**Summer Training at**
**Manipal Hospitals, Jaipur**
**(April 3 to June 2, 2017)**

# Tracking and Monitoring of Inpatient Discharge Process and to Access the Factors Causing Delay in The Patient Discharge

**By**
**Apoorva Bhatnagar**

**Under the guidance of**
**Dr. Alok Kumar Mathur**

**MBA Hospital & Health Management**
**2016-2018**

**Institute of Health Management Research**
**The IIHMR University, Jaipur**
**2017**

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

IIHMR UNIVERSITY

# CERTIFICATE

This is to certify that **Ms. Apoorva Bhatnagar** has undergone summer training in **Manipal Hospital, Vidhyadhar Nagar, Jaipur** from **3rd April to 2nd June, 2017**.

The candidate herself completed the project assign to her during summer training. Her approach to the project was sincere and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Hospital and Health Management.

I wish her success in all her future endeavors.

**Col. (Dr.) Ashok Kaushik**
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ManipalHospitals
LIFE'S ON

SMH/HR/2017/ECR00233

Date: 1st June 2017

# TO WHOMSOEVER IT MAY CONCERN

This is to certify that, Ms Apoorva Bhatnagar, a student of IIHMR has undergone her internship project with us from 3rd April 2017 to 1st June 2017.

During this period, he/she was involved in projects pertaining to "Tracking & Monitoring of IPD discharge Process & Accessing the factors causing delay" At "Manipal Hospital (Jaipur) Pvt. Ltd. Her performance on the projects assigned and her conduct was found to be good. We wish her success in her future endeavors.

For Manipal Hospital ( Jaipur ) Pvt. Ltd.

Deputy Manager – HR

Operations Head

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# ACKNOWLEDGEMENT

*Success of an individual is possible when a person is being supported and promoted by others.*

The success of this study is not possible without the assistance & encouragement of the other people. The internship opportunity I had with Manipal Hospitals, Jaipur was a great chance for learning and professional development. Therefore, I consider myself as a very lucky person as I was provided with an opportunity to be a part of it. I am also grateful for having a chance to meet so many wonderful people and professionals who led me through this internship period.

I wish to express my sincere respect, regards and deep sense of gratitude to my Guide, **Mr. Naveen Malik,** and Human Resource Manager at Manipal Hospitals, Jaipur a well versed teacher, I sincerely express my boundless reverence for his excellent guidance, support, constant courage, encouragement, timely advice, thoughtful criticism and suggestions to which this study owes its very existence.

I am also very grateful to my academic mentor, Assistant Professor IIHMR Jaipur, **Mr. Alok Kumar Mathur** for his immense support towards the study to be a success. I sincerely express my gratitude to him as he took keen interest in my project work and for his valuable inputs and suggestions.

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I also acknowledge with a deep sense of reverence, my gratitude towards my family members and well-wishers who has always supported me morally as well as economically. My heartfelt thanks to all the Patients of the Manipal Hospital, Jaipur who were the subjects of this study.

Apoorva Bhatnagar

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### GENERAL FINDINGS



### PROJECT

# ABBREVIATIONS

- **NABH-** National Accreditation Board for Hospitals and Healthcare Providers
- **NABL-**National Accreditation Board for Testing and Calibration Laboratories
- **AAHRPP-** Association for the Accreditation of Human Research Protection Programs
- **ICU-** Intensive Care Unit
- **IVF-** In Vitro Fertilization
- **MARS-** Manipal Ambulance Response Service
- **MICU-** Medical Intensive Care Unit
- **CCU-** Critical Care Unit
- **MRD-**Medical Records Department
- **MRI-** Magnetic Resonance Imaging
- **CSSD-** Central Sterile Supply Department
- **ETO-** Ethylene Tri-Oxide
- **ECG-** Electrocardiogram
- **ERCP-**Endoscopic Retrograde Cholangio- Pancreatography
- **TEE-**Transesophageal Echocardiography
- **TMT-**Treadmill Test
- **OPD-**Out-Patient Department
- **IPD-** In-Patient Department
- **EEG-** Electroencephalogram
- **EMG-**Electromyogram
- **HAI-** Hospital Associated Infections
- **CAPEX-** Capital Expenditure
- **OPEX-** Ongoing Expenditure

## MANIPAL HOSPITALS, JAIPUR

"A world-class network of healthcare establishments in India"

Manipal Hospitals is part of the Manipal Education and Medical Group (MEMG), which pioneers in the field of education and healthcare delivery. Manipal Hospitals has a special significance in overall healthcare industry of India. A social seed sown more than five decades ago is today the country's third largest healthcare group with a network of 15 hospitals providing comprehensive care that is both curative and preventive in nature for a wide variety of patients not just from India but also from across the globe. Manipal Hospital is one of the most preferred and recognized healthcare facilities by pharmaceutical companies for drug trials.

Manipal Group is divided into four wings:

- **Manipal Global Education Services:** It consist of 2 universities and 24 professional colleges. It offers training for industry partners, as well as direct-to-learner specialized Diplomas and Certificate programs in various fields and areas like IT, Management and Finance.
- **Stempeutics Research Private Ltd:** It was created in 2004 and was incorporated in 2006. This consist of Stem Cell Research and this center seeks to bring in off-the-shelf stem cell products that would cure diseases such as diabetes, skin damage etc. through skin regeneration.
- **Manipal Integrated Services:** Outsourced services from building and maintaining youth hostels across India and overseas, providing high quality food and catering solutions, enhancing operational efficiency by providing engineered and process driven facility management services and maintaining high standards in security services.
- **Manipal Health Enterprises Ltd:** Private Company established in 2010.

### 1.1 Philosophy

The hospital philosophy is **"LIFE'S ON…."**

### 1.2 Mission

We aim to provide world-class healthcare at affordable price to all members of public.

### 1.3 Vision

To give quality health services with technological perfection and personal care under one roof with highly well-equipped infrastructure by competent and devoted professionals at affordable cost that is inexpensive and accessible to everyone in an ethical and hygienic environment.

### 1.4 Manipal Hospital Network:

The Manipal Hospitals has large network listed below: -

- Manipal Hospital, Bangalore
- Manipal North Side Hospital, Bangalore
- Dr. Malathi Manipal Hospital, Bangalore
- Manipal Hospital, Salem
- Manipal Hospital, Goa
- Manipal Hospital, Mangalore
- Manipal Hospital, Vijayawada
- Manipal Hospital, Jaipur
- Vedic Life Care, Nigeria
- Manipal Hospital Klang, Malaysia

**1.5 Manipal Hospitals Timeline:**

- **2014**

**Manipal Hospital, Jaipur was launched.**

The focus at Manipal Hospital is to develop an affordable tertiary care multispecialty healthcare framework through its entire delivery spectrum and further extend it to homecare.

**NABH (National Accreditation Board for Hospitals and Healthcare providers) 2nd Reaccreditation**

National Accreditation Board for Hospitals & Healthcare Providers (NABH) is a constituent board of Quality Council of India, set up to establish and operate accreditation programme for healthcare organizations. The board is structured to cater to much desired needs of the consumers and to set benchmarks for progress of health industry. NABH is an Institutional Member, Accreditation council member as well as a Board member of the International Society for Quality in Health Care (lSQua).

**NABL (National Accreditation Board for Testing and Calibration Laboratories) 5th Reaccreditation**

National Accreditation Board for Testing and Calibration Laboratories (NABL) is an autonomous body under the aegis of Department of Science & Technology, Government of India, and is registered under the Societies Act 1860. It has been established with the objective to provide third-party assessment of the quality and technical competence of testing and calibration laboratories.

**AAHRPP (Association for the Accreditation of Human Research Protection Programs) 1st Reaccreditation**

The Association for the Accreditation of Human Research Protection Programs, Inc. (AAHRPP) an independent, non-profit accrediting body promotes high-quality research through an accreditation process that helps organizations worldwide strengthen their human research protection programs (HRPPs).

- **2016**

**The Manipal Whitefield Hospital in Bangalore was launched.**


Manipal Hospital Whitefield (MHW) is a unit of the renowned Manipal Hospitals network that is known for Quality and Patient care. It is a 280 beds multi-specialty Hospital in the Whitefield area of Bangalore city.

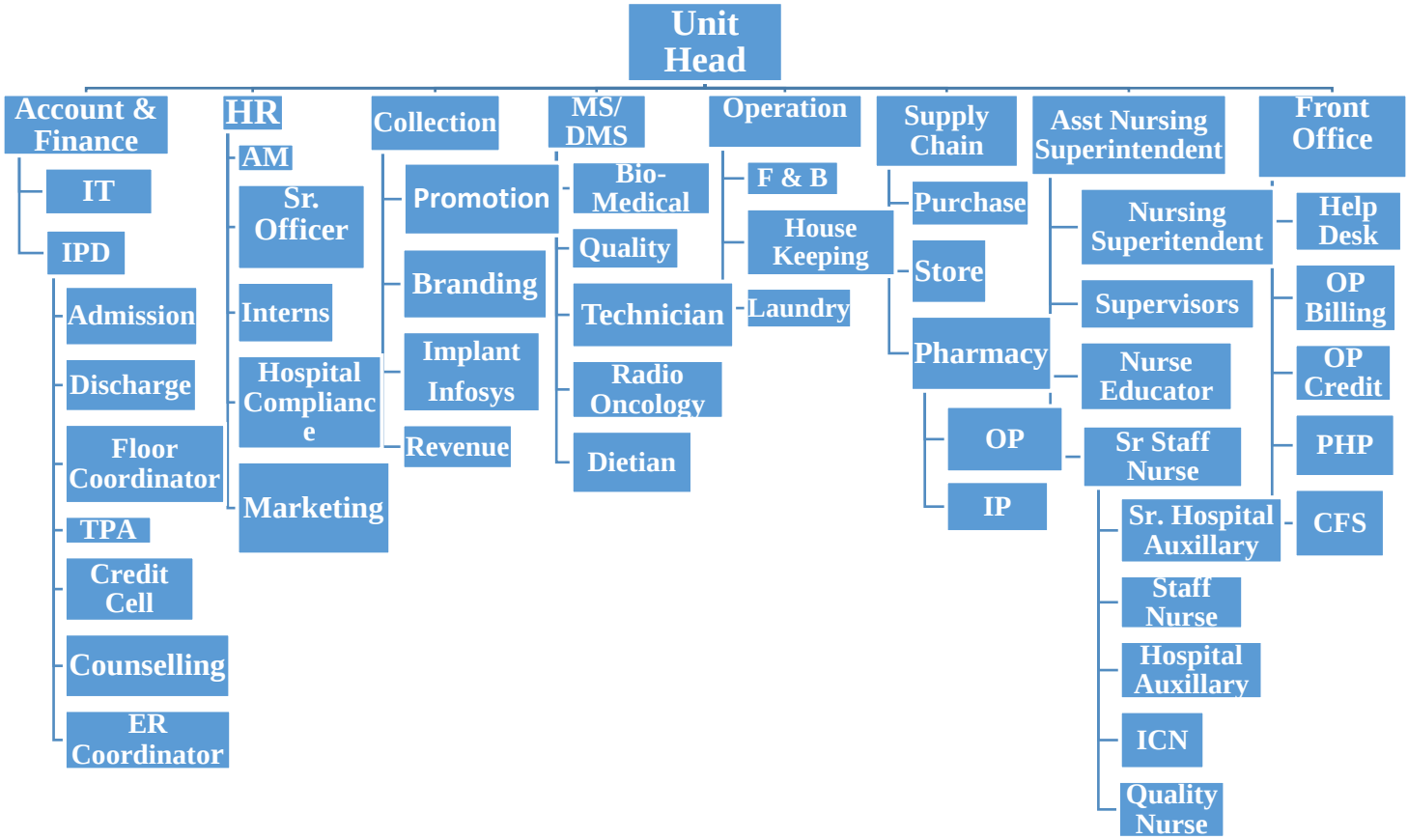
### 1.6 Specialties Offered

- Accident & Emergency
- Cardiac Sciences
- Dental Medicine
- Dermatology
- Diabetes & Endocrinology
- Ear, Nose & Throat
- Gastrointestinal Sciences
- General Surgery
- Genetics
- Health Checks
- ICU & Critical Care
- Internal Medicine
- IVF & Reproductive Medicine
- Laboratory Medicine & Diagnostics
- Neuro Sciences
- Nephrology
- Obstetrics & Gynecology
- Oncology
- Ophthalmology
- Orthopaedics
- Paediatrics
- Plastic & Cosmetic Surgery
- Psychiatry & Psychology
- Renal Sciences
- Respiratory Medicine
- Rheumatology
- Sports Medicine & Rehabilitation

