

SUMMER TRAINING

at

MAX SUPER SPECIALITY HOSPITAL, MOHALI

10th May - 2nd June,2021

A Report

by

DR. AISHWARIYA

Roll Number: IIHMR-U/01/2020-22/1054

MBA – HOSPITAL AND HEALTHCARE MANAGEMENT

Batch 2020-2022



Ref: MOH/TR/CP/J707

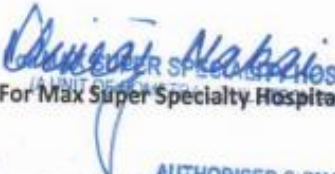
02-July-2021

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Dr. Aishwariya D/O Sh. Debendra Nath Behera Student of IIHMR University, Jaipur, has completed her internship in the department of Hospital Operations at Max Super Speciality Hospital, Mohali on 02-July-2021.

During the training (10th May 2021 to 02nd July, 2021) her project title was "Discharge Process. She was part of the hospital set up and reporting to Dr. Swati Marwaha.

We wish her all the best in her future endeavors.


For Max Super Speciality Hospital (A unit of Hometrail Buildtech Pvt. Ltd.)
AUTHORISED SIGNATORY
Shivraj Singh Nakal

Unit Head-Human Resource

Acknowledgement

I would hereby take this opportunity to express my sincere indebtedness to my mentors, friends and family who have helped me accomplish this report.

I would like to begin with Dr. Swati Marwaha, Quality Department Head at Max Super Speciality Hospital, Mohali, who guided me and helped me learn about the working of the organization and gave me an opportunity to work on my project. I would also like to thank Dr. Jasbir Kaur (MS) for her encouragement and motivation during my journey of internship. I would also like to express my sincere gratitude to all the staff of the hospital who helped me at every step of my internship period.

I am particularly thankful to my mentor -Dr. Nutan Jain (Professor at IIHMR University, Jaipur) who had guided me throughout the summer training period to make this project.

Through this project, I am enlightened to have added so much knowledge and experience from such dignitaries.

Lastly, my heartfelt thank you to Almighty for giving me this opportunity and keeping me safe throughout my internship journey from COVID.

Table of Content

Serial number	Contents	Page No
1	Organization Profile	9
2	Organogram of the Organization	30
3	Project Title	32
4	Introduction	33
5	Review of Literature	36
6	Rationale/ Study Question/ Study Objective	37
7	Methodology	38
8	Results	40
9	Discussion	49
10	Conclusion	50
11	References	51

LIST OF TABLES

Number	Title	Page No.
I	Weekly activities	6
1.1.	Floor Map	12
1.2.	Color coding of TRIAGE	14
1.3.	Number of ICU	20
2.1.	Distribution of Average TAT for Cash Patients	43

LIST OF FIGURES

Number	Title	Page No.
1.1	Patient flow in Accident and Emergency	13
1.2	Process flow of OPD	16
1.3	Process flow of admission for IPD	17
1.4	Process flow of Operation Theatre	19
1.5	Process flow of Cath Lab	21
1.6	Process flow of Laboratory	21
1.7	Process flow of patient in Radiology Department	23
1.8	Process flow of IP Pharmacy	23
1.9	Process flow of OPD Pharmacy	24
1.10	Process flow of Assessment of dietician	28
1.11	Process flow of CSSD	29
2.1	Discharge flow chart	42
2.2	Percentage of Cash and TPA patients	43
2.3	Average time taken in the process of discharge in Cash patients	44
2.4	Distribution of average TAT for TPA patients	44
2.5	Average time taken in the process of discharge in TPA patients	45
2.6	Distribution of time taken for Insurance approvals in TPA patients	45

ACRONYMS/ABBREVIATIONS

- CATH Lab: Catheterization Laboratory
- CCU: critical care unit
- CPRS: computerised patient records system
- CTVS ICU: Cardiothoracic and vascular surgical intensive care unit
- EEG: Electroencephalography
- EMG: Electromyography
- GDA: general duty Assistant
- HIS: hospital information system
- IPD: inpatient department
- LINAC: Linear Accelerator Radiation Therapy
- LOS: length of stay
- MDP: medical termination of pregnancy
- MLC: medicolegal case
- MRD: medical records department
- NABH: national accreditation board for hospital and healthcare provider
- NABL: national accreditation board for testing and calibration laboratories
- NCS: Nerve conduction study
- NICU: neonatal intensive care unit
- OPD: Outpatient department
- OT: Operation theatre
- SICU: surgical intensive care unit
- TPA: third-party administrators

ABOUT THE INTERNSHIP

This report has been prepared by a Summer Trainee at the end of 1st year of MBA in Hospital and healthcare management from Indian Institute of Health Management and Research. The internship was completed from MAX Super Speciality Hospital, Mohali from the period of 10th May 2021- 2nd June 2021. The key objectives for this Internship were to get exposure to the organization and the functions of organization. It would help to have a better understand and learn day to day micro level operational management of the hospital/healthcare organisation. Also, it would help to identify the issues / problems associated with any specific operational area and to provide solutions to the identified problems.

Through this internship, the intern was given an opportunity to physically visit the hospital and the various departments of the organisation. The Intern was posted in the Hospital Operations Department and was working under the supervision of the Medical Superintendent. The organisation mentor was the Head of Quality Department, she guided me throughout my internship and had given me the responsibility of managing the Discharge process of IPD patients. Due to COVID, the second floor of the hospital was converted for COVID cases, so my process of managing discharges was limited to first and the third floor IPD wards.

Table I. Weekly activities

WEEK	ACTIVITY	OBJECTIVE	KEY LEARNING
1 (May 10 – 15, 2021)	Observed the working of IPD, OPD & Emergency	To understand the process flow of the IPD, OPD and Emergency department.	Learnt the process flow of patients in OPD; learnt how the beds are designated in case of emergency and triage; and what is the process for hospitalization of the patient ; learnt about the machines and staff members assigned for each work in the department.
2 (May 17 – 22, 2021)	Observed the working of Operation theatre, ICU and Cath labs	To understand the process flow of Operation theatre, ICU and Cath labs	Learnt about the various procedures done in the Operation Theatre and Cath Labs; learnt about the process flow of patient in ICU , Cath lab and OT ; learnt which department has how many designated OT and ICU in the hospital ; Interviewed the OT manager for understanding the procedure allotment time and techniques used for disinfecting the OT and how the waste was managed of the OT.
3 (May 24 – 29, 2021)	Observed the working of allied departments like Pharmacy,	To understand the process flow of the allied departments.	Learnt about the functioning and process flow of two type of pharmacy : IP pharmacy and OPD pharmacy ; Learnt about the different areas and their purpose in the blood bank and how the blood was segregated and

	Blood bank, Laboratory , MRD , Radiology , CSSD , Food and beverage department , & Security .		stored ; learnt the process flow of sample collection and testing in the laboratory ; Learnt how the files were stored and till what duration the case files were stored of the patients and what all documents are attached in the case file which is stored in the MRD room ; Learnt the functions of the security department and how to manage in case of emergency ; learnt the timing and the type of food served to IPD patients ;learnt the procedures done in radiology department and what all machines are kept in the department ; Learnt about the CSSD services , their process flow and types of machines used for sterilization.
4 (May 31 – June 5, 2021)	Observation of the discharge process	To understand the process flow of discharge for IPD patients	Learnt the process of discharge ; met the Resident medical officer and consultants of various departments in regard with the coming morning discharges.
5 (June 7 – 12, 2021)	Auditing of the discharge summary	To understand the reasons for delay in the discharge summary	Learnt the use of CPRS and HIS system to track the discharge progress and delays.
6 (June 14 – 19, 2021)	Monitor the turnaround time for discharge process for Cash and TPA patients	To understand the gaps in the process of discharge and factors affecting the discharge process in Cash and TPA patient	Learnt the reasons for delay in the process of discharge in cash and TPA patients
7 (June 21 – 26, 2021)	Monitor the turnaround time for discharge process for Cash and TPA patients	To understand the gaps in the process of discharge and factors affecting the discharge process in Cash and TPA patient	Learnt the reasons for delay in the process of discharge in cash and TPA patients
8	Compiled the data of all the	To understand the gaps in the process of	Met the MS and presented the compiled data of 2 weeks and the factors causing the delay and learnt how

(June 28 – July 2, 2021)	discharges and based on the observations, presented a report on the discharge process in the organisation	discharge and factors affecting the discharge process in Cash and TPA patient	the management plans to take actions for the reducing the gaps and smoothen the process.
--------------------------	---	---	--

Chapter 1

ABOUT THE ORGANISATION



MAX SUPER SPECIALITY HOSPITAL, MOHALI



Max healthcare is one the leading providers of comprehensive world class healthcare services with 14 healthcare facilities across NCR-Delhi, Haryana, Punjab ,Uttarakhand and Maharashtra with about 3400 beds providing seamless and integrated services since 1985. Max Healthcare is promoted and led by Mr. Abhay Soi, its Chairman and Managing Director along with KKR group, an iconic Global Private equity fund.

Max healthcare follows the core principle of providing “**Patient Centred Care**” by successfully implementing the Medical Excellence Model. The pillars of this model include patient and staff safety, clinical governance, credentialing and clinical privileging of physicians and nurses, use of standardized and evidence based protocols, infection control and a continuous culture of audits and professional development.

Vision: “To be the most well-regarded healthcare provider in India committed to the highest standards of clinical excellence and patient care supported by the largest technology and cutting-edge research.” ^[1]

Purpose: To Serve, To Excel.

With commitment and compassion in their heart and to deliver the highest standard of patient centred care to those they serve From the best team of doctors and specialists, to the supporting staff , they serve by going an extra mile to deliver quality care as Excellence runs in the backbone of the organisation. ^[1]

Values: ^[1]

COMPASSION

EXCELLENCE

EFFICIENCY

CONSISTENCY

Accreditation: In 2013 , Max received its NABH and NABL accreditation for maintaining high standards in clinical care and support service and confirming their commitment towards continuous Quality improvement.

Max Super Speciality Hospital , Mohali , a 200 + bedded hospital established in September, 2011 in collaboration with Government of Punjab , surfaced in a build-up area of 3.14 acres. It has around 85 doctors , 350 trained staff and 26 specialities , committed in providing highest standard of medical excellence.

The average OPD per day was 300 to 400 patients and the average IPD discharges day were 20 to 30 patients.

The hospital has the following key areas of specialities:

- Cancer care / oncology
- Bone marrow Transplant
- Cardiac Sciences
- Bariatric Surgery / Metabolic
- Gastroenterology, Hepatology & Endoscopy
- Endocrinology and Diabetes
- Kidney Transplant
- Laparoscopic/ Minimal Access Surgery
- Liver Transplant and Biliary Sciences
- Neurosciences
- Urology
- Orthopaedics and Joint Replacement

Other key areas of speciality include:

- Aesthetic and Reconstructive Surgery
- Audiology and Speech Therapy
- Dental care
- Dermatology
- Ear Nose Throat

- Emergency and Trauma
- Eye care
- Infertility and IVF
- Internal Medicine
- Health and Wellness
- Interventional Radiology
- Lung Transplant
- Mental health and Behavioural Sciences
- Nephrology
- Nutrition and Dietetics
- Obstetrics and Gynaecology
- Paediatrics
- Pain Management
- Physiotherapy and Rehabilitation Medicine
- Radiology
- Pulmonology

Technological Advancements :

- TrueBeam Linac with Exactrac
- Intra-Operative and Portable CT scanner with navigation
- Digital Orthopaedic Suite for Hip and Joint Surgery
- Endoscopic Ultrasound
- Holmium Laser
- 4D ECHO Machine
- Bi-Plane Digital Cath lab
- Single Head Gamma Camera with SPECT
- CUSA Machine
- Brachytherapy
- CT Scan
- Ultrasound
- Interventional Radiology Suite

Table 1.1. Floor Map

Basement- 2	Basement - 1	Ground Floor	First Floor	Second Floor	Third Floor
Mould Room	Medical Record Room	Main Reception	NICU - 1	Medical ICU	IPD Rooms: 2300- 2371
Radiotherapy	In Patient Pharmacy	Emergency Department	NICU - 2	Renal ICU	Administration
CT Simulator	Engineering	OPD	Labour Room	IPD Rooms: 2200-2271	Laboratory
Reception	Control Room	Orthopaedics	SICU -1	Operation Theatre	Blood Bank
Admixing Lab	Laundry	Dental OPD	SICU -2		Doctor's Lounge
EMG/EEG/NCS Room	Biomedical Engineering department	Radiology	CTVS ICU		Seminar Room ECO WARD
LINAC Room	Housekeeping Store	Cardiology	CCU		
Oncology Day Care -1	Air Handling Unit	Preventive Health Programme	CATH LAB		
Oncology Day Care -2	AC Plant	Nuclear Medicine	Operation Theatres		
Brachytherapy	Dialysis Department	Waiting Lounge	OT Store		
Observation Area	Tailor room	Outpatient Pharmacy	Bronchoscopy / Endoscopy Room		
	Instrument Receiving Area	Cafeteria	Waiting Lounge		
	CSSD	OPD Billing	Nursery		
	Oxygen Plant Supply	IPD Billing	Cafeteria		
		Immigration			

EMERGENCY DEPARTMENT

An emergency department (ED) , also known as an accident & emergency department (A&E) is a medical treatment facility specializing in emergency medicine. It provides acute care of patients that present without prior appointment , either by themselves or by an ambulance. It might be a sudden illness or injury which requires immediate physician's attention to prevent danger of disability or death. Due to the unplanned nature of patient attendance, the department provides initial treatment for a broad spectrum of illnesses and injuries. It is located at the **Ground Floor** with its own entrance and operates **24hours** a day. The emergency department has a Triage room which consists of 6 oxygen cylinder beds, 1 Resuscitation suite, 5 Urgent care area , 1 intubation trolley , 1 ECG machine , 1 Store Room. There is a central reception area besides which is the nursing room, and behind which is the Doctor's Duty Room. The waiting area of the emergency department is situated outside near the entrance.

