

**Internship Training
at
Yatharth Super Specialty Hospital, Greater Noida**

**AN OBSERVATIONAL STUDY ON THE DELAYS IN
ADMISSION & DISCHARGE OF COVID PATIENTS**

Submitted by:- NEELU SINGH

Enroll no:- PG/19/050

Under the Guidance of

Dr. B. S. Singh (Associate Professor, IIHMR, New Delhi)

Post-graduate Diploma in Hospital and Health Management

(2019-2021)



International Institute of Health Management Research, New Delhi

COMPLETION OF DISSERTATION

The certificate is awarded to

NEELU SINGH

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

OPERATIONS

and has successfully completed her Project on

**AN OBSERVATIONAL STUDY ON THE DELAYS IN ADMISSION & DISCHARGE OF
COVID PATIENTS**

27/06/2021

**INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH,
NEW DELHI**

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

We wish her all the best for future endeavors.

Organization Mentor

Dr. Gowthami

General Manager-Operations Deptt.

Yatharth Super Specialty Hospital, Greater Noida

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **NEELU SINGH** student of PGDM (Hospital & Health Management) from International Institute of Health Management Research, New Delhi has undergone internship training at **Yatharth Super Specialty Hospital, Greater Noida** from **11th March 2021** to **10th June 2021**.

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 Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

Dr. Divya Aggarwal
Dean, Academic and Student Affairs
IIHMR, New Delhi

Mentor
IIHMR, New Delhi

Certificate of Approval

The following dissertation titled “**An Observational Study On The Delays In Admission & Discharge Of COVID Patients**” at **International Institute of Health Management Research, New Delhi** is hereby approved as a certified study in management carried out and presented in a manner satisfactorily to warrant its acceptance as a prerequisite for the award of **PGDM (Hospital & Health Management)** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

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Name

Signature

Certificate from Dissertation Advisory Committee

This is to certify that **Ms. NEELU SINGH**, a graduate student of the **PGDM (Hospital & Health Management)** has worked under our guidance and supervision. She is submitting this dissertation titled “**An Observational Study on the Delays in Admission & Discharge of COVID Patients**” at **International Institute of Health Management Research, New Delhi** in partial fulfillment of the requirements for the award of the **PGDM (Hospital & Health Management)**.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

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Organization

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NEW DELHI**

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled “**An Observational Study on the Delays in Admission & Discharge of COVID Patients**” and submitted by **NEELU SINGH** Enrollment No. **PG/19/050** under the supervision of **Dr. B. S. Singh (Associate Professor, IIHMR, New Delhi)** for award of PGDM (Hospital & Health Management) of the Institute carried out during the period from **2019** to **2021** 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

FEEDBACK FORM

Name of the Student: NEELU SINGH

Dissertation Organization: Yatharth Super Specialty Hospital, Greater Noida

Area of Dissertation: Operations

Attendance:

Objectives achieved: To study & implement the knowledge of operations management to routine patient care in order to ensure that highest quality of care can be provided to each and every patient.

Deliverables: The Candidate has successfully completed research on Delays in Admission & Discharge of COVID patients in the hospital.

Strengths: Hard-working, resilient & fast learner.

Suggestions for Improvement: She should learn more about NABH standards 5th edition.

Suggestions for Institute(course curriculum, industry interaction, placement,alumni): None

Signature of the Officer-in-Charge/ Organization Mentor (Dissertation)

Date:

Place:

ABSTRACT

Background: The coronavirus disease (COVID-19) pandemic has had a profound impact on cancer care across the globe. Healthcare systems have demonstrated considerable variation in preparedness and capacity, as well as organizational structure and agility in responding to disruptions in treatment. Delays in chronic disease care and treatment during a time of disaster have been well documented. Interruptions in care due to disasters often result in increased rates of disease progression, pain, and excess mortality. Operations management has been the key to customer satisfaction in various service industries like hospitality, aviation, and healthcare etc. Healthcare is the fastest growing and competitive industry which cannot bear any error. In a country where the bed strength is too low to cater the masses, especially during COVID, it is always a challenge to make beds available for patients in time. Hence admission & discharge process plays a vital role in the same. Implementation of proper admission & discharge timings are important criterion. The concepts of operations management when applied on the admission & discharge process help us iron-out a lot of routine problems in the hospital setup. Good admission & discharge turnaround time management is very important during the COVID pandemic to ensure patient satisfaction; bed availability and admissions; and quality of patient care remains high. **Objective:** To identify the gaps and challenges for delay in discharge of COVID patients at Yatharth Super Speciality Hospital, Greater Noida by analyzing the whole discharge process, using appropriate tools. **Materials & Methods:** Observational time-motion study was conducted at Yatharth Super Speciality Hospital, Greater Noida. 160 COVID patients getting discharged from IPD in Yatharth Super Speciality Hospital, Greater Noida, from 11th April – 8th May 2021 were observed and tracked during the study. The details of the patients, time of his/her entry, the time taken by the COVID patient to recover & finally time taken for patient to be discharged from the hospital was noted and recorded. **Results:** Major bottlenecks were identified during admission & discharge process of COVID patients & recommendations were made to correct the major processes which were causing delays in treatment of COVID patients. **Conclusion:** As per the daily observations carried out by me it was found that the department is working in a proper order. Some loopholes are always found in a practical system and the same exists in this hospital too. But these loopholes are minimal and when ever found they can be eliminated at the earliest.

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I also express my thanks to my mentor **Dr. B. S. Singh** (Associate Professor, **IIHMR, New Delhi**), for extending his support. Most of all, I pay my sincere offering to the Almighty and my family without their grace I would not be able to add a new dimension to my life.

Last but not the least; I am thankful to all the colleagues and Teaching staff of **IIHMR** for their help and extended support.

Neelu Singh

(PG/19/050)

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INTRODUCTION TO THE ORGANIZATION



More than fifteen years ago, four doctors worked together to make their unique vision a reality, a hospital that would do more than care for the physical needs of their patients. It was their intention to provide a healing atmosphere that would encompass all the aspects of health and well-being. These dedicated doctors were laying the foundation for Yatharth Hospital - a hospital that would not only care for the medical needs of their patients but also create world class medical facilities for the not so privileged class of the society in a patient friendly environment.