## 1.7 Infrastructure Facilities

- Bed Strength- 202 bedded hospital
- Multispecialty Services under one roof
- 24*7 Hi tech Ambulatory Services MARS (Manipal Ambulance Response Service)
- 24*7 Hi tech NABL accredited Diagnostic Services
- 24*7 Pharmacy-free home delivery under 5 km radius
- 24*7 Accident & Emergency Services
- 24*7 Paediatric Emergency
- Comprehensive health check facilities
- Intensive Care unit (ICUs)
- Operation Theaters (OTs)
- Cafeteria
- ATM
- All support services

**1.8 Organogram of Manipal Hospital, Jaipur**



## 1.9 Floor Wise Design of Manipal Hospital, Jaipur

**THIRD FLOOR**

- **DELUX**
- **SUPER SPECIALITY WARD**

**SECOND FLOOR**

- **MICU**
- **HDU**
- **NEURO ICU**

**FIRST FLOOR**

- **CATH LAB**
- **CCU**
- **NICU**
- **OT**
- **SURGICAL ICU**

**GROUND FLOOR**

- **GENERAL WARD 1**
- **GENERAL WARD 2**
- **A C GENERAL WARD**
- **DIALYSIS**
- **RECEPTION**
- **EMERGENCY**
- **OPD**
- **CAFETERIA**
- **HEALTH CHECK UP**
- **SAMPLE COLLECTION ROOM**
- **OP PHARMACY**

- **MORTUARY**
- **LABOUR ROOM**
- **EMERGENCY DAY-CARE**

**BASEMENT**

- **BLOOD BANK**
- **CANTEEN**
- **RADIOLOGY**
- **RADIATION ONCOLOGY**
- **PHYSIOTHERAPY**
- **MANIPAL ANKUR IVF CENTER**
- **MRD**
- **LABORATORY**
- **MRI**
- **IP PHARMACY**
- **C.S.S.D**
- **LAUNDRY**
- **MAINTENANCE**
- **BIO MEDICAL ENGINEERING**
- **CENTRAL STORE**

## 1.11 SERVICES AVAILABLE

### CONSULTATION (OPD)

- Allergy and Asthma
- Banatric Surgery
- Cardiac Anesthesia
- Cardiothoracic and Vascular Surgery
- Dental
- Diabetology and Endocrinology
- ENT
- Hepato Pancreato Biliary
- Medical Gastroenterology
- Neonatology
- Nutrition and Dietetics
- Oncology-Surgical
- Pediatric Surgery
- Plastic and Reconstructive Surgery
- Radiology
- Spine Surgery
- Dermatology
- Blood Bank
- Nephrology and Dialysis
- Neuro Surgery
- Neurology
- Obstetrics and Gynecology
- Oncology-Medical
- Oncology-Radiation
- Ophthalmology
- Orthopedic and Joint replacement
- Pediatric
- Physiotherapy
- Psychiatry
- Respiratory Medicine
- Sleep medicine
- Urology

## LAB SERVICES

- Biochemistry, Serology, Immunology
- Microbiology
- Histopathology and Cytopathology
- Clinical Hematology and Clinical Pathology
- Hormones study

## ENDOSCOPIC SERVICES

- Video Gastroscopy
- Video Colonoscopy
- ERCP
- Sigmoidoscopy
- Bronchoscopy

## RADIOLOGICAL SERVICES

- MRI
- CT Scan
- Digital X-Ray
- Ultra-Sonography
- Color Doppler

## CARDIOLOGY

- ECG
- 2D Echo
- TMT
- Holter Monitoring
- TEE
- Cath Lab

**OTHERS**

- EEG
- EMG
- NCV
- Skin Allergy Test
- Spirometry
- Sleep Lab
- 24 hours Pharmacy
- Ambulance Services
- Health Check Ups

**SERVICES NOT PROVIDED IN MANIPAL HOSPITAL, JAIPUR**

- Nuclear Medicine
- Human Organ Transplant Services
- PET Scan
- Bone Densitometry/Scanner
- IPD Psychiatry
- Speech Therapy
- De addiction Services
- Burn Cases>15%

## GENERAL FINDINGS

**The general findings on the basis of my visits in the different departments of Manipal Hospital, Jaipur are as follows-**

1. **OUTPATIENT DEPARTMENT(OPD)**

   Outpatient department is "A part of the hospital which is designed for the treatment of people with health problems who require treatment or diagnosis but who do not get admitted in the hospital. The OPD along with other public areas of the hospital is known as 'shop window' of hospitals.

   Outpatient is the one who receives medical attention at a hospital without getting admitted to in patient department (IPD).

   The importance of OPD lies in the following-

   - An OPD is the patient's first contact point with the hospital and the entry point to the health care service provider.
   - It is a platform for health promotion and disease prevention as the target population is easily available.
   - It act as a filter for inpatient admissions, ensuring that only those patients are admitted who are most at likely to benefit from such care, thus conserves scarce beds.

**Location- OPD is situated at Ground Floor of the Hospital**.

Manipal Hospital offers a wide variety of OPD services. This include Neurology OPD, cardiac OPD, Endocrinology OPD, Ophthalmology OPD, Dental Care OPD etc.

**Process Flow-**

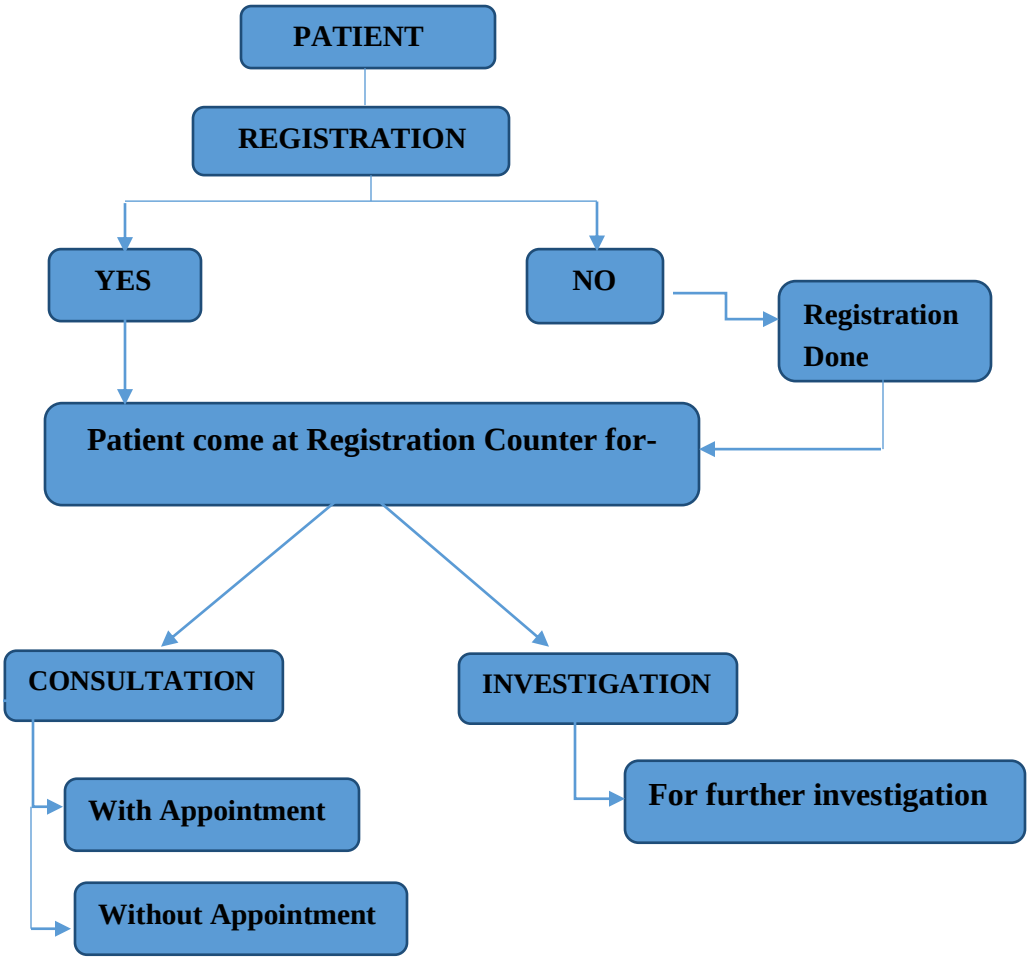



**Figure-1 Process Flow of OPD Department**

All patients who visit the hospital OPD for the first time for consultation services are issued a card. This card is attached to registration form and issued to patient at time of registration.

The C.R. number is present on the card.

The C.R. no. is important, for its only help with the help of this number, that the patient medical record can be accessed. Patient are advised to always carry their card or card number whenever they come for follow-up visit to the OPD or whenever they are to admit a patient in IPD.

## 2. ADMISSION DEPARTMENT

Admission is the entry and acceptance of the patient to stay in a health facility for the purpose of observation, investigation, and treatment. The client coming for admission may walk-in (ambulant) or not. The patient take admission in the hospital either for diagnostic investigations to be done or for treatments which may be medical or surgical or for observation.

There are two types of admissions-

- **Planned-** With this type of admission the medical officer or the health care provider arranges with the patient a convenient date for admission. Patient is informed well ahead of time to enable him to prepare for the admission. In planned admissions the patient is taken through the admission process from the OPD.
- **Emergency-** with this type of admission patient reports to the hospital in a critical condition; he/her is usually brought in by people (relatives, friends).and then patient is transported to the ward in a wheel chair or stretcher. These type of patients' needs immediate treatment.

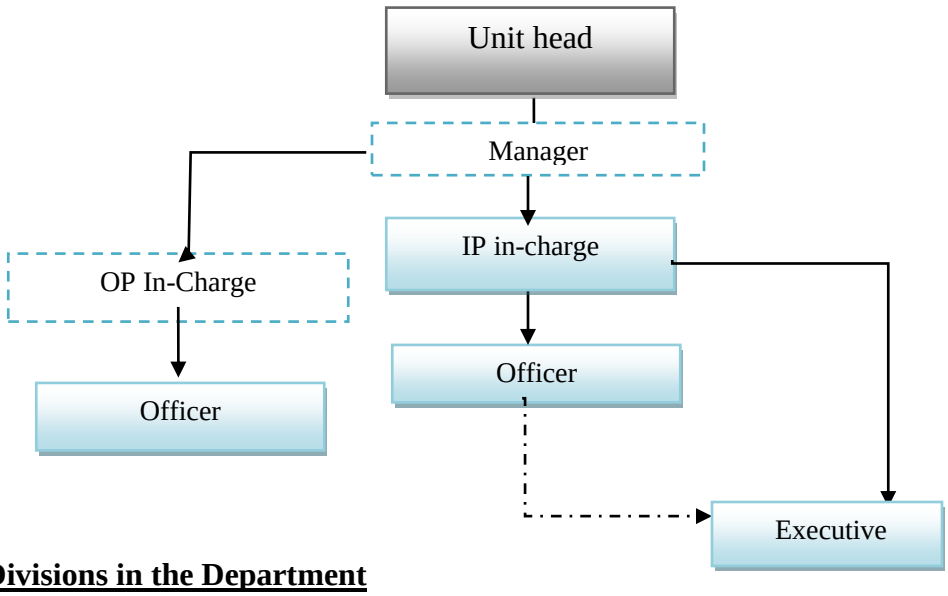
**Objectives-**

The Admission Department of Manipal Hospital, Jaipur is for-

- Improving Patient Satisfaction and relationship management.
- Providing information about admissions and counseling of patients.
- Giving estimates about the charges of components of services.
- Registration and Bed allocations.

