Summer Training at

Narayana Hrudayalaya Hospital, Jaipur

Study on Delay in Discharge Process

By
Priyanka Beohar

Under the guidance of
Dr. Vivek Lal

Post Graduate Diploma in Hospital and Health Management
2011-2013

Institute of Health Management Research,
Jaipur
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Certificate

This is to certify that Dr.Priyanka Beohar from Institute of Health Management Research, Jaipur has undergone Summer Training at Narayana Hrudayalaya Hospital, Jaipur from 9th April, 2012 to 2nd June, 2012.

The candidate herself carried out the project. Her approach to the study has been sincere, scientific and analytical. This summer training is partial fulfillment of the course requirement is recommended for the award of post graduate diploma in health and hospital management.

I wish her success in all her future endeavors.

Dr. P.R. Sodani
Dean (Academic and Students Affairs)
IIHMR, Jaipur

Dr.Vivek Lal
Assistant Professor
IIHMR,Jaipur

Narayana Hrudayalaya Hospitals
Caring with Compassion

NH/HRD-Off/2012/046

Date: 13th June 2012

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Dr. Priyanka Beohar has completed her Summer Training Successfully in Narayana Hrudayalaya Hospital, Jaipur from 9th April 2012 to 2nd June 2012.

Her Work during the Period was Commendable and appreciable. Her character and conduct was good.

We wish her success in future endeavors.

Vishnu Priya Sharma
HR Department

Narayanaya Hrudayalaya-Jaipur

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ACKNOWLEDGEMENT

"Successful passage and outcome of every work comes with dedication, determination and team work. All these turn futile in the absence of visionary guidance."

I would like to extend my sincere thanks to the staff of Narayana Hrudayala, Jaipur for extending its cooperation and never ending help in the process of understanding various dimensions of an organization. I feel highly appreciative for the time spent by them for participating in discussions and lending valuable Inputs.

I feel deeply privileged in expressing our deep sense of gratitude to **Dr. Devi Shetty (**CMD NARAYANA GROUP), **Dr. Ashutosh Raghuvanshi** (Vice Chairman NARAYANA GROUP**), Dr. Sandeep Attawar** (Vice President NH Jaipur) **, Dr. Mala Airun (** Medical Superintendent),**Mr. Arunesh Punetha** (CAO), **Mr. Subasis Bhattacharya** (HR Head), **Dr. Awadesh Agrawal(DMS)** ,Narayana Hrudayalaya for their expert guidance and encouragement which immensely helped in the process of making this report. Without their support, exploring such a vast organization could not have been possible.

I am extremely thankful and grateful to Miss Gargi Consul (Excutive Admin) who always spared time from her already busy schedule to enlighten with his valuable suggestions and guidance. I also extend my thanks to **Ms. Bhawna** & Mrs**. Arpita** for guiding me throughout my stay and providing me the required facilities.

I would like to extend special thanks to all the **Narayana Hrudyalaya Hospital staff (IPD department, Finance department, TPA cell staff, and IPD Store staff, nursing staff &CCA& Housekeeping staff.** The help and support rendered by them is gratefully acknowledged.

I take this opportunity to express my deep sense of gratitude and indebtedness to my mentor **Dr. Vivek Lal,** Assistant Professor IIHMR who has always been there to guide me throughout my study; his valuable advice and pertinent suggestions have helped me in giving this study a final shape.

I am also thankful to **Brig. S.K.Puri**, Dean IIHMR for giving me opportunity for working in such a esteemed Hospital which has helped me to gain a new insight of working of hospitals.

I express my deepest regards and gratitude to **my friends & family**, for their constant encouragement and support at every step.

Dr Priyanka Beohar

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List of Abbreviations

- NH –Narayana Hrudayalaya
- MRI- Magnetic Resonance Imaging
- CT-Computed Tomography
- HIS-Hospital Information Systematic
- OPD-Outpatient Department
- IPD-Inpatient Department
- OT- Operation Theatre
- ICU-Intensive Care Unit
- BLS-Basic Life Support
- ALS-Advanced Life Support
- ECHO-Echo Cardiogram
- CCU- Coronary Care Unit
- CATH LAB-Cardiac Catheterizationerization Lab
- HR-Human Resource
- GM-General Manager
- DMS-Deputy Medical Superintendent
- CMD-Chief Managing Director
- CEO-Chief Executive Director
- MRD-Medical Records Department
- TMT_ -Tread Mill Test
- LAMA-Left Against Medical Advice
- ALOS-Average Length of Stay
- DP- Discharge process
- TPA-Third Party Agreement
- DS –Discharge Summary
- JCI –Joint C0mmision International
- MR-Medicine Return
- FGW-Female General Ward
- MGW-Male General Ward
- ANC-Anti Natal Care

BACKGROUND

Modern day health care institutions are multifaceted & multidimensional organizations .The primary role of the hospital is to provide efficient patient care international standards at optimum cost. To achieve these organizational goals, appropriate integration of 6 M :

Man, .Money, machine, method, minute is required.

The primary objective of the summer internship program was to provide a student interested in the field of hospital management and administration, some experience and knowledge on the management and operations of a hospital.

To accomplish these objectives, I was expected to participate in a variety of activities in the hospital. The duties require significant involvement in minimum activities and ability to work effectively with co-workers.

Objectives of summer internship:

- To understand working of whole of the hospital and to work opportunities that will provide whole some experience.
- To study different departments in the hospital.
- To study different departments n hospital.
- To study operations in detail.
- To study discharge process in Narayana hospital, Jaipur.

Methodology

The time of two months spent at Narayana Hrudayalaya hospital Jaipur gave me an experience that was diverse & exhilarating as it gave me an opportunity to actually learn and understand the various aspects of hospital management.

Department study and project report prepared during the tenure was developed using methodologies of data collection, generation and analysis.

Primary data sources:

- Observation of the functioning of departments.
- Interaction with the operations staff.
- Participation in the various studies under supervision of operational team.

Secondary data sources:

- Various pre existing hospital records & reports
- Information maintained in eHI
- Registered records of the hospital
- Pre-existing Information in the internal website of the hospital

HOSPITAL PROFILE

Narayana Hrudayalaya headquartered in the city of Bangalore, India, is one of India's largest multi-specialty hospital chains. The Bangalore cardiac unit of Narayana Hrudayalaya is one of the world's largest pediatric heart hospitals. It is the brainchild of the renowned cardiac surgeon, Dr. Devi Shetty. Narayana Hrudayalaya also receives patients from outside India, and it has created a record of performing nearly 15,000 surgeries on patients from 25 foreign countries. It is also a renowned centre for telemedicine and it offers this service free of cost.

Despite helping so many poor patients, it is known for being so efficient, that it has a higher profit margin (7.7% after tax) than most American Private Hospitals (6.9%).

It is building large hospitals across India totalling 30,000 beds, to enable it to gain large economies of scale and bargain down the cost of supplies to the hospitals.

Narayana Hrudayalaya was started in the year **2000 by Dr. Devi Shetty** under the aegis of the Asian Heart Foundation (AHF). The flagship hospitals of the group are located in the cities of Bengaluru and Kolkata. They are both multi-specialty hospitals which cater to a wide variety of illnesses and diseases.

Spread over **25 acres (100,000 m^2),** it is located in the Bommasandra Industrial Area on the Hosur Road in Bengaluru. With the Phase I of the construction being completed, the hospital currently has six stories containing **500 beds and 10 operating theatres**.

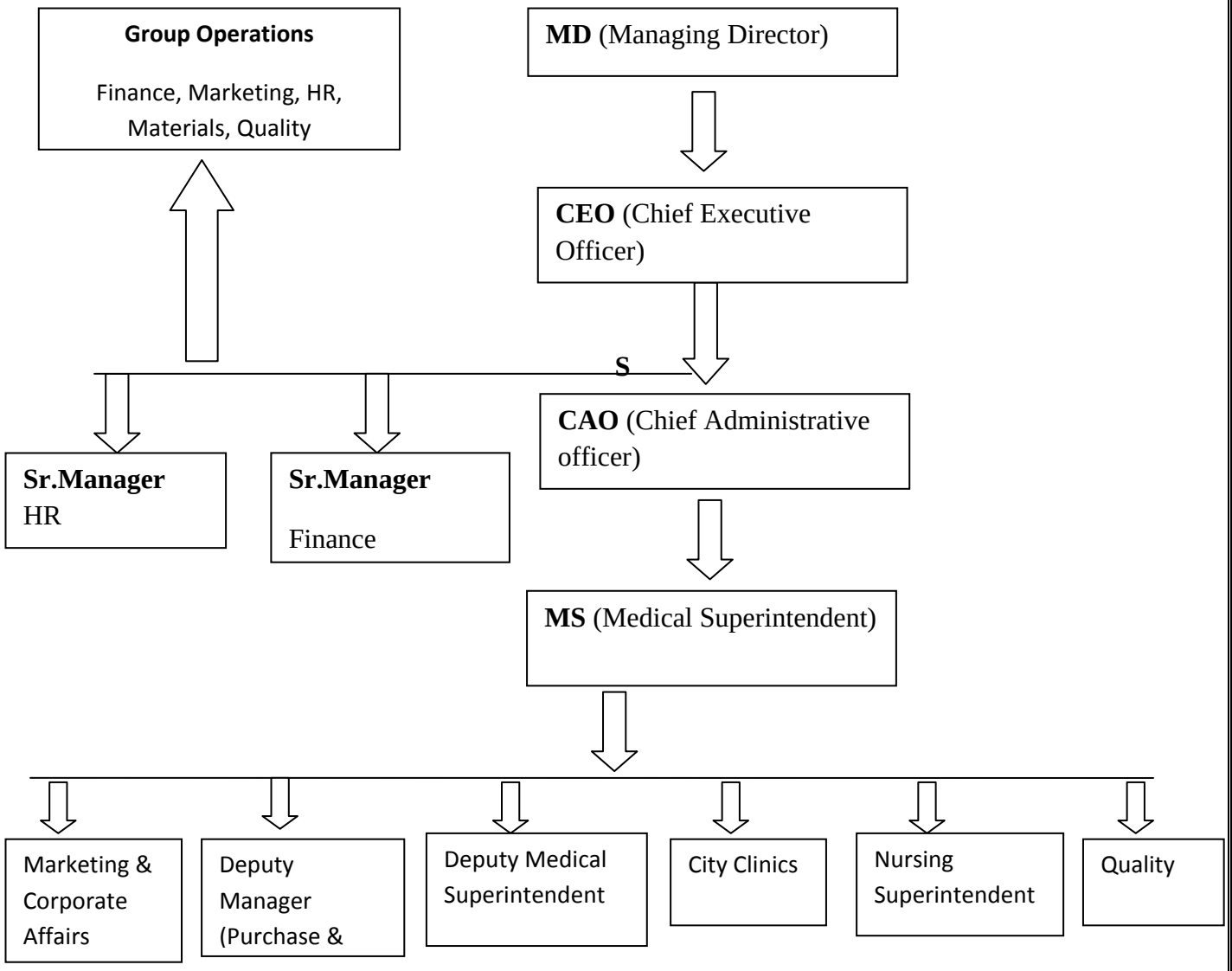
Apart from cardiology, the hospital also offers treatments in the area of **Pediatrics, Neurology, Gastroenterology, GeneralSurgery,Dental, Nephrology, Urology, Transplants, Nuclear Medicine, Medical Imaging and Radiology.** It also houses a Blood bank and Laboratory. With the help of ISRO, Narayana Hrudayalaya has pioneered some of the aspects of Telemedicine.

