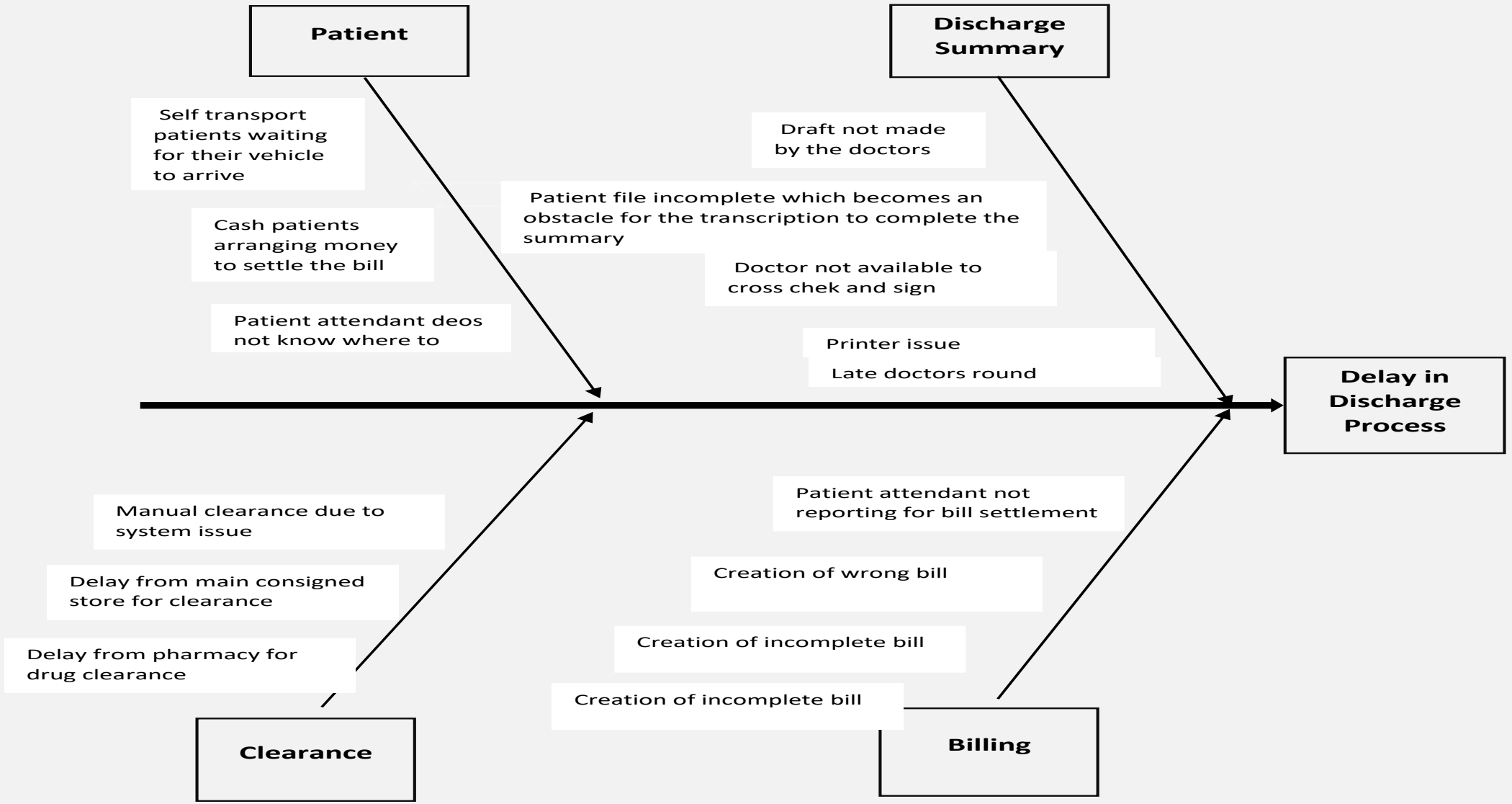
- Discharge Intimation Time to Pharmacy Clearance Time
- Pharmacy Clearance Time to Bill Ready Time
- Bill Ready Time to Bill Clearance Time
- Bill Clearance Time to Room Vacation Time
- Total Discharge Time

Month	Discharge Intimation time -Pharmacy Clereance Time	Pharmacy Clereance time - Bill ready time	Bill Ready time - Bill Clereance time	Bill Clereance time - Room Vacation time	Total Discharge time
Target (min)	***15***	***15***	***60***	***30***	***120***
June, 2020	19	14	14	59	106
July, 2020	17	16	31	54	118
August, 2020	15	65	15	33	128
September, 2020	16	54	15	34	119
October, 2020	12	80	15	81	188
November, 2020	17	86	14	75	192
December, 2020	15	69	13	60	157
January, 2021	18	55	10	95	178
February, 2021	14	39	16	21	90
March, 2021	15	45	15	41	116
April, 2021	16	66	18	76	176
May, 2021	18	68	14	70	170
June, 2021	17	58	13	66	154

The target Turnaround Time for discharge set by the hospital was 120 minutes. As per the above chart, we can see that the discharge turnaround time in June, 2020 and July, 2020 was under 120 mins. From August, 2020 the tirnaround time for the discharges increased and marked a hike in October and November, 2020. The graph shows a slight decrease in turnaround time during December, 2020 however its still above the standard turnaround time. During February and March, 2021 the turnaround time for discharges came within 120 minutes but again showed a hike from April to June, 2021.