**LOCATION-The Admission department of Manipal Hospital is situated at ground floor of the hospital.**

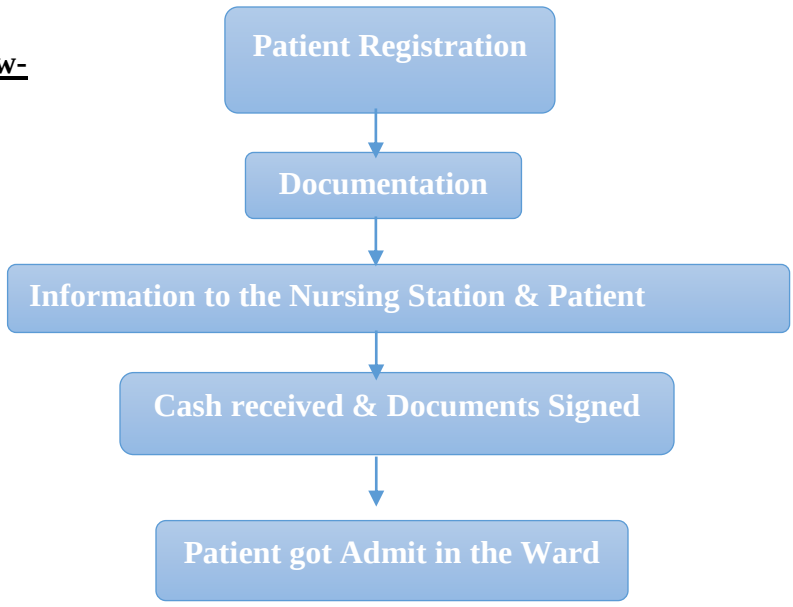
## Organizational Structure of the Department




## Functional Divisions in the Department

| | | | |
|---|---|---|---|
| 1 | Help Desk | 5 | Admissions |
| 2 | Reception | 6 | Counselors |
| 3 | OPD Co-Ordination | 7 | TPA Co-Ordination |
| 4 | Credit Cell – Front End | 8 | Feed-back Collections |

## Process Flow-



## 3. BILLING DEPARTMENT

The medical billing process takes place in the billing department of the hospital. The billing process is an interaction between service provider of health and the one who is paying. The whole process is known as the billing cycle. In the billing department, all the transactions of cash, mediclaim and cashless transactions takes place.

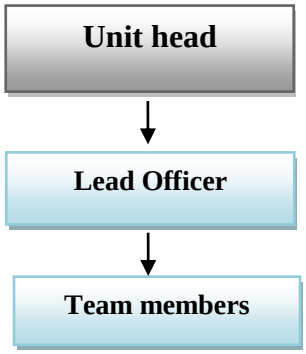
**LOCATION-The Billing Department is located on the ground floor of the hospital.**

**Objectives:**

The Billing section of the hospital is for-

- Interim Bill preparations
- Final bill preparations for the discharge patients
- Completion of Credit files
- Submission of IP files to Credit Cell
- Maintaining the record of submitted and pending files

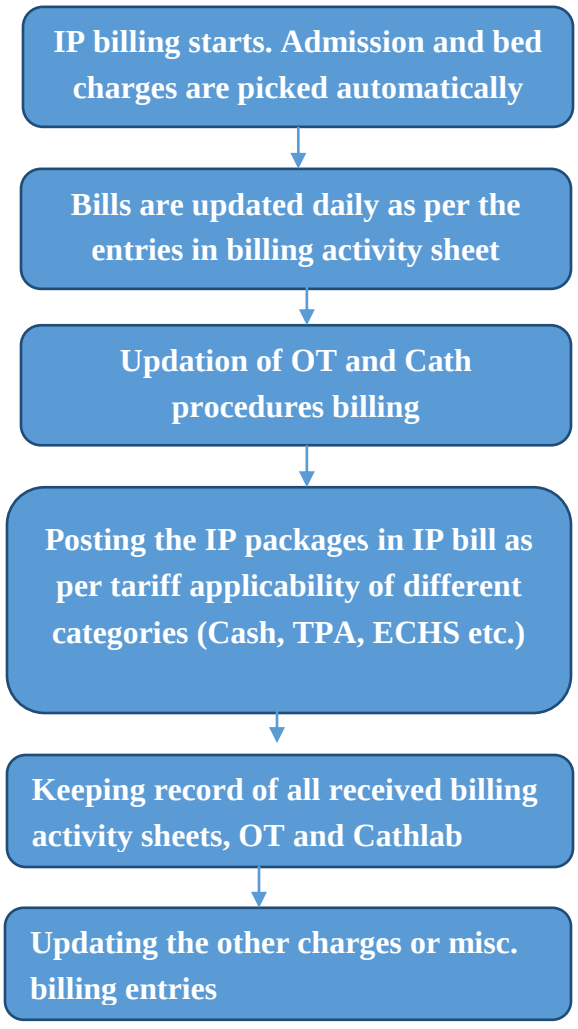
**Organizational Structure of the Department**



**Functional Divisions in the Department**

| Sr. No | Functional Areas | |
|---|---|---|
| **1** | IP Billing | • Cash,<br>• Credit,<br>• TPA<br>• Corporate billing |
| **2** | IP File completion and submission to credit cell | • Credit- ECHS, CGHS, ESIC, Railway, CRPF and bhamasha<br>• All TPA |
| **3** | Code creation and prices updation | • New billing item code creation,<br>• OP/IP package creation,<br>• Price revision<br>• Tariff creation and corrections<br>• Mapping of CGHS code with cash codes<br>• Company creation |

**Process flow-**



## 4. CREDIT CELL

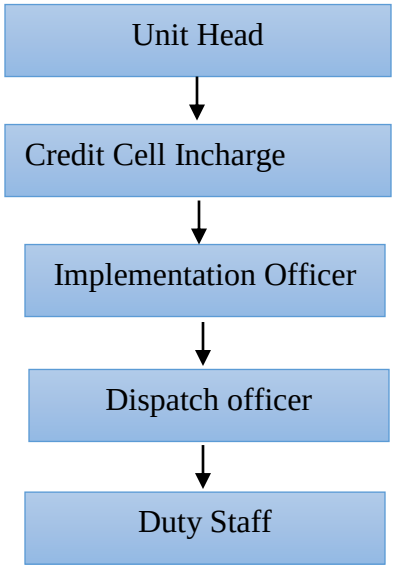
Credit Cell is for management of credit transactions in the hospital.

**LOCATION-The Credit cell is situated on the second floor of the hospital.**

**Objectives-**

- To review and Submit the files of all credit patients (ECHS, ESIC, CGHS, Railways, CRPF, TPA and corporates) to the firms and companies.
- To answer and solve the queries coming in submission of department.
- To prevent the deductions happening in the process of credit file submission.

**Organizational Structure of the Department**



**Functional Divisions in the Department**

| S.No | Functional Areas |
|---|---|
| **1.** | Post-dispatch query answering |
| **2.** | Medverve query answering |
| **3.** | Implementation specialist |
| **4.** | Query answering |
| **5.** | Uploads and dispatch (Railways, ESIC, CGHS) |
| **6.** | Uploads and dispatch (ECHS) |
| **7.** | Scanning and Checking of file |
| **8.** | Checking of files and referrals and tracking the record |

## 5. LABORATORY

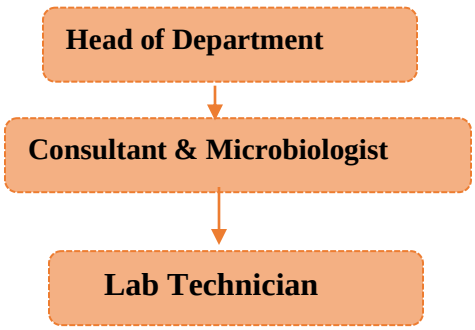
A clinical laboratory is a laboratory where test is done on clinical specimens in order to get information about the condition of patient as relating to the diagnosis, treatment and prevention of disease.

**LOCATION- The laboratory is situated in the basement of the Manipal Hospital.**

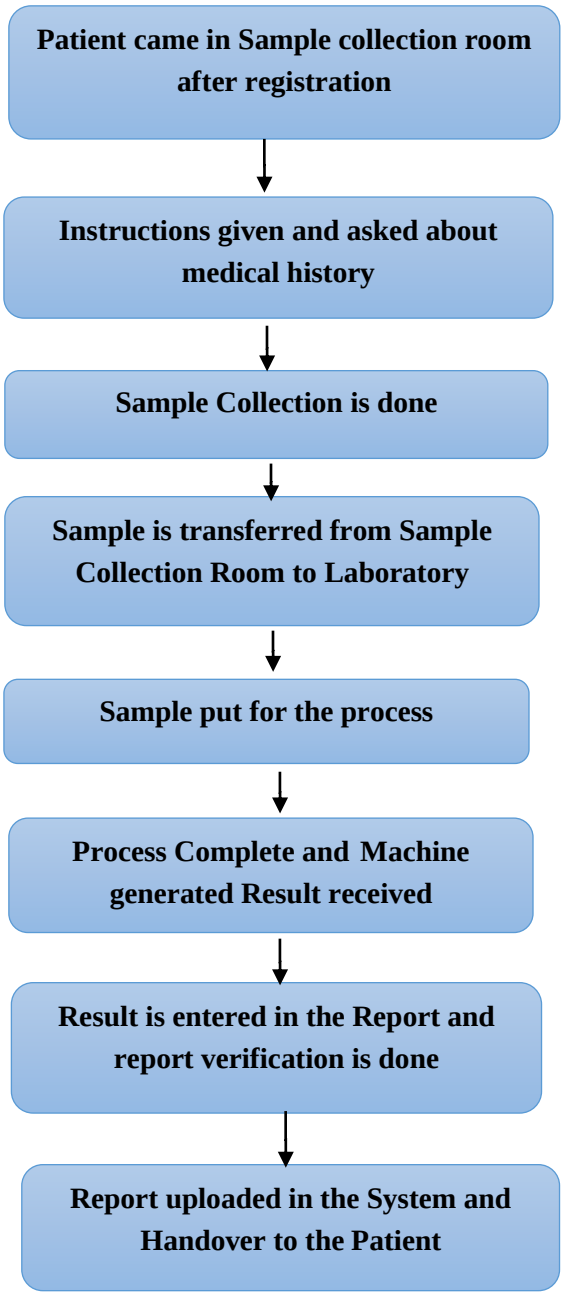
**Objectives-**

- Conducting the tests by keeping the patient safety at high importance and maintain the good quality practice in the departments.
- Providing all the quality laboratory reports within the defined time frame.

**Organizational Structure of the Department**



**Process Flow-**



## 6. LAUNDRY

The Linen department in the hospital is to provide all the hospital departments served, adequate supply of clean linen conforming to highest standards of cleanliness and hygiene immediately and constantly available for routine and emergency use from a central place thus reducing the overall cost and contributing towards the efficient and effective supply of linen to all Hospital departments. A reliable laundry service is very important for the hospital.

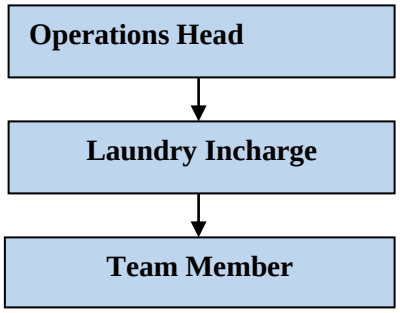
Linen is made from the fibers of flax plant. The hospital linen contains all cloths used in the hospital including mattress, pillow covers, blankets, bed sheets, towels, screens, curtains, doctors' coats, theater cloth and table cloths.