Figure 1.1. Patient Flow in Accident and Emergency

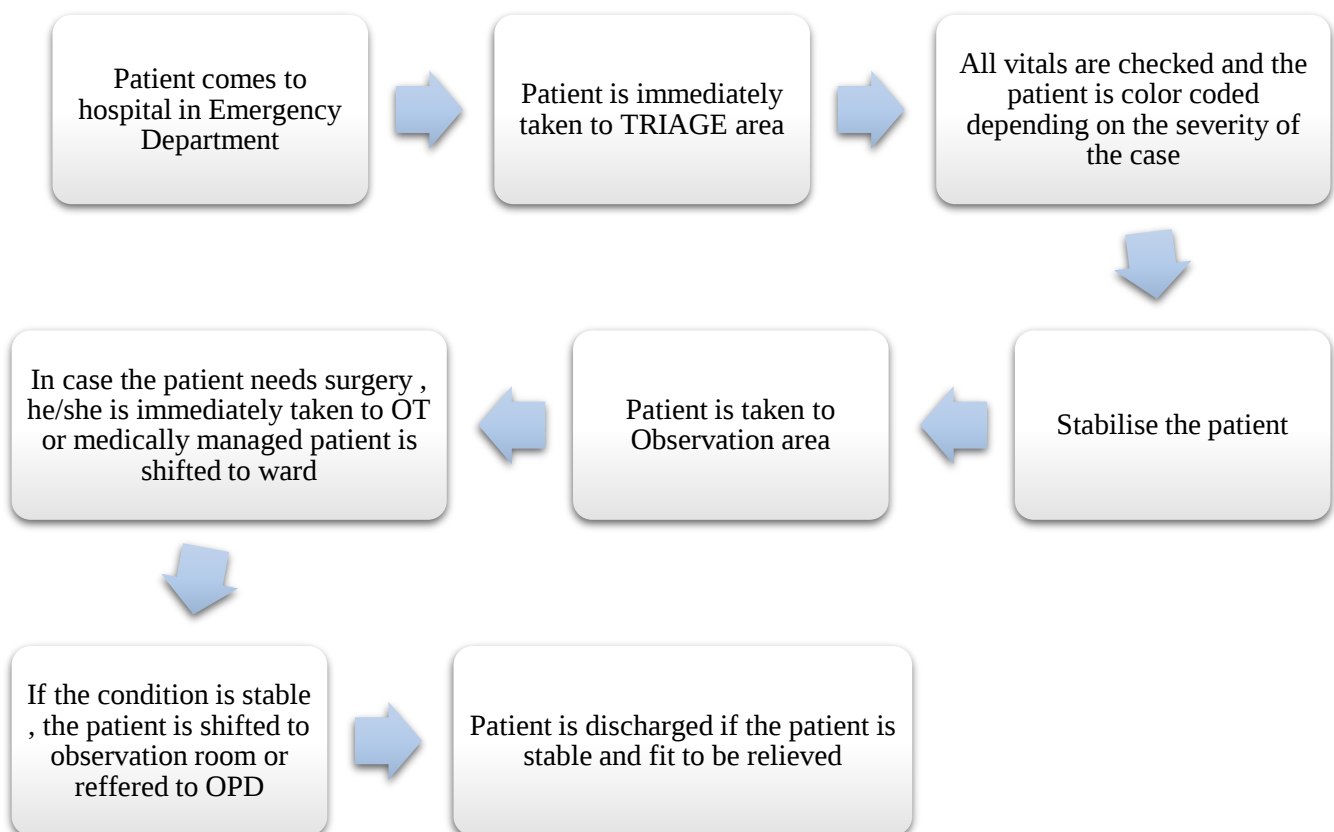


Table 1.2. Colour coding in TRIAGE:

	RED: (Immediate)	These are used to label those who cannot survive without immediate treatment but who have a chance of survival.
	YELLOW: (Observation)	Patients require observation and are stable.
	GREEN: (Wait)	These patients need medical care but after the critical patient have been treated.
	WHITE: (Dismiss)	It is given to those with minor injuries for whom a doctor's consult is not necessary.
	BLACK: (Expectant)	It is used for the deceased and those who will not survive even after treatment.

Triage Room: It consists of 6 oxygen cylinder beds, 1 Resuscitation suite, 5 Urgent care area , 1 intubation trolley , 1 ECG machine , 1 Store Room. There is a central reception area besides which is the nursing room, and behind which is the Doctor's Duty Room. The waiting area of the emergency department is situated outside near the entrance.

Staff members for Emergency Department consist of: Consultant/ HOD – 1 ; Doctors – 8 ; Team Leader – 1 ; Nurses – 15 ; Paramedics – 2 ; Security – 1 ; GDA – 2.

The key role of each staff member is crucial in case of emergency. The paramedics will provide the basic life support in the ambulance; the security will make sure the attendant stays out of the emergency department ; The team leader co-ordinates with the paramedics and prepares a team of doctors and nurses. On arrival of the patient, with the help of the paramedics and the GDA the patient is shifted to the stretcher and a team of doctors and nurses is lined up for receiving the patient and providing the primary treatment. The consultant is informed about the status of the patient and the further plan of care is decided by the HOD.

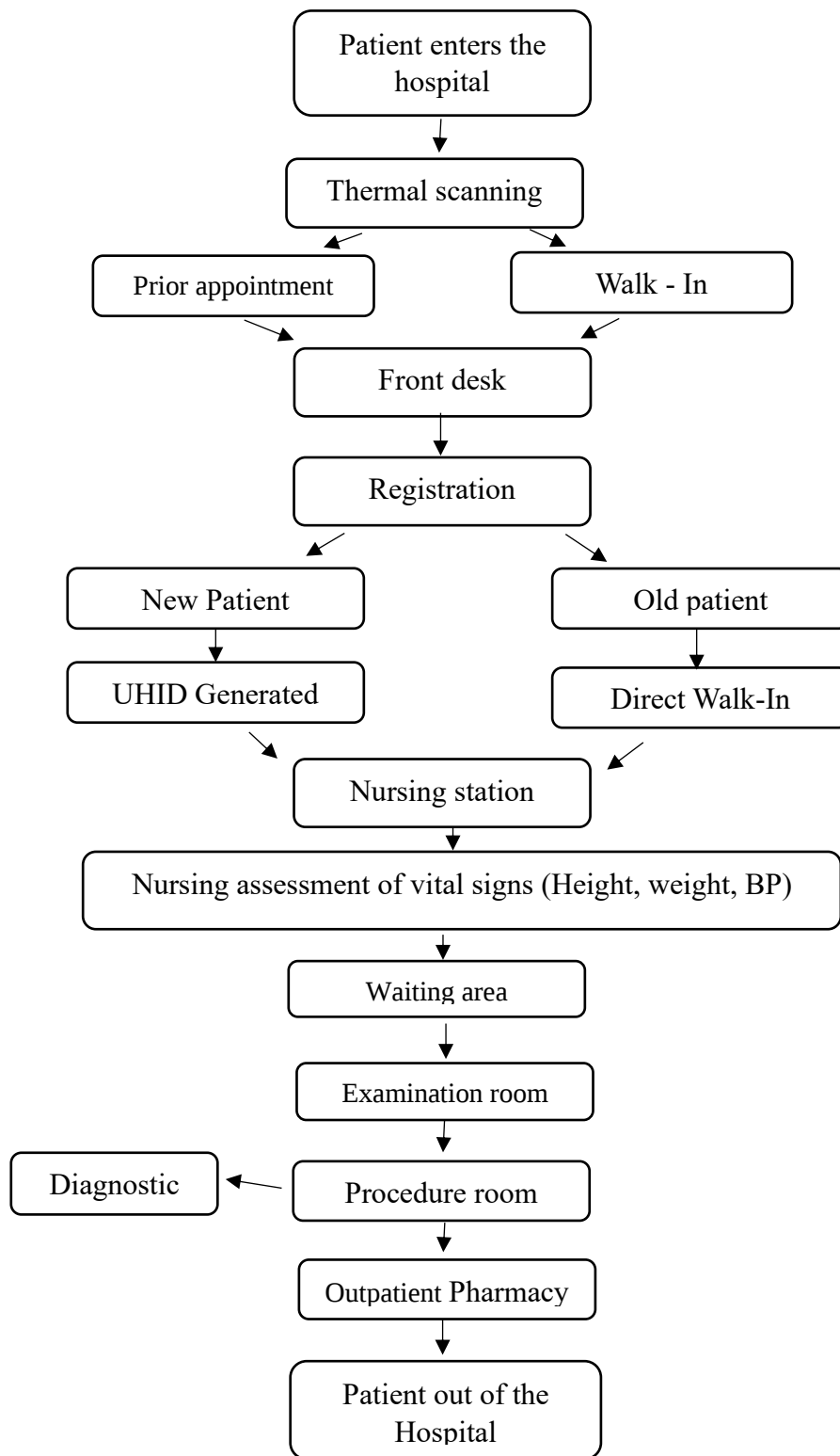
Total number of ambulances are 2 and both are ACLS (consists of CCTV camera for telemedicine, Suction Cardiac Monitor, Defibrillator, Oxygen Pump). The response time of ambulance is less than 1minute. While the response time of consultant is 15minutes and code blue response time is less than 1 minute. The total number of staff in the department are 15/shift. Total number of computers on wheels (COW) are 2 dedicated for the emergency department.

OUT-PATIENT DEPARTMENT

The OPD department is on the ground floor with a prescribed area where all the doctor's chambers and procedure area are located. There is a front desk, which acts as the first contact point between the patient/ attendant who are coming to the hospital. The system is centralised where appointments are booked in the Hospital Information System (HIS) and on confirmation of the booking an SMS is sent to the patient. This helps to send a reminder alert prior to one day of booking. Also, the walk-in patients are accommodated between the appointed patients lists. For every new patient, a Unique ID also called as the UHID is created which is applicable PAN-MAX for lifetime of the patient. Through this the patient history and health related information can be retrieved at any point of the time. A waiting area is allotted for the patients outside each department. Every patient is called based on the booking and walk-in patients are also adjusted. An initial assessment by junior doctors about the patient is made and further easing the process for the consultant /HOD.

Based on the assessment of the doctor , the patient is either prescribed medication which he/she is asked to collect from the in-house pharmacy or if the patient requires any diagnostic tests , the patient is referred to the concerned department. Post the consultation the patient is advised medication and follow up visits are recommended.

FIGURE 1.2. PROCESS FLOW OF OPD



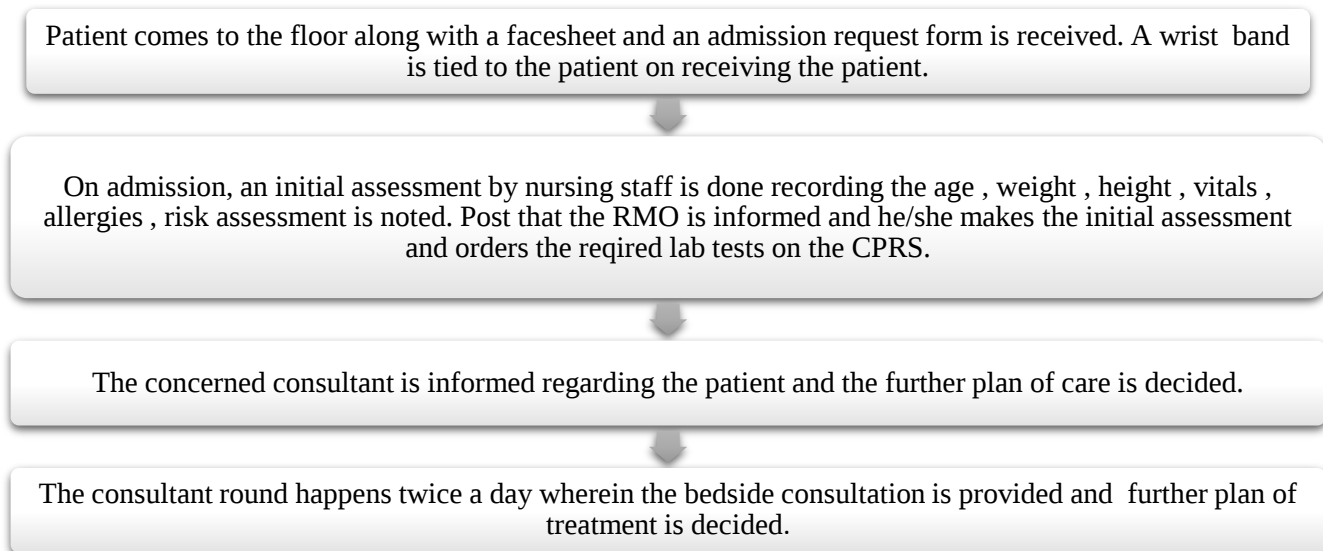
Admission Desk

In case the patient requires admission in the hospital, he/she reports to the admission desk where the patient is explained about the dos and don'ts along with the patient rights and duties and the paperwork is completed. Based on the choice of the patient, he/she is allotted a room. There are various types and categories of rooms available like economy, single, twin sharing or suite room. In case the patient wishes to claim insurance for

the treatment the insurance company must be intimated within 24hours of admission. IPD admissions can be from OPD, Emergency department & Planned surgeries.

