

**SUMMER TRAINING
AT
MEDANTA, THE MEDICITY
GURGAON**

FROM 10-05-2021 TO 02-07-2021

**A REPORT
BY
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**MBA HOSPITAL AND HEALTH MANAGEMENT
(2020-2022)**

ACKNOWLEDGEMENT

I am extremely thankful to all those who have helped me put together a project that is fresh, planned and lead to well defined interpretations.

The experience I gained while working in Medanta, The Medicity, Gurgaon in these two months helped me obtain the practical exposure that I missed due to the online classes.

A very sincere thanks to **Rohini Adlakha Mam (Deputy General Manager Operations) and Dr. Kirti Aggarwal (Assistant Manager Medical Administration and Clinical Operations)** for giving me the golden opportunity to do this wonderful project “**A comparative study on the turnaround time from patient admission in the ward till chemotherapy drug administration**” which helped me in learning and handling operations with great confidence. I truly thank them for their time and effort they have dedicated for the time of study.

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Lastly, I would like to thank my family and friends for their encouragement and unwavering support.



Date: 02.07.2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Aishwarya Satija** student of MBA (Hospital and Health Management) Batch 2020 - 2022 IIHMR University, Jaipur has successfully completed her Internship with **Global Health Private Ltd. (GHPL) Medanta - The Medicity, Sector 38, Gurgaon-122001(Haryana)**

. **Department- Medical Administration & Clinical Operations**

. **Project Title-1** A Comparative study on the Turn Around Time from patient admission in ward till chemotherapy drug administration.

. **Project Duration:** 10.05.2021 to 02.07.2021

We wish her all the best for her future endeavors.

For **GLOBAL HEALTH PVT. LTD**

ASHISH ADHIKARI
DEPUTY GENERAL MANAGER - HR



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ABBREVIATIONS

- OPD – Out Patient Department
- ICU – Intensive Care Unit
- FNAC – Fine Needle Aspiration Cytology
- UHID No. – Unique Health Identification Digit
- OT – Operation Theatre
- IPD – In Patient Department
- HDU – High Dependency Unit
- FnB – Food and Beverages
- RFA – Request for Admission
- TAT – Turn Around Time
- HIS – Hospital Information System
- PCR – Polymerization Chain Reaction
- ICCU – Intensive Coronary Care Unit
- NABL – National Accreditation Board for Testing and Calibration Laboratories

Observational Learnings:



1.1 Introduction:

Medanta – The Medicity, based in Gurgaon, is one of India's biggest and most eminent multi-specialty institutes. Dr. Naresh Trehan, a renowned heart surgeon, founded the organisation. The major goal of this institution is to raise India's medical care standards, as well as clinical research, education, and training. Medanta focuses on providing care with utmost compassion and commitment.

Medanta is one of India's most prestigious institutes, with over 850 doctors, 1200 beds, and 29 specialties.

An institution that not only focuses on treatment but also training and innovation along with providing international and the greatest standards when it comes to technology, infrastructure, clinical care. Medanta as a whole is a blend traditional and modern medicine.

1.2 Mission:

“To deliver world-class, holistic and affordable healthcare and to build a dynamic institution that focuses on the development of people and new knowledge”

1.3 Values:

- **Leadership and excellence:** A dedication to achieve the highest possible results in whatever is done by demonstrating outstanding behaviour.
- **Integrity and Courage:** Upholding the greatest values by prioritising the needs of the patient over that of the organization and having the utmost guts to do what is correct.
- **Compassion and Service:** Building a culture in which everyone is committed to go beyond the responsibilities in terms of care for patients and their carers.
- **Collaboration, learning and innovation:** To inspire innovation and create better ways to achieve the goals, encourage cooperation and collaboration, as well as welcoming change and creativity.

1.4 Specialties

1. Institute of Musculoskeletal Disorders and Orthopedics
1. Cancer Institute
2. Breast Services
3. Head and Neck Oncology
4. Medical and Haemato Oncology
5. Radiation Oncology
6. Institute of Critical Care and Anesthesiology
7. Institute of Digestive and Hepatobiliary Sciences
8. Gastroenterology
9. GI Surgery, GI Oncology and Bariatric Surgery
10. Institute of Chest Surgery
11. Heart Institute
12. Clinical and Preventive Cardiology
13. Cardiac Surgery
14. Electrophysiology and Pacing
15. Interventional Cardiology
16. Kidney and Urology Institute
17. Nephrology
18. Urology and Andrology
19. Institute of Liver Transplantation and Regenerative Medicine
20. Institute of Neurosciences
21. Ayurvedic Medicine
22. Clinical Immunology and Rheumatology
23. Dental Sciences
24. Dermatology
25. Emergency and Trauma Care
26. Endocrinology and Diabetology
27. Gynecology and Gynae Oncology
28. Internal Medicine
29. ENT and Head Neck Surgery
30. Laboratory Medicine, Pathology and Blood Bank
31. Ophthalmology
32. Pediatrics
33. Peripheral Vascular and Endovascular Sciences
34. Plastic, Aesthetic and Reconstructive Surgery
35. Radiology and Imaging
36. Respiratory and Sleep Medicine

1.5 Mode of Data Collection:

Data collection involved discussions with HODs on the managerial issues and talking to the other staff and going through rounds.

Sources of Data:

- Primary
 - By interacting with the HODs, executives, Doctors and other employees of the hospital
 - By interacting with patients and their attendants
 - Direct observations
- Secondary:
 - Registered records
 - Hospital website
 - Literature available about the hospital like pamphlet or any other written document

1.6 Facilities and Services:

a) Air Ambulance:

Air ambulance is an amazing service offered by Medanta. It is basically an ICU at 30,000 feet. Known as Medanta's Flying Doctors, the air ambulance transports the sickest patients from far away. Medanta's main aim is to provide patients with high quality care irrespective of the place. The Air ambulance consists of a dedicated team of specially trained doctors, nurses, pilots and support staff, trained to provide emergency care to all the patients from even the most remote areas. Medanta is one of India's few medical institutes capable of providing care at altitudes of up to 30,000 feet.

It eliminates geographic barriers to access Medanta's super specialized medical expertise at any time of the day and year.

b) Critical Care Units:

A dedicated team of anesthesiologists and surgical intensivists, critical care nurse practitioners, and respiratory therapists make up Medanta's Critical Care Unit. All of the Intensive Care Units, High Dependency Units, and Post-Operative Recovery rooms are well-equipped and staffed, with strict infection control and isolation policies in place.

- Equipped to handle all kinds of medical eventualities

- 1:1 patient to nurse ratio trained under critical care doctors.
- Strict protocols to deliver consistent & quality care
- Specially planned infrastructure

c) Lab Tests and diagnostics:

<u>Lab Tests</u>	<u>Radiology Tests</u>	<u>Diagnostic Tests</u>	<u>Advanced Tests</u>
Blood, urine or body tissue samples	Xray, Ultrasound and other Imaging technology	To determine individual's specific areas of weakness using external technology	Hi-tech equipment's to diagnose life threatening diseases
Eg. CBC, Random Glucose Test, LFT, RFT, Serum Electrolytes, Urine Analysis, etc	Eg. CT Angiography brain, DEXA Scan, Doppler abdomen, HRCT Chest, Chest Xray	Eg. Bone Marrow Aspiration, Cardiac and Dengue Profile, Malarial Parasite, etc	Eg. BRAF Mutation Analysis, Growth Hormone Analysis, JAK 2 Mutation Analysis, Leukemia Genetic Profile, etc

d) E clinic and telemedicine:

With declining communication barriers and the advent of telecommunications, doctors at Medanta are now available on your smart phone or computer screen from wherever you are.