**LOCATION- The laundry is located at the basement of the Hospital.**

**Objectives-**

- To ensure availability of linen in hospital at all time.
- To provide Prompt clean and infection free linen to patient activities
- To maintain adequate stock of linens according to hospital requirement
- To control Hospital Infections (3-4% of HAI is due to mishandling of the infected linen)

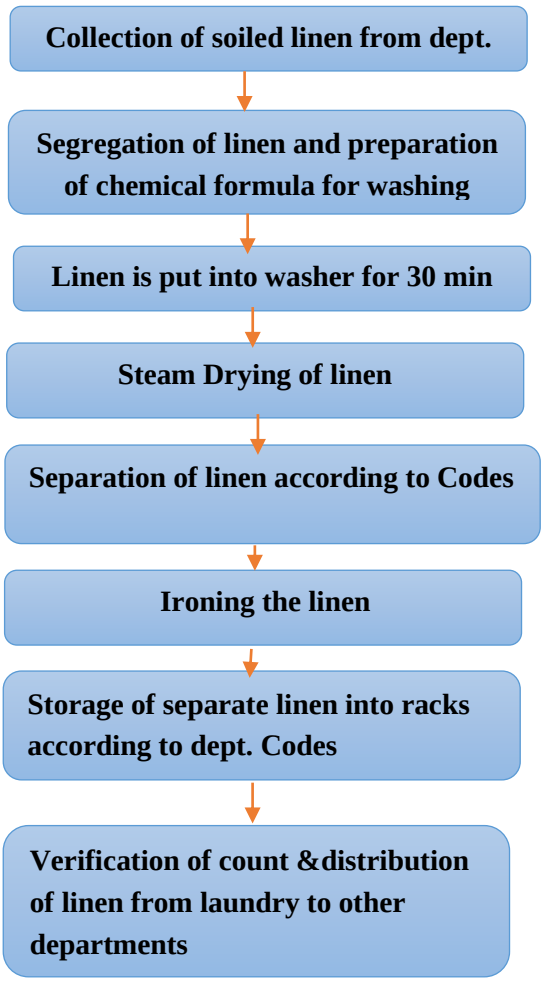
**Organizational Structure of the Department**



## Functional Divisions

| S.NO | Functional Areas |
|---|---|
| **1.** | Washing |
| **2.** | Drying and Segregating the linen |
| **3.** | Separation of linen area |
| **4.** | Ironing of linen |
| **5.** | Storage area |

## Process Flow-



## 7. CENTRAL STERILE SUPPLY DEPARTMENT

The Central Sterile Supply department provides complex services including the preparation of sterile medical supplies for the surgery rooms. It provides specialized hygienic operations (low-temperature sterilization, high-temperature sterilization) whose outputs are sterile medical supplies. The major users of CSSD in hospitals are ICU, OT, accidents and emergency department and surgical and orthopedic ward. CSSD is a very important facility of the hospital to ensure patient safety by reducing complications arising out of cross infections and litigations.

Sterilization is the destruction or elimination by filtration of all microorganisms including bacteria, fungi and viruses and sterilization is conceived as an absolute absence of infective agent.

**LOCATION-The CSSD is situated at the basement of the Manipal Hospital.**

The CSSD of Manipal Hospital contain the following-

- **ETO ROOM**- The ETO Room is the room in which ethylene tri-oxide (ETO) gas is used for sterilizing the medical devices. It is a low temperature sterilization method that has been used for many years for the sterilization of heat and moisture sensitive medical devices that cannot tolerate the high temperatures and moisture.
- **LINEN PACKING ROOM**- The room in which sterilized linen is packed.
- **AUTO ENCLAVE ROOM**- In this room high temperature and steam sterilization technique is used to disinfect surgical equipment, laboratory instruments, and pharmaceutical items. Autoclave can sterilize solids, liquids, hollows, and instruments of various shapes and sizes by heating them at high-temperature. Steam is the agent of autoclave's sterilization. Autoclaves vary in size, shape and functionality.
- **STERILITY ROOM**- The room in which machines sterilize the medical devices.
- **SUPPLY ROOM**- The room from where the sterilized material is supplied to required departments.
- **CSSD RECEIVING COUNTER**- It is the counter where the materials and medical devices come for sterilization.
- **ETO PACKING ROOM**-The room in which the medical devices are packed after the sterilization takes place.

**NUMBER OF STERILIZATION MACHINES IN CSSD**

There are total three sterilization machines in CSSD in which-

**STEAM STERILIZATION MACHINE-** **2** Units

**ETO STERILIZATION MACHINE-** **1** Unit

## 8. DEPARTMENT OF RADIOLOGY & MODERN IMAGING

The Department of Radiology delivers radiological services related to Sonography, X-Ray, CT scan and MRI. This section consists of highly skillful technicians and radiologists who provide 24X7 patient care. This department is also actively involved in the world of radiology and imaging through various research activities.

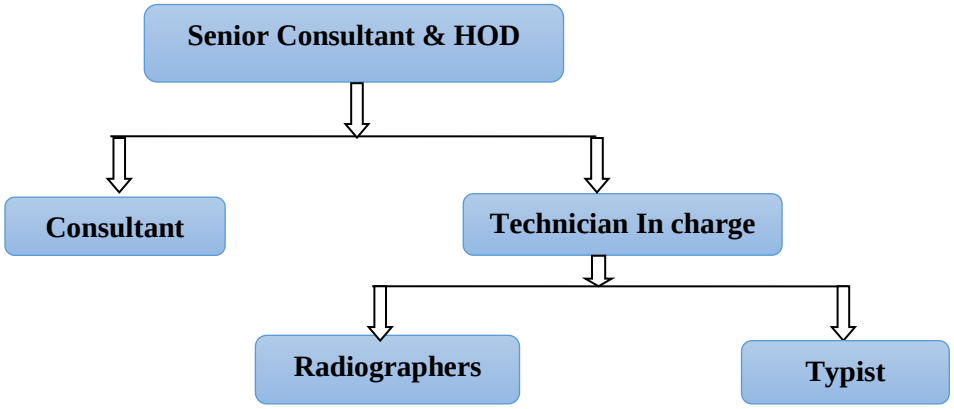
This department in the Manipal Hospital provide High resolution sonography, 2D, 3D and 4D facilities, small parts study like Orbit, testies, thyroid, sonomammography, sonoguided biopsy, X-Ray services like H.S.G, R.G.U,M.C.U etc., CT scan services like whole body CT scan and angiography,3-D CT scan, MRI services like whole body MRI and MR angiography head & neck and mammography.

**LOCATION-The Department of Radiology is located in the basement of the Manipal Hospital.**

**Objectives-**

- **Reliability** – ability to provide the service as promised to the customer and to deliver it accurately.
- **Responsiveness** – willingness and ability to help customers on time.
- **Assurance** – the customer must feel comfortable with the capability of the service provider.
- **Empathy** – Caring and attention to customers.

**Organizational Structure of Department-**

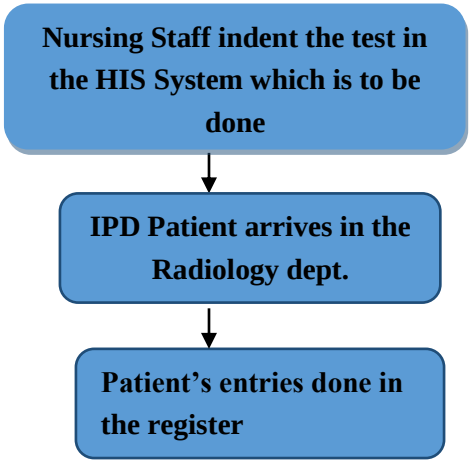


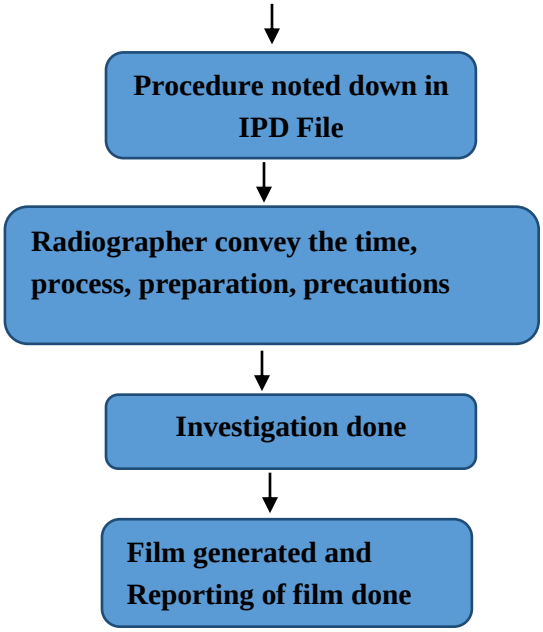

**Functional Divisions in the Department-**

| S. no. | Functional Divisions | Roles |
|---|---|---|
| 1 | Head of the department | To prepare all the report |
| 2 | Incharge | Maintenance of all queries regarding functioning & maintain quality standard of department, Indenting of materials, roaster planning |
| 3 | Radiographers | To conduct all types X-rays, CT, Mammography, USG |
| 4 | Typist | Type all the reports |

**Process Flow-**

**FOR IPD PATIENT**






## 9. STORE AND PURCHASE DEPARTMENT

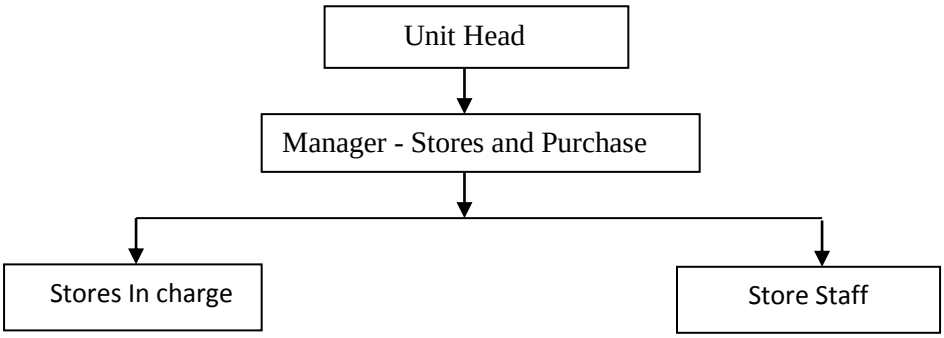
Store and purchase department of the hospital is an essential part of the hospital. It plays an important and crucial role. This department is responsible for ensuring that all the goods, housekeeping material etc. are available in adequate amount. The store and purchase department check and receives from various sources (vendors, manufacture units, repair units etc.), all materials and parts which are used in the hospital. It is in direct touch with the user department in its day-to-day activities so that an uninterrupted service to the various departments can be provided. In hospitals the users are Operation Theatre, Wards, Specialty Clinics, Units, Refraction Departments, Registration and Admission Departments etc.

**LOCATION-The Store Department is positioned in the basement of the Manipal Hospital.**

**Objectives-**

- Purchase of Materials and goods, consumables, housekeeping material, CAPEX items, OPEX items.
- Issue of material to department after indenting.
- Management of Printing of material required in department.
- Asset transfer to departments**.**
- Regular Audits of the department**.**

**Organizational Structure of the Department**




**Functional Divisions in the Department-**

| S.NO | FUNCTIONAL DIVISIONS |
|---|---|
| **1.** | Consumables and other materials |
| **2.** | Pharmaceuticals Items |

**PROJECT**

# TRACKING AND MONITORING OF IN-PATIENT DISCHARGE PROCESS AND TO ACCESS THE FACTORS CAUSING DELAY IN THE PATIENT DISCHARGE

**Research Problem- Tracking and Monitoring of in-patient discharge process and to access the factors causing delay in the patient discharge**

## INTRODUCTION

## PLANNING OF DISCHARGES

People require healthcare services from the moment they take birth, and the demand for those services differs during their life time, therefore the volume of demand is almost the size of the human population. A healthcare system can be defined as a set of facilities and organizations that contribute in providing services that relate to individuals' health and wellbeing. Among various factors affecting the health care system, discharge process is one of the important factors related to patient satisfaction.

Discharge Planning is "the process used to decide what a patient needs for a smooth move from the hospital to home or to other level of care." It is defined as the process of activities that involves the patient and the team of individuals from various discipline working together to facilitate the transfer of patient from one environment to another.

Discharge planning process (DPP) is a complex process that occurs when the patient leaves the facility. As the last step of the hospital experience, the discharge process is likely to be well remembered by the patient as well as relatives of the patient. Even if everything else went satisfactorily, a slow, frustrating discharge process can result in low patient satisfaction. It is an important area which touches the patients' emotion; influence the image of the hospital and patient satisfaction. Soon after completion of treatment, the patient as well as his or her escorts expects to be relieved off immediately. The delay in discharge process leads to dissatisfaction and affects the image of the hospital.

**INPATIENT-**An "inpatient" is the person who has been admitted to a hospital for bed occupancy for purposes of receiving hospital services. A person is considered an inpatient if formally admitted as an inpatient with the expectation of remaining at least overnight and occupying a bed. In the simplest form possible, and for any inpatient, their total hospital experience can be divided described into three phases; admission, intervention, and discharge. Focusing on the end of a patient's episode, one recognizes that it finishes with the patient leaving the hospital.

**FORMAL DISCHARGE-** It is the process by which a hospital records the end of treatment and/or care and/or accommodation of a patient, where the patient:

- is discharged to home or other residence
- is transferred to another hospital or other external health care accommodation.
- discharge against medical advice, and does not return to the hospital for current treatment within seven days (DAMA).
- is deceased.