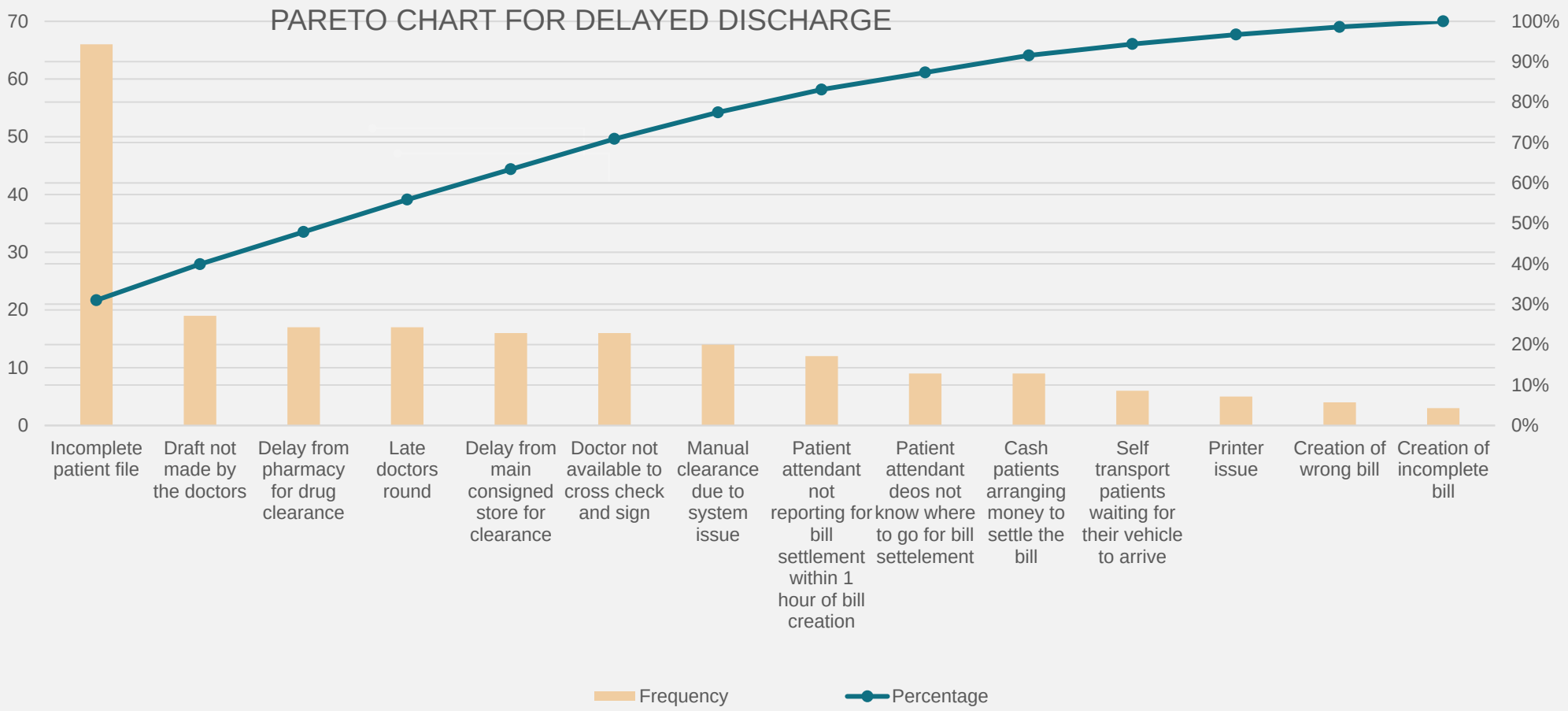


After agreement on the casues of delayed discharge, a fishbone diagrma was made.