Narayana Hrudayalaya Health city, Bangalore, is a conglomeration of hospitals in one campus:

- 1000 Beds, Narayana Hrudayalaya Heart Hospital
- Asha Dinesh Institute for Organ Transplant
- Sparsh Hospital
- Narayana Nethralaya
- Mazumdar Shaw Cancer Centre

Today, Narayana Hrudayalaya provides complete, expert and holistic treatment to the millions of afflicted individuals in need of treatment by experts at an affordable cost. Health care services spread across Cardiac, Neuro, Specialist Pediatric Care, Organ Transplants, Gastroenterology and much more.

ORGANIZATIONAL STRUCTURE



VISION

"Affordable quality healthcare to the masses worldwide"

MISSION:

Narayana Hrudayalaya Hospitals have a dream!

"A dream of making quality healthcare available to the masses worldwide"

To make the dream a reality they commit themselves to:

- Being a tertiary care referral center for complex medical and surgical problems.
- Developing a Health City Model, to be replicated nationally and internationally.
- Excelling as an Education, Training and Research Center in Medical, Paramedical and Allied specialties

NARAYANA HRUDAYALAYA, JAIPUR

Narayana Hrudayalaya is now, without a shadow of doubt, the spark that has radically changed the scenario of accessibility, pricing and state of the art healthcare in India. Originally, the radical new concept, started as the Spartan Narayana Hrudayalaya Heart Hospital Bangalore by the founder Dr. Devi Prasad Shetty, has eventually evolved as a truly global healthcare provider. Dr. Devi Shetty has over the past three decades re affirmed his commitment to ***'An equitable distribution of world class healthcare for the masses at an affordable cost'***. The group's firm belief in the mission statement and its core values help reinforce their everlasting commitment to the people of Rajasthan. Narayana Hrudayalaya believes to bring the very same revolutionary concept to the state and its people with the promise of an affordable one stop health solution.

"We aim to reproduce the highly efficient Healthcare model of Narayana Hrudayalaya Hospitals in Jaipur & other Northern regions of the country."

Located on Hrudayalaya Avenue, off Kumbha Marg at Pratap Nagar in New Sanganer, Jaipur, over sprawling 4.7 acre campus, it reaffirms their commitment to society, with no distinction in classes, religion or faith. This is a `Temple of healing 'and that sentiment echoes throughout a patient's experience at NH hospital.

It is functional as phase 1 with a capacity **of 200 beds** that includes tertiary intensive care beds with **additional intermediate care areas and wards**. They offer centres of excellence that have a unique multidimensional approach to patient care - The Heart centre, The centre for Bone, Joint and Spine, The division of Renal sciences and Transplant Urology. The Advanced centre for Minimal Access surgeries and the Maternity and Child unit to name a few.

Ensuring quality medical treatment at Narayana Hrudayalaya Hospital Jaipur, are the most comprehensive facilities available in Rajasthan which includes a **64 slice CT scan machine, 1.5 tesla MRI, Nuclear medicine, touch screen monitors, world class dialysis facility , and a flat panel Catheterization lab**. The idea is to bring together the group's vision, its effective view of healthcare for the common person and the expertise of multidisciplinary specialists.

DEPARTMENTS & SERVICES

Cardiology and cardiac surgery

Narayana Hrudayalaya Hospital, Jaipur has put together a team of experts for achieving excellence in cardiac treatment .The cardiac operation theatre is equipped for cardiac bypass and off pump beating heart surgery, exclusive cardiac surgical ICU recovery, new top of the line Catheterization lab and a advanced heart command centre with latest monitoring system which provides comprehensive invasive and non invasive services by highly trained and skilled medical and para-medical staff.

- **Neurosciences**
- **Nephrology and urology**
- **Gastroenterology**
- **Orthopaedics and joint replacement**
- **Trauma care and emergency services**
- **Critical care**
- **Mother and child care**
- **Pulmonary medicine**
- **Burns, plastic surgery, cosmetic& reconstructive surgery**
- **Internal medicine**
- **Diabetes & endocrinology**
- **Physiotherapy & rehabilitation centre**
- **Nutrition**
- **Preventive health check unit**
- **Radio diagnosis and imaging**
- **Pathology & microbiology**
- **Comfort, safety and supportive care.**

NARAYANA HRUDAYALAYA DEPARTMENT LOCATIONS:

The hospital has 4 floors including Basement & is divided into 3 Blocks- A Block, B Block, C Block.

BASEMENT

Block A: Physiotherapy Department

Block B:

- HR department
- Administration Department
- Marketing Department
- Biomedical Engineering Department
- Food Court for Staff & Attendants & Visitors
- Dialysis Unit: 14 Bedded

Block C:

- CSSD
- Main Store
- Mortuary :4 Unit
- Linen Room
- MRI
- CT Scan
- X Rays
- Mammography
- Console Room
- Diagnostic Waiting Area
- Emergency Department :7 Bedded

GROUND FLOOR

Block A:

- Front Office
- Centralized OPD Wing
- Billing Section Finance Department
- TPA cell
- Food Counter
- Pharmacy Outlet

Block B:

- Blood Bank
- Laboratory Medicine
- Cardiac Diagnostics (Ecg, Echo, TMT, Holter Monitor)
- Ultrasound
- VIP Waiting Lounge
- OPD Procedure

Block C:

- Cardiac OPD
- CCU: 40 Bedded
- Catheterization Lab
- MRD Department
- VIP Waiting Area

FIRST FLOOR

Block A:

- Obstetrics & Gynecology Department
- Septic Labor room
- NICU
- Female General ward
- Private & Semi Private Wards

Block B:

- Male General ward: 34 Bedded

Block C:

- OT: 5 in No
- ITU:40 Bedded

SECOND FLOOR: Under Construction

Department Profiling

1 . Front Office

Organ gram

Medical Superintendent

⇩

Deputy Medical Superintendent (Is concerned with IP / Med Services only)

⇩

Managerial Admin (01)

⇩

Front Office Executive (01) – floor coordinator

⇩

Front Office Assistant (11)

Scope of Services

- Reception or Information
- Appointment
- Registration – OPD, Diagnostics
- Billing –OPD , Diagnostics , Emergency
- Admission –IPD Services
- Report or Document Delivery
- Processing of TPA
- Customer Feedback

A . Enquiry Department

Scope of services:

1. Filling of registration form

2. All types of quarries related to patient and doctors.

3. Appointment procedure

There are 4 types of registrations like-

a. General: for OPD patient only (registration charge +consultation charges)

b. Revisit: follow up patient (only consultation fee are taken after 7 days)

c. IP_Admission_REG: package (with only registration fee)

d. IP_Admission: Zero billing registration.

2 : Outpatient Department

Location: Just after entrance to the main entrance divided into north & south. On the left hand side is the south OPD and right hand side north OPD.

Function of OPD

- To provide diagnostic, curative preventive and rehabilitative services on ambulatory basis to the people of the community
- The promotion of health of the individuals under their care by means of health education
- The admission or referral for admission to the hospital of those patient who need it
- The keeping of records and collection of data for epidemiological and social research
- The most imp function is continuity of care

Appointment System:

First come first serve basis depending upon the availability of the consultant.

Prior appointments can be taken from the enquiry and the date and time is given by the receptionist and the patient details are recorded in the system.

OPD Record keeping: All record is maintained in the system/Software

Patient Flow Process

Enquiry

⇩

Reception/Registration Counter (Registr

⇩

Out Patient Department Reception

(File is taken by the receptionist and according to FCFS basis, sends the patient to the respective consultants)

⇩

Consultant

⇩ ⇩

Any investigation/Drugs needed then billing

At OPD Reception

(Echo, ECG, Pathology)

IPD

(if pt advised admission)

⇩

Admission office (counselling dept)

⇩

IPD Billing Counter

⇩

Ward

Short comings:

- No replacement while receptionist is off the desk
- Fire orders are only in English
- Signage are no enough & that too mostly in English.