**ELEMENTS OF EFFECTIVE DISCHARGE PLANNING PROCESS-**

- **Discharge Planning-** It is the making of an individualized discharge plan for the patient prior to leaving the hospital to ensure that the patients are discharged at an appropriate time and with provision of adequate post-discharge services. Effective discharge planning leads to greater patient satisfaction and small decreases in the length of stay and readmission rates.

- **Medical Reconciliation-** It is the process of checking patient medicines at a point of hospital discharge to identify which medications have been added, discontinued or changed relative to pre-admission medication lists. It is a critical element of successful discharge transition. It also provides an opportunity for clinicians to ensure that patients are well informed about medicines they are taking, how to take them, and why they are taking them.

- **Discharge Summary**- The primary mode of communication between the hospital care team and after care providers is often the discharge summary, it is the conclusion of a hospital stay. It contains the following information-
  - The outcome of hospitalization
  - The diagnostic findings
  - The therapy received by patient
  - Provision for follow-up care including appointments, statements of how care needs will be met and plans for additional services.

- **Patient Instruction-** At the time of discharge, the patient should be provided with a document that includes language appropriate instructions and patient education materials to help in successful transition from the hospital. The document should be brief focused on the critical information to the patient that what patients' needs to manage his or her condition after discharge.

## TYPES OF DISCHARGE-

### On the basis of discharge-

1) Unplanned Discharges- These types of discharge process started spontaneously after doctor's round and after that all discharge activities started.
2) Planned Discharges- the planning is done a night prior of the discharge after evening round (either verbal or written)and the activities related to pharmacy, finances are started in the night itself and then the next morning discharge takes place.
3) Discharge against medical advice (DAMA) - Absconding or discharge against medical advice patients are the patients who do not return within seven days. The time of discharge is backdated to their time of departure.

**On the basis of mode of payment-**

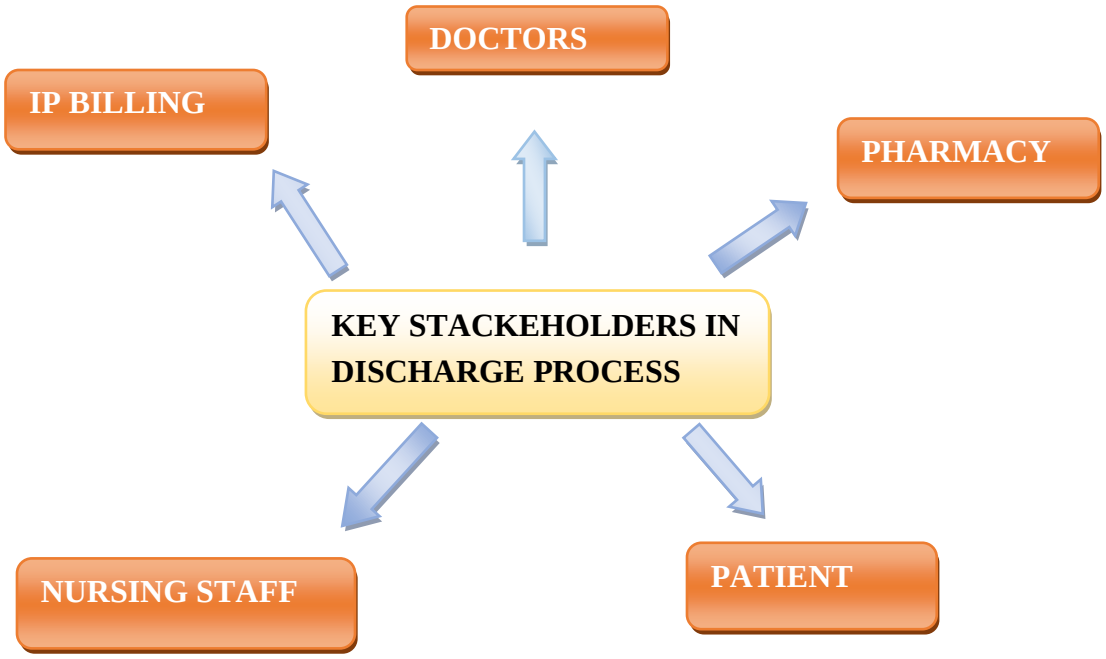
1) CASH- Cash patients are the patients who pay for their treatment in the form of cash. Their payment is done by self/relatives.

2) TPA- TPA is a company/organization holding license from Insurance Regulatory Development Authority (IRDA) to process claims-corporate and retail policies in addition to providing cashless facilities. These are separate entities which work as a mediator between the insurance companies and insurance receiver. The stakeholders which are involved are as follows-
    - Insurance Companies
    - Healthcare Providers
    - Policyholders

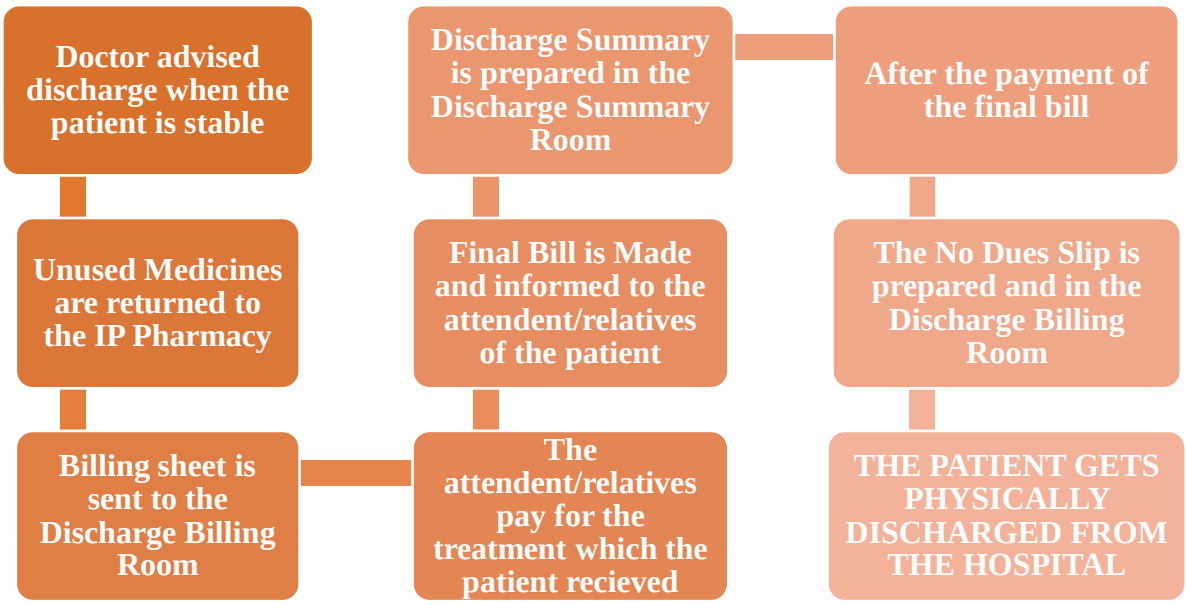
Manipal Hospitals are connected with 32 Insurance companies like HDFC ERGO General Insurance, Heritage Health, ICICI Prudential Life Insurance, ICICI Lombard, MD India, MedSave India, Max Bupa, Star Health and Allied Insurance Company Ltd. United Healthcare etc.

3) CREDIT-Credit patients are the patients which does not pay in the form of cash. Credit patients include-
    - **ECHS** Patients- Ex-service men pensioners and their dependents are entitled for treatment not only in-service hospital, but also in the private hospitals which are specially empaneled with ECHS. The patient is referred to the hospital from a service hospital or poly-clinic and treatment for ECHS is done by the hospital.
    - **CGHS** Patients- In this scheme all the beneficiaries of the scheme whenever require or need consultation services are referred to CGHS poly-clinics or hospitals based on the consultant availability for that particular specialty.
    - **BSBY** Patients- This is a scheme aimed at offering IPD patients with access to cashless facility and also offers reduction in additional expenses whilst offering financial cover to customers against illnesses.

## DIFFERENT STAKEHOLDERS IN DISCHARGE PROCESS




## PROCESS FLOW OF THE CASH PATIENT



## PROCESS FLOW OF DISCHARGE FOR TPA PATIENT

**Patient admitted with the pre authorization form to be filled within 24 hours.The following can be happened**

| Denial | Approval | Query |
|---|---|---|

**If approved the patient will be informed and cashless billing will take place**

| If denied then the patient will be converted to cash and asked to make arrangements | If query comes than it has to be answered which can lead to approval,denial or another query |
|---|---|

**When the doctor announce discharge,medicines are returned and pharmacy clearance is taken after which patient file is prepared**

**All the original documents & investigations are checked and approved**

---

**The final billing activity sheet is sent to the billing room and then final bill is made and sent to the TPA desk**

**The TPA desk also receives the final discharge summary,which is then attached to the final bill and some documents such as pre authorization form etc.(Based on requirement of TPA) are sent to the TPA company for final approval.**

**When the summary and final bill is sent for approval the following things can happen-**

| Approval: In this case the patient attendent is called and when final bill is cleared he will be given a discharge slip | Denial: In this case agin the patient has to pay the final bill |
|---|---|

**After paying for the treatment the patient gets discharged**

## DISCHARGE PROCESS FLOW FOR CREDIT PATIENTS

**Patient is stable so doctor advice discharge**

- Normally when the doctor comes on round he/she check the patient and adcvice discharge as per the condition of the patient

**The whole file is completed by Nursing staff**

- All original investigtions and reports are connected in that file

**Unused medicines are returned and consultant complete the discharge initial**

- Medicines are returned to the pharmacy and pharmacy clearance is given and discharge initial is made

**Tentative Discharge summary is prepared**

- Tentative or temporary summary is prepared in discharge summary room and then sent to the consultant to check and sign the same

**Final discharge summary prepared**

- If there are any corrections in the summary the staff in the discharge summary room do the corrections and prepare the final discharge summary

**Consultant sign the final discharge summary**

- The final summary is prepared and then sent to the ward for further pocess

**Final bill is made in the Discharge Billing Room**

- The final bill is made of the patient is made by the billing staff and sent for approval

**Credit Payer receive the final bill and other required documents**

- The final bill and other documents like Discharge Summary is scanned and submitted to the company for the approval

**After receiving approval the No dues slip is made in the Discharge billing room and patient gets physically discharge**

- Once the approval came the No Dues slip is prepared and given and then Patient get physically discharged and all the reports are given

## REVIEW OF LITERATURE

### THE DISCHARGE PLANNING PROCESS/PROCESS IMPROVEMENT

**1.** Discharge is described as a selective process that distinguishes between patients who are able to continue the recovery process outside the hospital and those who are not yet ready to leave. Delayed discharge refers to the situation where a patient is deemed to be medically well enough for discharge but they are unable to leave hospital because arrangements for continuing care have not been finalized (Galai, Israeli, Bryan et al., 2003).

**2.** Discharge planning is critical to ensuring rapid, safe and smooth transition from hospital to another care environment; it involves the social work functions of high risk screening, social work assessment, counseling, locating and arranging resources, consultation/collaboration, patient and family education.

Delay factors may be-

Internal- It include delay in discharge summaries; delay in declaration of chronicity; transfer between nursing units; lack of documentation of discharge plan etc.

External- It include lack/delay of access to rehabilitation, palliative care, home care resources, long term care facility.

Psychosocial-It include waiting for patient function to improve, patient/family, social isolation of patient, inadequate support at home, lack of concrete medical aids, transportation for treatments, financial family burden to prevent discharge home, (Tennier,1997)

**3.** One review specifically examined the rate and causes of delayed hospital discharges, together with policies and practices that may reduce delayed discharges and improve the experiences of older people in the UK. The results of this review estimated the rate of delayed discharge ranged from 8% to 66% and their findings indicated that barriers to discharge were 'internal hospital factors' and the complex and multi-faceted nature of the factors contributing to delayed discharge. Researchers recommended rehabilitation services to reduce the rate of delayed discharge. (Glasby et al, 2006).

**4.** Armitage mentions in his article that the discharge of medical patients consists often not of a single event but of a lengthy process of negotiation involving professional staff, patients and their relatives. Patient sometimes may want to leave earlier than doctor's advice leading to unplanned discharge, or may want to stay for more time leading to cancellation of the plan discharge. Discharge process is comprehensive in terms of time because it involves number of people who come together informally at different time of discharge.

## AIM OF THE STUDY-

To observe and record the time needed for completion of discharge process for all types of discharges (CASH, CREDIT,TPA) and to compare the average time taken for completion of discharge process for health insured and self-payment patients.