With every online visit the prescriptions, reports, and other health records are documented and smartly organized, that enables their access from one place, anytime and anywhere.

e) Home Sample collection:

The trained crew of phlebotomists will collect samples from your preferred location at a predetermined time for a variety of tests or the clinically designed health packages.

The tests are done in NABL certified Medanta labs and the Reports are made available through email.

- FREE home sample collection
- NABL accredited labs

- Highly trained phlebotomists
- Accurate reporting
- Same day results for routine tests
- On-time sample collection

f) Medicine Delivery:

Order and receive 100% genuine by sharing the prescription through WhatsApp, a trained pharmacist confirm the order on call and order will be dispatched.

- No delivery charges
- Same day delivery in Gurugram
- 100% authentic medicines
- Wide range of products
- Easy order placement
- Hassle free returns and refunds

1.7 General Findings:

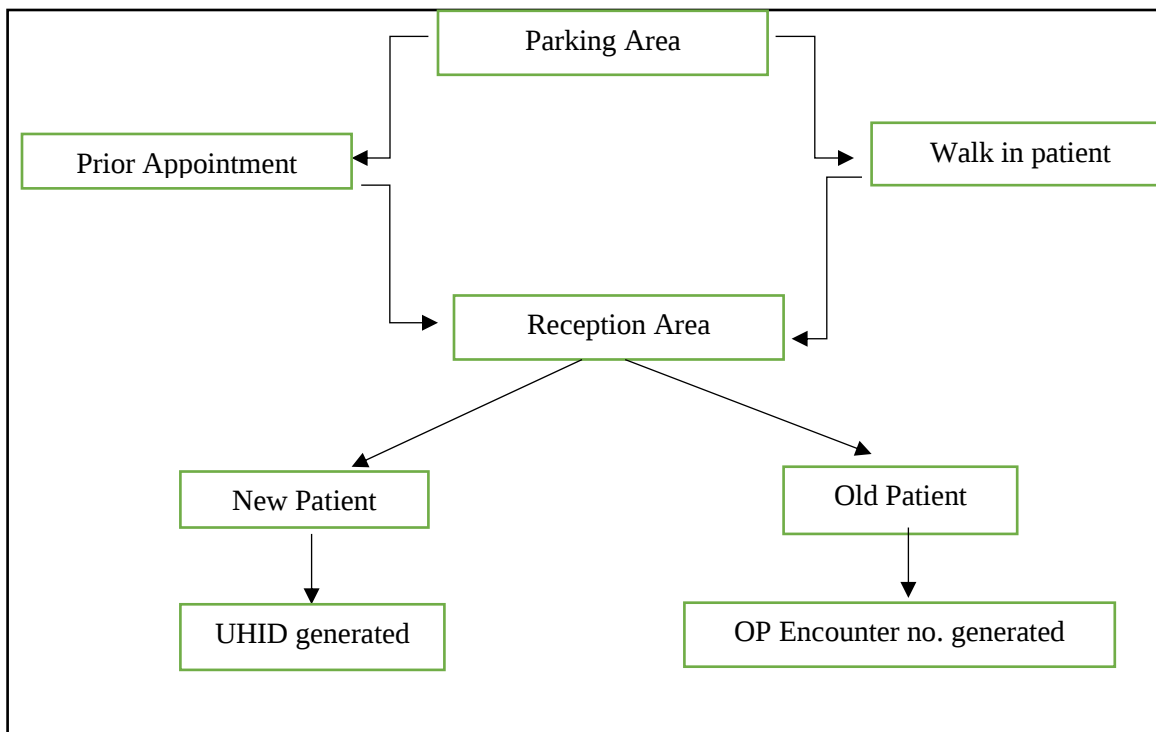
The general findings of my project include process flow and layouts of various departments.

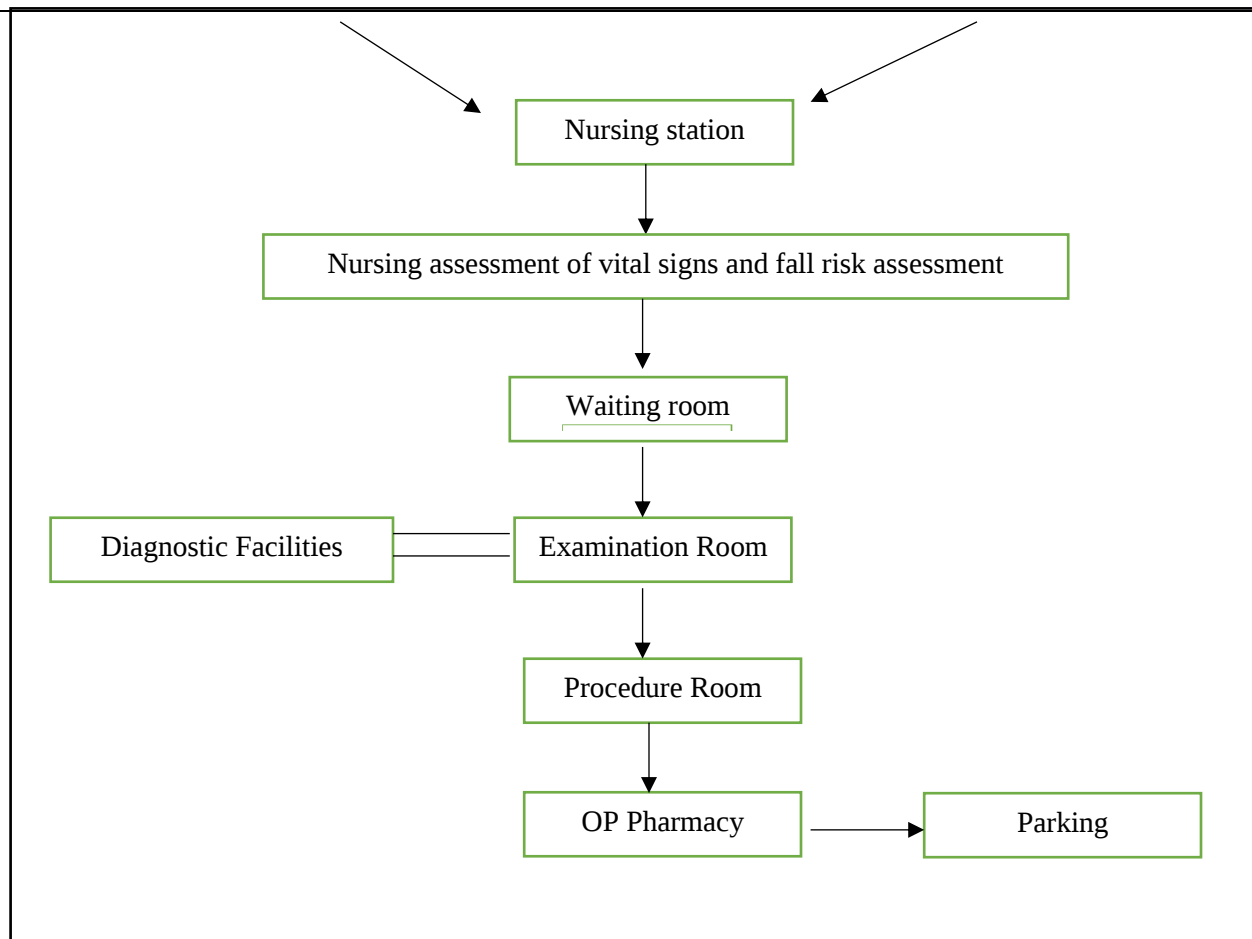
a) OPD:

Each institute in Medanta has its separate floor with its own OPD and day care section, where required, as well as the IPD.