IN-PATIENT DEPARTMENT

Figure 1.3. Process Flow on Admission for IPD



IPD Department is situated on the second and third floor wherein there are four types of rooms that are available:

- Economy- 4 bedded
- Twin – 2 bedded.
- Single
- VIP Suite

Each room is equipped with oxygen portal, suction portal , side rails , medicine trolley, landline with emergency numbers like helpline number of the nursing station , patient welfare, housekeeping , front office ,

food and beverages & a cabinet is provided to keep essential medicines or utility items of the patient. Certain rooms have extra elements like a cardiac monitor, walker , television , couch for the attendant.

Each floor has 2 main nursing stations and 2 central nursing stations. These are equipped with 2 crash cart parked at the main stations. Also , there are 10 computers on wheels and 6 desktops provided. There is an information board on each counter having the speed dial numbers of every department. The nursing station

has 5-6 cabinets provided to keep the admission / discharge forms , consent forms , PAC form , Pre-operative checklist forms ,emergency medication.

The total number of nurses per shift are 6/counter. The nurse to bed ratio is 1:7 while the GDA to patient ratio is 1:12.

There is a separate room for disposal of biomedical waste along with a store room for record keeping , medicines , vials and for inventory.

There are usually 4 RMO/floor on duty on rotational basis who indent orders for medications and tests.

OPERATION THEATRE COMPLEX

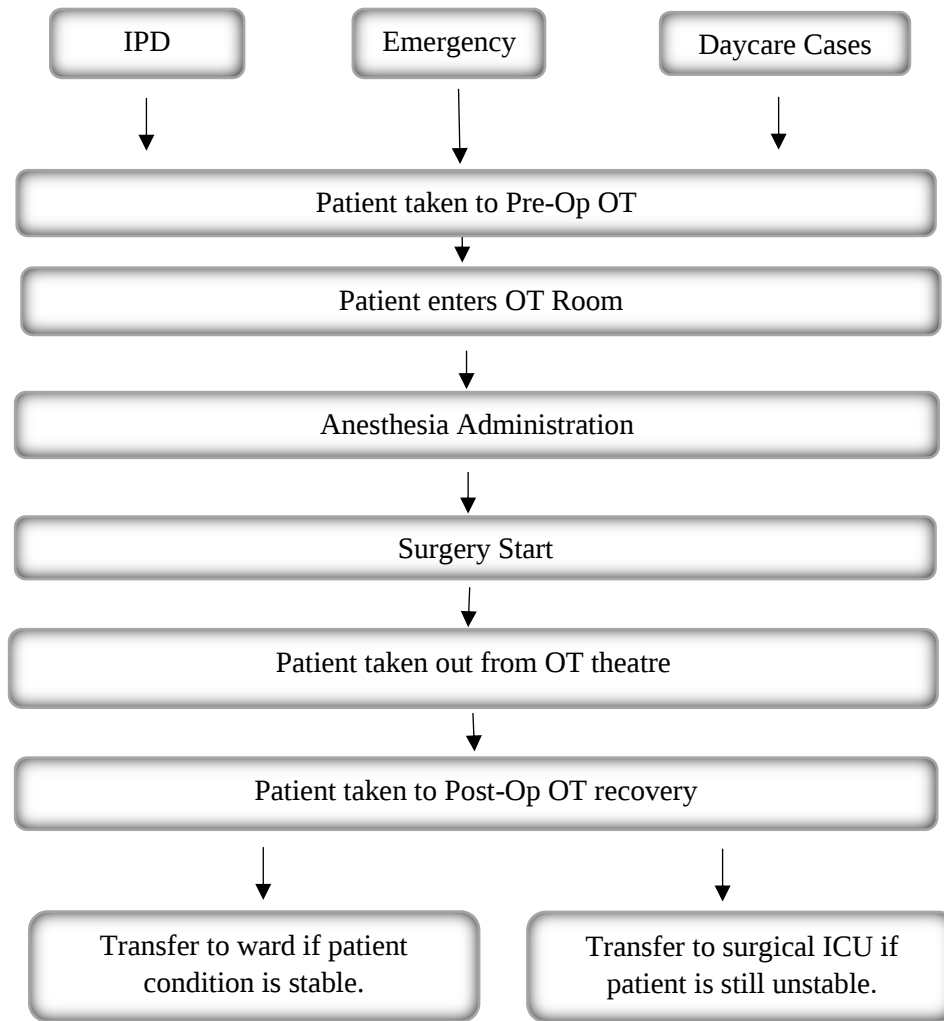
The operation theatre is located on the first and the second floor. There are total 8 OT's assigned to various departments like gynecology, cardiac, orthopedics, plastic surgery, ENT, general surgery, Neurology. The total team of OT comprises of 10 surgeons, 10-12 anesthetist, 27 nursing staff, 15 technicians. The average number of cases/days are about 25-30.

OT bookings are done based on prior booking and scheduling managed by the OT manager. On an average the daily utilization of the OT is 85%. All the OT's have a green OT certificate which indicates that there is minimal amount of pollution being caused by OT gases and the righteous standards of practice are being followed.

A proper sterilization is being done by washing, cleaning and culture testing along with fumigation conducted after twice a day. Every Sunday fogging is done for 40 minutes and OT's are closed for 2 hours to ensure proper sterilization. There is a separate room for all the biomedical waste which is disposed of every 2 hours. There are a total of 5 pre-op & post-op beds.

There are 8 in total OT's wherein OT 1 AND OT 3 are designated for orthopedics department , OT 2 AND OT 5 are General OT , OT 4 is designated for Cardiac department , OT 6 is designated for Gynecology department and OT 7 and OT 8 are designated for transplant , General Surgery and Urology Department.

Figure 1.4. Process Flow of Operation Theatre



INTENSIVE CARE UNIT (ICU)

The Intensive Care Unit (ICU) is a separate area equipped with high-tech specialised facilities designed for close monitoring, rapid intervention and often extended treatment of patients with acute organ dysfunction. It is committed to the management and continuous monitoring of patients with life-threatening conditions. The aim of intensive care is to maintain vital functions in order to prevent further physiological deterioration, reduce mortality and prevent morbidity in critically ill patients.

There are in total 11 ICUs in total in the hospital dedicated for various departments:

Table 1.3. Number of ICU

CTVS	6 bedded
NICU 1	4 bedded
NICU 2	8 bedded
SICU	12 bedded
Ortho ICU -2	8 bedded
RICU	4 bedded
MICU - 2	7 COVID ICU + 24 non-COVID ICU
CCU	11 bedded

CATH LAB

Catheterization Laboratory is situated on the first floor of the hospital wherein , with the help of the diagnostic imaging equipment the study of the arteries of the heart and its chambers are visualised and treated in case of any abnormality being detected. The bookings are done online and these are divided into slots in the whole day , based on the availability of the consultant and the patient.

There are in total 2 units : Cath Lab 1 and Cath Lab 2 along with an observation area comprising of 3 beds. There is a prescribed area for washing of the instruments and a separate store room.

The diagnostic procedures performed here are:

- Coronary Angiography
- Percutaneous Transluminal Coronary Angioplasty
- Pacemaker – Temporary Pacemaker Implantation and Permanent Pacemaker Implantation
- Cardiac Resynchronisation Therapy, Cardiac Resynchronisation Therapy- Defibrillator, Automatic Implantable Cardioverter Defibrillator
- Neurointerventions: Stroke – clot evacuation, Aneurysm Clipping
- Vascular: Peripheral Angiography and Central Venous Angioplasty
- Pain: Nerve Blocks, Cancer pain blocks, Neurolysis
- Abdominal cases: Fistula Repair, Trans arterial Chemoembolization, Trans arterial Radioembolization
- **Staff:**
 - Head of Department: 1
 - Senior Consultant: 2
 - Junior Consultant: 2
 - Nurses: 4

- Team Leader: 1
- Critical In charge: 1
- Technician: 6
- GDA: 1

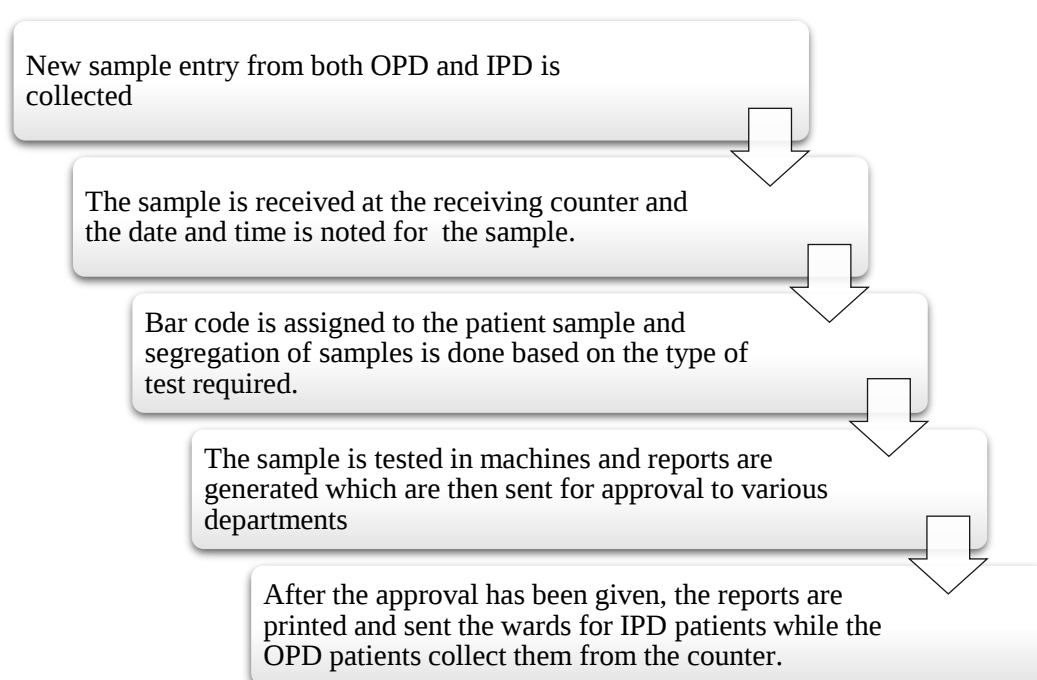
Figure 1.5. Process flow of Cath Lab



LAB SERVICES

The laboratory is situated on the third floor with fully automated machines and instruments which are linked with the HIS and LIS. The sample collection timing for OPD patients is 8am to 6pm whereas its open 24hours a day for IPD patients. The laboratory has various sub departments like : Serology , Haematology , Microbiology , Histopathology , Cytology ,Biochemistry and Molecular Biology.

Figure 1.6. Process Flow in the Lab



On receiving the sample, through the Laboratory Information System, the intimations about the sample process is sent and is reflected on the HIS by colour codes. These are:

- **Red** colour indicating the sample has been received.
- **Yellow** colour indicating the sample has been acknowledged.
- **Blue** colour indicating the sample tests are completed.
- **Green** colour indicating the results have been verified and approved.
- **Pink** colour indicating billing has been processed.

The total staff comprises of 1 Head of Department, 3 Consultants, 1 Lab Manager , 1 Lab Supervisor , 7 Senior Scientific officers , 12 Junior Scientific Officers & 2 computer Executive.

RADIOLOGY DEPARTMENT

The radiology department is situated on the ground floor with a central reception area for appointment and billing along with a waiting area adjoining it. It has 2 changing rooms situated at the back end of the department. The OPD timings for the department are 8am-8pm while its 24hours open for IPD and emergency services. The report collection timing for OPD patients is 9pm-5pm from the reception area.