Set on a spacious campus, the hospitals have been built on the foundation of Trust, Talent, Technology, Service and Infrastructure.

With the belief that healthcare requires utmost care and responsibility, Yatharth Super Speciality Hospitals have brought together a team of medical specialists -doctors and para medical staff, who represent and uphold the Group's philosophy of transparency, dedication and honesty. The medical professionals are highly qualified from the best medical institutes and have vast experience in their fields.

Yatharth Super Speciality Hospital at Greater Noida is the flagship hospital of the Yatharth Group, which heralds the group's noble intention to enter the healthcare space. This hospital has been planned and designed as a 400 bedded multi-specialty facility and with dedicated 90 critical care beds, 9 modular operation theatres and specialty-specific dedicated OPD blocks.

SPECIALITIES

Key Specialties

<input type="checkbox"/> Orthopedics & Joint Replacement	<input type="checkbox"/> General & Minimal Access Surgery
<input type="checkbox"/> Cardiology & Cardiac Surgery	<input type="checkbox"/> Ophthalmology & Refractive Surgery
<input type="checkbox"/> Mother & Child	<input type="checkbox"/> Nephrology

Other Specialties

<input type="checkbox"/> Anaesthesiology & Pain Management Medical Oncology	<input type="checkbox"/> Blood Bank & Transfusion Medicine
<input type="checkbox"/> Neurology	<input type="checkbox"/> Dermatology
<input type="checkbox"/> Neuro Surgery	<input type="checkbox"/> Endocrinology
<input type="checkbox"/> Physiotherapy & Rehabilitation	<input type="checkbox"/> Lab Medicine
<input type="checkbox"/> Plastic & Cosmetic Surgery	<input type="checkbox"/> Critical Care
<input type="checkbox"/> Preventive Health Check up	<input type="checkbox"/> Dentistry
<input type="checkbox"/> Pulmonology	<input type="checkbox"/> ENT
<input type="checkbox"/> Rheumatology	<input type="checkbox"/> Gastroenterology
<input type="checkbox"/> Radiology	<input type="checkbox"/> G I Surgery
<input type="checkbox"/> Surgical Oncology	<input type="checkbox"/> Hearing & Speech
<input type="checkbox"/> Trauma & Emergency (24X7)	<input type="checkbox"/> Internal Medicine
<input type="checkbox"/> Urology	<input type="checkbox"/> Interventional Radiology
<input type="checkbox"/> Vascular & Endo Vascular Surgery	

VISION

To become the most desired healthcare brand by providing compassionate, caring and world class services with the help of talented team of doctors, professional and latest technology.

MISSION

To achieve highest patient satisfaction index by delivering patient centric, best healthcare services amongst the local and extended community.

CORE VALUES

I	C	A	R	E
Integrity	Compassion	Accountability	Respect	Excellence

YATHARTH Super Speciality Hospital Greater Noida and Noida have also been accredited by National Accreditation Board for Hospitals and Healthcare Providers for its processes and high quality patient care.

Healthcare should reach masses. Yatharth Super Speciality Hospitals play a big role in ensuring that best of the medical care is offered to masses. In line with our consistent efforts, we organize regular health awareness and check-up camps for the general public, students, and underprivileged section of society.

Free health lectures are conducted regularly for students of schools, colleges to create awareness on hygiene (oral/dental/general), importance of sports and exercise, healthy eating habits etc.

Awareness sessions and checks are also organized for employees of cooperates for occupational safety and health standards, ergonomics workplace assessments and injury prevention.

Yatharth Super Speciality Hospitals offer a variety of amenities to make your stay comfortable. Besides the advanced medical equipment to deliver the best quality care, we do have amenities to deliver pleasant patient experience.

24*7 Amenities

- Parking
- Emergency response system
- Cardiac Life Support Ambulance
- Neonatal ICU (NICU)
- Paediatric ICU (PICU)

Other Amenities

- Cafeteria (Barista, Bikano)
- Blood Bank - Available at Yatharth Hospital, Noida
- Rooms (Suit, Deluxe, Single, Double, General ward)
- Lab Services
- Radiology services
- Dialysis Services

Amenities for International Patients

Dedicated International Patient lounge:

Yatharth Super Speciality Hospitals have dedicated international patient with facilities for the comfort of Patient & their relatives. The lounge is well equipped with the modern facilities.

Dedicated Medical Coordinator and Case Managers

The team not only helps in handling queries, and coordination for the physician's appointments but also provides assistance in pre-anesthesia check up, surgery and post-op follow up care. The case managers ensure that all the needs of the patients, their families or relatives are met as and when required.

In-house Interpreters:

The Hospital has facility of interpreters trained in multiple languages to assist the patients throughout their stay at Yatharth.

Financial Counseling:

A team of financial counselors assist the patient to understand the treatment plan, surgery cost and surgical packages.

Patient care Services:

Yatharth Super Speciality Hospital has a dedicated team for International Patient Services. This well-trained dedicated team takes care of all clinical and administrative requirements of patients and their attendants.

ACRONYMS/ABBREVIATIONS:

- 1- YSSH- Yatharth Super Speciality Hospital
- 2- AGM- Assistant General Manager
- 3- DM- Deputy Manager
- 4- HIS- Hospital Information System
- 5- TAT- Turn- around time
- 6- MOD- Manager on Duty
- 7- TPA- Third Party Assurance
- 8- OPD- Out Patient Department
- 9- IPD- In Patient Department
- 10-ICU- Intensive Care Unit
- 11-MICU- Medical Intensive Care Unit
- 12-PICU- Pediatric Intensive Care Unit
- 13-SICU- Surgical Intensive Care Unit
- 14-NICU- Neonatal Intensive Care Unit
- 15-ER- Emergency

INTRODUCTION

Operations management has been the key to customer satisfaction in various service industries like hospitality, aviation, and healthcare etc. Healthcare is the fastest growing and competitive industry which cannot bear any error.

Operations management was earlier restricted to production of goods but with the advent of Industrial revolution and Introduction of the concept of assembly lines by Henry Ford, this model got widely accepted and adopted across various sectors including healthcare and it helps to increase the efficiency of the organization, by optimal utilization of the available resources and also by improving technical and human skill.