3 : In Patient Department

- **Female General Ward**
- **Male General Ward 1 & 2**
- **ANC Ward**
- **CTVS Ward**
- **MICU**
- **ITU**
- **NICU**
- **CCU**

- **Private & semi private wards**

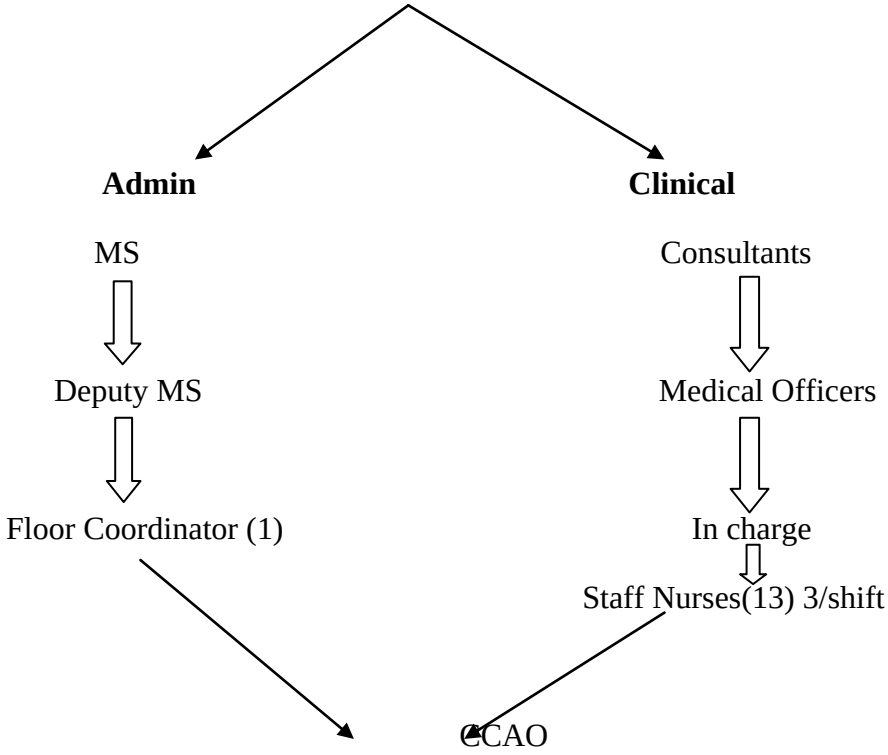
Function of IPD SERVICES

- To provide the highest quality of medical and nursing care to the patient
- To provide necessary equipment ,essential drugs required for the patient care
- To provide facilities to meet the needs of the visitors and attendants
- To provide the highest degree of job satisfaction to the nursing and medical staff

Floor coordinators -3 (Reports to Deputy MS & MS)

Evening & Night – 1 MOD (Manager on Duty)

Organ gram:



Female General Ward

Location: First Floor

Bedded: 33

MGW 1 & 2

Location: Lower ground floor

Bedded: 16 & 19 respectively

CTVS Male:

Location: Lower ground floor

Bedded: 12

Neonatal ICU & Nursery:

Location: first floor

Bedded :5 Bedded

ITU:

Location: First floor

Bedded: 14

CCU:

Location: first floor

Bedded: 17

MICU:

Location: first floor

Bedded: 12

ANC Ward

Location : second floor

Bedded: 8

Private & Semi private Ward

Location :First floor

Bedded : 18

Private -6

Isolation -2

Semiprivate -10

3. Emergency Services

Well equipped seven bedded Triage and an emergency O.T supported by ICU where critically ill and polytrauma patient are attended in an integrated manner.

The hospital has code Blue team comprising of an emergency Physician, Cardiologist, Anaesthesia and a nurse, all are responding to such emergencies.

The distance between emergency Triage, OT, Cath lab has been kept minimal for the speedy approach of facilities provided by the hospital.

Location: Lower ground Floor

Entrance: Separate entry directly from the main road.

Emergency is divided into 3 Zones based on Triage of patients.

Red (Priority- 1)	**Yellow (Priority -2)**	**Green (Priority -3)**
• Chronic self limiting disorder etc. • Patient have life threatening injuries or conditions that are critical. • Survival with immediate treatment. Ex: Respiratory, Arrest	• Patient requires definite treatment but no immediate threat to life exists. Ex: Acute abdominal pain, acute Renal failure, acute asthmatic attack	• Patient having minimal injuries or minor conditions and ambulation. Ex: Abrasion &superficial.

Organ gram:

Emergency In charge:-1

⇩

Medical Officer: 3

⇩

Nurses: - 2

⇩

General duty assistant: 2

⇩

Housekeeping worker: 3-4

MLC Cases: Same procedure but informed to PCR & they come & do their enquiry accordingly.

Ambulance Services

Outsourced

ALS-1

BLS-1

Scope of service :

- Request for the use of ambulance services arise from the following individuals, organization and services
- Member of the community calling ambulance to the scene of accident or other emergencies
- General practioners nursing homes arranging out patient booking of ambulance by telephone

Hospitals requiring transport on long and short notice for

- Patient to be admitted
- Out patient or accident or emergency case to go home
- Discharge in patient to go home
- Patient to be transferred from one hospital to another

4 : Operation Theatres

Location: First Floor

Distance from:

- **Blood Bank:** easy accessibility through lift
- **Emergency:**
- **CSSD:**
- **ITU/ICU/CCU**: ITU is attached to OT & ICU/CCU on lower floor but accessible by lifts
- Access to lifts- Easily

OT Complex: 5

Specifications:

- **Area:** 471784.862 m²/OT
- **No. & type of Rooms:** 5 rooms
- **Average surgeries/month=** 276 surgeries.

5: Cath Lab

Location : First floor

Functions :All invasive process are done in cath lab .processs are –

- Angiogrphy
- Angioplasty
- Cathstudy
- EP(Electrophysiological) study etc.

6 : CSSD (Central sterile supply department)

Location: Lower ground floor

Organ gram:

CSSD In charge

⇩

OT Tech

(In 3 shifts 2 in each shift and 2 relievers)

⇩

Housekeeping Staff (3)

(1 in each shift)

Total Area: 6000 sq ft

- Dirty area
- Clean area
- Sterile Area

Major Equipments:

- Autoclave Large(450 litre)- 2 Temp-134°c & pressure 2.5kg
- Autoclave small 1(300 litre)-1 Temp-134°c & pressure 2.5kg
- Air Guns -2
- ETO Sterilizer-1
- Packing machines/Sealing machines-2

Check of sterilization:

- **Bordic test-Colour** changes Yellow-Black(Autoclave) Green(ETO)
- **Leak test**
- **Sterilization test**
- **Batch monitoring test**

After confirmation of proper colour change it can be only 50%assured that the instruments are sterilized. It is sent to lab for 100% confirmation.

If lab report is positive of bacteria, the instruments are again called up from the issued department and resterilized.

All through the entire procedure unidirectional flow is maintained.

CSSD Department is the heart core department of any hospital due to its functionin

Which are as follows-

- Cleaning
- Processing
- Sterilization Of all instruments, Treatment trays, dressing trays etc.
- It also helps in infection control Process
- It is responsible for the optimum utilization of equipment resources of the hospital

7 : RADIOLOGY DEPARTMENT

Location: Lower ground floor

Areas:

- **Reception Area**
- **Console Room**

Different rooms for X-Ray, Mammography, MRI & CT Scan

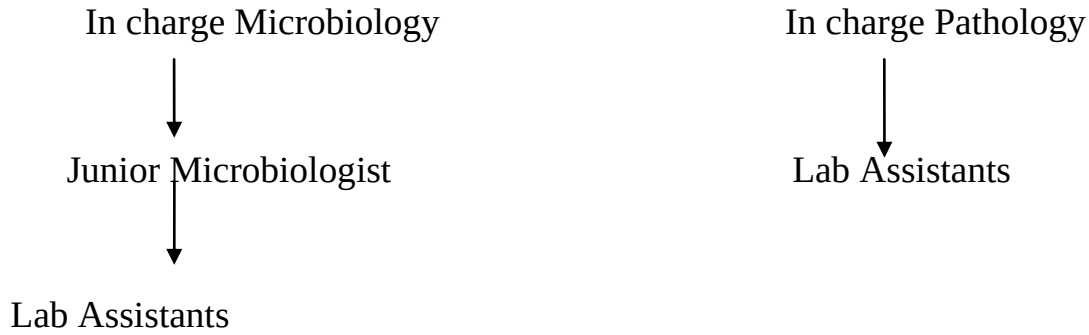
Services provided are –

- X-Ray
- Digital Radiography
- CT scan
- USG
- MRI
- Ultra Colour Doppler & Mammography
- Mammography

8 : Laboratory

Location: Ground floor

Organ gram:



Lab daily Process:

Daily check (Diluents, Reagent)

⇩

Quality Control (Sample run acc to standards & check results)

⇩

Sample Processing

9 : Physiotherapy and Rehabilitation Centre

Well trained team of physiotherapists managing these department and there is rehabilitation therapy was given for the joint disease, stroke, backache e, Trauma etc.

Manpower:

Physiotherapist: 4

- MPT-2
- BPT-2

General on Duty :2

Other Facilities:

- Wax Therapy
- Hydro collator-Hot Pack
- Interferential Therapy-Slimming
- IFT-Pain relief
- Ultrasound Therapy-Piezoelectric effect
- TENS- Transcutanous electrical & stimulation
- Muscle stimulator-
- SWD-Short Wave Diathermy(Electromagnetic Radiation)
- Traction Unit
- Paddle Cycle
- Wobble Bond
- Parallel Cycle
- Bolster
- Peg Boards(Coordination & strengthening)
- Quadric Table
- Hamstring
- Muscle Stimulator

- Shoulder Bulley-For frozen shoulder, to increase range of shoulder
- Finger Ladder
- Stepper
- Dumbler
- Finger & hand exercise table(Grippng)

10 : Medical Record Department

Scope of services –

- Maintenance of all medical records
- Storage of records
- Maintenance of integrity and confidentiality of medical records
- Maintenance of Medico legal certificates(MLC)
- Quantitative analysis of records
- Retrieval of records
- Numbering and filing
- Completion of incomplete records
- Coding
- Indexing
- Analysis and statics
- Reporting
- Deficiency check

11: Food and Beverages and dietetics

Contributes to recovery of health through scientifically prepared diets & educating the patients regarding use & utility of different foods & balanced diets.