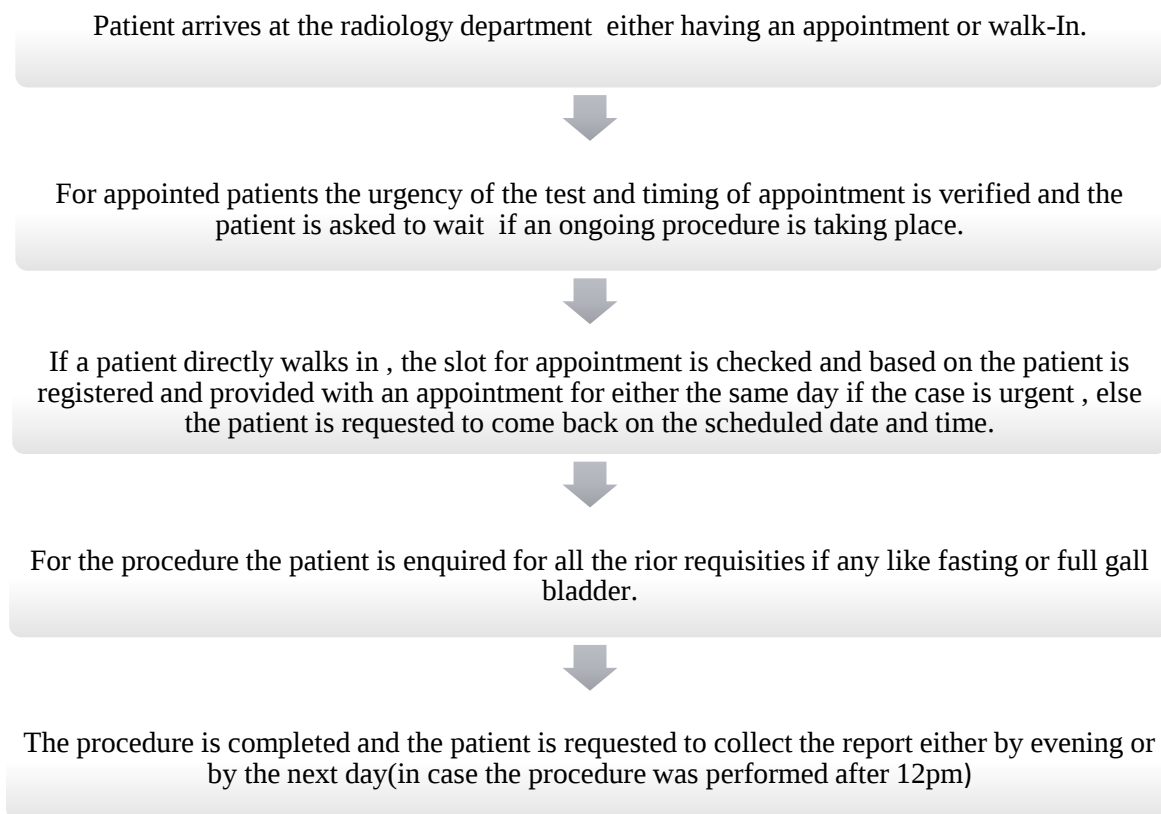
There are 38 staff members working in the department which includes 10-12 doctors, 14 technicians , 1 staff nurse/shift , 1 co-ordinator , 3 medical typist and 3-4 GDAs.

The procedures performed are:

- Routine X-Ray
- Computerized Axial Tomography
- Magnetic Resonance Imaging
- Mammography
- Fluoroscopic procedures like barium studies
- Ultrasonography
- Doppler studies like 2D echo, Vascular studies
- Dexascan

There is 1 CT scan and 1 MRI machine available presently in the department.

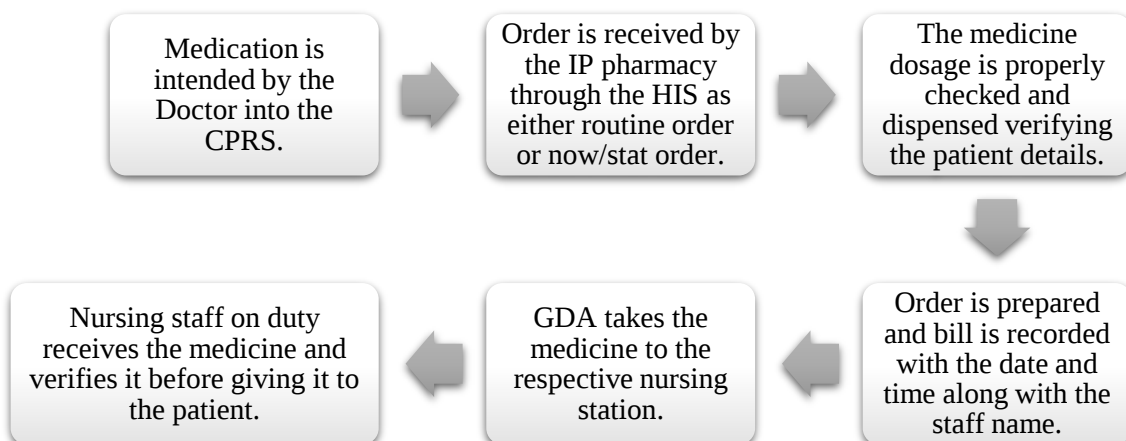
Figure 1.7. Process Flow of patients in Radiology Department



PHARMACY

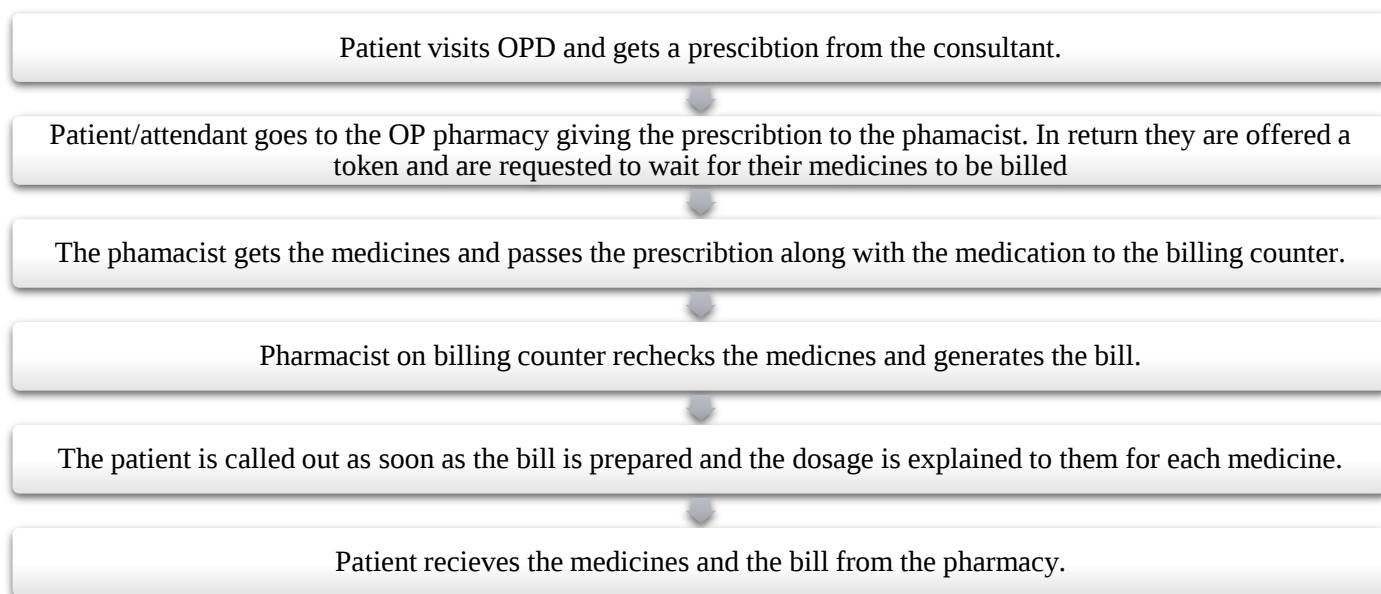
Max has an In-house pharmacy that prepares, compounds, stocks and dispenses inpatient medications as well as for the OPD patients. There are two different pharmacies, Inpatient (IP) Pharmacy and Outpatient Pharmacy (OP).

Figure 1.8. Process flow of IP Pharmacy:



It is a 24hour department with 7 staff members comprising of 1 IP pharmacy assistant manager, 3senor pharmacy officer and 3 pharmacy officers. They work in 6 hours shifts. All medicines are placed in alphabetical order in racks, shelves, cupboards and drawers. Certain medications require a refrigerator with a temperature setting of -20 to -10 degree Celsius. The STAT order medicines are dispensed within 30minutes of the intend of medication while the normal order is dispensed within 1 hour. The routine orders of long stay patients are delivered by 1 round per day.

Figure 1.9. Process flow Of OPD Pharmacy



The hospital has started with a new initiative of **Pharmacy @ Home** wherein the medicines are delivered to all the patients who cannot reach the hospital, at their doorsteps. It helps to reduce the waiting time at no extra cost, following the COVID protocols and preventing the spread.

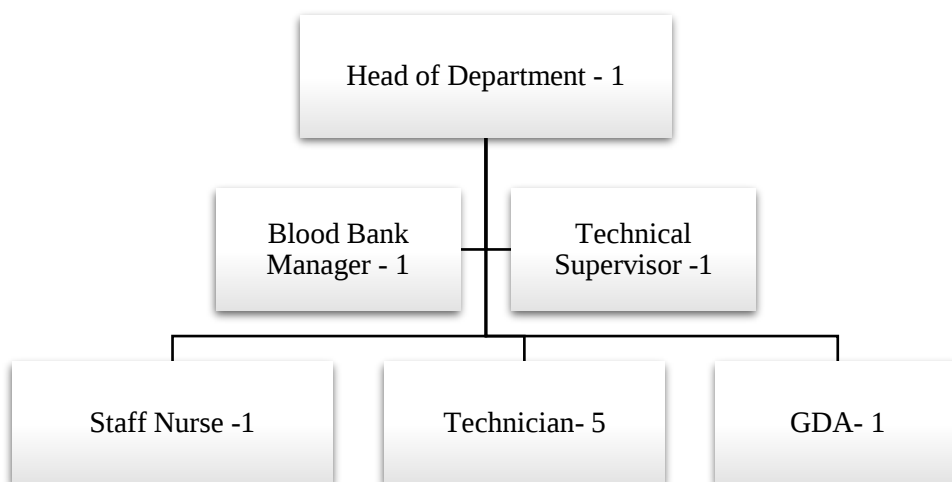
BLOOD BANK

Max has its own NABH certified Blood Bank situated on the third floor of the hospital. The department has various rooms and areas for different purposes like:

- Reception area
- Sample collection area/ blood donation area
- Aphaeresis area
- Component Room
- Issue room
- Transfusion Transmitted Infection Room

- Storeroom/record room
- Serology lab
- Washing area
- Refreshment room

The organogram of 10 staff members is:



All blood groups are available in the department. Blood donation timings are 9am-6pm. The PRBC is stored for 35 days at 2-6 degree Celsius. The platelets are stored for 5 days at 20-24 degrees Celsius, and the fresh frozen plasma is stored for 1 year at -40 degree Celsius. Based on the NABH guidelines, the data and record is stored for 10 years. For blood donation the required age of the donor should be 18 to 65 years of age with weight of 45 kg and above. Along with this the Hb must be above or equal to 12.5. A medical assessment is done along with signing of the consent form before the donor donates blood. Also there are color coding for RBC bags stating the blood group, wherein :

● Yellow indicates Blood group A

○ White indicates Blood group AB

● Pink indicates Blood group B

● Blue indicates Blood group O

MEDICAL RECORD ROOM

The MRD is the repository of information for patient care , planning of healthcare services and research. It refers to records either in paper or electronic form of the results of medical tests, diagnosis and treatments for

the patient. It is the backbone of the hospital. The IPD data of a normal stay patient is kept for 5 days while the records of death and medico legal cases are kept for 10years.

The department has 3 personnel's working 9-6pm daily. They are working in collaboration with the Government in keeping the records of every patient and their ailments are being reported timely. The department is situated in the basement -1.