In a country where the bed strength is too low to cater the masses, especially during COVID, it is always a challenge to make beds available for patients in time. Hence admission & discharge process plays a vital role in the same. Implementation of proper admission & discharge timings are important criterion.

The concepts of operations management when applied on the admission & discharge process help us iron-out a lot of routine problems in the hospital setup. Good admission & discharge turnaround time management is very important during the COVID pandemic to ensure patient satisfaction; bed availability and admissions; and quality of patient care remains high.

These principles help us in

- Forecast
- Prepare
- Organize
- Evaluate

Around the process flawlessly with no or minimum deviations. This in-turn standardize the processes and yields better patient satisfaction, ensuring elimination of delays will help arrange beds earlier than before.

This study provides an analysis of the delays that occur during admission & discharge process in the hospital by using and tracking patient & file timings.

OBJECTIVE

- To analyze delays in admission & discharge of COVID patients.
- To identify the gaps and challenges for delay in discharge of COVID patients at Yatharth Super Speciality Hospital, Greater Noida by analyzing the whole discharge process, using appropriate tools.

SPECIFIC OBJECTIVES:

- Determine average time taken for the admission & discharge process, Cash & Insurance patients (TPA).
- To find out the factors resulting in delay in the admission & discharge process.
- To provide appropriate recommendations/suggestions for improving the admission & discharge process.

REVIEW OF LITERATURE

- Elizabeth Lerner Papautsky et. al, 2020 concluded in a study that delays are critical to capture and characterize to help cancer providers and healthcare systems develop effective and patient-tailored processes and strategies to manage cases during the current pandemic wave, subsequent waves, and future disasters.
- Silva SA et al, 2014 conducted a study which suggested that delays in discharge occurred in 60.0% of 207 hospital admissions & the delays were mainly related to processes that could be improved by interventions by care teams and managers. The impact on mean length of stay and hospital occupancy rates was significant and troubling in a scenario of relative shortage of beds and long waiting lists for hospital admission.
- Gijs Hesselink et. al, in a study suggested that : Ineffective discharge is related to factors at the level of the individual care provider, the patient, the relationship between providers, and the organizational and technical support for care providers. Providers can reduce hospital readmission rates and adverse events by focusing on high-quality discharge information, well-coordinated care, and direct and timely communication with their counterpart colleagues.
- Prof. Dinesh T.A et. al, 2013 reported that patients' waiting time has been defined as "the length of time from when the patient entered the outpatient clinic to the time the patient actually leaves the OPD". Whether it's a time used for registration of patient, routine doctor's appointment, emergency room treatment, laboratory/diagnostic test, procedures, receiving the results of various tests, waiting happens to just about everyone seeking medical care.
- Mark R. Carey et. al, 2004 suggested that unnecessary inpatient-days may needlessly increase the exposure of patients to iatrogenic infections and other complications, as well as decrease economic efficiency.

METHODOLOGY

Place of Study: Yatharth Super specialty Hospital, Greater Noida

Duration of Study: 1 Month (11th April 2021 - 8th May 2021)

Study Population: 160 COVID patients getting discharged from IPD in Yatharth Super Speciality Hospital, Greater Noida, from 11th April – 8th May 2021 were observed and tracked during the study.

Study Design: Descriptive Cross Sectional study

Method of Study- Observational time-motion study. The details of the patients, time of his/her entry, the time taken by the COVID patient to recover & finally time taken for patient to be discharged from the hospital was noted and recorded.

Data Sources:

Primary sources:

- Direct observation.
- Consult with the employees of the Hospital.
- Data collection from the IPD department.

Secondary sources:

- Study of data from HIS
- Analysis of data.
- Registered records of particular departments.

Interview Guidelines

- Discussion with MODs and other service providers.
 - Delays in initiating discharge process
 - Delay in completion of Discharge summary
 - Delay in preparation of final bill
 - Other Reasons for delay

Statistical Analysis:

Tools used in the study were MS-EXCEL, MS-WORD.

MS-EXCEL used to design graphs.

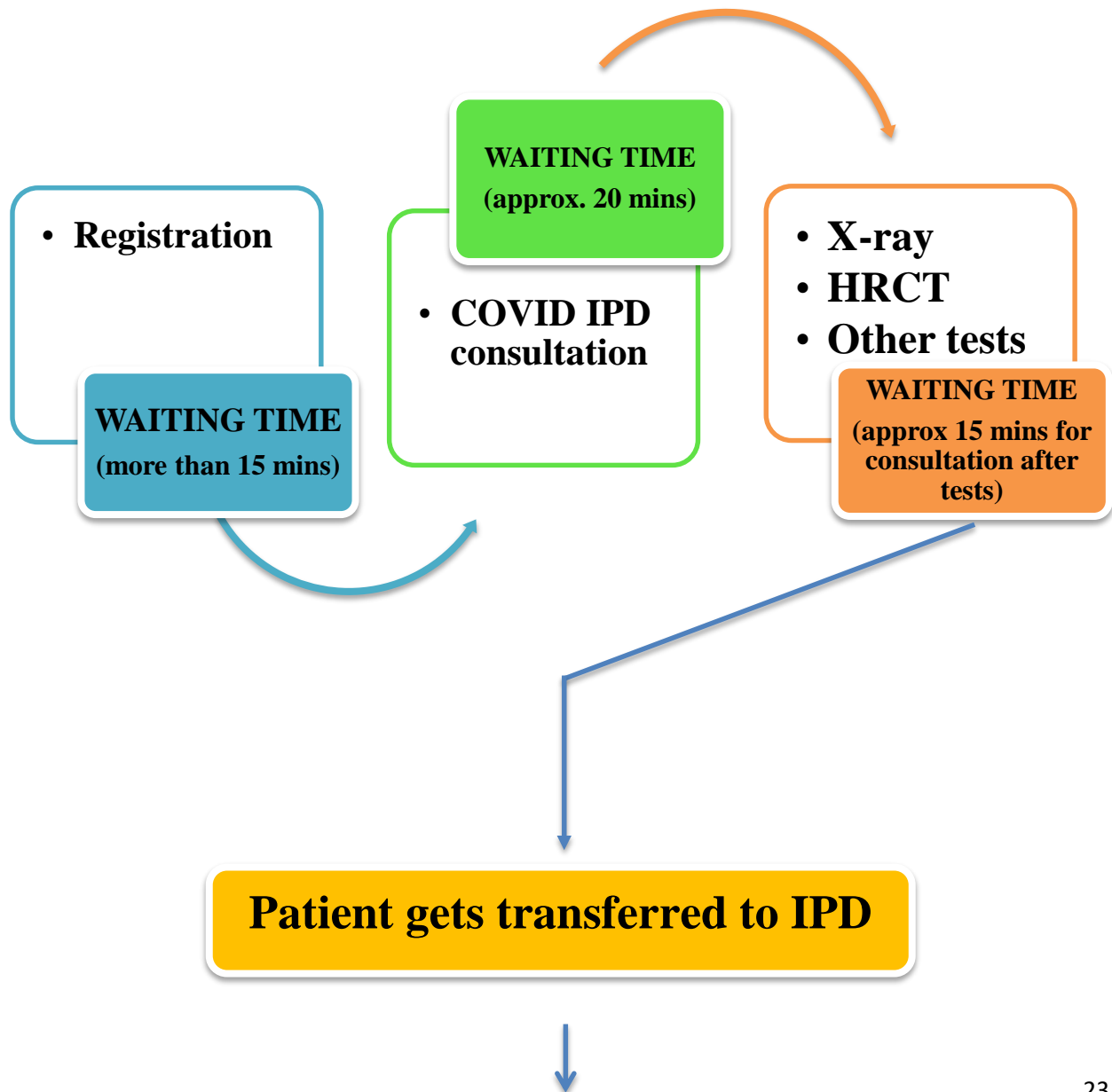
MS-WORD used to prepare or write the complete dissertation report.