## RATIONALE-

Discharge process is an important step for patient satisfaction, efficient functioning of the hospital and turnover of the patients. A time motion study is necessary and important to find the possible loopholes and reasons for delays in the discharge process and also to figure out the solutions to improve the process. It has been observed from the study that there are more credit patients in the hospital especially from ECHS-VDN (ECHS-Vidhyadhar Nagar) than cash patients and TPA patients. The result would help in reducing the discharge process time and also increase patient satisfaction.

## OBJECTIVES OF THE STUDY-

- To study the in-patient discharge process at Manipal Hospital, Jaipur.
- To analyze the steps involved in the discharge process.
- To know average time consumed in the whole discharge process.
- To root out the significant reasons of delay

## RESEARCH METHODOLOGY

- Study Design- Observational and Descriptive
- Location of the study- Manipal Hospital, Jaipur
- Duration of the study- 5$^{th}$ May to 31$^{st}$ May
- Study Subject- Patients who are admitted in the Manipal Hospital, Jaipur
- Sampling Method-Simple Random Sampling
- Sample Size- 114 In-Patients
- Data Collection Tool- Discharge Tracker Sheet and Billing TAT Sheet
- Type of Data- Quantitative Data
- Data Analysis Tool- MS Excel

## DATA COLLECTION

The study was done from 25th April to 18th May on the patients that were admitted in the IPD of the hospital.

The aspects that were included for the purpose of collecting the data of in-patients are-

- **NAME OF THE PATIENT**
- **INPATIENT ID**
- **TYPE OF PATIENT(CASH/CREDIT/TPA)**
- **DATE OF DISCHARGE**
- **DAY OF DISCHARGE**
- **TIME OF DISCHARGE ADVISED BY DOCTOR**
- **FINAL DISCHARGE SUMMARY PREPARED AT**
- **FINAL DISCHARGE SUMMARY PREPARED AT-TIME OF DISCHARGE ADVISED BY DOCTOR**
- **BILL SHEET RECEIVED AT BILLING ROOM**
- **TIME AT WHICH BILL IS MADE**
- **TIME AT WHICH BILL IS MADE- BILL SHEET RECEIVED AT BILLING ROOM**
- **FILE RECEIVED AT BILLING ROOM (FOR CREDIT PATIENTS)**
- **PHYSICAL DISCHARGE TIME**
- **PHYSICAL DISCHARGE TIME-FINAL SUMMARY PREPARED**
- **PHYSICAL DISCHARGE TIME-DOC. ADVISED TIME (TOTAL TIME TAKEN IN DISCHARGE)**
- **BILL SENT TO TPA (FOR TPA PATIENTS)**
- **BILL SENT TO TPA-DOC. ADVISED TIME (FOR TPA PATIENTS)**

## DATA ANALYSIS AND INTERPRETATION

**TAT-** Turnaround Time means the amount of time taken to complete a process cycle. It is the time interval from the submission of a process to the time of the completion of the process. It can also be considered as the total time needed for an application to provide the required output to the user.

This could be different for different types of patients:

| S.No | PATIENT TYPE BASED ON PAYMENT MODE | IDEAL TAT FOR DISCHARGE PATIENT |
|---|---|---|
| 1. | CASH | 120 min or 2 hrs. |
| 2. | CREDIT | 180 min or 3 hrs. |
| 3. | TPA | 180 min or 3 hrs. |

**Table 1- This table represents TAT (turnaround time)**

- For CASH patients, the starting point of the discharge process is the time when the doctor advised discharge and the end point is the time patient gets physically discharged from the hospital.
- For CREDIT patients, , the starting point of the discharge process is the time when the doctor advised discharge and the end point is the time patient gets physically discharged from the hospital.
- For TPA patients, the starting point of the discharge process is the time when doctor advised discharge and the end point is the time when the final bill and the discharge summary of the patient is sent by the hospital to the TPA company for final approval.

## DISTRIBUTION OF PATIENTS BASED ON PAYMENT MODE

The following pie-chart shows the division between Cash, Credit and TPA patients in my sample size which is 114.

| CATEGORY OF PATIENT | NO. OF PATIENTS |
|---|---|
| CASH | 26 |
| CREDIT | 84 |
| TPA | 4 |
| TOTAL PATIENTS | 114 |

**Table-2 This table represents the number of cash, credit and TPA patients in the sample size.**

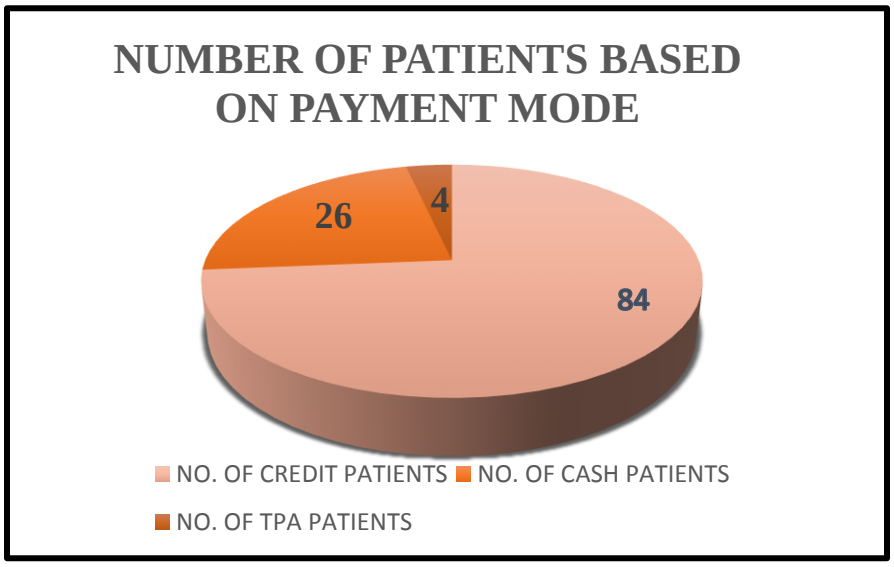



**Figure-5 Pie-Chart showing distribution of patients on the basis of mode of payment**

**Interpretation-**

This pie-chart shows that in the sample there are 84 credit patients, 24 cash patients and 4 are TPA patients in the sample size 114 and it also depicts that most of the patients in the hospital are credit patients.

**AVERAGE TIME TAKEN BY CASH, CREDIT AND TPA PATIENTS FOR DISCHARGE**

This graph shows the average time taken by cash, credit and TPA patients from the starting point of the discharge process that is when the doctor advised discharge and the ending point that is the time at which the patient get physically discharge from the hospital.

| CATEGORY OF PATIENT | AVERAGE TIME TAKEN BY PATIENT |
|---|---|
| CASH | 183 min |
| CREDIT | 280 min |
| TPA | 340 min |

**Table-3 This table represents average time taken by patient in the discharge process.**

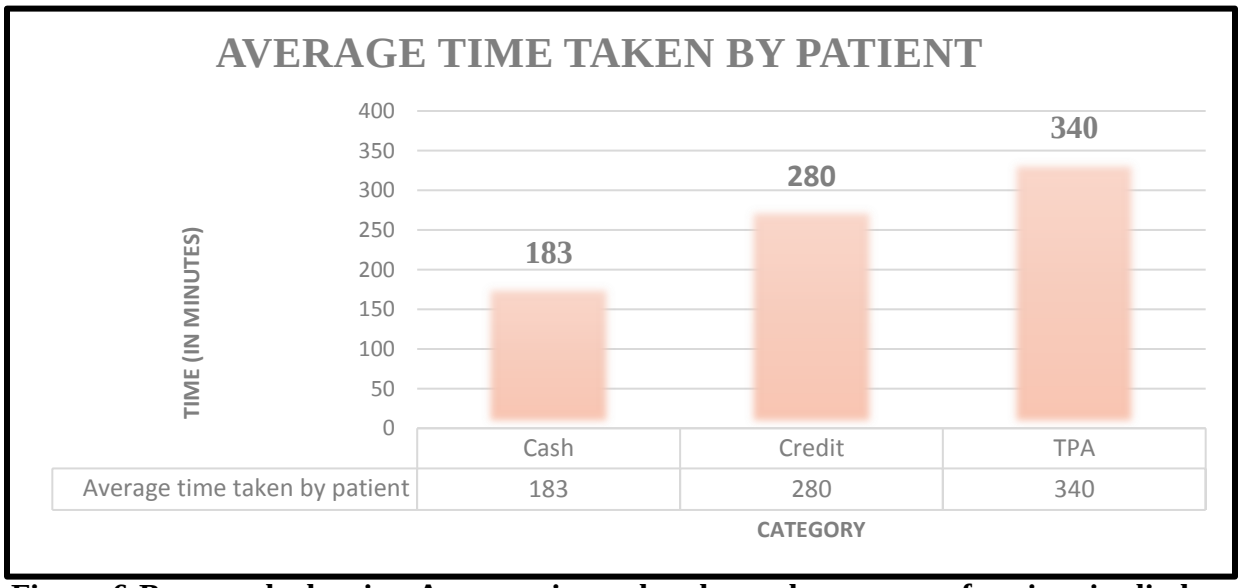



**Figure-6 Bar graph showing Average time taken by each category of patient in discharge process.**

**Interpretation**

This graph depicts that on an average a cash patient takes 183 min. or 3 hrs. 3 min, credit patient takes 280 min., or 4 hrs. 40 min. and the time taken by TPA patient is 340 min. or 5 hrs. 40 min to get physically discharge from the hospital.

## IDEAL TAT Vs OBSERVERED AVG. TIME TAKEN FOR DISCHARGE

The below graph shows the comparison between Ideal turnaround time of the patient and the average time taken by the patient in the whole discharge process.

| CATEGORY | IDEAL TAT | AVG. SAMPLE TAT TIME TAKEN ON THE BASIS OF OBSERVATION |
|---|---|---|
| CASH | 120 min or 2 hrs. | 183 min or 3 hrs. 3 min |
| CREDIT | 180 min. or 3 hrs. | 280 min or 4 hrs. 40 min. |
| TPA | 180 min or 3 hrs. | 340 min or 5 hrs. 40 min |

**Table-4 This table represents the comparison between the Ideal TAT and Average time taken.**

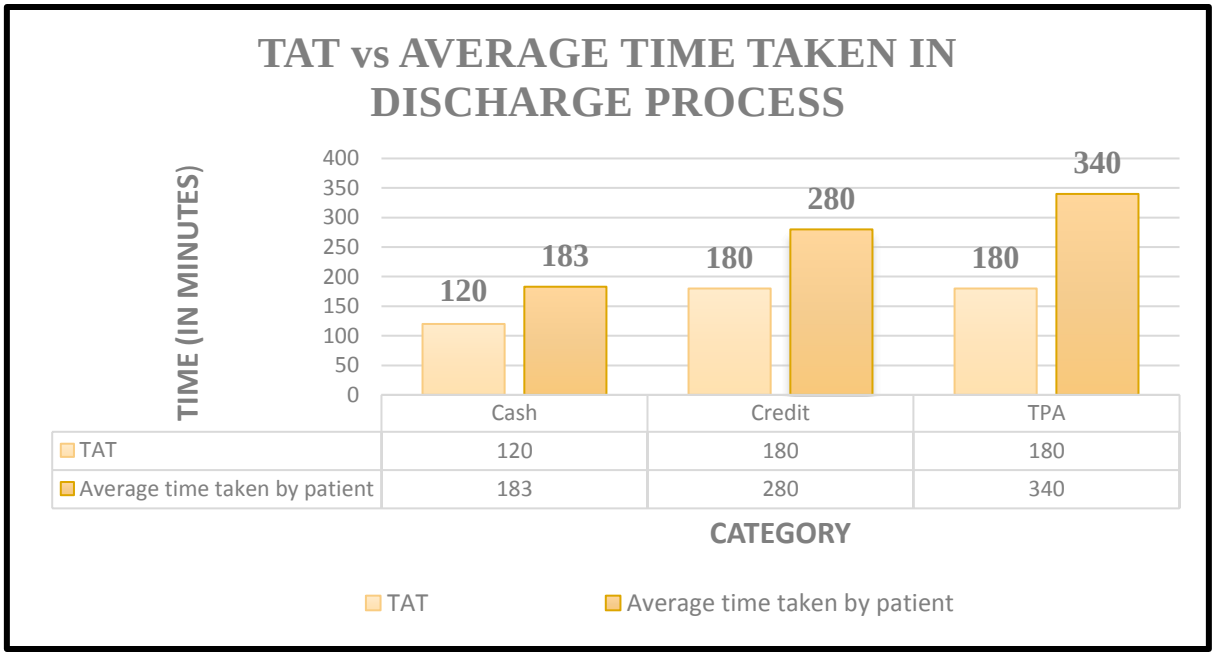



**Figure-7 Bar Graph showing Ideal TAT Vs Average Time taken in discharge process by each category of patient.**

### Interpretation-

This graph depicts that the ideal discharge TAT for the cash patient is 120 min whereas the avg. time of the sample comes out to be 183 min., for the credit patient the ideal TAT is 180 min and the avg. time of the sample is 280 min. and for TPA the ideal TAT is 180 and the avg. times comes out to be 340 min. Hence, this shows that there is a delay in the discharge process.