Location: Lower ground floor

Outsourced: Packing & Distribution is done here and some small & special items are cooked.

Organ gram:

HOD (Housekeeping & F&B)

⇩

Unit Manager (1

⇩

Supervisors (4)

⇩

Order Takers (2)

⇩

Store keeper (1)

⇩

Cashier (2)

⇩

Steward (18)

⇩

Pantry Man(cooks) (3)

⇩

Utility (7)

Types of Diet:

- Full Diet
- Soft diet
- Renal
- Liquid
- Diabetic
- RT

Areas of F&B department

- Receiving area
- Storing area
- Washing area
- Portioning area
- Trolley area
- Kitchen Area

Scope of services –

- To provide nutritionally well balanced food for all patients' according to their need
- To serve the all staff and patients attendants also
- To help in improving the patients health by serving the proper and nutritious diet on order of dietician

12 :House Keeping Department

Responsible for activities aimed at maintaining the facilities presentable, pleasant, comfortable and safe for the people living or working within the hospital or visiting from outside. To provide clean pleasing and odour free environment this is free from infections and promotes early healing.

3-5 % budget is spent on Housekeeping.

Outsourced: 3Floors by different agencies

Shifts: 3 Morning (7:00AM -3:00PM) Evening (11:00AM-7:00PM) Night (7:00PM-7:00AM)

Frequency of cleaning: Thoroughly twice and total 4 times/shift

Procedure: Aseptic cleaning techniques are used by the hospital with care to use recommended chemicals of good variety e.g. Taski / Bio sol.

Washing, cleaning, Wiping window panes, walls doors etc, dry mopping & wet mopping and use of mechanized tools like scrubbers for floor.

Material used for mopping: Veriax &Bale floor

Team of 3 goes for cleaning the rooms: 2 for Room & 1 for toilet

Recommended: 25 for 200 bedded hospital/ 1 HK per 1400 sq ft

1 supervisor/10 HK staff

Function of housekeeping is-

- Maintain Hygiene of the patients and hospital
- Helps in patient preparation
- Prevent infection control
- Waste Disposal

13: Linen and Laundry

Totally outsourced

Linen room 3 staffs are there.

Location: Lower ground floor

Process:

Dirty linen is collected &sent to the linen room by CCA's

Sorted and sent for washing, ironing etc

Clean linen received from outside

Sent to CSSD for sterilization

CCA from respective wards collect the sterilized linen.

Areas:

- Dirty area
- Clean receiving area there

Functions of laundry is

- Controlling cross infection
- Patient comfort and satisfaction
- Human public relation

14 : Main Store

Location: Lower ground floor

Store receives all medicines, medical equipments, instrument, consumables, and other essential goods and printing &stationary materials which are required by the hospital time to time.

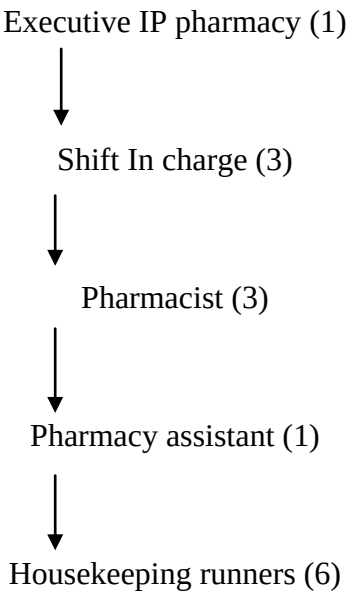
15 :Pharmacy Department

There are three types of pharmacy departments in the hospital:

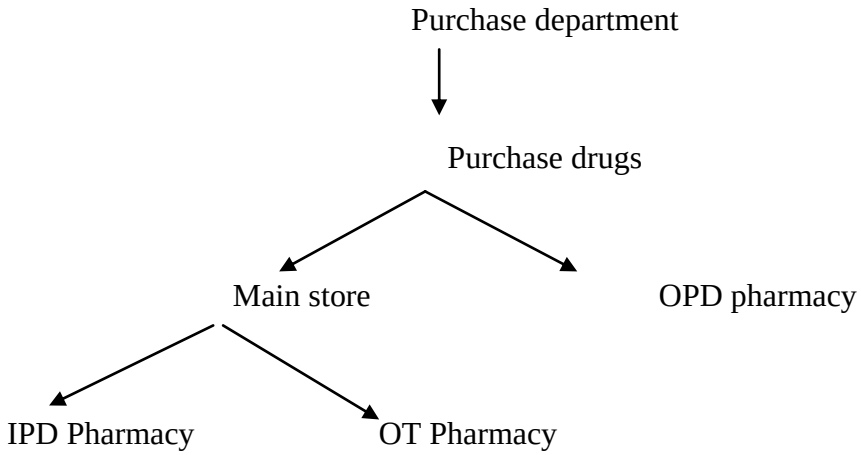
i. IPD pharmacy
ii. OPD pharmacy
iii. OT pharmacy

(i) IPD pharmacy

Organogram:



Process flow



MICU, ICU, ITU are kept on priority in dispensing indents, in comparison to wards.

In case of non-availability of emergency drugs in the store, cash purchase of drug from outside drug store is allowed without any permission from MS/DMS up to a price range of 1000 rupees.

Function of pharmacy

- Supply of drugs to in patient ,wards, various sensitive patient care unit like ICU,OT ,Emergency,
- Dispensing for out patient
- Demand estimation according to formulary, in the absence of formulary, establishment of specification for drug procurement
- Furnishing drug information to physician and other professional staff
- Quality control of drugs purchased and those compounded and manufactured in pharmacy

Limitations

- Delay in delivering of indents
- Problems with online ordering of indent

IPD Store

Location: 1st Floor

Organ gram: Executive IPD Store

Shift In charge

Pharmacists

- Online Indenting is done.
- Drug is ordered by generic name
- 3 months expiry is maintained.
- Average time taken after indenting to drug delivery is 2 hrs
- OT 7 IPD has different purchase lessening.

16: Engineering Department

Location: Lower ground floor

Scope of services

- To maintain the overall electric supply of the hospital
- To maintain the chilling plant room of the hospital
- To train the security staff about fire safety measures

17: Mortuary services

Location: Lower ground floor

Scope of services

- To keep the bodies of the patient dying in the hospital ,until the relatives claim them and arrange for their disposal
- To keep dead bodies requiring pathological post-mortems(in MLC cases)

18:.Security Services

The role of hospital security department is "to provide security services to all staff, patient and visitors and for protection of hospital property on the premises ,through use of well trained personnel technology, prevent activities and timely response to requests.

- Analysis of security threats and vulnerabilities in conjunction with the management, civil police and others.
- Preparation of strategic security plan, security standing instruction and security operational deployment plan and their periodic updating, based on directions of the management.
- Control of Movement of vehicular traffic within the premises.

19 : Preventive Health Checkups Unit

Hospital has lots of preventive health packages for their executive as well as for general population i.e. Blood tests, USG, TMT, ECG, Pulmonary Function test etc

20 : Blood Bank

Department dealing with collection, testing, processing, component separation, storage, preservation and issue of blood and its products for safe transfusion to patients as requisitioned by physicians.

Location: Ground Floor

Area:

- **Medical Examination room:** 1255863 m2
- **Bleeding area:** 2126246.32 m2
- **Component separation:**1614395.7 m2
- **Component storage:** 2871306.8 m2
- **Refreashment:**1099776.8m2
- **TTD:** 1397308.21m2
- **Blood bank store:**865196.7 m2

Proximity to:

Emergency (Lower Ground): Accessible through lifts and ramps

- **OT (First floor):** Accessible through lifts and ramps

Wards (Lower ground & first floor): Accessible through lifts and ramps

Areas:

- Consultant room
- Medical examination counselling area
- Donor room
- Serology room

Organogram:

MO In charge

⇩

Lab Technicians (3)

⇩

Staff Nurses (Works in 3 shifts)

⇩

Housekeeping staff

FUTURE PLANS

Phase two of the project would make it 1,000 beds at a cost of Rs 250 crore. The current facilities allow for 4000 beds and they positively look at being able to equip and service 30,000 beds by 2015

Chapter: 1

Introduction

Discharge planning is the term commonly used to refer to a process of which the planning activity is one element. This process is generally thought of as a critical link between treatments received in hospital by the patient and post discharge care provided in the community.

The demand of effective health care services is ever increasing. As a result hospitals are absorbing tremendous amount of resources. Healthcare emerged as one of the major area concerning the human being in the recent past. In the present scenario quality healthcare plays an important role in hospital industry. Effective and timely discharges are important parameters in ensuring patient satisfaction. Admission to and discharge from the hospital can be a distressing time for individuals, their families and friends. It is increasingly evident that effective hospital discharges can only be achieved when there is good joint working between all the departments.

Steps of a Discharge process:-

- Clearance for discharge from treating doctor
- Discharge summary preparation by RMO
- Medicine intend for return by nursing staff
- Verification of investigation
- Dietary/physiotherapy advice
- Final payment and billing
- Patient out from the ward/hospital

Types of Discharges:-

- Planned
- Unplanned
- Discharge on Request (DOR)
- Leave Against Medical Advise (LAMA)
- Third Party Agreement (TPA)

Benefits of effective discharge: The evaluation and follow-up stage of the discharge process provides an opportunity to evaluate not only the effectiveness of the discharge process but also the effectiveness of the hospital intervention. There are clear benefits in practising effective discharge, such as improved efficiency, better health outcomes and improved satisfaction for the patient. The following are the outcomes of effective discharges-

For Patient

- It creates trust on hospital and organization.
- It helps in improvement of patient and satisfaction of family/relatives.