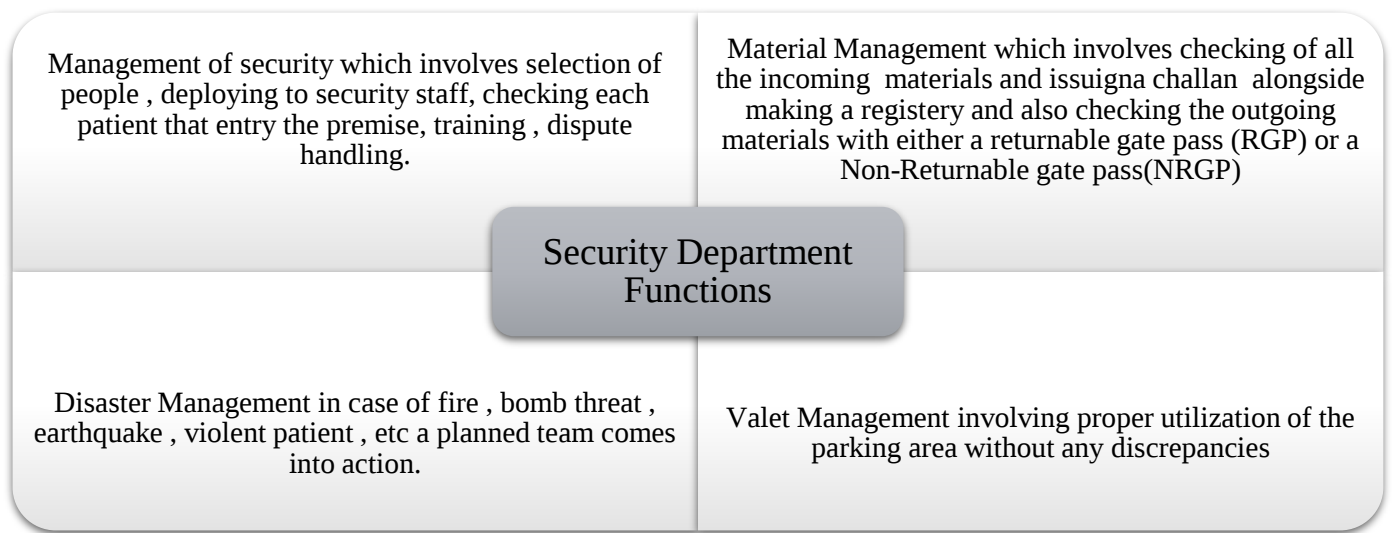
Birth and death records of a patient are never destroyed and newborn babies records are kept for 18+2 years of age since birth. In case of medical termination of pregnancy, the patient name is not recorded , rather the data is stored in the format of xyz/2020-21.

Patient file consists of the following things before sending to the MRD:

- Hospital Bills
- Consents of hospitalization
- Patient registration
- Consent for procedure
- Consent for anesthesia
- Anesthesia record
- Pre-operative checklist from the ward
- Doctor's notes
- Surgery clearance slip
- Pre-surgery Checklist from the OT
- Recovery room chart
- Surgical safety checklist
- Medicines dispensed to patient.
- Reports like ECG, radiology
- Discharge summary
- Inpatient medical record handover
- Clearance slip from billing department

SECURITY DEPARTMENT

Max has both an In-house as well as an out sourced security which helps to ensure security and safety of the hospital , its staff , patients and public within the hospital premises. The control room of the security department is situated on basement – 1. There are about 132+ cameras covering the entire hospital and outside area. Apart from camera , voice recorders are also inbuilt in certain places where camera cannot be installed. There are about 40 guards on duty/day. There are four functions performed by them :



In case of any emergency there are certain color codes for issuing an alert in the hospital. These are the 8 disaster management codes:

RED – Fire

Yellow – External Disaster

Blue – Internal disaster like cardiac arrest

Pink – Child abduction/missing patient

Black – Bomb threat

Violet – Violent patient/attendant

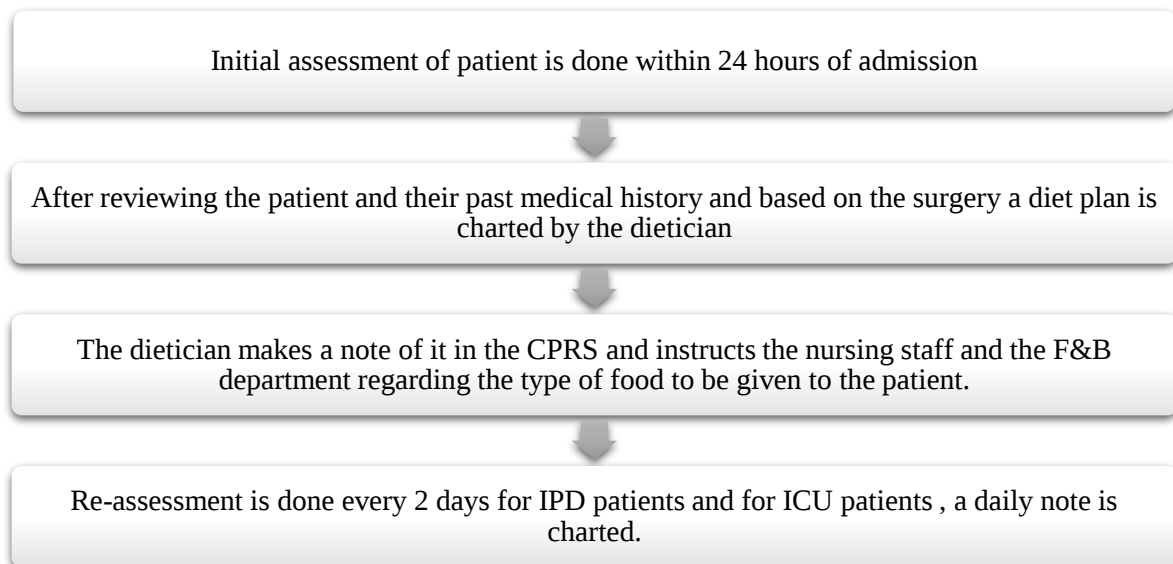
T – Terrorist

E – Earthquake

DIETETICS

The department looks into the diet charts and plans the diet of IPD patients in conjunction with the consultants opinion. There are a total of 7 dieticians comprising of 1 Head of Department , 1 Senior Dieticians and 5 junior dieticians. The patient to dietician ratio is 1:50.

Figure 1.10. Process flow of assessment made by dietician



FOOD AND BEVERAGE DEPARTMENT

The F&B department is dutiful for the supply of food to the IPD patients , attendants and also to cater the the doctors and staff. The department has been outsourced to pepperfic. There are a total of 60 staff working in this department. It is situated on the ground floor. The timings for serving the IPD patients are fixed wherein :

Breakfast is served between 7-8am → Followed by Soup/Beverage between 10:30-11:30am →
Followed by Lunch at 1-2PM → Served with tea/coffee at 4-5pm → Followed by Soup at 6-7pm →
Followed by Dinner at 8-9pm

The food that is served to the IPD patients is issued by the dietician with proper instructions to the chef. Meal of 1 attendant is complimentary while any extra items brought or ordered are charged accordingly.

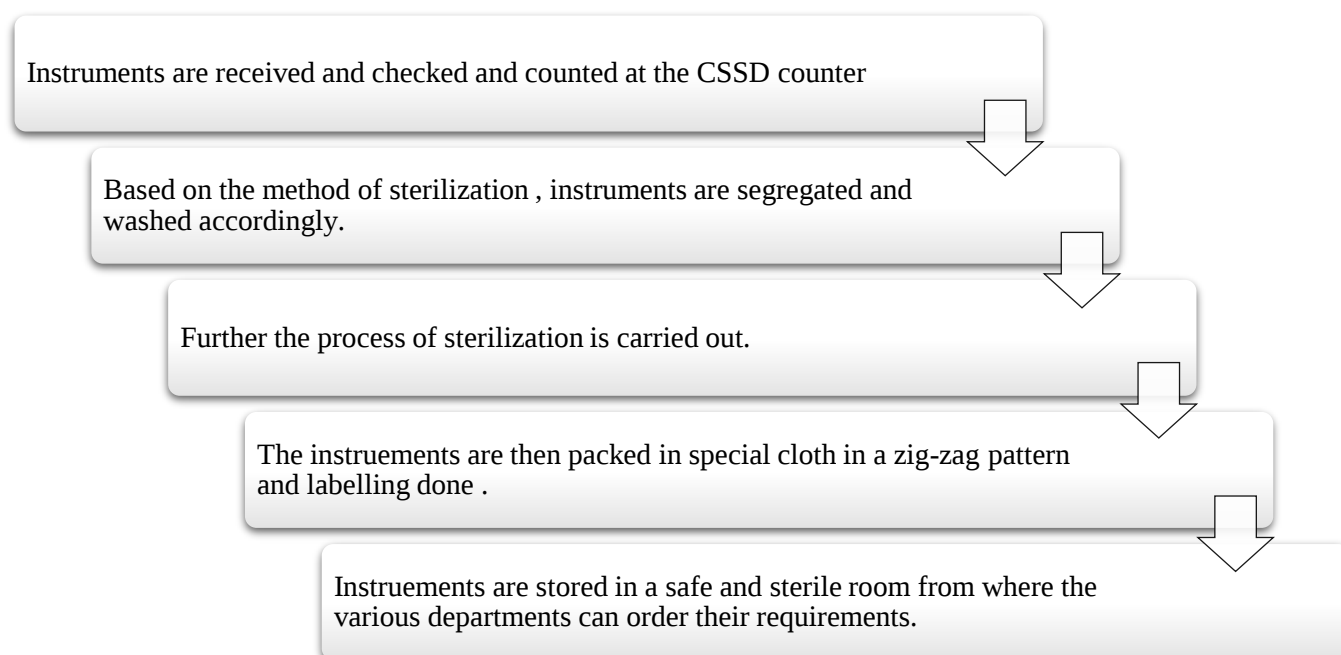
CENTRAL STERILIZATION SUPPLY DEPARTMENT

CSSD is the most important unit of the clinical support service. The department receives, cleans , packs , disinfects, sterilizes and stores instruments following standardized procedures and protocols. The main aim of

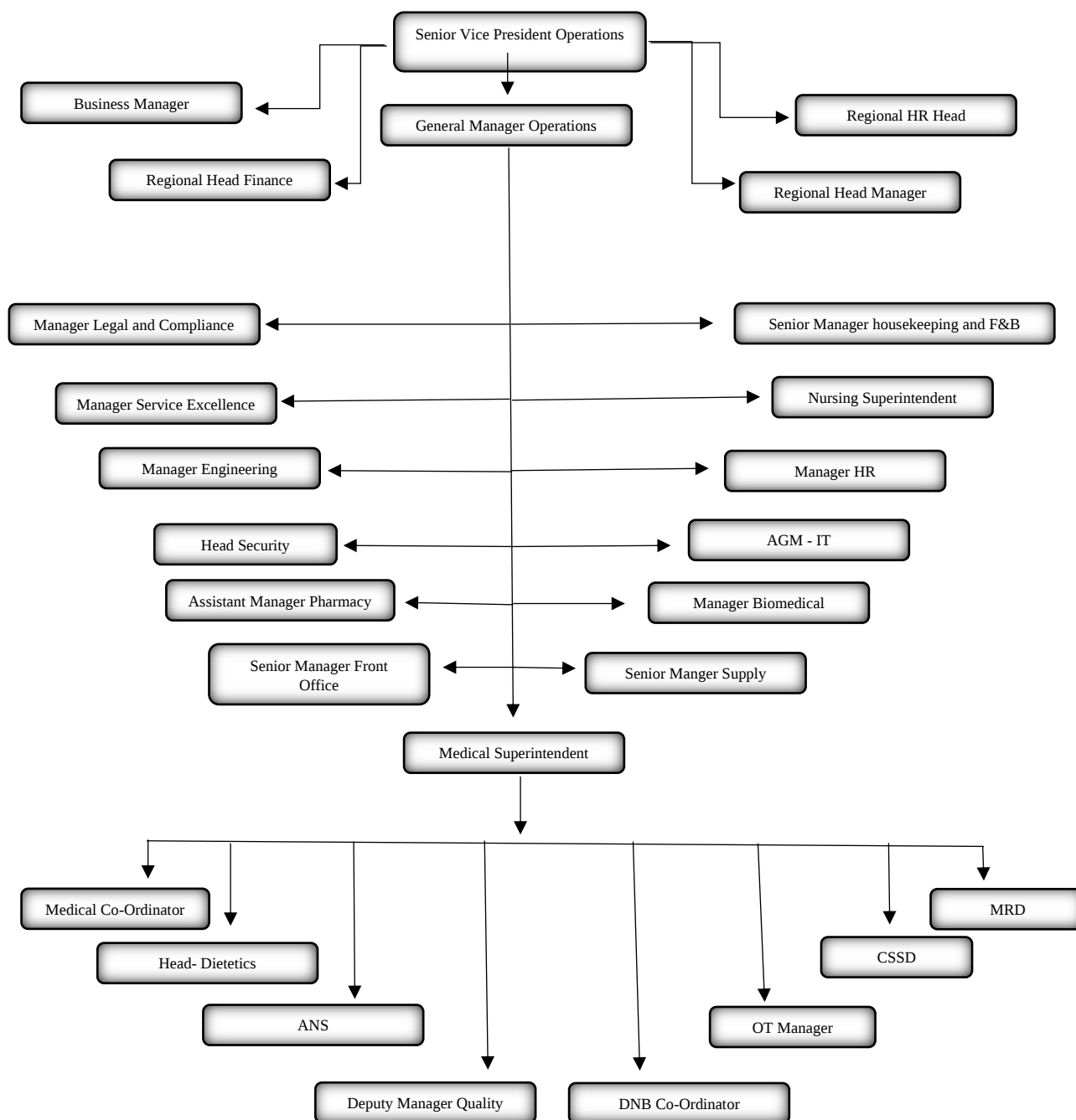
the department is to reduce the level of microorganism. The department is headed by 1 manager, 1 supervisor, 1 associate supervisor , 2 senior technicians and 3 technicians.