S.No.	Discharge Delay Reason	Frequency	Cumulative Frequency	Percentage
1	Incomplete patient file	66	66	31%
2	Draft not made by the doctors	19	85	40%
3	Delay from pharmacy for drug clearance	17	102	48%
4	Late doctors round	17	119	56%
5	Delay from main consigned store for clearance	16	135	63%
6	Doctor not available to cross check and sign	16	151	71%
7	Manual clearance due to system issue	14	165	77%
8	Patient attendant not reporting for bill settlement within 1 hour of bill creation	12	177	83%
9	Patient attendant deos not know where to go for bill settelement	9	186	87%
10	Cash patients arranging money to settle the bill	9	195	92%
11	Self transport patients waiting for their vehicle to arrive	6	201	94%
12	Printer issue	5	206	97%
13	Creation of wrong bill	4	210	99%
14	Creation of incomplete bill	3	213	100%

Pareto analysis has been performed after brainstorming the reasons for delayed discharge. Frequency of the reasons were followed for 3 months from 25th April, 2021 to 20th June, 2021. Following table was prepared by counting the reasons occurred each time of delayed discharge.


PARETO CHART FOR DELAYED DISCHARGE
70
60
50
40
30
20
10
0
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Incomplete patient file
Draft not made by the doctors
Delay from pharmacy for drug clearance
Late doctors round
Delay from main consigned store for clearance
Doctor not available to cross check and sign
Manual clearance due to system issue
Patient attendant not reporting for bill settlement within 1 hour of bill creation
Patient attendant deos not know where to go for bill settelement
Cash patients arranging money to settle the bill
Self transport patients waiting for their vehicle to arrive
Printer issue
Creation of wrong bill
Creation of incomplete bill
Frequency
Percentage

From the above Pareto chart we can see that the following reasons contribute almost 71% of all the reasons for delayed discharge :-

- Incomplete patient file
- Draft not made by the doctors
- Delay from Pharmacy for drug clearance
- Late doctors round
- Delay from main consigned store for clearnace
- Doctors not available to cross check and sign

ANSWERS TO RESEARCH QUESTIONS

- **In how many months of the year 2020-21, the discharges turnaround time are in compliance with the per hospital's operating policy?**
  - Discharges are in compliance with the hospital operating policy for a total of 5 months of 12 months which is less than 50% compliance.
- **What has been trend of turnaround time in the last 1 year?**
  - As per the above Figure 4.1, we can see that the discharge turnaround time in June, 2020 and July, 2020 was under 120 mins. From August, 2020 the turnaround time for the discharges increased and marked a hike in October and November, 2020. The graph shows a slight decrease in turnaround time during December, 2020 however its still above the standard turnaround time. During February and March, 2021 the turnaround time for discharges came within 120 minutes but again showed a hike from April to June, 2021.
- **What were the major causes which contributed towards the deviation in discharged time?**
  - Major causes which contributed towards the deviation in discharged time Incomplete patient file are draft not made by the doctors, delay from Pharmacy for drug clearance, late doctors round, delay from main consigned store for clearnace and unavailability of doctors to cross check and sign.
- **How can we improve the patient discharge system at Fortis Escorts Heart Institute, Okhla, New Delhi.**
  - The recommendations to improve the discharge process at Fortis Escorts Heart Institute, Okhla, New Delhi has been disscussed in the next section.

RECOMMENDATIONS

1. All the medical items and the non medical items intended and used for the particular patient should be entered in the system at the time of intend. This would ensure proper tracking of the items and the list of medical items and the non medical items would be ready at the time of discharge.
2. Providing an estimate bill a couple of days before discharge so that the patient's attendant can start arranging for funds that time only.
3. Time to time repair and maintenance checks should be implemented for the software and printers so that at the time of discharge these things doesn't become a hindrance.
4. A software can be integrated with the hospital HIS, which provides real time data such as patient vitals, status and a mode of communication with the nurses so that the doctors can evaluate the patient's condition without being present in the hospital. This way timely discharge process can be initiated as doctors can evaluate patient's condition from anywhere.
5. A seminar should be arranged for the stakeholders involved in discharge process from the management side to communicate the importance of timely discharge.
6. Employee recognition in terms of star performer or employee of the month should be given to the employees every month particularly for the stakeholders involved in the discharge process to motivate the stakeholders for initiating timely discharge.

CONCLUSION

- ✓ Patient discharge is cumbersome and complex process in a hospital. It involves cooperation and coordination of all the departments and staff in the hospital. Discharge of patients in a timely manner is a difficult task even if it is planned discharge.
- ✓ In this study turnaround time for discharge process of cash patients was analyzed in Fortis Escorts Heart Institute, Okhla. In this study we first highlighted what is discharge process and why streamlining of dischrage process is important.
- ✓ Then we defined the hopsital discharge policy and the process which is followed for discharging the patients. Through HIS we gathered the data for turnaround time for the year 2020-21 and anayzed whether the turnaround time are in compliance with the NABH/hospital's policy.
- ✓ Then through brainstorming we identified the causes which were reponsible for the delayed discharge in the hospital.
- ✓ Conducting a Pareto analysis highlighted the causes which were contributing around 71% of the total causes towards delayed discharge in the hospital.
- ✓ After identifying the major causes, some recommendations were made to further improve and streamline the discharge process.

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