RESULTS

Observational Data Analysis

- Data was collected by directly observing every COVID patient or patients' attendant during the admission and discharge process.
- Since the timing of admission & discharge were highly variant during COVID, therefore, the results were extrapolated by direct observation and analysis.

Admission Process Flow



Patient gets treated in IPD



Discharge Process Flow



**Discharge confirmed by
Doctor to Nursing
In-charge**



Acknowledgment of discharge in system by RMO



**Nursing Clearance- (collection of report from Lab, Radiology and
other department by Nurse)**



Pharmacy Clearance- (Unused medicine return to Pharmacy)

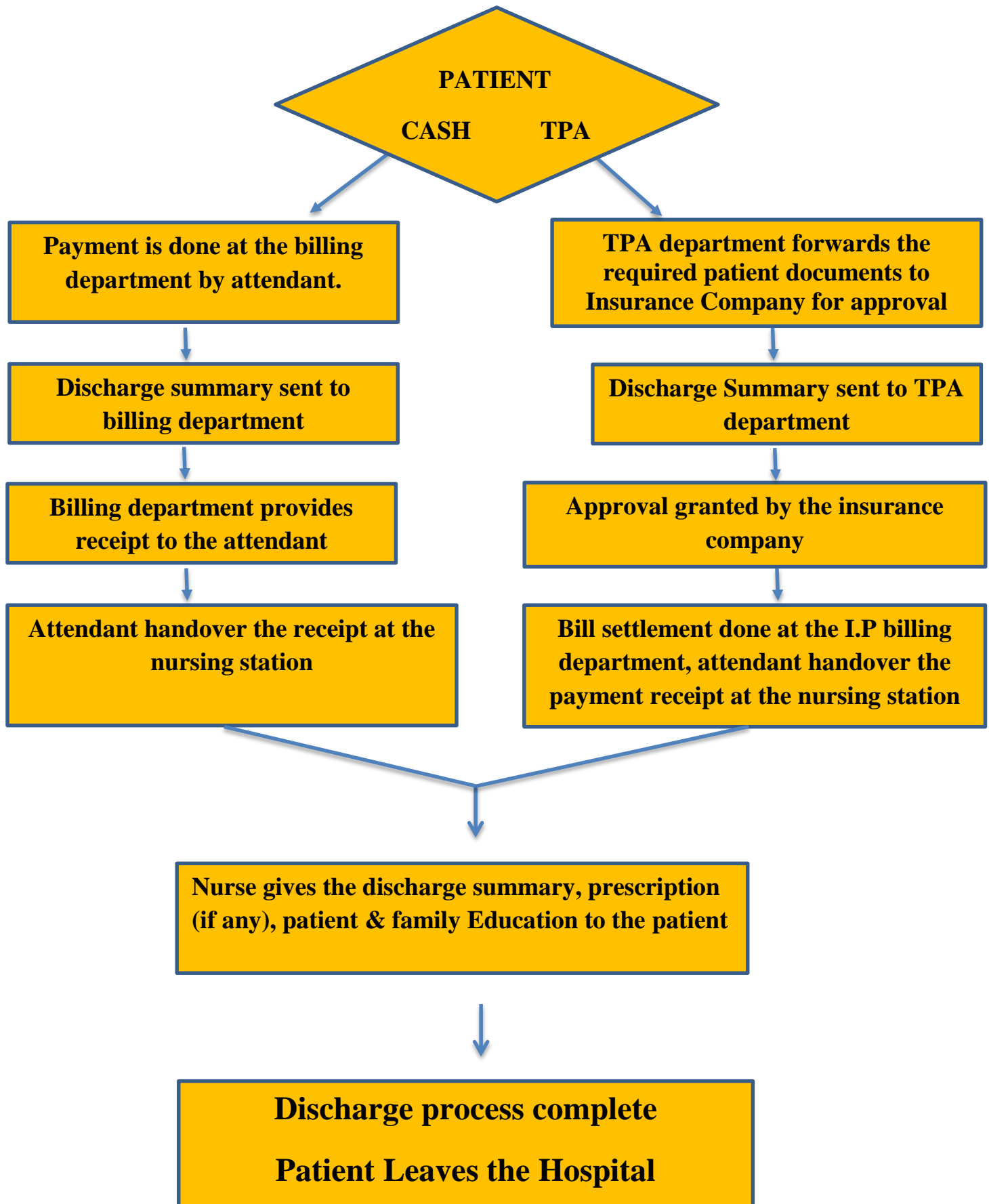


Finalizing Discharge Summary by MT



Discharge summary checked, finalize and sign by Doctor





OBSERVATIONS

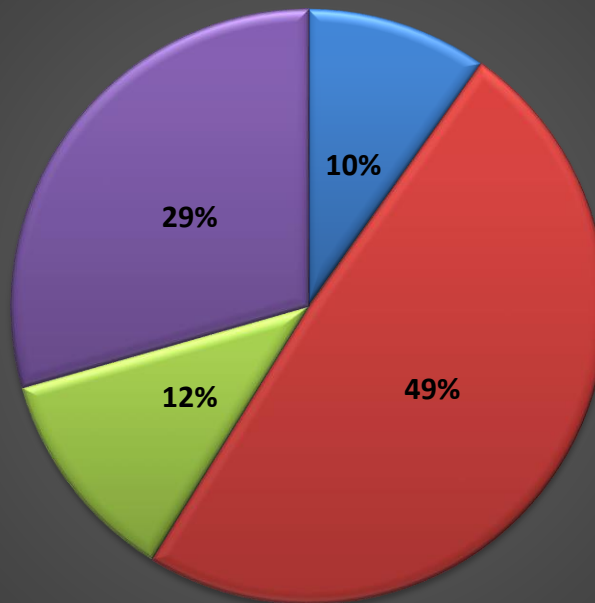
- Data was collected by observing patients and gaps were drawn based on observation of patients and services provided by the department.