The department has 2 autoclave machines, 1 ETO sterilizer, 2 washer and 1 ultrasonic machine. The area has 3 zones based on the process flow step, those are the decontamination area, clean area and the sterile area.

Figure 1.11. Process Flow of the CSSD department:



ORGANOGRAM OF MAX SUPER SPECIALITY HOSPITAL, MOHALI



Max Super Speciality hospital , Mohali is headed by Mr. Vivaan Gill , Senior Vice President Operations. The vice president directly supervises the General Manager Operations , Regional HR Head , Regional Head Manager , Business Manager and Regional Head Finance. The General manager Operations supervises 13 executive officers which include the Manager legal and compliance , Manager service excellence , Manager engineering , Head security , Assistant manager pharmacy, Senior manager front office , Medical superintendent , Senior manager supply , Manager biomedical , AGM-IT , Nursing superintendent , Manager HR , and Senior manager housekeeping and Food and beverages. The Medical Superintendent further supervises the Medical coordinator , Head dietetics , ANS , Deputy manager quality , DNB coordinator , OT Manager , CSSD and MRD department.

CHAPTER 2
PROJECT REPORT

Project title: Study on Turnaround Time of Discharge Process for Cash and Insurance patients

INTRODUCTION

Hospitals enhance the functioning of the healthcare system by providing continuous access to services for both acute and chronic illnesses. It mainly provides two types of services which includes In-patient and Out-Patient services, wherein the outpatients usually require ambulatory care and usually don't require to stay overnight in the hospital while the Inpatients in the hospital have to undergo different stages . There are categorised into three phases:

Admission → Intervention → Discharge

As per as NABH, “Discharge is a process by which a patient is shifted out from the hospital with all concerned medical summaries ensuring stability.”

According to Mogli, “Discharge is the release of a hospitalized patient from the hospital by the admitting physician after providing necessary medical care for a period deemed necessary.”

Discharge planning involves an interdisciplinary approach in bringing continuity of care. It is a process that include identification, assessment, goal setting, planning, implementation, coordination, and evaluation. It is an important link between the patient's hospital treatment and post – discharge care offered in the community, and it supports the continuity of healthcare. These are individualized medical instructions which are given to the patient , as they move from the hospital to home or another long term care facility. It is carefully discussed with the patient and the family members.

The discharge process is a critical bottleneck for the efficiency in the patient flow. Any delay in this process can cause an increase in the bed pressure, also increases the cost of the hospital. It also hampers the satisfaction of the patients as longer the delay in the process, the patients are exposed to hospital acquired infections and increasing loss of functional capacity. Thus, reducing the effective bed capacity and delay in the admission process along with dissatisfaction on the services provided to the patient. According to NABH, the total time for the process of discharge must be completed within 180 minutes from the time of confirmation of discharge.

Turnaround time (TAT) refers to the time phase from the time of the initiation of the process to the time of the completion of the entire process. TAT for the discharge process is a critical quality measure for service improvement. It is the time taken from the discharge information received till the final approval is received from the insurance department and the patient is physically moved out of the hospital or to another facility.

There are two types of discharges:

- Discharge on advice
- Discharge / Leave Against Medical Advice (LAMA)

Discharge on advice:

The consultant formally approves the discharge after checking the patient condition and the reports. The resident medical officer is advised to make the discharge summary and the staff nurse is asked to check for discharge medications. The patient file is prepared with the consultant signature. The nurses shall be responsible for completing the discharge checklist. The resident doctor shall explain the discharge summary and medication to the patient. A copy of the discharge summary shall be made available at the time of discharge.

Discharges/Leave Against Medical Advice (LAMA):

It is the case when the patient/attendant requests for discharge , contrary to the recommendation or will of the attending consultant. The consulting doctor gets an consent on a LAMA form , from the patient/attendant and a clinical case summary is made of the patient. The discharge formalities are completed and a copy of investigations, reports and clinical care summary is handed over to the attendant after the billing process is completed.

IMPORTANCE OF DISCHARGE PROCESS:

Effective discharge planning can help to reduce the chance of readmission to the hospital , Thus reducing the healthcare cost. It also helps to ensuring medication are prescribed and given correctly. It is an important aspect of care and cannot be neglected or rushed with as it can lead to serious consequences for the patient and their family. Thus , the process of discharge is made involving all the members of the multidisciplinary team and the family. This helps the patient and the caregiver to understand the follow up plan and also improving the quality of the discharge process , leading to an increase in patient satisfaction which in turn increases the efficiency and productivity of the hospital.

DISCHARGE PROCESS FOR TPA PATIENTS

Third Party administrator (TPA) is a tie up with an organization that settles insurance claims on behalf of an insurance company. Discharge process traditionally starts at the point when discharge is intimated by the consultant in writing. But progressive views state that the process starts right at the point of patient admission itself.

TPA Services for the insurance companies: -

- Monitor claims
- Control claim ratio
- Speedy handling of claims
- Provide information about the trends in the healthcare sector.
- Timely and adequate reports
- In short remove the burden off insurer's shoulders.

TAT for TPA patients is calculated by the difference between the time taken for consent process and document sent.

General Principles for Effective Discharge

- Firstly, start the planning of the discharge before or on admission of the patient.
- Identify whether the patient's discharge is simple or complex, involving both the patient and the attendant.
- Within 24 hours of admission, create a clinical management plan for the patient.
- Set a discharge within 24–48 hours after admission and discuss it with the patient and attendant.
- Look for the patient's recovery status after the interventions and surgical care, and coordinate discharge through efficient leadership and distribution of duties.
- On daily basis , review the clinical plan with the patient and take any action towards updating the progress of the patient with their discharge.
- Used the discharge checklist 24 to 48 hours prior to discharge of the patient.

LITERATURE REVIEW

According to the study done by **Dayang Nur et al** in 2021 on the causes of discharge delays from acute medical unit in a tertiary teaching hospital, Brunei Darussalam. Data of 357 patients was collected over a period of 4 months. Out of which 218 patient, 158 patients had patient related intrinsic factors (majorly due to slow recovery rate – 67%, complicated cases – 42% , prolonged treatment requirement- 29%) which caused the delay while , 88 patients had hospital related factors (like weekend limitations- 23% , no discharge instructions provided to the patient – 12% , awaited radiology reports and lab tests- 11% and 9% respectively) .^[2]

According to the study done by **Ms.S. Arthi & S. Divya** in 2020 in a hospital in Tamil Nadu for three weeks over the delays in discharge process. They recorded and analysed the steps involved in both cash and insurance patients. By simple percentage analysis, averages, and tracking tool they recorded the data and observed that it took 6hours 90minutes for cash patients while 7 hours 20 minutes for insurance patients. From the results, the maximum time taken for the delay was caused due to planning of discharge on the same day of discharge which caused delays in the process of billing, and clearances. delay in vacating the bed and second most common reason for delay was due to billing time for both cash and insurance patients followed by pharmacy clearance delays.^[3]

According to the study done by **Sunil Omanwar et al** in 2020 in a private hospital, for three consecutive, a total of 72 patients discharge process was recorded and studied on a field study Based on the observations , the major reason for delay was caused due to billing related issues (55%) in both cash and TPA patients , and pharmacy clearance issues (30%). The result also included 16% planned discharges being cancelled. These reasons were caused due to lack of coordination and communication among the staff members and lack of understanding of the problem.^[4]

According to the study done by **K. Revathi, Mrs. U. Suji** in 2020 in a Multispeciality hospital in Tanjore, on delay in discharge process. By simple random sampling technique, a data of total 169 patients were collected and analysed. It was seen that the major proportion of delay was seen due to billing time (47%) followed by delay in preparation of discharge summary (24%). It was seen these delays occurred due to one billing counter for both IPD and OPD patients and delays were mostly due to pending insurance approvals from their respective companies. Also, there were delays seen in the making of discharge summaries by the doctors, as there was lack of staff and the workload was high.^[5]

RATIONALE

Discharging patients in a time-consuming and inefficient manner is a crucial component that must be addressed to increase patient satisfaction which indeed affects the quality of healthcare facility. The discharge process acts as a critical bottleneck for the efficiency in the patient flow to the hospital. Delays occurring in the process could lead to reduced bed capacity and delays in admission process which will lead to dissatisfaction among patients. Through this study the various factors affecting the process of discharge are identified and through the analysis, measures can be implemented to cut the time it takes to discharge a patient, which will help enhance patient experience and patient contentment regarding the hospital services.

STUDY QUESTION

What is the turn around time of discharge process of Cash and TPA patients at Max super Speciality Hospital, Mohali? What are the reasons for the delay in the process of discharge of Cash and TPA patients?

STUDY OBJECTIVES

- To study the steps involved in the discharge process for cash and TPA patients in Max Super Speciality Hospital, Mohali.
- To find out the gaps that leads to delay of discharge in Cash and TPA patients.

METHODOLOGY

Study Area: The first and the third floor IPD ward patients were considered for the study. All the wards of various departments which includes Surgery, Paediatrics , Gynecology , Medicine , Cardiac , Orthopaedics and Oncology , excluding the Covid ward which was dedicated on the 2nd floor of the hospital building.

Study type: Descriptive study

Study duration: 24th May,2021 to 14th June,2021

Sampling and sample size: Convenient sampling, 150 Patient discharges (both cash and insurance) between 9 am to 6 pm

Inclusion criteria: Only cash and TPA patients were included in the study.

Exclusion criteria: Time taken for the discharge of ECHS, and corporate patients were not recorded, Discharges that took place after 6pm were not recorded.

Method of Data Collection and Tool: Observation and checklist with time taken for each process was recorded and analyzed for both Cash and insurance patients.

Data Analysis: Percentages, Average, TAT, Process flow, and Root Cause Analysis

Data collection tool and techniques: A discharge tracker tool was made using MS-EXCEL sheets, to record the time taken at various steps in the process of discharge . Quantitative data like:

Patient name , age and sex were recorded

UHID No. : it is a unique identification code given to each patient and is applicable PAN-INDIA in max hospitals. Through this , the patient data can be accessed and all the medical records can be viewed.

Payor type : Cash/ TPA

Discharge intimation time : Time at which the consultant plans the discharge for the patient. It is usually done 1 day prior to the actual discharge.

Discharge confirmation time : Time at which the consultant confirms the discharge seeing the status of the patient and the reports/tests (if any). This is noted on the day of discharge.

Discharge summary preparation time : It is the time taken by the RMO in preparing a discharge summary of the patient. It is duly checked and signed by the consultant , without which the clearances cannot be processed.

Nursing Clearance time: It is the time taken by the nursing staff to indent the discharge medication and return an medication (in case of extra).

Pharmacy clearance time: It is the time taken by the pharmacy to check for any due medication.

Bill clearance time: it is the time taken by the billing department to clear the dues and insurance approvals.

Patient physically moved from the hospital time : it is the time noted when the patient has received all the instructions , case file along with all the clearance sheets and is physically moved from the hospital.

Total time taken: It is the total time taken in the entire process of discharge , from the time of confirmation of discharge to the time when the patient is physically moved out of the hospital.

Before the collection and recording of data, an observation period was conducted to study the entire process of discharges for one week. After learning the process , the study was conducted and time taken for the discharge process of both Cash and TPA patients were observed and recorded. The time of each step of the process was noted manually with the help of a tracking sheet. Data was collected for discharge patients taking place in hospital from wards, resident medical officer, nursing staff, pharmacy department, billing department and Insurance desk.

RESULTS

DISCHARGE PROCESS

The discharge process begins once the consultant advises the discharge, after checking the status of the patient in the evening rounds, usually done one day prior to the date of discharge. The night RMO makes the discharge note and intends an intimation on the HIS system. The night duty nursing staff checks and returns the unused medicines that were intended, back to the pharmacy, with the issue return slip. The medical supplies like syringes, mask are returned back to the pharmacy store with the medical supply return slip. A provisional discharge summary is made by the night RMO. In case the patient has undergone a surgery, clearance from the OT is requested. All these steps work in synchronization.

Discharge confirmation happens after consultant rounds, the next morning (on the day of discharge). This usually occur by 9-11am in the morning. The discharge summary is checked and finalized in consultation with the consultant and discharge medications are confirmed. In case any medicine is not present, the Morning duty RMO is advised to order for medications through the CPRS.