The following is the general process flow of Medanta's OPD:

Fig1 Process flow in OPD



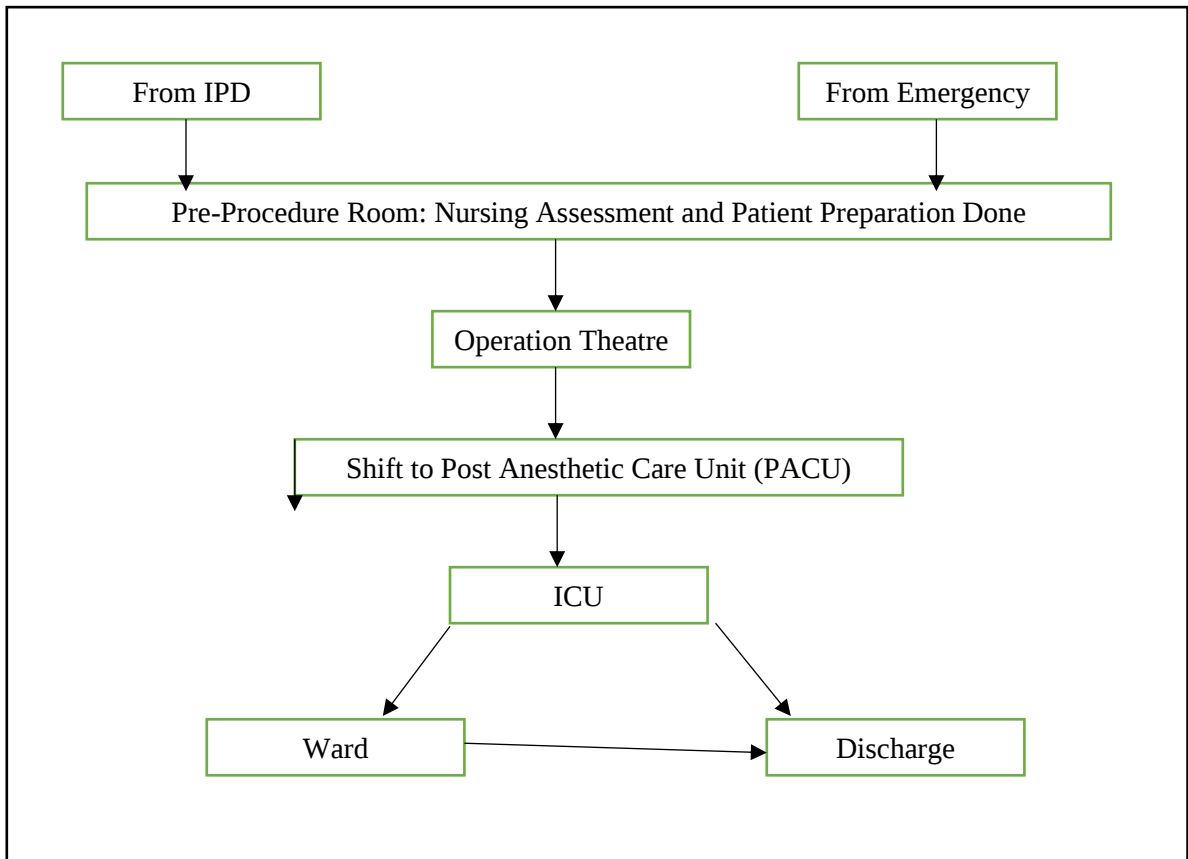


Each floor has its own separate OPD and a separate procedure room as well. All the appointment are recorded in HIS and a text message is sent to the patient confirming about the same. A reminder message is also sent a day before the appointment is scheduled. Moreover, the walk-in patients are also accommodated between the scheduled appointments and it was observed that the daily volume of patients was 3500- 4000 across all OPDs. The initial assessment is done by a junior doctor and the case is further supervised by a senior doctor.

b) OPERATION THEATRE:

There are currently 40 functional OTs in Medanta. The surgeries performed daily have been reduced to 40-60 surgeries each day due to the ongoing pandemic situation. The general flow in an OT is as follows

Fig 2: Process Flow in OT



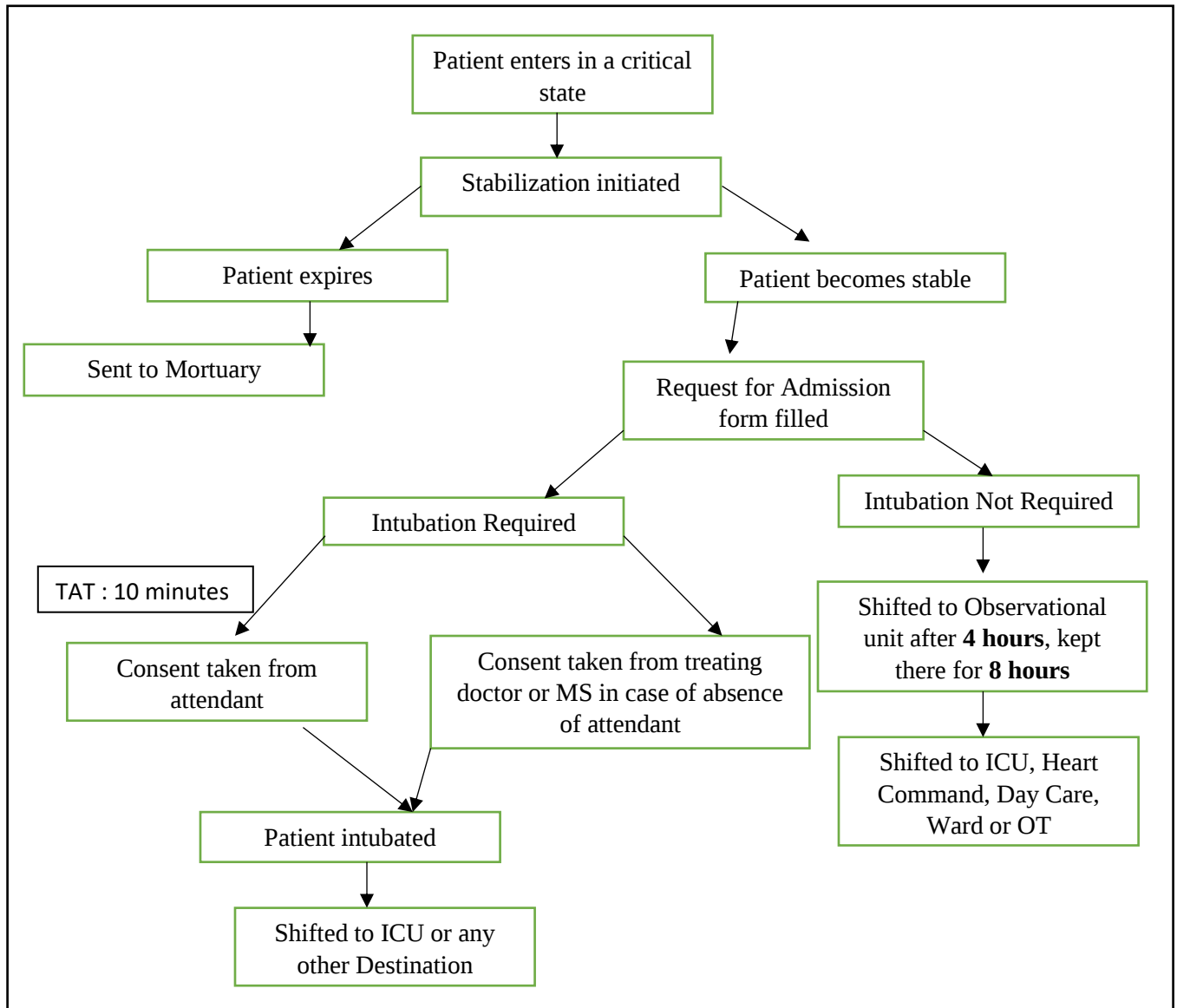
c) Emergency Department:

The Emergency Department is situated on the Upper Ground Floor. The entrance of the emergency department is different from the main entrance so that there is no delay in the treatment of critical cases.