For Staff

- It shows good interdepartmental co-ordination.
- It acts as motivation factor for staff.
- Staffs also feel satisfied.

For Organization

- It helps in developing good brand image.
- It helps to avoid unnecessary readmission of discharge patient.
- Resources are best utilized.
- Avoidance of blames and disputes.
- Avoidance of length of stay of patient.

Discharge Process consist of two parts

(A) Clinical Part

(B) Non Clinical Part

Clinical part cosist of

- Discharge order by consultant during the rounds
- Discharge summary preparation
- Final dressing (Neurology/Surgery) if any
- Explanation of diet by dietecian

Nonclinical part cosist of

- After the discharge order submission of daily billing activity sheet (Nursing)
- Medicine Return(Nursing)
- Final bill preparation(Billing)
- Preparation and counselling of patient to be discharged (Nursing)
- Dress change /physical discharge of the patient after financial clearance (GDA)

Chapter 2

Rationale

Now day's effective healthcare and timely discharge are most important parameters in ensuring the patient satisfaction. Lengthy, ineffective discharge process is a common concern for the hospitals. It not only causes patient and their relative's dissatisfaction but it also creates negative image of the hospital.

As inpatient discharge process is one of the major reasons for patient dissatisfaction. So I have taken this as my project. This study will help the hospital to access the existing delay in discharge process. From the administrative point of view, the discharge process plays an important role in a hospital. The effective planning and use of resources will play an important role in timely discharge of patient and creates a positive image of the hospital itself. Planning for discharge with clear dates and times reduces –

a. Patient's length of stay
b. Emergency readmission
c. Pressure on hospitals beds
d. Saves the manpower and time

This project is an effort to gain knowledge and experience of the non clinical aspects of management in a hospital as a management trainee.

Chapter: 3

Review of literature

Dr Stephen Zinkgraf,founded SBTI(sigma Breakthrough technologies) through this project using the Lean Sigma methodology and DMAIC roadmap, illustrates how greatly the cycle time required to discharge patients can be reduced – from a baseline average of 202 minutes to 115 minutes – while improving patient satisfaction from a baseline of 47.6 percent indicating "very Good" 76.0 percent.

Toronto Central LHIN Discharge Planning Steering Group "Improving Hospital Discharge Planning & Patient Transitions in theToronto Central LHIN, discharge Planning Report & Recommendations". To address the issues, a multi-organizational inter-sectoral team came together to discuss the reasons behind the issues and to work toward addressing them. The team developed a framework for discharge planning founded upon an overarching philosophy with guiding principles to support best practice. It also references supporting tools which can be adopted to facilitate consistency in discharge planning processes across TC LHIN hospitals.

Eric J. Collier, MS, RN Charlene Harrington, RN, PhD Discharge planners and case managers need to play a more central role in the decision making process related to the selection of a process, especially because decisions are time limited and can benefit from a well-planned discharge planning program that uses a variety of data on quality and costs. The widespread use of Internet-based information sources can be expanded to aid this process

Chapter: 4

Objectives

Timely discharges are very important component of patient satisfaction. To assess the process and various reasons for delay in discharge process a study has been conducted in the hospital. The main objectives of the study were

- To study the working of the discharge process followed in the hospital.
- To assess the Turn around Time (TAT) of the same.
- To identify the number of delay, if any.
- To find out the reasons of delay.
- To give the recommendations for reducing the delay in discharge process.

Chapter: 5

Research Methodology

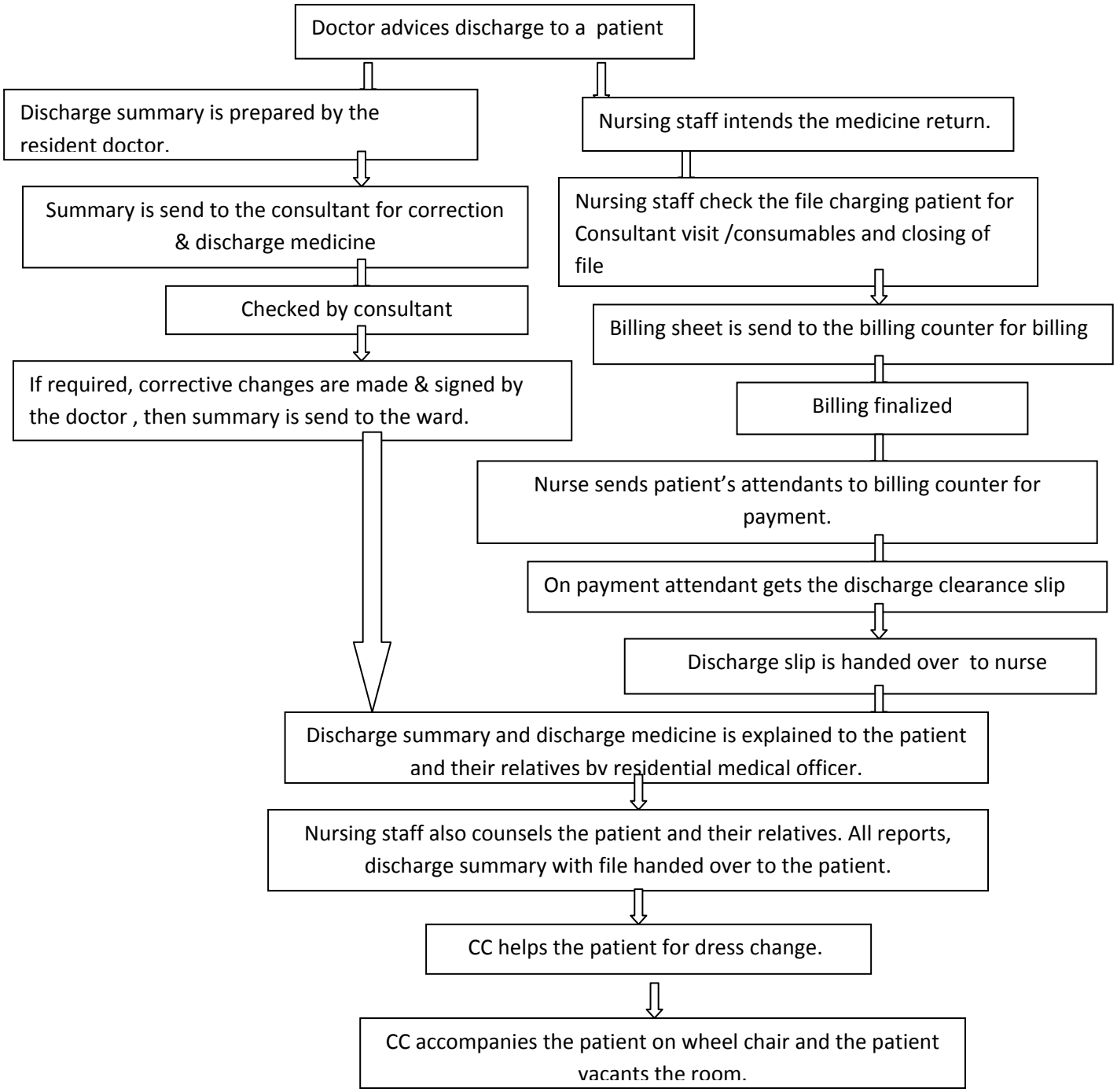
Study Area	Narayana Hrudayalaya Hospital Jaipur.
Study Location	Female General Ward, Male General Ward-I & II, SPVT, ANC, Male CTVS, Narayana Hrudayalaya Hospital, Jaipur.
Target Population	Planned, Unplanned, TPA discharges
Study Duration	**15 Days**
Study Population	IPD Patients
Sample Size	120 discharges from all IPDs
Study Design	Cross sectional study
Sampling Technique	Non Probability sampling
Data collection	Direct observation

To study the following:

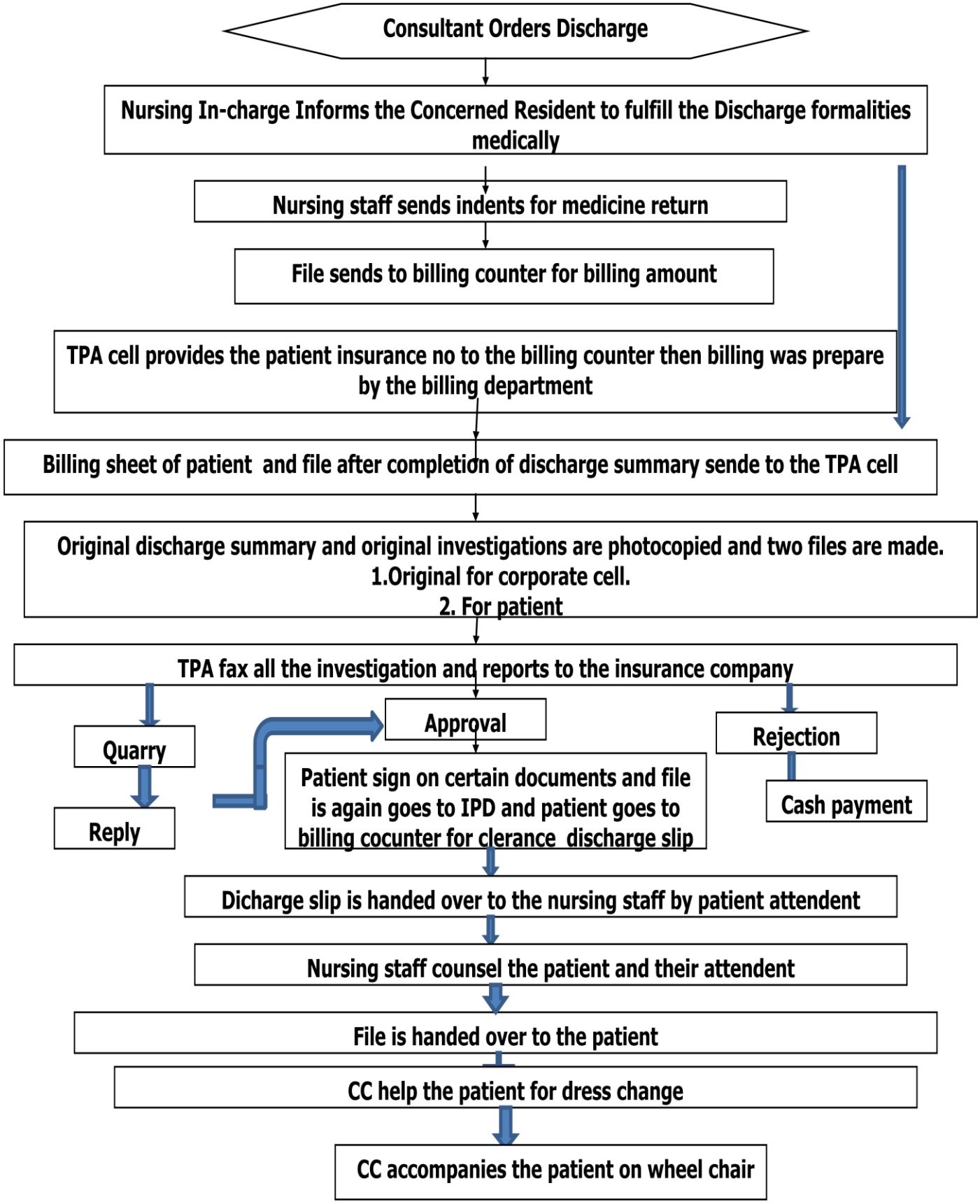
- Process of discharge (process mapping)
- Turn around time of discharge process

The study was conducted to know steps of the discharge process and observe the actual time consumed in the whole process. A target population was chosen through convenient sampling and a discharge tracking sheet was prepared in which the doctor's visit time, discharge order time, medicine return time, discharge summary preparation time, billing clearance time and finally patient out time of each and every patient was taken down. The discharges which occur in the ward are observed from the doctors round up to the patient out time from the ward and hospital. The data was collected through this observation method and then analyzed. The turnaround time of discharge process was calculated and if there was any delay the reasons behind this was found.

5.1 Discharge Process Flow of Narayana Hrudayala Hospital



5.2 Discharge process flow of TPA patient in Narayana hospital



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Chapter: 6

Findings

1. Average mean time in planned discharges is 208 minutes with 80 minutes 94 seconds standard deviation.
2. Average mean time in unplanned discharges is 216 minutes with 79 minutes 85 seconds standard deviation
3. Average mean time in TPA discharges is 325 minutes with 97 minutes 8 seconds standard deviation

Key Findings:

1. Time taken in discharges

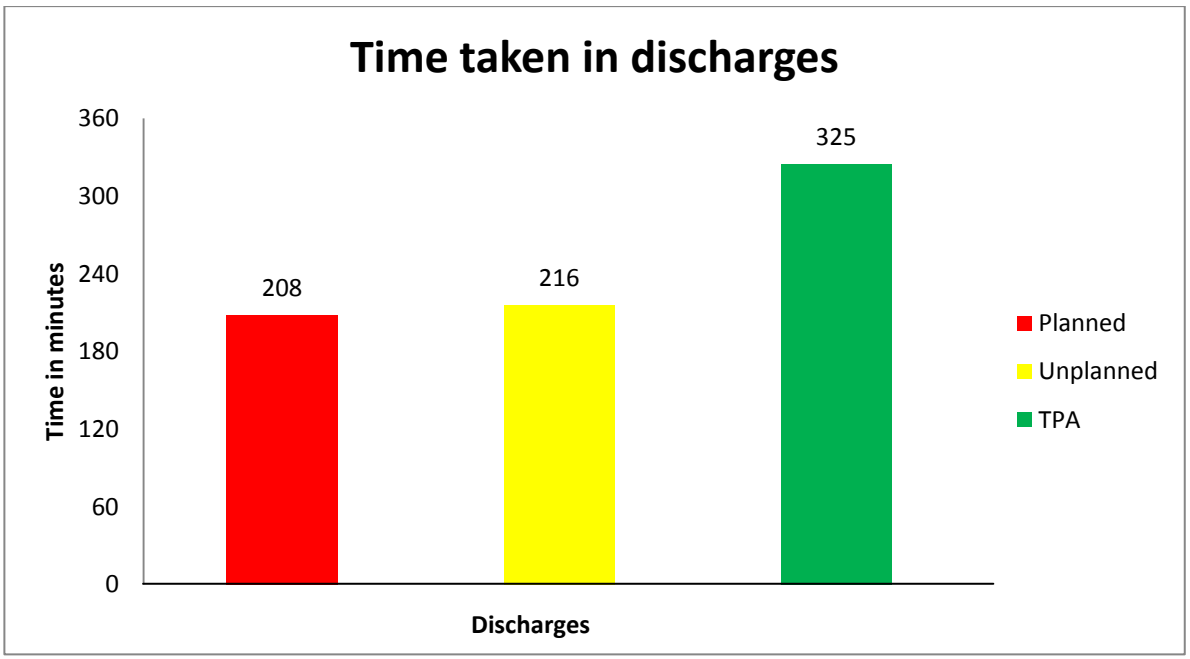


Figure: 6.1 Time taken in discharges

This graph shows minor difference in planned and unplanned discharge time. It means there was no previous preparation done for planned discharges, where as in TPA discharges it takes 120 minutes more as compared to planned and unplanned.

2. **Discharge summary preparation time**

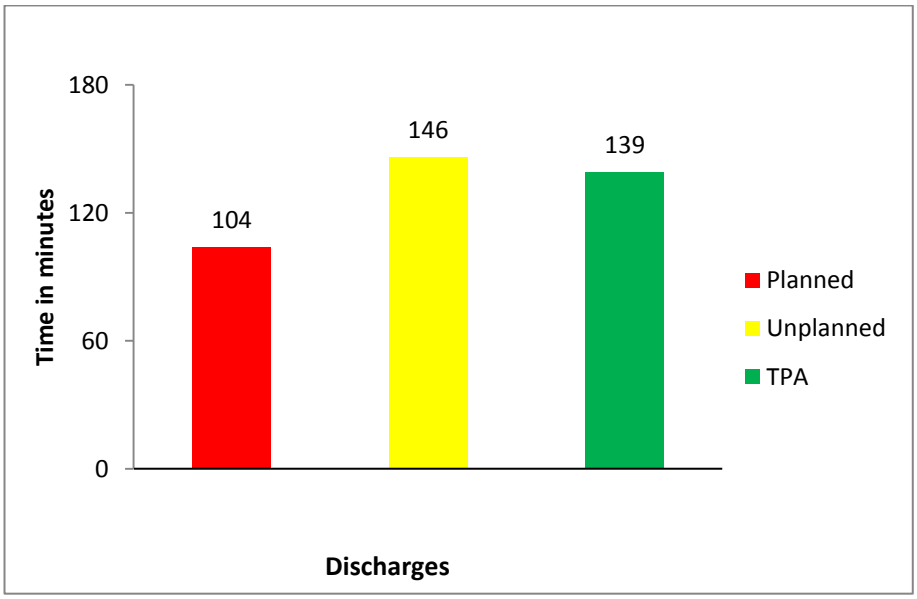


Figure: 6.2 Discharge summary preparation time

It can be easily interpreted from the graph that discharge summary took the maximum time i.e 146 min followed by TPA cases which took 139 min with a difference of just seven min, whereas the discharge time for planned was104 min which is 40 min less than unplanned but this difference is not much as it should be, the main reasons are that Discharge summary had not been prepared in time or incomplete, incorrect discharge paper work causes delay in further process. It means discharge summary of expected discharge was not prepared in advance and this was the main reason for delay in discharge process..

3. **Bill Clearance time**

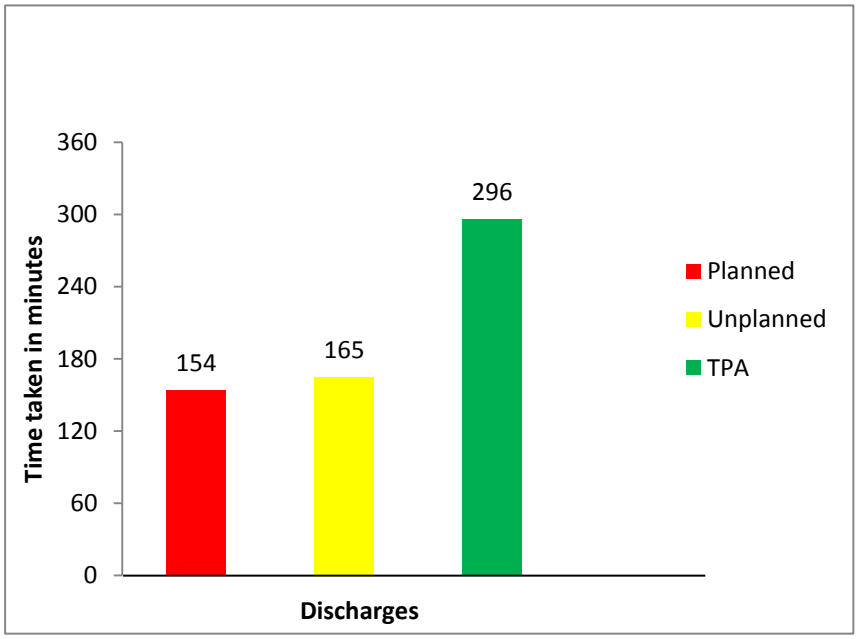


Figure: 6.3 Bill clearance time by the attendant

In planned discharges again bill clearance time is almost similar to unplanned discharges, whereas, all formalities related to clearance should be done immediately after planning of discharge when consultants declare the discharge which would help to minimize the bill clearance time on the day of discharge. At times the delay is also because patient/family is not satisfied with the billed amount and they are reluctant to pay that amount, this also causes delay in clearance. If all the documented formalities would have been done before hand for TPA discharge, it would minimize the final approval time by the insurance company.