In case the patient is unwell or has any medical problems the discharge is cancelled until further advised. Once the final discharge summary is signed by the consultant doctor, the Morning duty nursing staff checks for the medications and any returns of medicines or medical supplies and orders clearance from the head nursing coordinator. Once the nursing clearance is given in the HIS system, the pharmacy is intimated for clearance. They check for any dues or returns of the medicines and afterwards give clearance in the HIS system.

Once the pharmacy clearance is done the billing department starts preparing the bill. For **Cash** patients, they prepare the bill and hand over the attendant/patient and on verifying the bill by the attendant for any discrepancy, they are asked to settle the bill. After getting approval from the finance, a finance clearance slip is handed over to the attendant. The attendant returns to the nursing station, the nursing staff verifies the discharge checklist and hands over the file of the patient with all the reports, documents, discharge summary. The patient is then visited by the RMO for giving the post discharge instructions, in regard to the diet, physiotherapy, in case of emergency what shall be done and the patient is finally discharged from the hospital giving the room clearance slip to the floor in charge and is taken by the GDA in a wheelchair to the parking area. The process for cash patients usually takes 90 minutes.

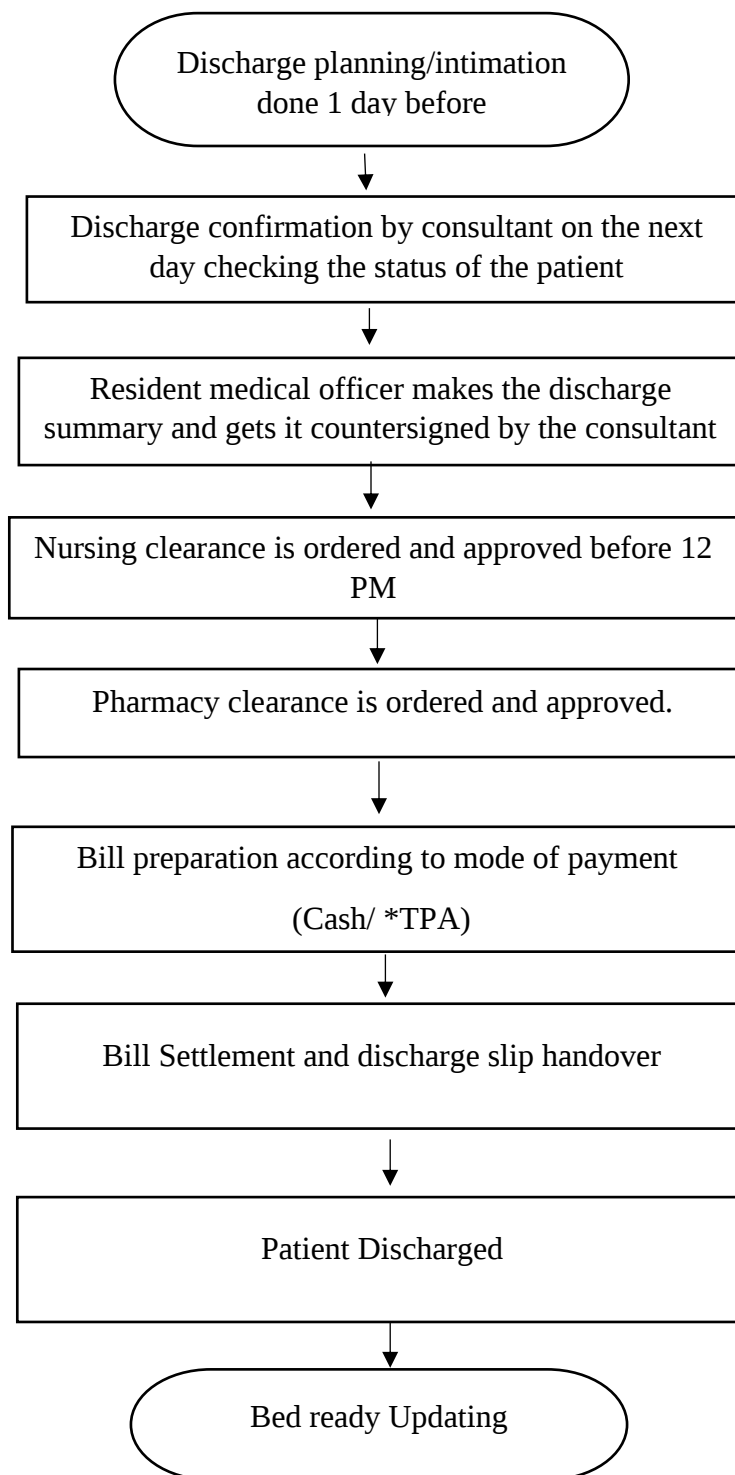
While in case of **TPA** patients, the billing department sends a scanned copy of the reports, tests along with the discharge summary and final bill to the insurance company with which the patient has their association. The insurance company verifies the charges and sends an approval mail to the hospital. After getting the approval, finance clearance is done. Patient receives the clearance slip and reports on the nursing station, the nursing staff verifies the discharge checklist and hands over the file of the patient with all the reports, documents, discharge summary. The patient is then visited by the RMO for giving the post discharge instructions, in regard to the diet, physiotherapy, in case of emergency what shall be done and the patient is finally discharged from the

hospital giving the room clearance slip to the floor in charge and is taken by the GDA in a wheelchair to the parking area. The process for cash patients usually takes 180 minutes.

On discharge the patient file consists of the following sheets:

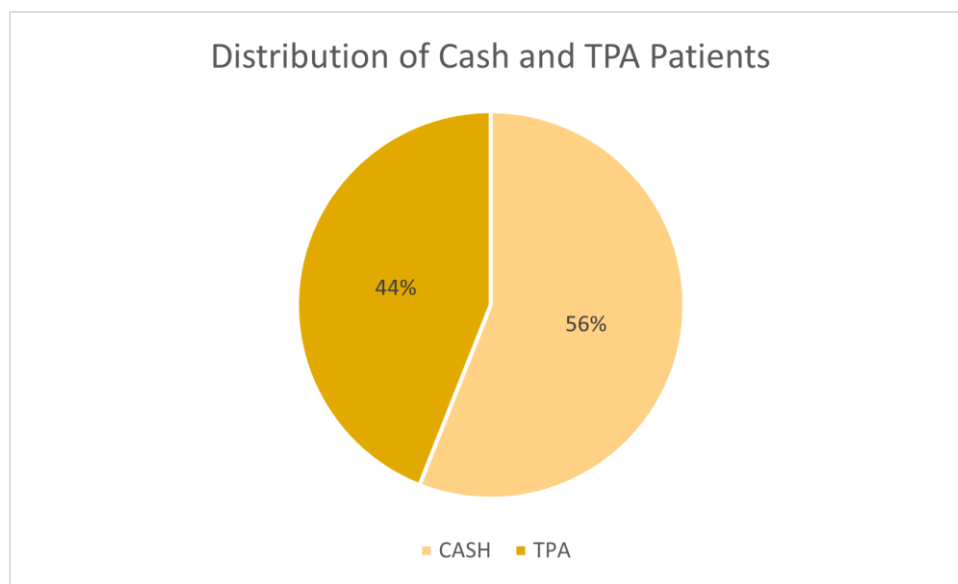
- Patient Registration form
- Consent for hospitalization
- Counselling sheet before admission (if required)
- Consent for surgery (if any)
- Surgery Clearance slip
- Pre-operative checklist (checked in ward)
- Pre- Surgery Checklist (checked in OT)
- Surgical safety checklist
- Consent for Anesthesia
- Anesthesia Record
- Recovery room chart
- OT Nursing record
- Medication dispensing record
- Radiology reports
- Laboratory report
- Discharge summary
- Discharge process checklist
- Inpatient medical record handover
- Clearance slip
- Chargeable sheet

Figure 2.1 DISCHARGE FLOW CHART



The study was done on IPD patients from various departments like Oncology , Surgery , Orthopedics , Neonatal ICU , Labor room , Cardiac. The patients were of different age groups, out of which 54% were male while 44% were females and 2% were neonatal. Mostly the patients belonged to urban background. The usual stay of the patient varied from 3-5 days depending on the procedure. It was observed that 60% of these patients were CASH patients while 40% were TPA patients.

Figure 2.2 Percentage of Cash Patients and TPA patients



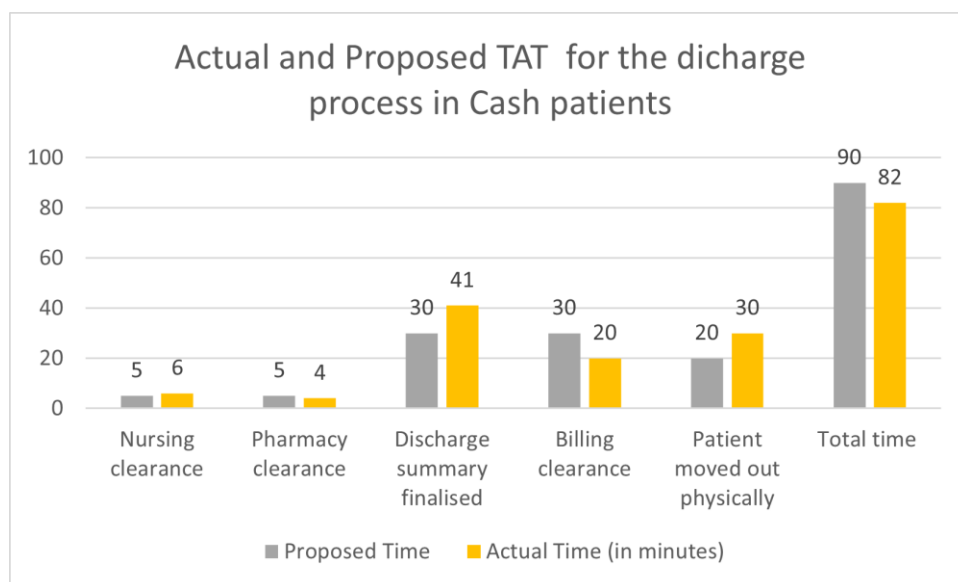
From the sample size of 150 patients , 56% patients were Cash patients while 44% patients were TPA patients.

Table 2.1. Distribution of Average TAT for Cash Patients (Average TAT – 90 MINUTES)

DURATION (IN MINUTES)	PERCENTAGE
Below 85	46.43%
85 - 95	10.71%
Above 95	42.86%

The Table represents the distribution of average time taken for the discharge patients for cash patients. From the sample size of 84 Cash Patients , 46% of the patients were discharge within 85 minutes from the time of confirmation of discharge while 43% patients had a delay in their discharge process. 10% patients were discharged exactly at the proposed average range of time.

Figure 2.3. Average time taken in the process of discharge in Cash Patients



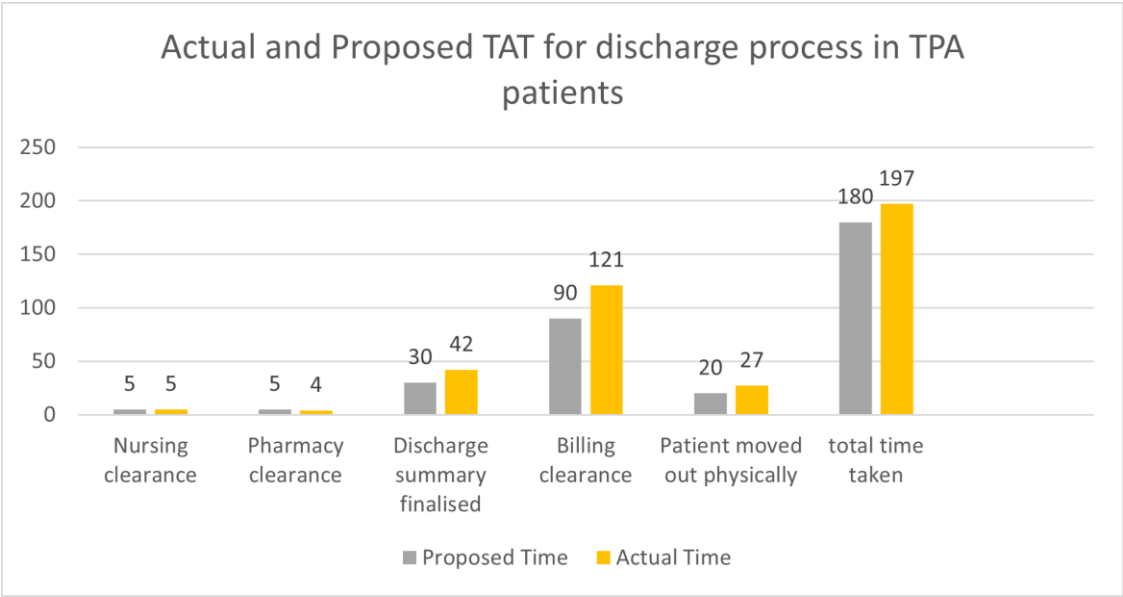
The graph depicts the actual and proposed time (average time) taken for discharge process in Cash patients. Through this graph, the reasons for delay are depicted wherein it can be observed that the delay is due to discharge summary finalization and in moving of the patient physically out of the hospital. Although the average total time taken is less than the proposed time taken i.e., 90 minutes.