- Results were drawn based on average time spent by the patients during admission, treatment & discharge.

ADMISSION TIMING DETAILS

Time taken for admission of COVID patients were recorded & analysed

<u>Average admission timings of COVID patients</u>	
Patient enters the Hospital	
Waiting Time	5 min
Registration	5 min
Waiting time for consultation	25 min
IPD consultation	15 min
X-ray Billing	4 min
Waiting time	6 min
X-ray	10 min
Waiting time for consultation	10 min
Consultation	10 min
Patient transferred to IPD	
Overall waiting time - 51min	
Overall time - 1Hr 50 min	

Average Waiting Time for Admission of COVID patients



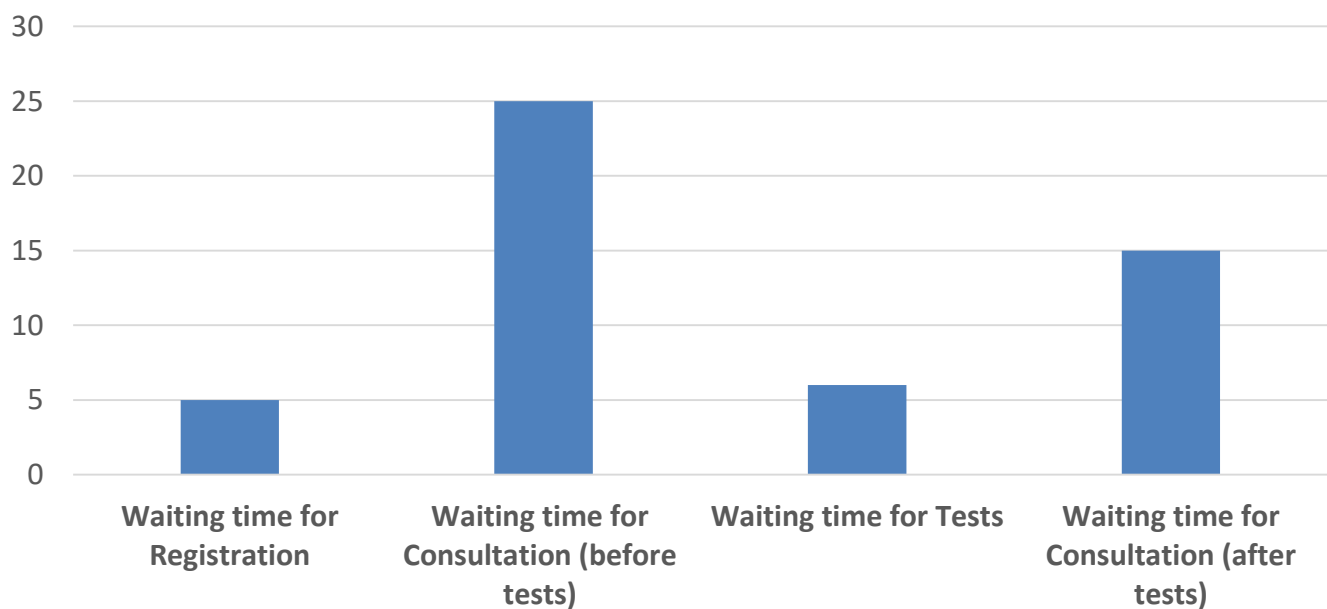
■ Waiting time for Registration

■ Waiting time for Consultation (before tests)

■ Waiting time for Tests

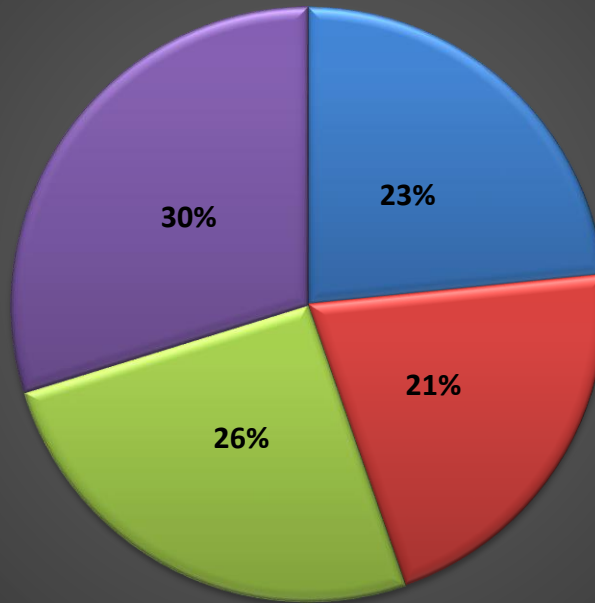
■ Waiting time for Consultation (after tests)