The Emergency Department receives about 150-170 cases per day and has been divided into the following areas:

- Triage
- Observational Area
- Day Care
- Heart command
- Procedure Room
- Emergency OT

Fig 3: Process Flow in Emergency Department



d) Radiation oncology:

Situated on the lower ground floor, the radiation oncology department has an Integrated Brachytherapy unit for intra and post-operative treatment for cancer. The norms in this department follow the AERB (Atomic Energy Regulatory Board) standards.

e) Intensive Care Unit:

The ICUs in Medanta have been distributed as follows:

ICU Number	Details
ICU 1	22 beds (16 for cardiac and 6 pediatric)

ICU 2	22 beds (CTVS)
ICU 3	22 beds (General 10, Neuro Surgery 10, Dialysis 2)
ICU4	22 beds (liver transplant 8, Gastro GI 14)
ICU5	24 beds (Medical ICU 18, General Pediatrics 6)
Ortho ICU	12 beds
HCC	18 beds
ICCU	22 beds (CTVS12, Cardiac 4, Kidney Transplant 6)
Pre and Post Cath Lab	26
HDU	11 th Floor (10 beds)

f) CSSD:

The Central Sterile Supply Department is situated on the lower ground floor.

The various areas of CSSD are as follows:

- Receiving Area:
 - Receiving of infected instruments and verifying the quantity
 - Washing of these instruments under water and ultrasonic cleaners
 - Drying these instruments with air gun and putting them in a Yorco Oven for further drying
 - Putting them in a washer disinfection machine
- Processing Area:
 - Receiving clean instruments and which are separated by the personnel according to the provided checklists
 - Putting them into trays that are wrapped with a double layer of infection control
 - Labelling the trays and putting thrium indicators as a measure of the quality of sterilization
 - The method of sterilization used is LTSF (Low Temperature Steam Formaldehyde) or Plasma Sterilization
- Sterile Area:
 - Collecting the sterile instruments in the sterile zone
 - Separating the equipment's as per the quantities received from each department and putting them in separate racks
 - Low temperature and positive pressure should be maintained in this area
- Issue Area:

- Sending the instruments directly to OT through the lift in the issue area in order to prevent cross contamination
- Sending all other instruments on covered trolleys to issue areas of specific departments

g) Dietetics, and Food and Beverages:

These departments are situated on the lower ground floor. Both of these are responsible for managing the dietary requirements of the patients. The FnB department caters to around 7000 meals per day. Most of the FnB functions are outsourced in order to cater the crucial yet delicate needs of the patients coming to the hospital.

The equipment's in the kitchen are the property of GHPL Pvt. Limited. The outsourced company that is to be referred to as the Partnering Company has the responsibility of bringing in only light equipment which are color coded in order to prevent cross contamination.

Both the partnering company and GHPL Pvt Ltd work jointly towards maintaining the quality standards as they both maintain service level agreements with each other.

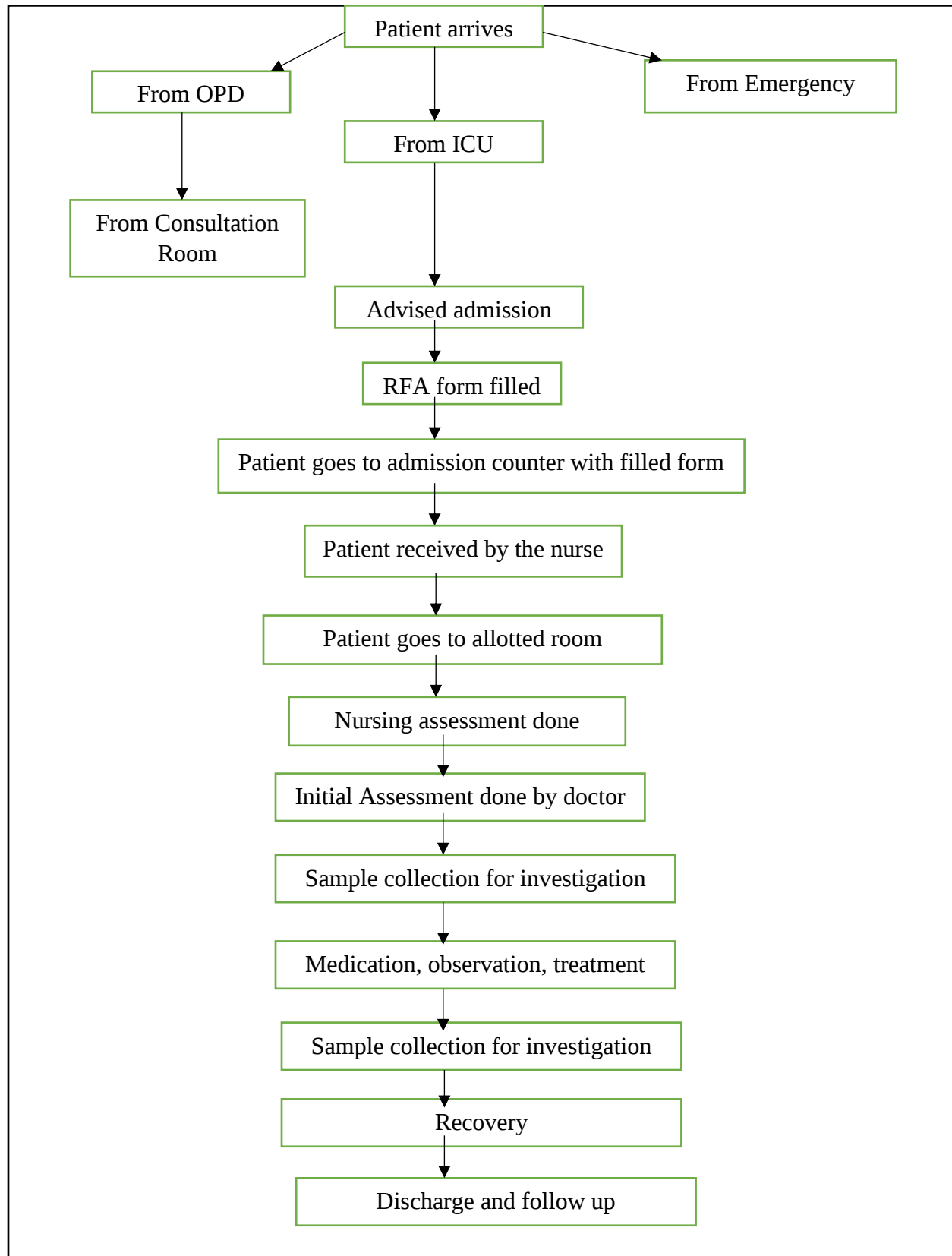
The Dietetics department works closely with the patient and ensures that the meal presented to the patient is in compliance with the treatment that is going on in Medanta, The Medicity. In order to deliver on this front, the dietician takes periodic rounds in each room of the department allotted to them solving every patient's query regarding the diet and coordinating with the kitchen to ensure that quality service is provided to the patient.

h) In Patient Department:

Each clinical institute has its own In-Patient Department.

The process flow of inpatient department is as follows:

Fig 4 Process Flow in IPD





PROJECT REPORT

ON

**A COMPARATIVE STUDY ON THE TURN AROUND TIME
FROM PATIENT ADMISSION IN THE WARD TILL THE
CHEMOTHERAPY DRUG ADMINISTRATION**

AT

MEDANTA, THE MEDICITY, GURGAON

2.1 INTRODUCTION

Cancer is a disease in which some of the body's cells grow out of control and spread to other parts.