Figure 2.4. Distribution of Average TAT for TPA Patients (Average TAT – 180 minutes)

Duration (in Minutes)	Percentage
Below 175	67%
176-185	5%
Above 185	28%

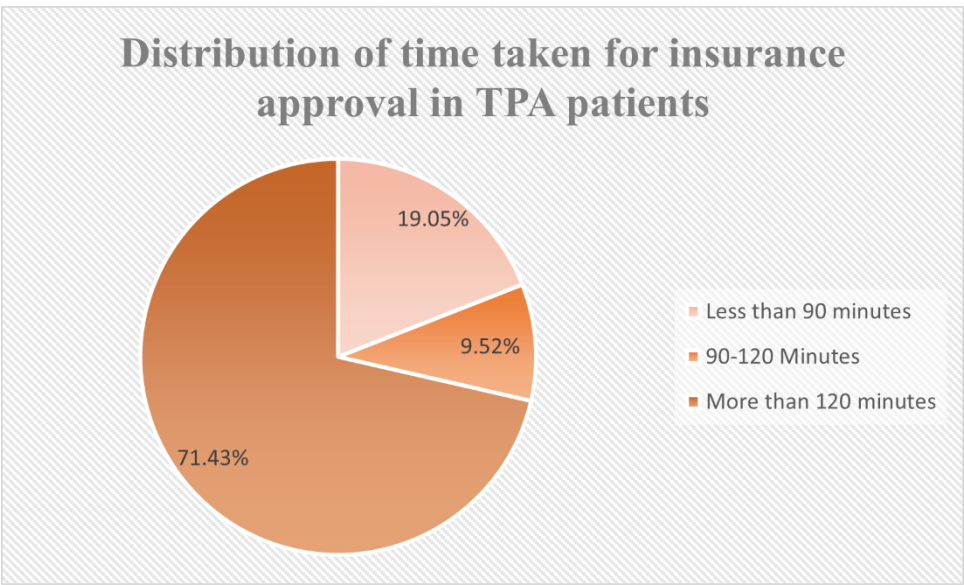
The Table represents the distribution of average time taken for the discharge patients for TPA patients. From the sample size of 66 TPA Patients, 67% of the patients were discharged within 175 minutes from the time of confirmation of discharge while 28% patients had a delay in their discharge process. 5% patients were discharged exactly at the proposed average range of time.

Figure 2.5. Average time taken in the process of discharge in TPA Patients



The graph represents the actual and proposed time (average time) taken for discharge process in TPA patients. Through this graph, the reasons for delay are depicted wherein it can be observed that the maximum delay is due to late insurance approvals due to which billing clearance is delayed. Also it can be observed that there are delays due to discharge summary finalization and in moving of the patient physically out of the hospital. Due to these delays the actual TAT for discharge for TPA patients takes about 197 minutes in the whole process while the proposed TAT is 180 minutes.

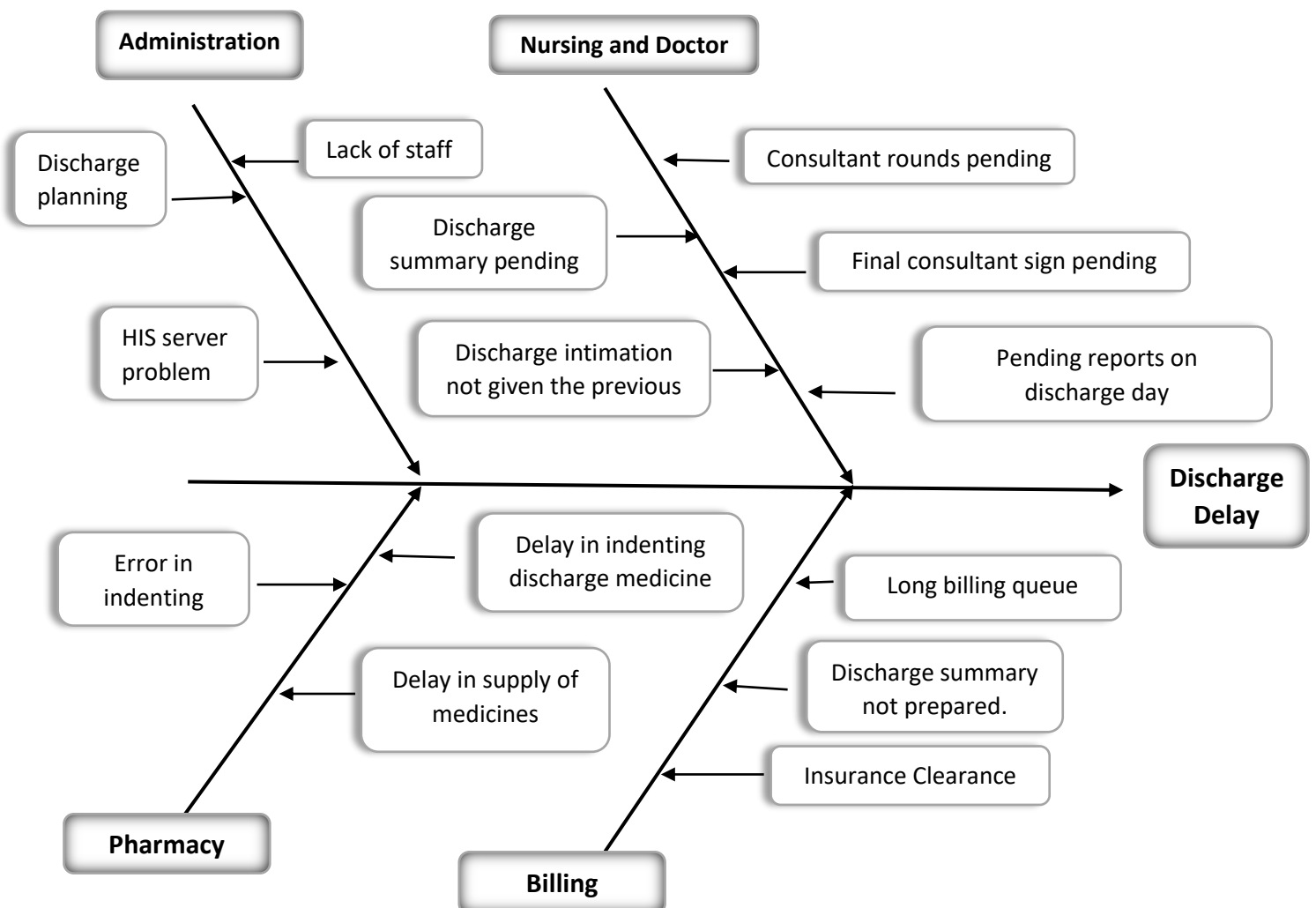
Figure 2.6. Distribution of time taken for Insurance approvals in TPA patients



The graph depicts that 71% of TPA patients have faced delays in discharge process due to delays in insurance approvals from the insurance companies. While 19% of patients have received their approvals well within time and have been discharged within the stipulated time.

ROOT CAUSE ANALYSIS

Root cause analysis (RCA) is the process of discovering the root causes of problems. Through this analysis . the areas wherein gaps are being observed can be recorded and delays between standard time of discharge and average time can be identified. Based on these factors seen in the process of discharge in Cash and TPA patients solutions can be carved out and the process can be smoothened.



CAUSES:

ADMINISTRATIVE

- HIS: Hospital information system might cause delay due to server problem
- Cancellation of planned discharges
- Lack of staff

NURSING AND DOCTOR

- Pending Consultant rounds leading to delay in confirmation of discharge of patient.
- Due to non- availability of the resident doctor for preparing the discharge summaries.
- Final signature from consultant gets delayed if he is unavailable at that time.
- The reports that are pending on the discharge day also contributes to delay in discharge.
- Discharge intimation a day prior to the actual discharge not given by the RMO.

PHARMACY

- Discharge gets delayed of inpatients is in providing medicines in the ward or collecting medicine in the pharmacy before getting discharged.
- If the medications are over indented, the returning of these medications contributes to delay.
- If there is no provision of refund of medication arguments might take place and discharge gets delayed.
- Delay in supplying of medication due to lack of staff

BILLING

- As per as the NABH guidelines the time taken for discharge should be 180 minutes but due to delay in discharge summary patient getting discharged after 180 minutes.
- Most of the patients are not counseled for the prerequisites of the billing. This increases the time taken for billing completion as the patients would not be ready with the billed amount.
- Insurance approvals take more time than usual which adds more time to the process of discharge.

- Long billing queues

OTHER CAUSES

- Discharge delays due to lack of availability of post-discharge facilities like ambulance, wheelchair facilities while leaving hospital.
- Unavailability of ward boys or housekeeping staff to see off the patient till outside hospital.

DISCUSSION

According to the study done by **Ms.S. Arthi & S. Divya** in 2020, it was observed that maximum delays in discharges occur due to delay in bed vacating time (35%) and payment failure in cash patients (20%) and also delay in pharmacy clearance (18%). From this study, we could observe that our study had different findings as maximum time was taken due to billing approvals and discharge summary finalization by the RMO and the consultant countersign.

Another study conducted by Sunil Omanwar, Rakesh Kumar Agrawal and Swati Omanwar in 2020, observed delays due to cancellation of discharge for medical reasons (16%) while other factors affecting the discharge delays were billing related issues, pharmacy related issues and pending discharge summary. The results of this research article is similar to our research as the factors affecting our study on non-clinical issues are similar.

From our study, we found that the average time for discharge of cash and TPA patients is 82minutes and 197 minutes respectively while the proposed time was 90 minutes and 180 minutes, respectively. A possible explanation for the observation in case of TPA patients is delay in insurance approval which should ideally take 90 minutes, but it is taking more than 120 minutes. Another reason which is common to both cash and TPA patients is the time lag usually caused due to discharge summary preparation as there is lack of RMO or in getting counter signs by the consultant as the consultant are busy with OPD duty, and also, due to unavailability of staff or due to lack of wheelchair for shifting the patient out of the hospital.

CONCLUSION

Based on the study, these recommendations can be suggested to reduce the delay.

- Firstly, as Billing is a major area in discharge process. The time taken for bill generation can be reduced by closing all the pending bills before discharge intimation to the billing department and proper communication between departments to close the bill.
- Another area of delay is discharge summary preparation and signature by consultant. Discharge when preplanned, ward secretaries should ensure that all the summaries are ready by the next day for signature and correction by consultant.
- For Insurance patients discharge, the approval time takes about 4-5 hrs. In order to optimize the delay, the hospital can hire major TPA's and complete the approval process quicker for faster discharge of insurance patients.
- Cash patients are not informed about the bill amount in prior which causes delay in payment of cash. The ward secretary/cash counter should track the patients bill and ask their attenders to pay all the outstanding bills from time to time.
- Another reason for vacating delay is due to lack of central transport system in hospital which can be rectified by providing adequate wheelchairs in each floor and a ward boy to help the patients during vacating.
- 28% of TPA discharge takes about more than 4hrs which is not according to prescribed NABH standards. All ward secretaries should be provided with guidelines in discharge procedures to reduce the delay in time taken for discharge process. Staffs should also be trained in proper communication skills to carry out the process.

Thus, discharge of patients is one of the important area that needs improvement in hospital. The increased TAT is a harmful factor for any hospital because it majorly tampers with patient satisfaction and quality of care that a hospital can give.

By taking care of the hindering factors, the delay in the process could be lessened which will in turn contributes to improve patient satisfaction and help to improve the efficiency of the hospital services.

REFERENCES

- [1] Source : <https://www.maxhealthcare.in/about-us>
- [2] Causes of discharge delays from the acute medical unit (AMU) in a tertiary level teaching hospital, Brunei Darussalam - Dayang Nur Hilmiyah binti Awang Husaini, Justin Fook Siong Keasberry, Khadizah Haji Abdul Mumin, Hanif Abdul Rahman, 2021. (2021). Retrieved 1 July 2021, from <https://journals.sagepub.com/doi/full/10.1177/20101058211006143>
- [3] (2021). Retrieved 1 July 2021, from <https://ijcrt.org/papers/IJCRT2004012.pdf>
- [4] Omanwar, Sunil & Agrawal, Rakesh & Omanwar, Swati. (2020). Patient Centric Approach Reduces Delayed Discharge from Hospital Post Medical Advice: An Indian Perspective. *Pharmacology & Toxicology*. 8. 14-18.
- [5] K. Revathi | Mrs. U. Suji "**A Study on Delay in Discharge Process, in One of Multispeciality Hospital in Tanjore**" Published in *International Journal of Trend in Scientific Research and Development (ijtsrd)*, ISSN: 2456-6470, Volume-4 | Issue-4, June 2020, pp.222-224, URL: <https://www.ijtsrd.com/papers/ijtsrd30919.pdf>