Average waiting time (mins) for admission of COVID patients



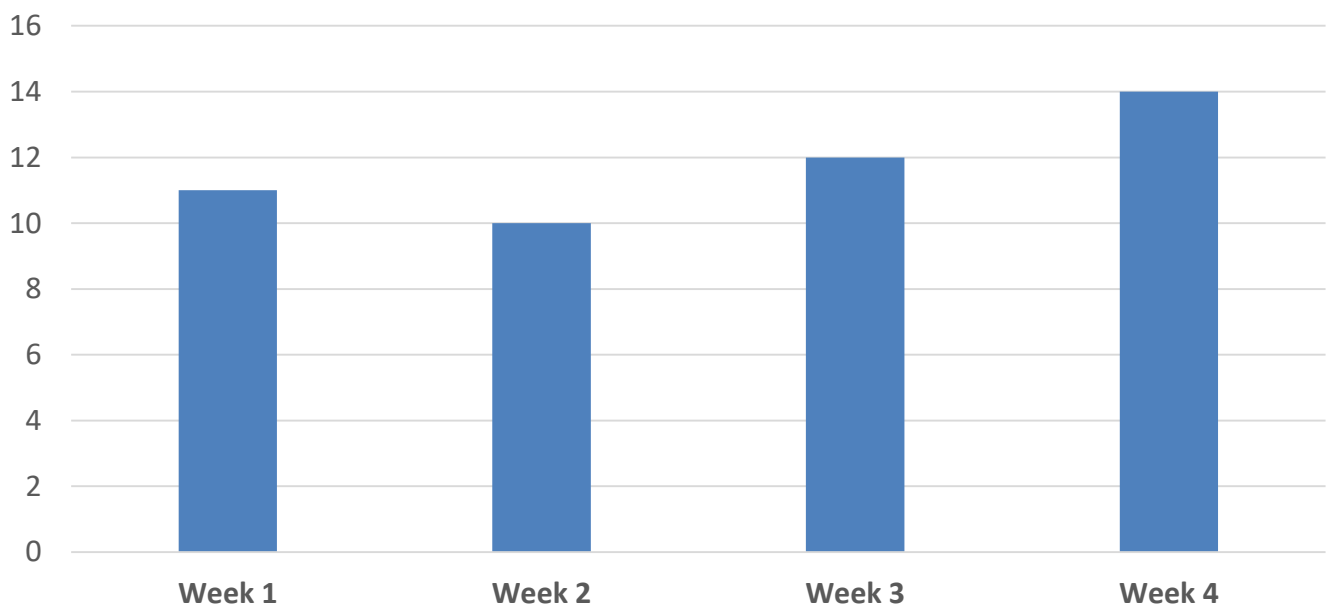
TREATMENT TIMING DETAILS

Average Waiting Time for Treatment of COVID patients



Waiting time in Week 1 Waiting time in Week 2 Waiting time in Week 3 Waiting time in Week 4

Average waiting time (days) for treatment of COVID patients



DISCHARGE TIMING DETAILS

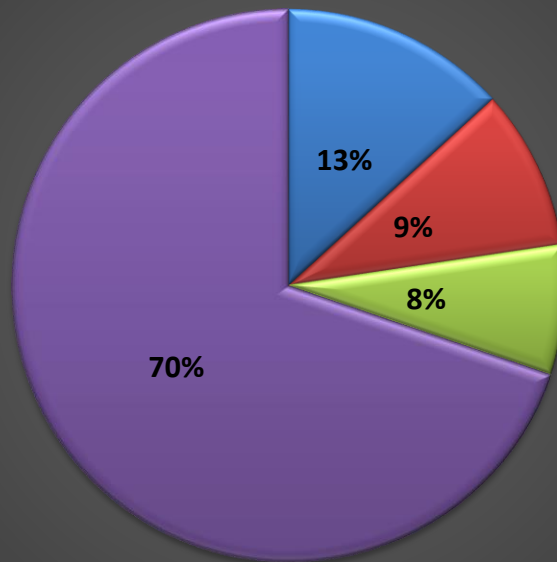
Time taken for discharge of COVID patients were recorded & analysed

Average discharge timings of COVID patients

Time taken for discharge of COVID patients were recorded & analysed

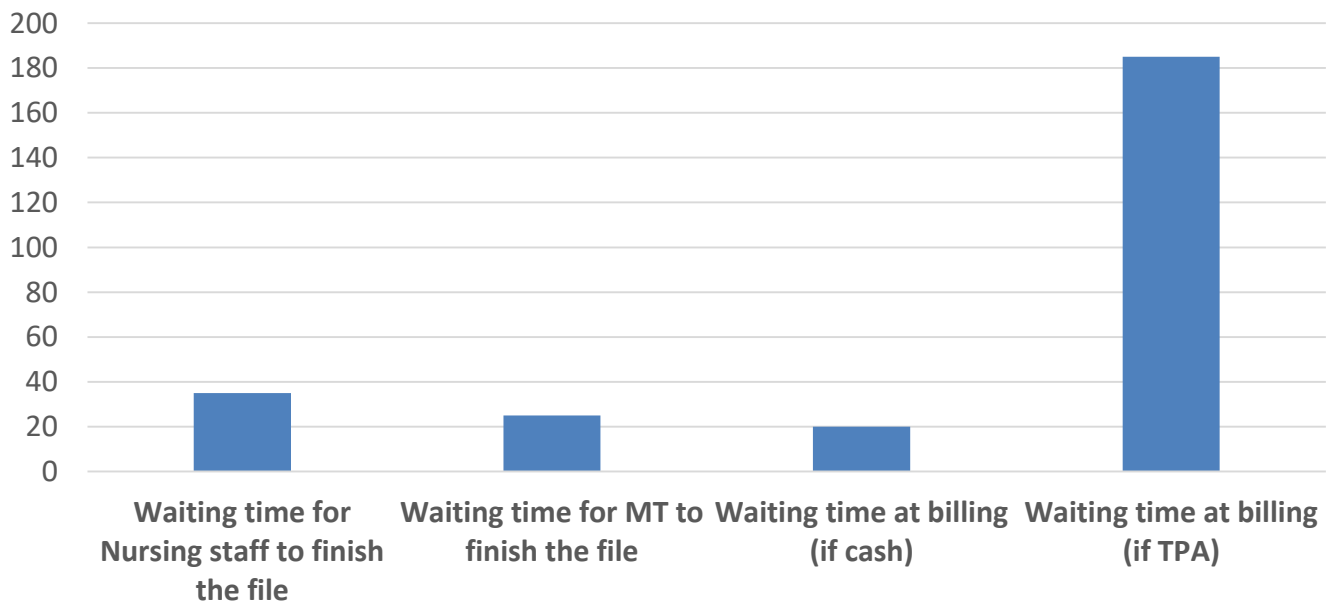
<u>Average discharge timings of COVID patients</u>	
Doctor confirms the Discharge	
Waiting Time	5 min
Nursing staff files request for medicine return	5 min
File completion by nursing staff	25 min
File sent by nursing staff to MT (Medical Transcription)	15 min
Waiting time	4 min
Completed file received from MT	6 min
File sent to billing department	10 min
Waiting time	10 min
Patient attendant clears the bills at the billing department	10 min
If cash, waiting time	15 min
If TPA, waiting time	180 min (3 hrs)
Clearance given by billing department to patient attendant	
Waiting time	5 min
Patient attendant hand overs the clearance slip to nursing staff	
Patient leaves the hospital	