Cancer can start in almost any place of the body. Cell division is a process through which human cells develop and proliferate in order to produce new cells as needed by the body. As cells age or become injured, they die and are replaced by new cells. This well-ordered system can occasionally fail, resulting in abnormal or damaged cells growing and replicating when they shouldn't, resulting in tumours. Tumors, however, might be cancerous or non-cancerous.

Cancerous tumours, also known as malignant tumours, spread to nearby tissues and can spread to other areas of the body, resulting in the formation of new tumours. This, in medical terms, is known as metastasis. Benign tumours, unlike malignant tumours do not spread to neighbouring tissues and seldom grow again after removal. However, some benign tumors can be life threatening, such as benign tumors in the brain.

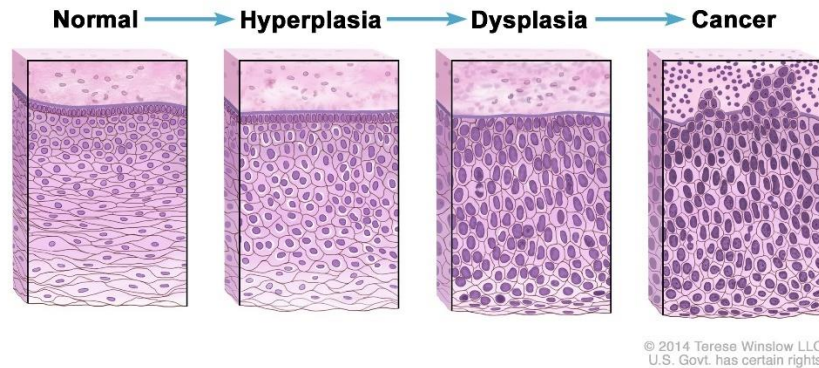
Solid tumours, such as Breast Cancer, are a solid mass of cancer cells that can grow in organ systems and occur anywhere in the body.

Leukemia, Lymphoma, and Myeloma are examples of liquid tumours that develop in the blood, bone marrow, or lymph nodes.

Types of cancer:

- i) Carcinoma
- j) Sarcoma
- k) Lymphoma
- l) Myeloma
- m) Leukemia
- n) Melanoma

Normal Cells May Become Cancer Cells



Normal cells can become cancer cells through undergoing abnormal alterations known as hyperplasia, in which the number of cells in an organ or tissue increases but seems normal under a microscope, and dysplasia, in which cells appear abnormal under a microscope but are not cancerous.

Chemotherapy works by slowing or stopping cancer cells from growing and multiplying. Chemotherapy is a type of treatment that is used to treat cancer, minimise the likelihood of it recurring, or slow the progression of the disease. Chemotherapy can also be used to shrink tumours that are causing discomfort or other symptoms.

Chemotherapy can be used in conjunction with other treatments, such as:

- Reduce a tumor's size before undergoing surgery or radiation therapy. This sort of treatment is known as neoadjuvant chemotherapy.
- Dispose of any cancer cells that survived surgery or radiation therapy. This sort of treatment is known as adjuvant chemotherapy.
- Assist other treatments in their efficacy.
- Kill tumour cells that have spread or returned to other parts of your body.

Chemotherapy can be administered in various ways. The most common ways are:

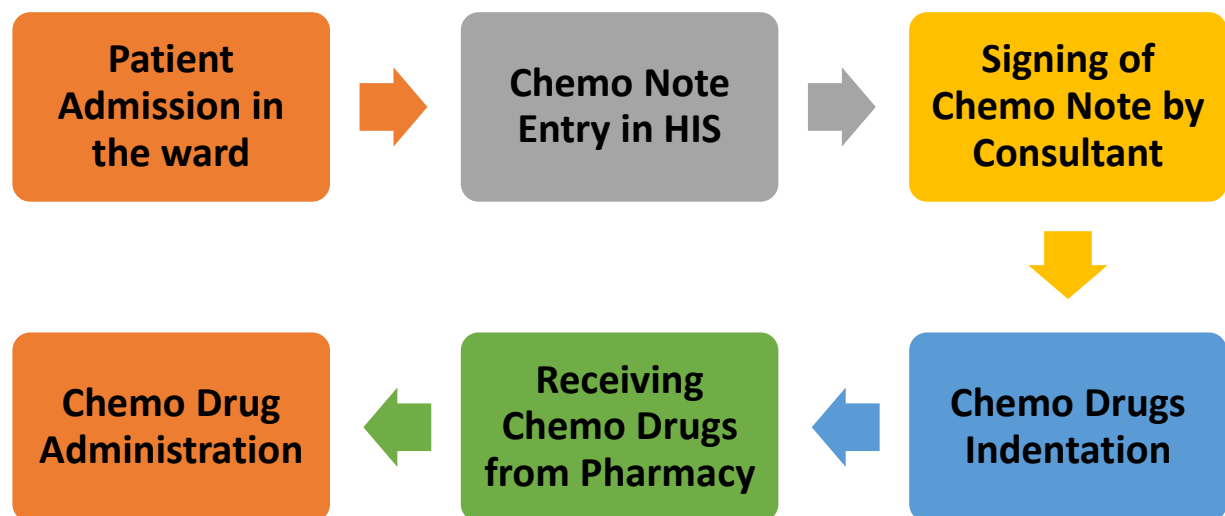
- **Oral administration:** pills, capsules, or liquids
- **Intravenous (IV):** This type of medication is injected straight into a vein.
- **Intramuscular:** Injected into the muscle of your arm, thigh, or hip, or just beneath the skin in the fatty region of your arm, leg, or belly

- **Intrathecal:** Injected into the gap between the layers of tissue that cover the brain and spinal cord
- **Intraperitoneal (IP):** Enters the peritoneal cavity directly.
- **Intra-arterial (IA):** Injected directly into the cancer-causing artery.
- **Topical:** A cream that is applied to the skin.

The sort of chemotherapy medications that can be used in a treatment plan is determined by the following factors:

- Cancer type and stage
- Any previous chemotherapeutic treatment
- Any underlying health issues, such as diabetes or heart disease

2.2 PROCESS FLOW OF CHEMOTHERAPY PATIENTS IN MEDICAL ONCOLOGY AND HEMATOLOGY DEPARTMENT (INPATIENT)



2.3 GENERAL PRINCIPLES FOR TIMELY CHEMO DRUG ADMINISTRATION:

1. The appointment for the chemotherapy session is made when the patient first enters the OPD or when the patient is discharged from the last chemotherapy session. All of the patients, as well as the medical team, are aware of when the next session is scheduled.
2. Chemotherapy administration planning begins as soon as the patient is admitted to the ward. However, not all chemotherapies are delivered on schedule due to delays in various in between steps, resulting in wasted time for both patients and doctors. Observing each stage till the chemo medication is administered can assist in identifying holes in the process flow.
3. The doctors and the TL are informed as soon as the patient enters the ward.
4. The designated doctor then creates a chemo note in the HIS, listing all of the medicines that must be provided during that session, along with their proper dosages.
5. The chemo note is then handed over to a GDA, who takes it to the assigned consultant, who checks all of the medicines and signs the chemo note if there is no change in the drugs.
6. The signed chemo note is then brought to the pharmacist, who indents all of the chemo medications in the HIS, which the IPD pharmacy on the top ground floor is then able to see and send to the department.
7. After the pharmacy has handed over the medications, the TPT crew transports them to the floor.
8. The medications are subsequently received by the assigned chemo staff, who then verify them with the doctors. The drugs are then mixed and double-checked by the doctors.
9. The patient is subsequently administered the chemotherapy medicine.

2.5 RESEARCH QUESTION

1. What are the reasons for delay in chemotherapy drugs administration?
2. How has the turnaround time changed after taking necessary actions?