## DELAY IN THE DISCHARGE PROCESS FOR CASH, CREDIT AND TPA PATIENTS

This below graph shows that how much delay is there in the discharge process of the cash, credit and TPA patients in the Manipal hospital. This delay is calculated by comparing the ideal turnaround time of the process and average time taken by the patients based on the study that I have done.

| CATEGORY | DELAY IN MINUTES |
|---|---|
| CASH | 63 min. or 1 hr. 3 min. |
| CREDIT | 100 min. or 1 hr. 40 min. |
| TPA | 160 min. or 2 hr. 40 min. |

**Table 4- This table represents the delay (in minutes) in the process of discharge.**

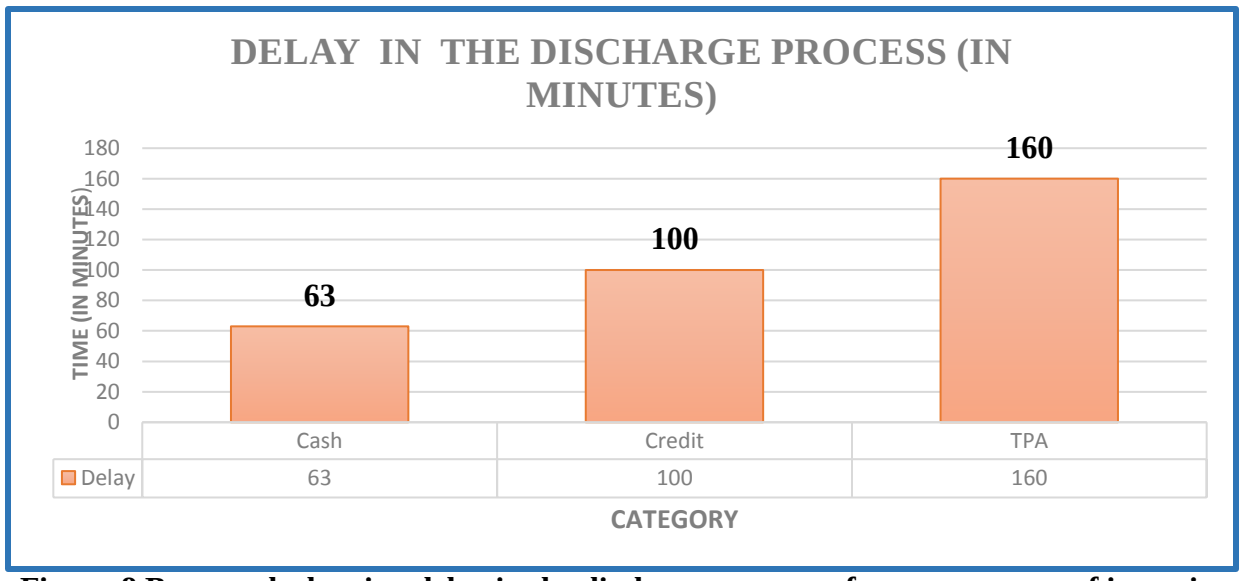



**Figure-8 Bar graph showing delay in the discharge process of every category of in-patient.**

### Interpretation-

This graph depicts that there is 63 min. delay in case of cash patients, 100 min. delay in case of credit patients and 160 min. delay in case of TPA patients when it comes to the process of discharge. The maximum delay is in the case of TPA patients that is 2 hrs. 40 min. so these patients are given kind of priority in terms of time because the final approval of the payment is in the hands of the TPA company.

## DAYWISE NUMBER OF DISCHARGES OF THE PATIENTS

The below graph shows the number of patients discharged on Monday, Tuesday and so on for the month of April and May 2017.

| DAY | NO. OF PATIENTS DISCHARGE ON THAT DAY |
|---|---|
| MONDAY | 23 |
| TUESDAY | 13 |
| WEDNESDAY | 17 |
| THURSDAY | 24 |
| FRIDAY | 20 |
| SATURDAY | 17 |

**Table-5 This table represents the day wise discharge of the patient.**

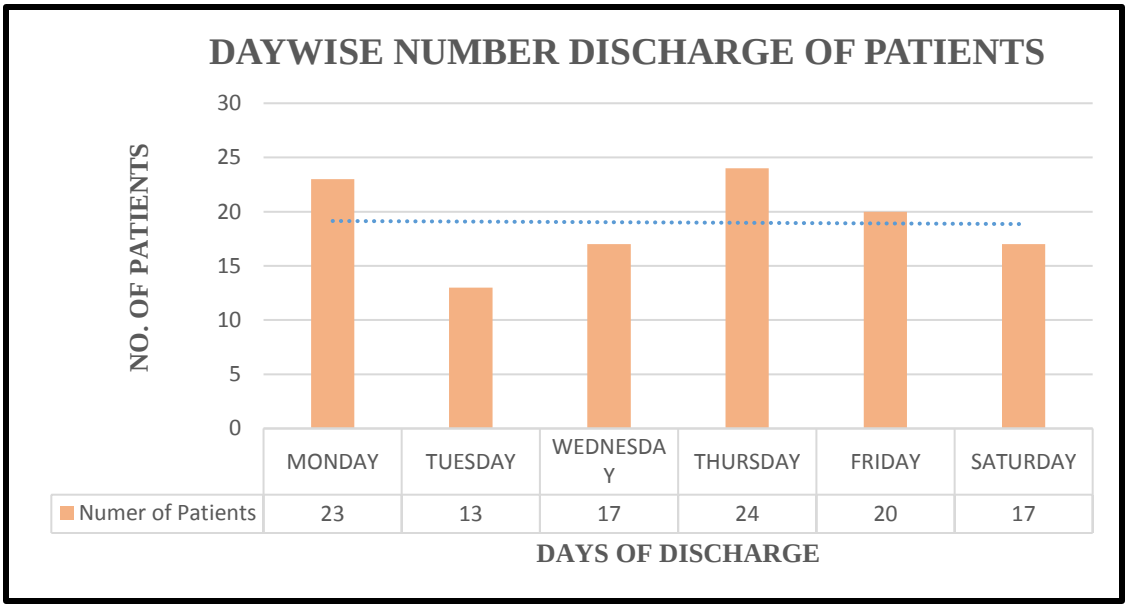



**Figure-9 Bar Graph showing day wise number of discharge of in-patients.**

## Interpretation-

This graph depicts the number of discharges in the days of week that is on Monday how many discharges took place and so on. This graph shows that Maximum number of discharges took place on Thursday that is 24 discharges out of 114 in-patients in the month of April and May 2017.

## RESULTS AND FINDINGS

Out of 114 in-patient discharges, 84 patients are credit patients which include patients of ECHS-VDN, ECHS-JPR, GIPSA, CGHS, BSBY, RAILWAYS, and ESIC MODEL HOSPITAL. Cash patients are 24 and TPA patients are 4.

There are number of reasons computed for delay in the discharges-

- **Delay in the process because of Nurses and GDAs-**This delay takes place because of the workload of sick patients in the wards, the patients to be discharged who have recovered from the illness and in a better condition becomes the least preferred one to look after causing delay in the patient discharge.

- **Delay in discharge summary preparation and signed by doctor-** As the tentative discharge summaries are prepared by the junior residents a night before discharge in case of planned discharges, the summary may need some corrections before its handed over to the patients. The final discharge summary is signed by the consultant under whom the patient is taking treatment. This whole process of preparation of discharge summary doing corrections in the summary and then signed by consultant is very time consuming and cause delay in the discharge process of patients.

- **Delay in Pharmacy Consignment-** This delay takes place in the case of implants because sometimes the bill of implant is not there when the file come to the discharge billing room, so they have to wait till the implant get charged and bill come.

- **Delay in investigation reports and reporting of X-Ray reports-** Until all investigation reports are not there in the file of the patient the file is not sent to the discharge billing room, so all the investigations are connected properly and if some investigation report is not there then they have to wait for that report this all leads to delay.

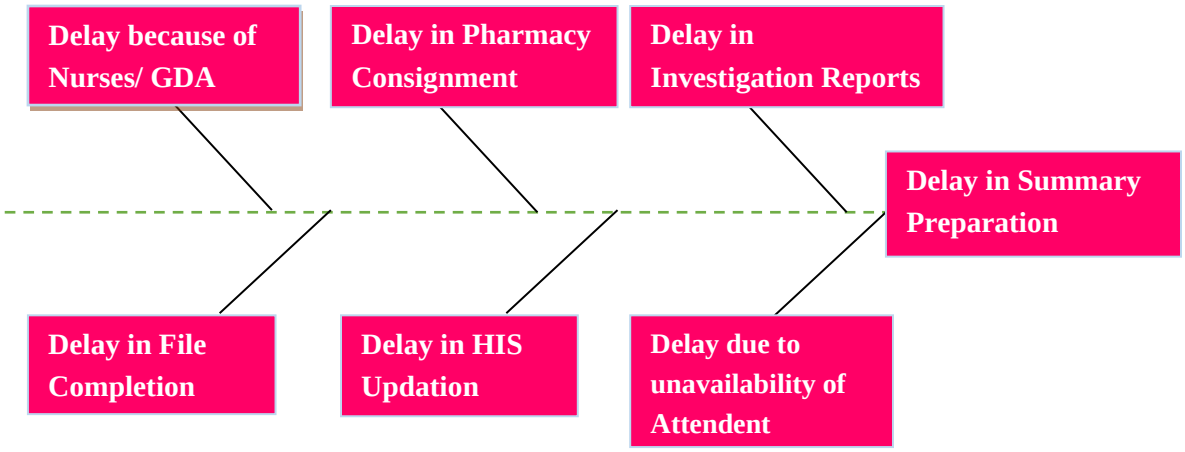
- **Delay in file completion-** Once the doctor advise discharge to the patient the nursing staff take Xerox of all the reports for record and then the file of patient is completed and sent to the discharge summary room for further process sometimes this also results in delay in the discharge.

- **Delay in HIS updation-** Sometimes the delay takes place because the nursing staff do not update the discharge entry in the system and without which the discharge process cannot takes place.

- **Delay due to the unavailability of the attendant-** Sometimes the delay takes place because the attendant is not there.