4. **Time taken by nursing to exit patient post clearance**

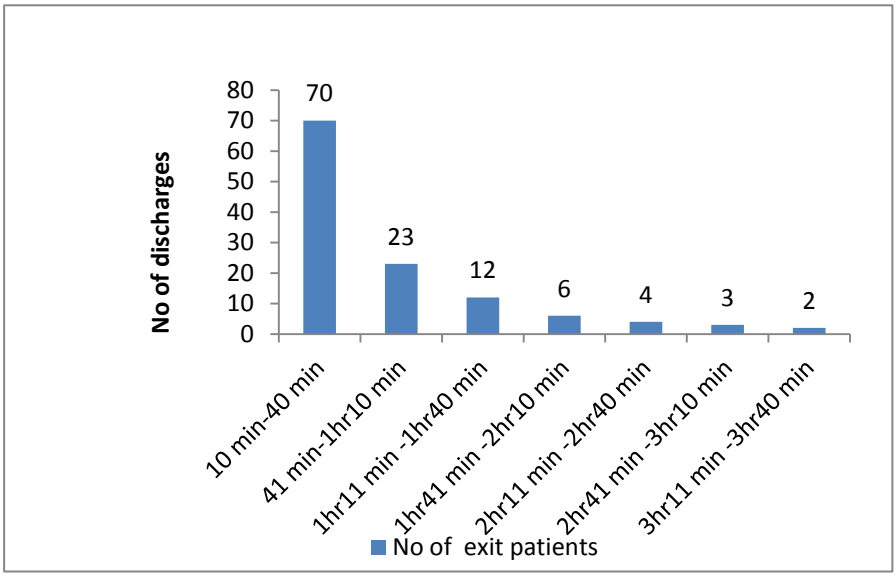


Figure: 6.4 Post clearance exit time

This is the time when the patient attendants handover the discharge card to the nurse and patient finally goes out of the ward after all ward formalities. There is no basic difference in planned, unplanned and TPA patients after clearance of billing. Ineffective use of manpower in wards results in uneven distribution of workload causes delay in exit of patient after clearance. Due to shortage of CCA or ward boy or fourth class worker there is delay in final shifting of patient after discharge.

5. Delay in discharges

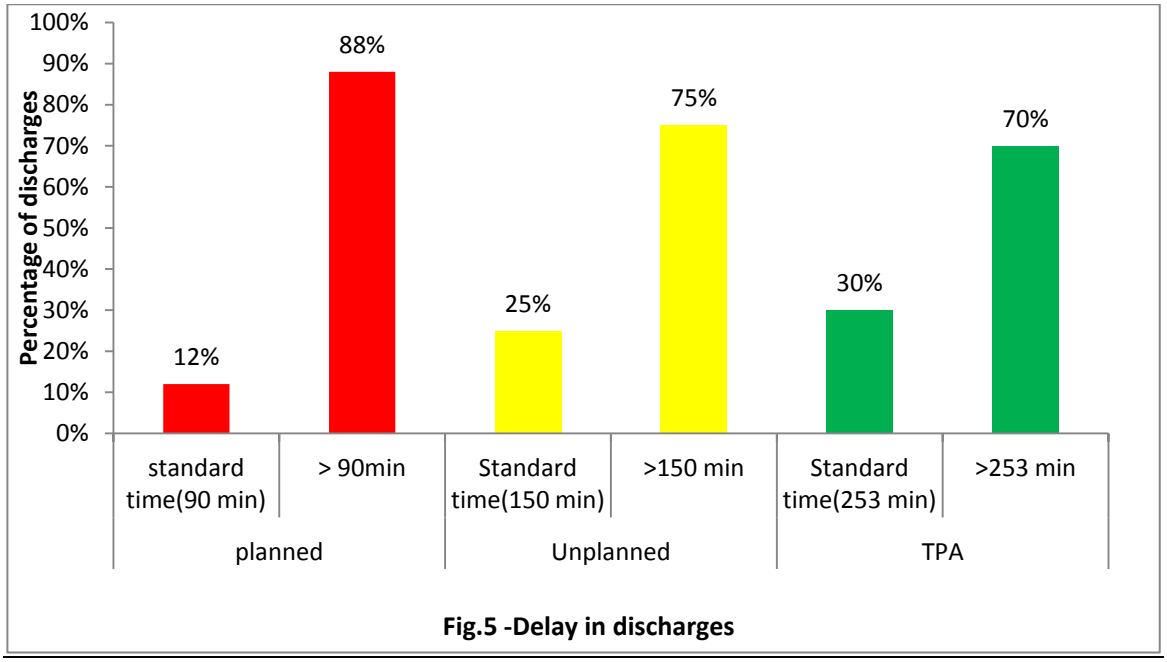


Figure: 6.5 Delay in discharges

This graph shows that maximum delay in planned discharges which means there is no previous preparation done .In TPA cases if we exclude the approval time of clearance from the insurance company in spite of that there is delay in all other processes .which can be reducible. We calculate this delay time by the comparison of minimum discharge time taken in all these three process differently. In planned discharges minimum discharge time was 90 min so the cases having discharge time more than 90 min were considered as delayed discharges. Likewise in unplanned discharges 150 min and in TPA it was 253 min.

6. Reasons of delay

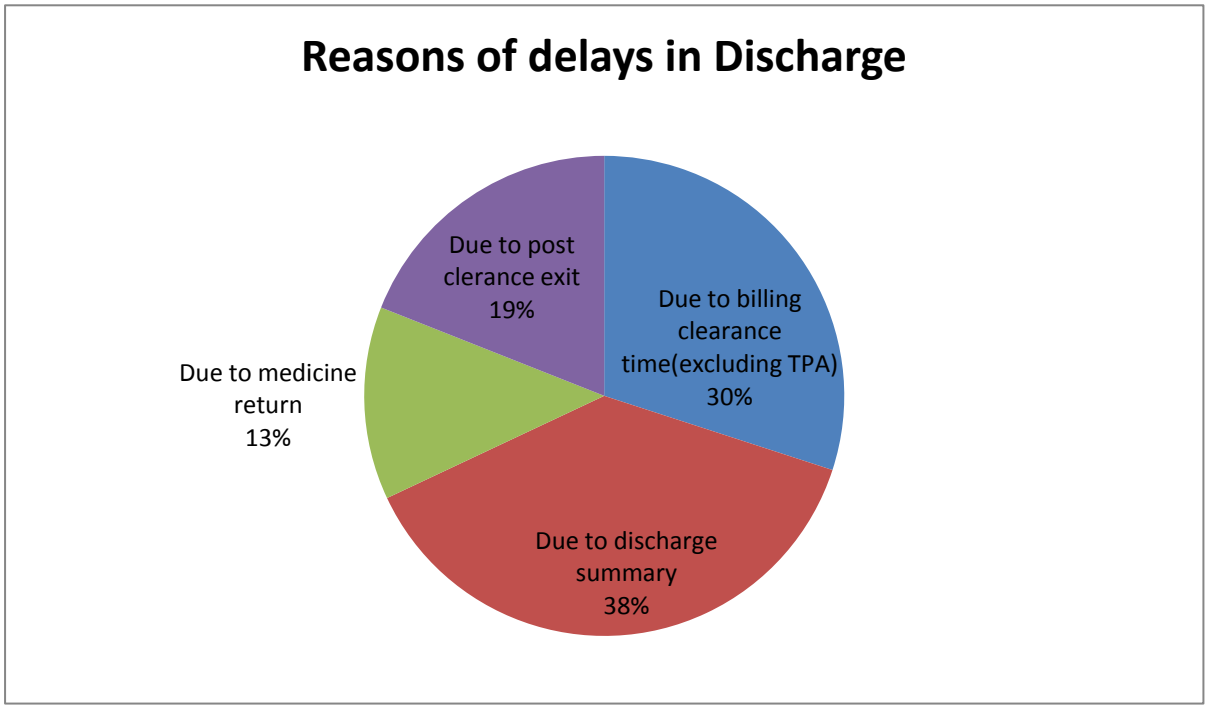


Figure: 6.6 Reasons of delay in discharge

This graph shows that maximum delay in discharges i.e (38%) is due to discharge summary and (30%) due to billing clearance, this is because the discharge summary and billing is not prepared and completed in time and also lack of communication between billing department and ward staff. Patient's attendant was not informed about the completion of billing process and therefore they were many times not available for clearance at the time. The delay due to return of medicine after the declaration of discharge is also a reason for further delay in bill clearance and ultimately the entire process is affected.

The medicines which are to be given to the patients during discharge are not ordered along with the medicine return and so extra time is consumed for the same resulting in delay in post clearance exit.

Causes of delay of discharges:

In the study many reasons were found which are responsible for delay in discharge process.