2.6 OBJECTIVES

1. To analyze the steps involved in chemotherapy administrations and compare them with the expected turnaround time.
2. To identify the gaps leading to the delay in chemo drug administration
3. To find out areas of improvement in the chemotherapy administration process
4. To compare the turnaround time after taking the necessary steps

2.7 METHODOLOGY:

- **Study area:** Medanta, The Medicity, Gurgaon
- **Study Design:** A prospective, observational time motion study was conducted in the in-patient department in Medanta, The Medicity from May 13,2021 to June 12, 2021
- **Sampling Unit:** Patient getting admitted to the inpatient department for chemotherapy
- **Sample Size:** 150 patients sample size was taken to detect the gaps in the chemo process and 100 patients was taken to identify the changes in the turnaround time of chemo process
 - **Defined a problem:** 11.05.2021 to 12.05.2021
 - **Measurement of data:** 13.05.2021 to 29.05.2021 and 2.06.2021 to 12.06.2021
 - **Analyzed the data:** 13.06.2021 to 24.06.2021
 - **Inclusion Criteria:** All the patients admitted in the ward for their first or subsequent chemo sessions
 - **Exclusion Criteria:** Day care chemo patients
 - **Sampling Technique:** The sampling technique used was Random Sampling

2.8 FINDINGS

During the study period, 150 patients received chemotherapy medications, and the average time from patient admission to chemotherapy delivery for patients on their first cycle was **3 hours and 52 minutes.**

For patients admitted for various chemotherapy cycles, the average time from entering a chemo note in HIS to administering chemotherapy drug is **3 hours 29 minutes**

**Time from patient
admission till chemo drug
administration**

3 hours 52 minutes



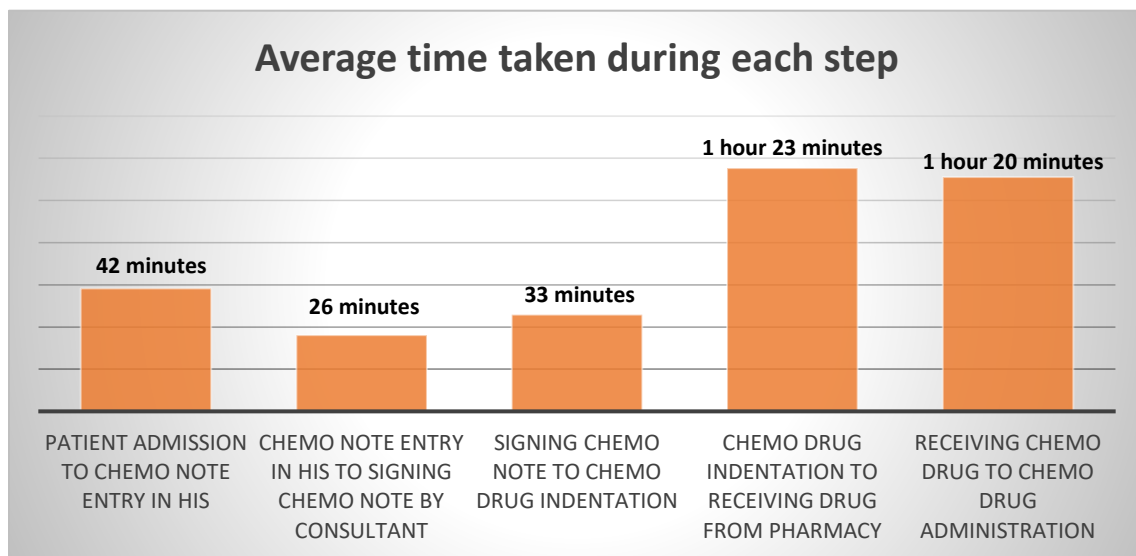
**Time from chemo note
entry in HIS to chemo drug
administration**

3 hours 20 minutes



Average Time taken during each step:

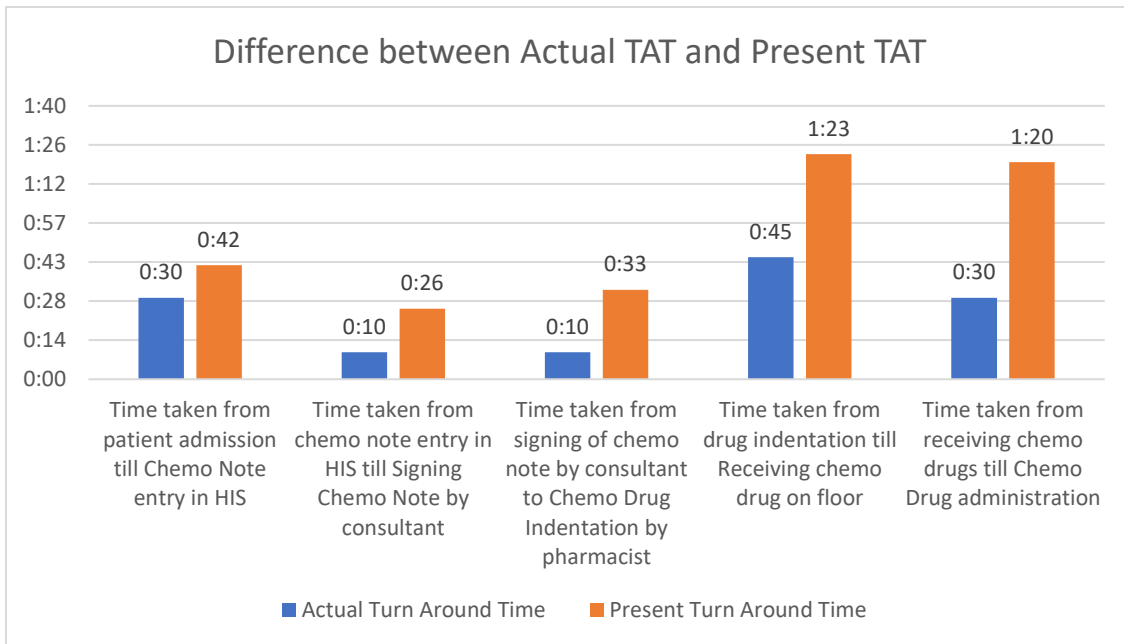
- Time taken to enter chemo note in HIS from the time of patient admission: **42 minutes**
- Time taken by the consultant to sign the chemo note: **26 minutes**
- Time taken by the pharmacist to indent the drugs: **33 minutes**
- Time taken to reach the drugs on floor from the IPD pharmacy: **1 hour 23 minutes**
- Time taken by the chemo staff to administer the chemo drugs: **1 hour 20 minutes**



2.9 DATA ANALYSIS AND INTERPRETATION

Step	Actual Turn Around Time	Present Turn Around Time	Difference between actual and present TAT
Time taken from patient admission till Chemo Note entry in HIS	30 minutes	42 minutes	<u>12 minutes</u>
Time taken from chemo note entry in HIS till Signing Chemo Note by consultant	10 minutes	26minutes	<u>16 minutes</u>
Time taken from signing of chemo note by consultant	10 minutes	33 minutes	<u>23 minutes</u>

to Chemo Drug Indentation by pharmacist			
Time taken from drug indentation till Receiving chemo drug on floor	45 minutes	1 hour 23 minutes	<u>38 minutes</u>
Time taken from receiving chemo drugs till Chemo Drug administration	30 minutes	1 hour 20 minutes	<u>50 minutes</u>



Interpretation: It could be observed that there is significant delay in all the steps and the Present TAT is more than the actual TAT.