Average Waiting Time for Discharge of COVID patients



■ Waiting time for Nursing staff to finish the file ■ Waiting time for MT to finish the file
■ Waiting time at billing (if cash) ■ Waiting time at billing (if TPA)

Average waiting time (mins) for discharge of COVID patients



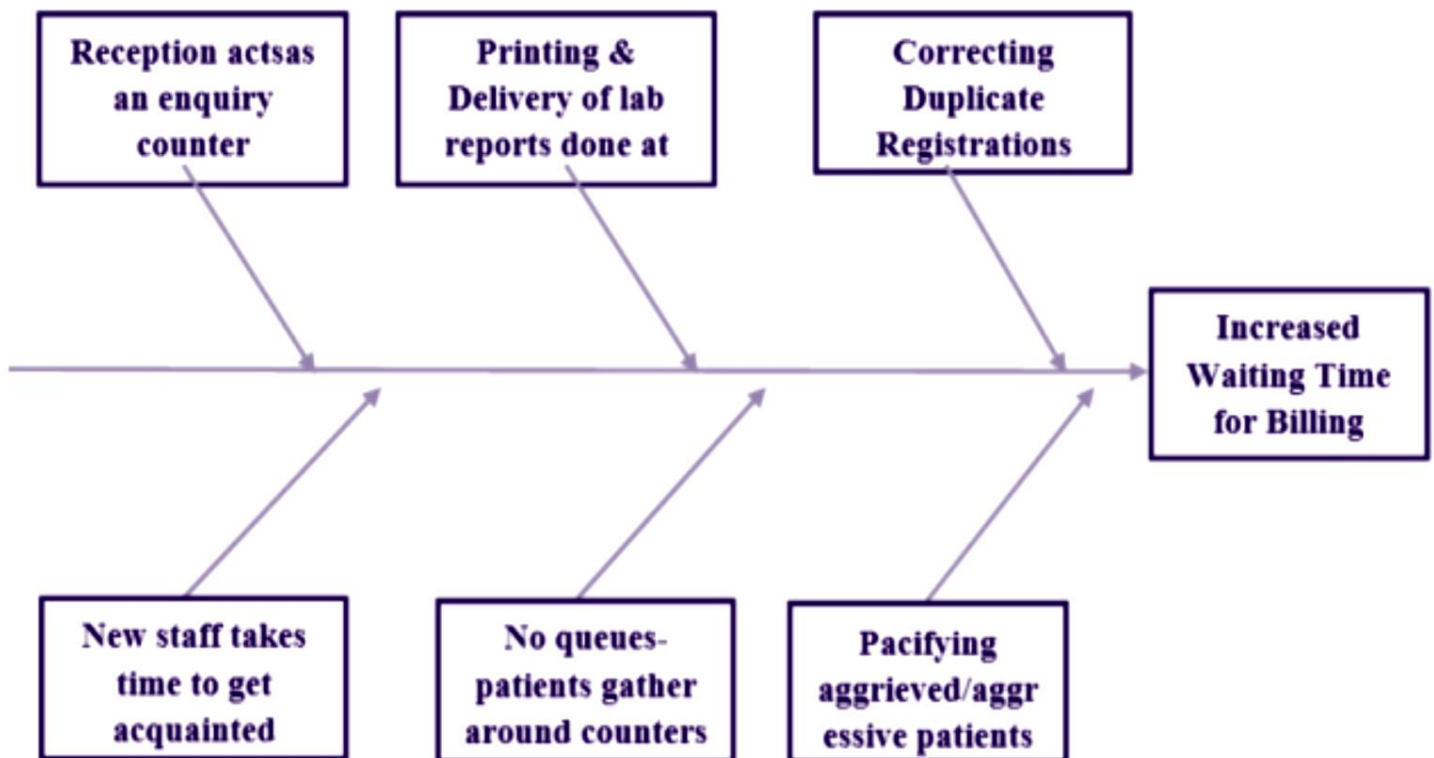
DISCUSSION

Cause-Effect Analysis for Admission delays

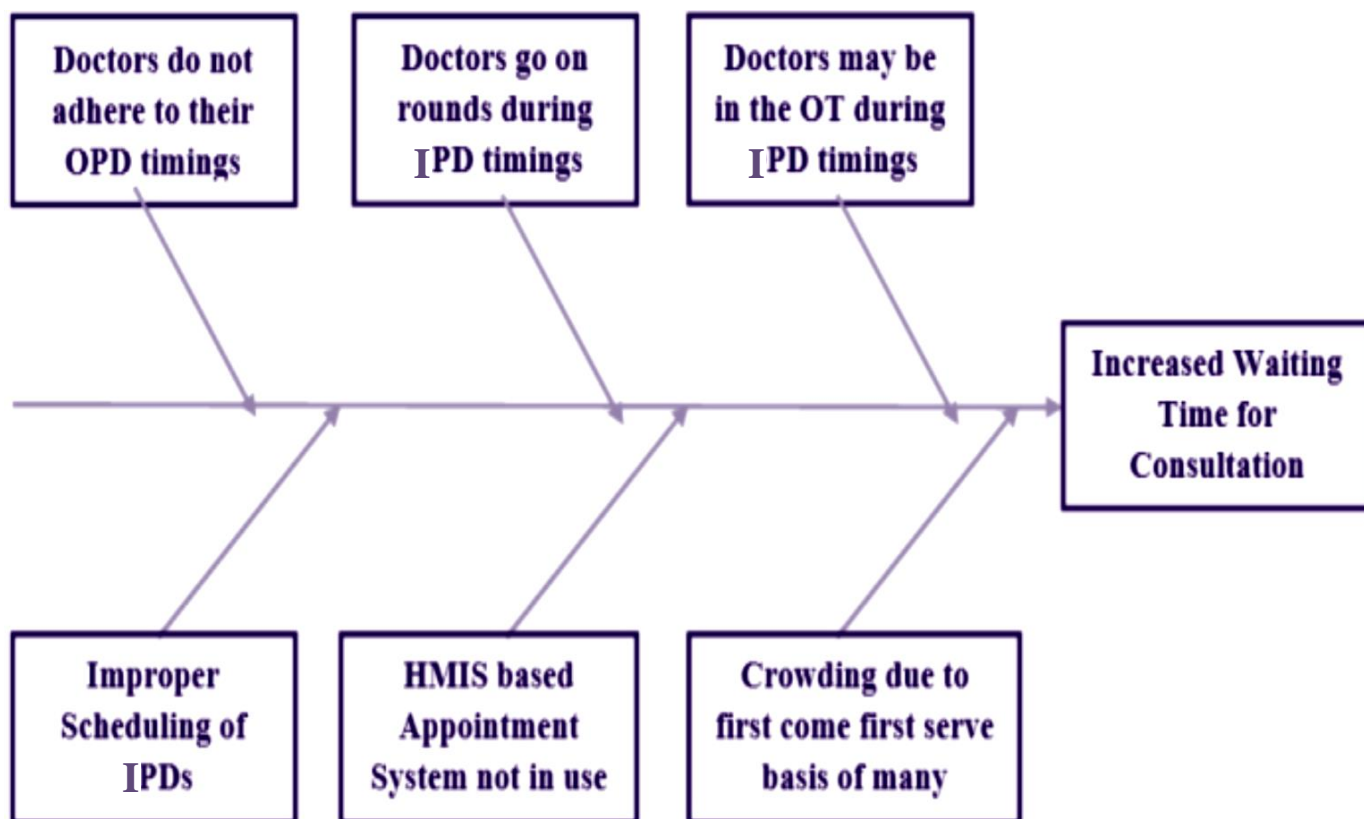
- Done using statistical tools like Fishbone diagrams.
- The Fishbone Diagram or Cause & Effect analysis was first used by Dr. Kaoru Ishikawa (Tokyo University, 1943), hence it also known as "**Ishikawa Diagram**". This diagram is used to identify all of the contributing root causes which are creating problem.

Root Cause Analysis-

1. Cause-Effect Analysis for first admission bottleneck (Increased waiting time for billing)



2. Cause-Effect Analysis for second admission bottleneck (Increased Waiting time for Consultation)



Recommendations

1. The following recommendations are made to reduce waiting time for billing:

- Displaying the consultant's timings in the COVID IPD, as well as online will reduce the number of enquiries made by the patients.
- Introducing online appointment bookings.
- Lab reports should be dispatched at the lab counter and not in the COVID IPD area or a separate counter for lab report dispatch and appointments.
- Proper training of the staff.
- Fixed Consultant timings and IPD rooms.

2. The following recommendations were made to reduce waiting time for consultation:

- Patient Centric IPD scheduling, thus increasing utilization.
- Doctors should be advised to adhere to their allotted slots.
- There must be co-ordination between IPD hours and OT timings (in case of elective surgeries).
- Use of HMIS based appointment system

Treatment time delay

- Patients infected with COVID respond variably to the treatment process, with the disease itself presenting with unpredictable rates of spread of infection & unpredictable recovery time of patients.
- Due too such high inter-patient variability, we will not be analyzing in our study the time required for the patient to recover from COVID infection.

Major bottlenecks in the discharge process

➤ **Delay in initiating discharge process:**

- Discharge not pre-planned.
- Delay in doctor's round due to overlapping of OPD timings
- Delay in Lab reports.

➤ **Delay in completion of Discharge summary:**

- Majority of discharge summaries are not prepared overnight and start only after discharge intimation.

- Discharges are not planned in most cases.