- **Delay due to other reasons-** There are many other reasons also because of which delay takes place in the discharge process

**FISH-BONE DIAGRAM SHOWING REASONS FOR DELAY IN THE DISCHARGE PROCESS**



## RECOMMENDATIONS

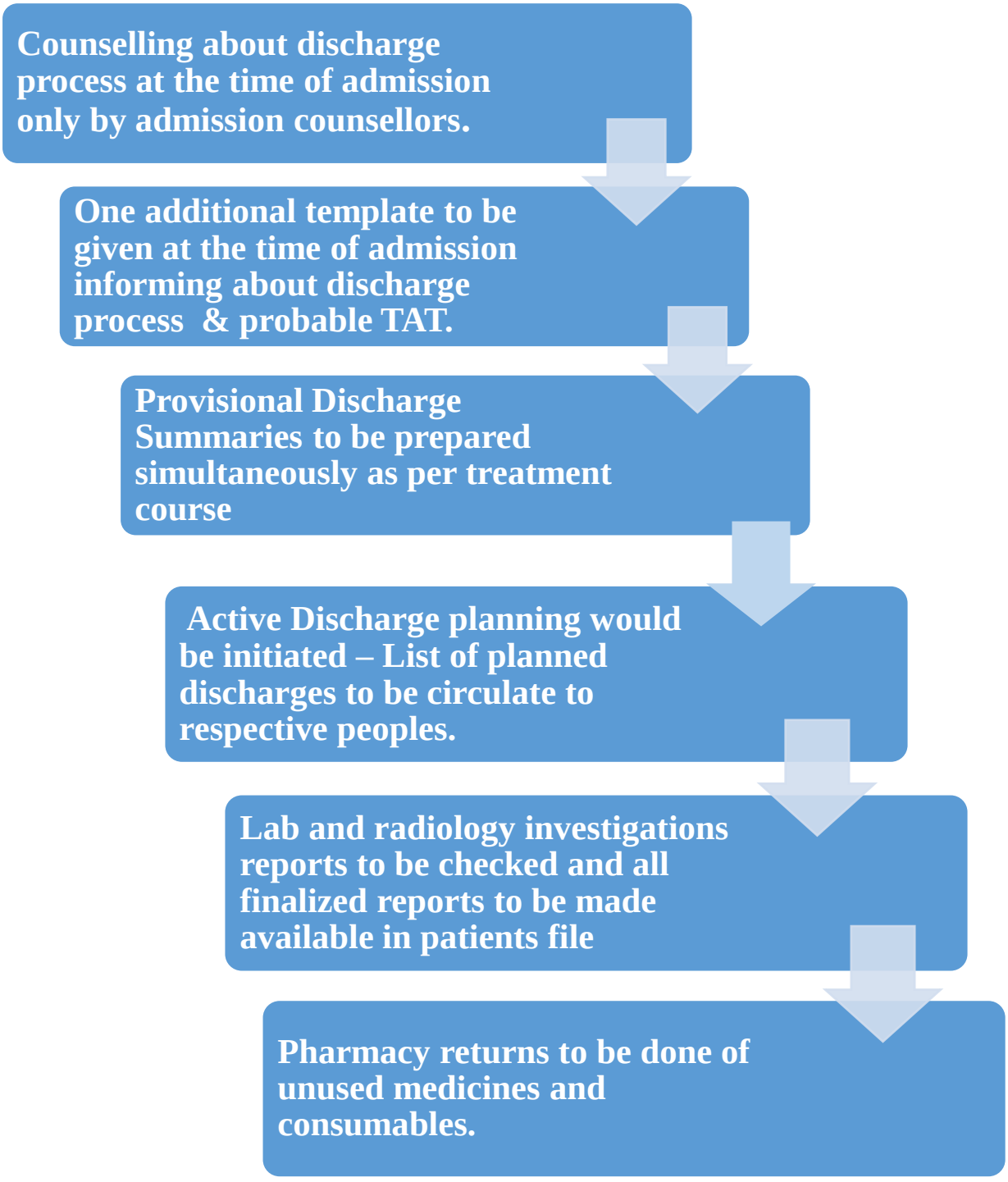
Smoothing the flow of patients in and out of hospitals and other health care settings can help to reduce overcrowding, reduce delays and help to reduce wide fluctuations in occupancy rates and prevent surges in patient visits that lead to overcrowding, and delays in care. It also supports "boarding," the practice by which patients wait in the emergency department for a bed to open up on an inpatient unit for admission

## INTIATIVES TO BE TAKEN

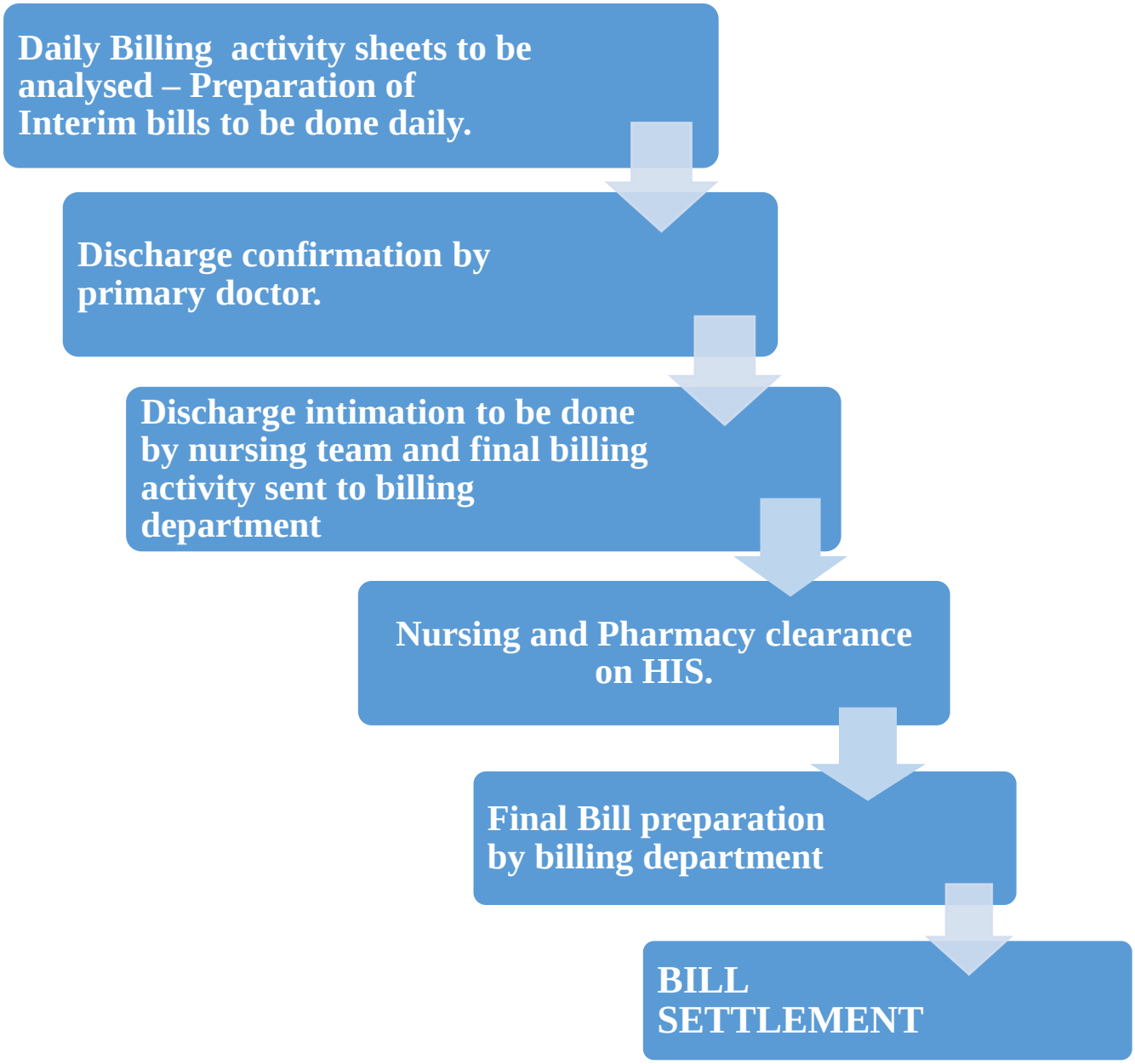
- Advanced preparation of the activities to be done for the planned discharges- In planned discharges planning is done a night prior of the discharge after evening round(either verbal or written)and the activities related to pharmacy, finances should be started in the advance so as to avoid delay in the process and then the next morning discharge takes place.
- Live audits of files-File audits of live patient are a good method by which the documentation of the patient file can be evaluated and improved.
- GDA Staff should be there-GDA should be assigned to each nursing station specifically for delivering and receiving activity sheets and other important documents such as investigation reports.
- Increasing Planned Discharges-Nurses should make a policy of asking doctor about the discharge a day prior, so that the number of planned discharges increases, and the system has more time to process the discharge.
- Lab Reports should be prepared early- All the lab reports related to the patient planned for discharge should be made ready a day prior to the discharge.

**PROPOSED PROCESS OF DISCHARGE**

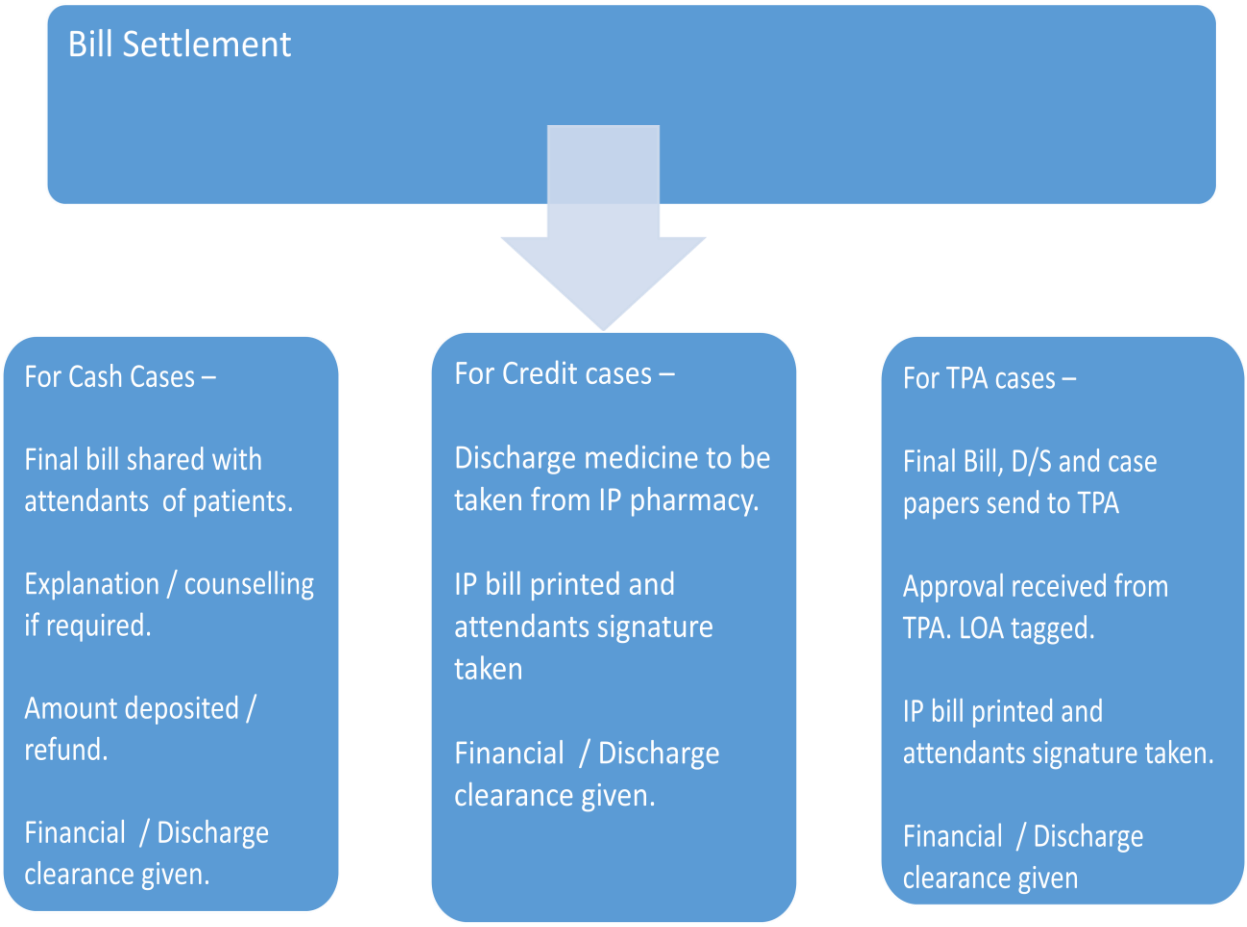
The improved discharge process on the basis of my learning's from the hospital and from the current process of discharge is-



**PROCESS CONTINUED…**




**FROM BILL SETTLEMENT STEP THE DISCHARGE PROCESS FOR THE CASH, CREDIT AND TPA PATIENT SHOULD BE DIFFRENT**




**CONCLUSION-**

It was concluded from the study that there is delay in the discharge process of all types of in-patient in the Manipal Hospital, Jaipur. The turnaround time (TAT) of discharge in the case of TPA patients are maximum that is 340 min. The main reason or bottleneck for the delay in the discharge process or we can say that major time-consuming step in the whole process of in-patient discharge in the hospital is the preparation of Final discharge summary and signed by the doctor. The maximum number of patients to be discharged are Credit patients then Cash patients and minimum number of patients are TPA patients. It was also revealed from the study that in the month of April and May 2017 the maximum no. of discharges took place on the Thursday that is 24 out of 114 cases.

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