Reasons for delay:

- The chemo notes were seen lying around at the counter and no GDA would be present to take the chemo note to the consultant in the OPD.
- Sometimes, due to absence of consultants in their rooms also lead to delay in chemo drug indentation in HIS.
- There was also a delay from In patient Pharmacy to send the drugs on floor on time leading to about 40 minutes delay from drug indentation to receiving of drugs.
- It was also observed that even after the TPT was present with the chemo drugs on the floor, no nursing staff was available to receive the drugs which lead to further delay in chemotherapy drug administration.

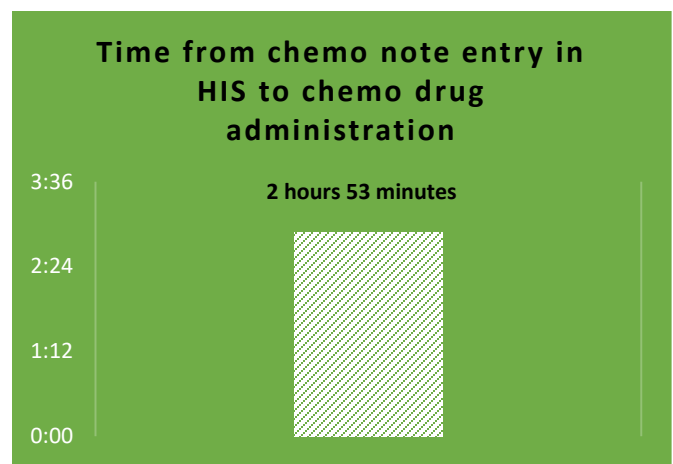
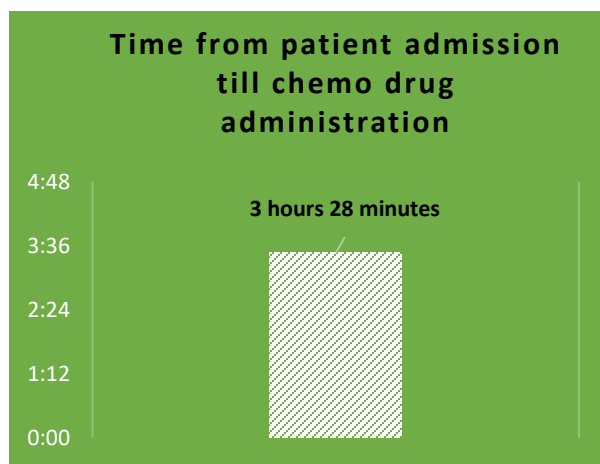
2.10 STEPS TAKEN FOR IMPROVEMENT

- The doctors were intimated well in time about the patient admission in ward.
- The entire GDA was told to keep a check at the counter so that no chemo notes were seen to be lying around, and one GDA was assigned exclusively to taking the chemo notes and getting them signed.
- The IPD pharmacy was informed of the drug delay, and the data gathered was sent to them via email so that they could inform the rest of the employees and TPT team.
- More emphasis was placed on the chemo staff receiving the drugs, so that there would be no delay between the drugs arriving on the floor and the staff receiving them so that the drugs could be administered on time.

2.11 POST IMPROVEMENT FINDINGS

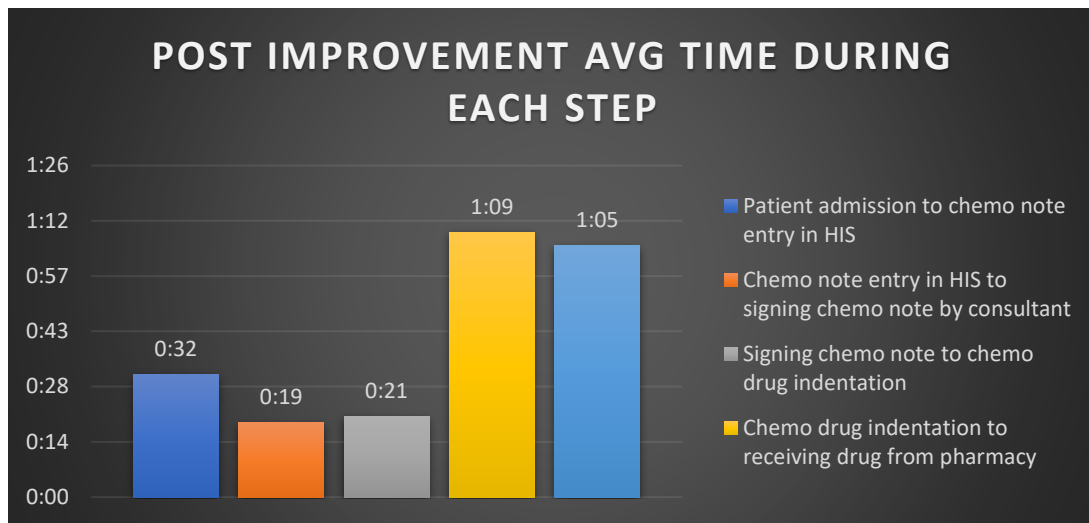
During the study period, 100 patients received chemotherapy medications, and the average time from patient admission to chemotherapy delivery for patients was **3 hours and 28 minutes.**

The average time from entering a chemo note in HIS to administering chemotherapy drug is **2 hours 53 minutes** for future sessions.

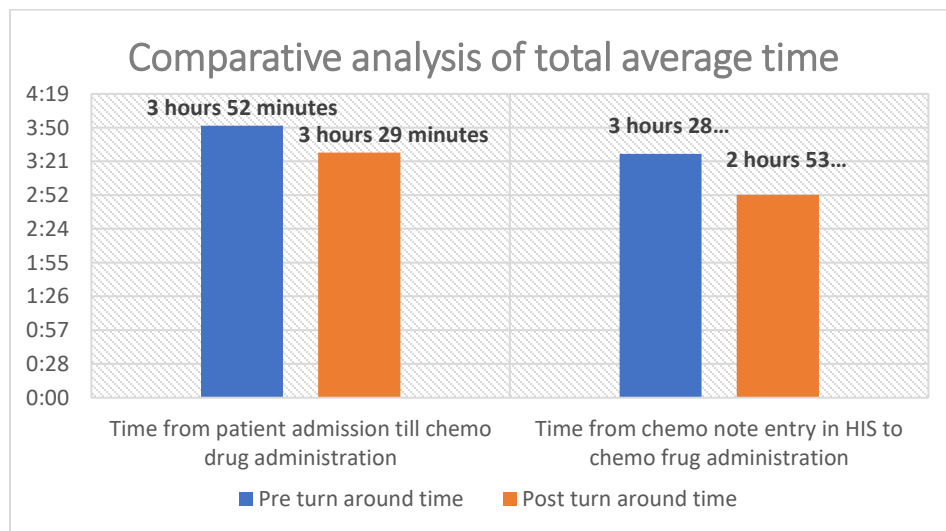


Average Time taken during each step:

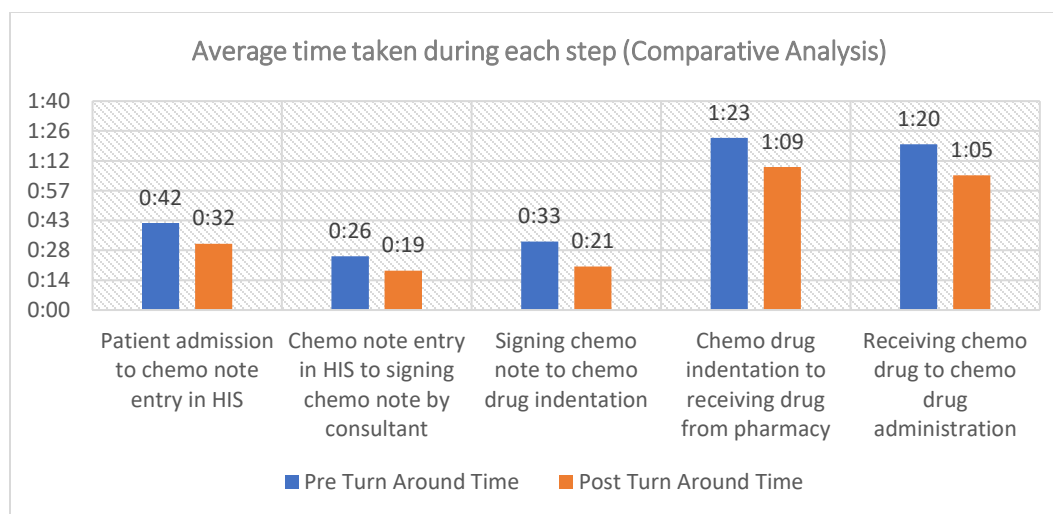
- Time taken to enter chemo note in HIS from the time of patient admission: **32 minutes**
- Time taken by the consultant to sign the chemo note: **19 minutes**
- Time taken by the pharmacist to indent the drugs: **21 minutes**
- Time taken to reach the drugs on floor from the IPD pharmacy: **1 hour 09 minutes**
- Time taken by the chemo staff to administer the chemo drugs: **1 hour 05 minutes**



2.12 COMPARATIVE ANALYSIS



Step	Pre-Turnaround time	Post Turn Around Time	Difference between pre and post turnaround time
Chemo Note entry in HIS	42 minutes	32 minutes	<u>10 minutes</u>
Signing Chemo Note by consultant	26minutes	19 minutes	<u>5 minutes</u>
Chemo Drug Indentation in HIS	33 minutes	21 minutes	<u>12 minutes</u>
Receiving chemo drug on floor	1 hour 23 minutes	1 hour 09 minutes	<u>14 minutes</u>
Chemo Drug administration	1 hour 20 minutes	1 hour 05 minutes	<u>15 minutes</u>



Interpretation: After following the recommendations, it could be observed that the overall time from patient admission till chemotherapy administration has **reduced by 24 minutes** for the and the overall average time from chemo note entry till patient admission is **reduced by 36 minutes**.

Moreover, the average time on each step has also **reduced by 5 minutes to 15 minutes**, and hence more crucial steps should be taken to reduce the average time for chemo administration.

2.13 RECOMMENDATIONS

- **Separate storage area for chemo drugs:** A storage area on the floor should be developed for extra chemo drugs so that drugs can be administered to the patients well in time.
- **An IPD pharmacy on the floor:** A pharmacy on floor of Medical Oncology and Hematology department should be built so that the delay caused due to receiving of

drugs from pharmacy located on the upper ground floor can be reduced thereby decreasing the TAT of chemo drug administration.

2.14 DISCUSSION AND CONCLUSION

In this study the mean time taken from patient admission to chemotherapy administration was **3 hours 52 minutes** from patient admission to chemotherapy drug administration which was later **reduced to 3 hours and 29 minutes** after taking necessary steps for improvement.

The reason for delay was observed to be maximum due to the **delay in drugs reaching to the floor from the In patient pharmacy** (38 minutes more than the actual TAT) and delay **by the chemo staff to administer the drugs** (50 minutes more than the actual TAT) followed by delay in chemo drug indentation mostly due to absence of GDA to pick the chemo note from the consultant's room or absence of the consultant itself.

After doing the root cause analysis, steps for improvement were taken in order to reduce the TAT in chemo drug administration. It was observed that the **overall mean time of each step was reduced by 5 minutes to 15 minutes that led to decrease in the overall TAT by 36 minutes.**

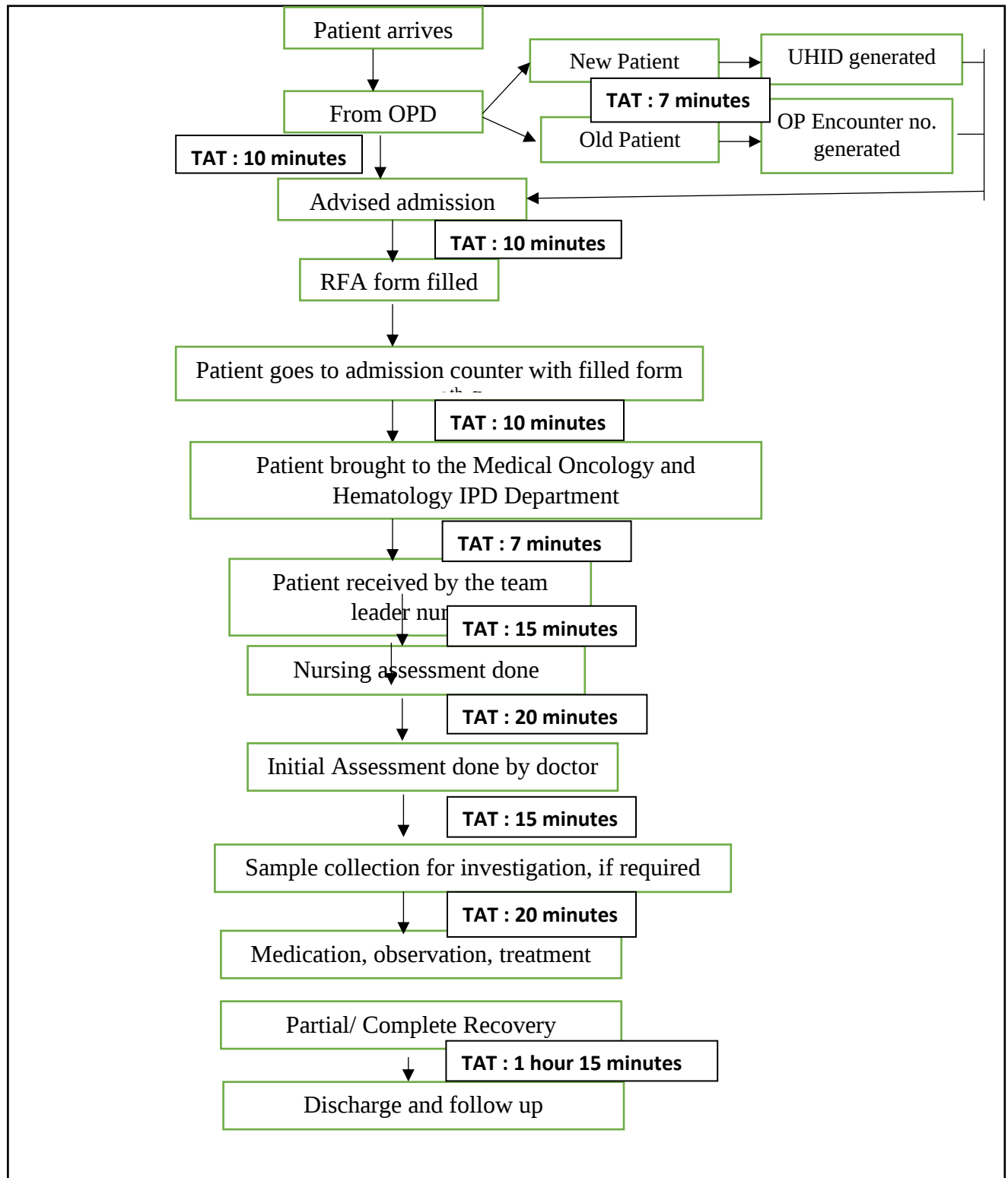
It can be concluded that more rigorous steps should be taken to reduce the overall turnaround time in order to avoid delay in drug administration to the patient.

ANNEXURE

1. Excel Sheet containing data:

https://drive.google.com/file/d/1tKV3d9bF7I6ZE9Lf1CjrsH7_5Gb_9_Ue/view?usp=sharing

2. Process flow in the IPD Department of Medical Oncology and Hematology



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