- Discharge not signed by the admitting doctor.
- Correction of discharge summary.

➤ **Delay in preparation of final bill:**

- Due to any issue raised by the Patient's attendant.

➤ **Some Other Reasons:**

- Patient/ Attendant wants Medical certificate.
- Patient demands to leave after having lunch even if discharge process completes before 12pm.

Recommendations

The following recommendations are made to reduce waiting time for discharge of COVID patient:

- Increase the number of pre-planned discharges (planning discharges overnight).
- Fixed Consultant timings in COVID IPD.
- Doctors & Nursing staff should be advised to adhere to their allotted slots.
- Majority of the discharge process should be completed before night in pre-planned discharges.
- Proper training of the staff.
- Regular briefings to the specialties lacking and struggling to achieve fair planned discharge percentage as well daily feedback should be taken.
- Bring down the discharge turnaround time (TAT) for both cash and TPA cases by discussing the requirement of the patient during discharge i.e. medical certificate etc. with the attendant or patient itself.

CONCLUSION

- The objective was to determine the various causes of increased waiting time that is suffered by a COVID POSITIVE patient while trying to get care for his/her ailment, and to do a root cause analysis of the same, thus reducing the bottlenecks in the entire process.
- The two major bottlenecks during the admission process were:
 - Waiting time for consultation and
 - Waiting time for billing
- The major bottlenecks found during discharge were:
 - Delays in initiating discharge process
 - Delay in completion of Discharge summary
 - Delay in preparation of final bill
 - Other Reasons for delay
- Patient attending the hospitals are responsible for brand and image of the hospital and hospital management has equal responsibility to take care of the patients.
- During the period of 1 month of dissertation, I learnt a lot about the functional flow COVID IPD department.
- The waiting time of the patient should be consumed by providing them some consultation package with minimal charges which can add to the benefit of both patient and hospital.
- As per the daily observations carried out by me it was found that the department is working in a proper order.
- Some loopholes are always found in a practical system and the same exists in this hospital too. But these loopholes are minimal and when ever found they can be eliminated at the earliest.

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