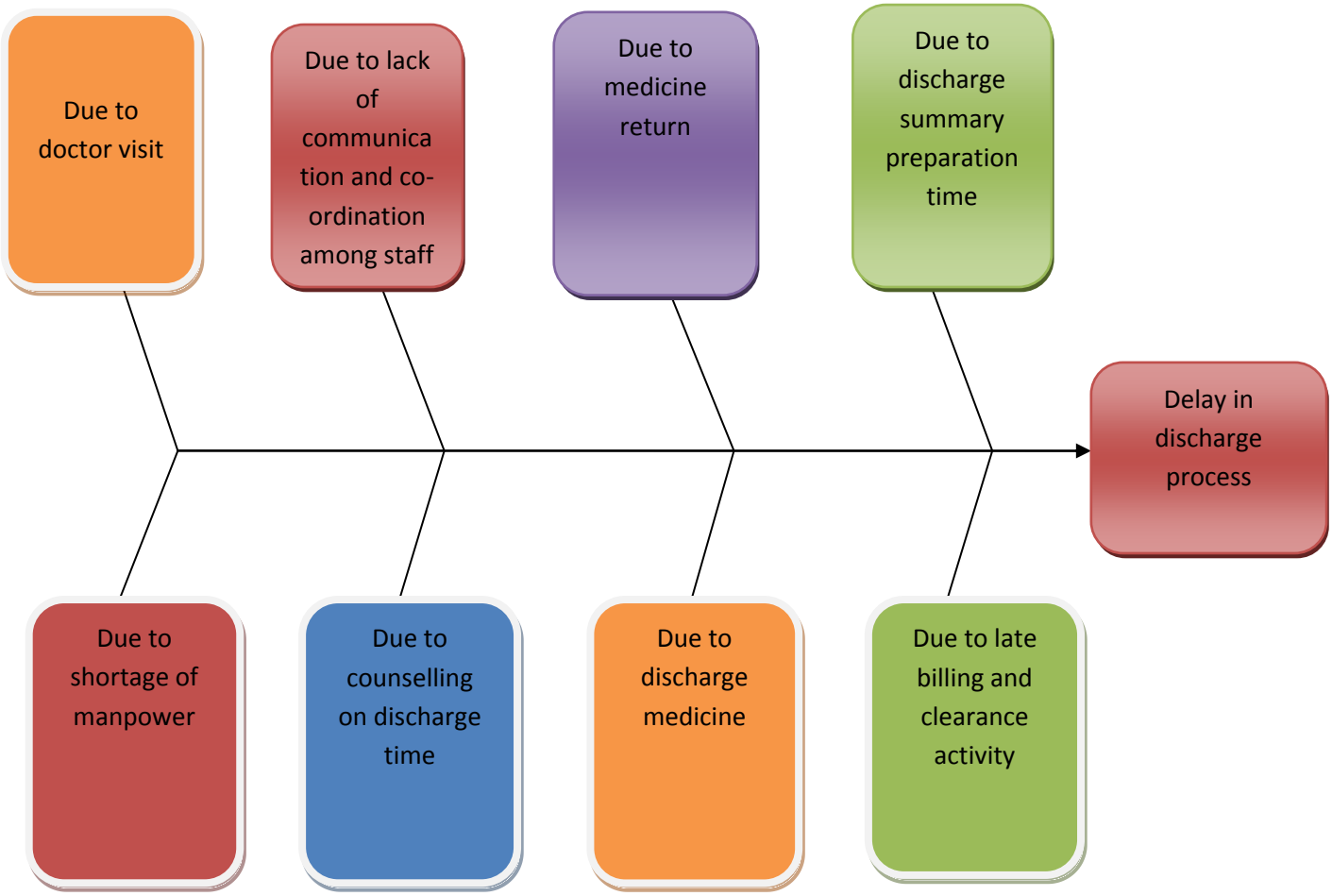


Figure 6.7: Fish bone diagram showing various causes of delay in discharge process

Chapter: 7

Conclusion

Discharge process is interlinked process. There are various steps in this process which are interdependent. If there is a problem in any one of them then it causes delay in whole discharge process which was stated as earlier in findings and observation. Average turnaround time for planned discharge is 208 min , unplanned 216 min, TPA 325 min. Delay in planned discharge is 118 min ,unplanned 66 min , TPA 72 min. If any organization wants to maintain a effectively discharge process timely then they required to strictly monitoring of each and every steps in discharge process. Delay also causes dissatisfaction among patients and patient family/ relatives because of lack of knowledge regarding time required in discharge process. Because of lack of proper counselling about the discharge process, here is another problem is that lack of definition of roles and duties of staff which causes overloading of working area that is again a factor which contributing towards delayed discharges.

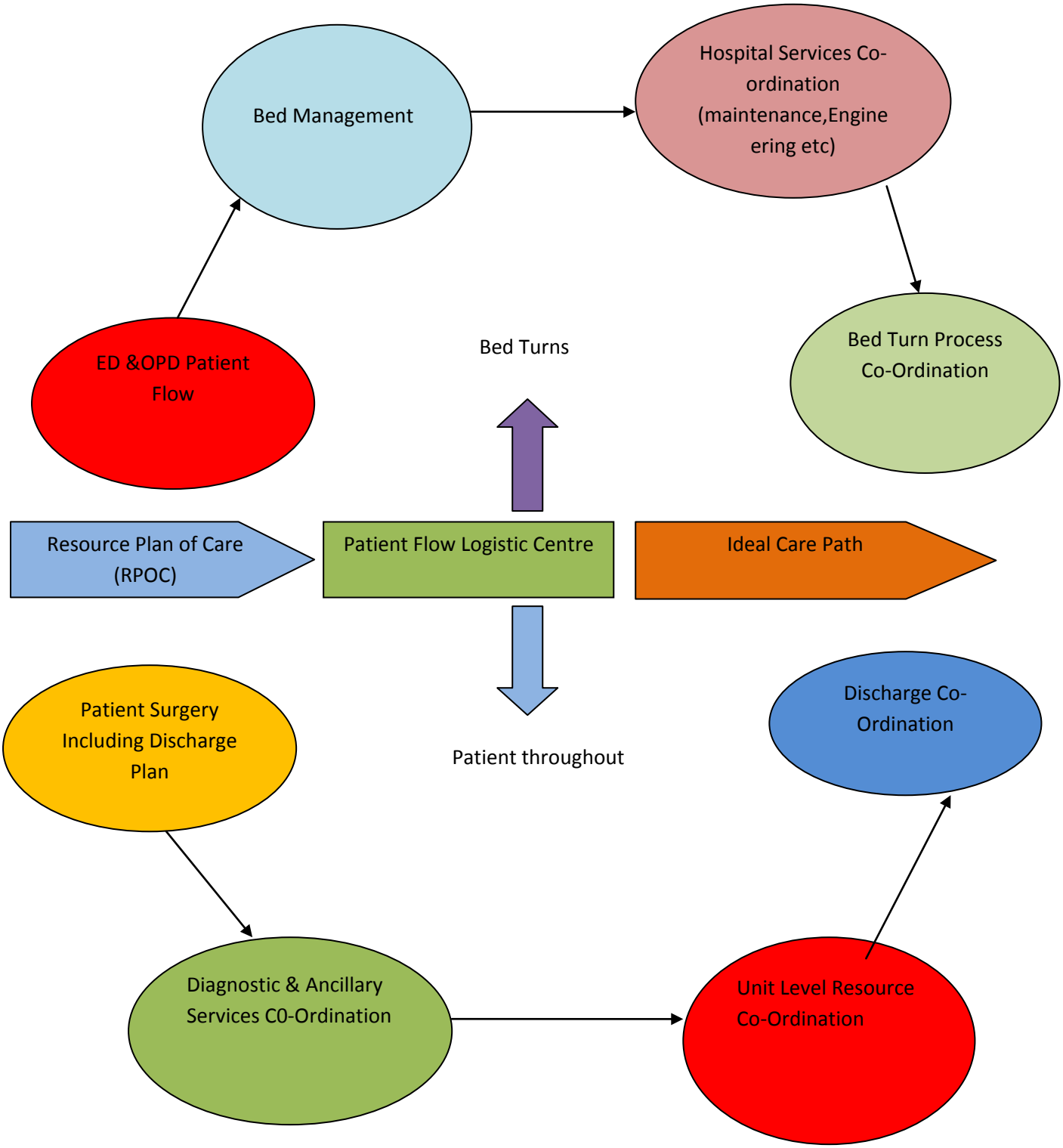
Chapter: 8

Recommendations

1. Discharge planning should be done at least one day before in the morning at the round time of consultant so that staff and patient families are prepared for the next day.
2. All the formalities related to discharge should be completed up to the 8:00 pm day before the discharge.
3. Expected discharge list should be generated previous evening by the ward nursing in-charge.
4. One supervisor (may be nursing head) should supervise the expected discharges so that all the documentary formalities are completed by 8:00 pm and inform to the floor manager.
5. Discharge summary of patient should be prepared by the evening so that at the time of evening round consultant would check the discharge summary and make corrections. This scheduling will help to reduce discharge summary preparation time which causes delay in discharge process.
6. Medicine return time schedule should be maintained strictly around 3-5 pm. All the discharge medicine should be return during this time so that the prepared billing amount is known to the patient's family regarding discharge amount for the next day Most of the discharges are delayed due to financial arrangement at the time of discharge.
7. For TPA patient all the approval formalities should be done by the previous evening of discharge day. It will help to reduce the approval time at the time of discharge.
8. Good interdepartmental co-ordination and communication is required for effective discharge process.
9. Counselling regarding discharge procedure should be done at the time of declaration of discharge because patient and his family members are not aware about the time required for a discharge process and they believe that as soon as doctor says for discharge they have to pay the bill and move out from the hospital. This unawareness creates dissatisfaction of patient.
10. Time of completion of discharge summary should be maintained in Hospital information system.
11. Maximum discharges occur between 1pm-3pm , so increasing man power like CCA in ward would ease the discharge process because after clearance most of the patient wait for the CCA to move out from the ward. There is requirement of more CCA in FGW.

12. When we follow the systematic discharge process and patient is discharged at proper time, still if patient stays by his/her choice, then we can implement a policy of not providing free F&B services as discharge had already been done.
13. Doctor's visit time need to be properly scheduled.
14. Discharge time needs proper and strict scheduling.
15. Discharge medicine should be indented along with the discharge medicine return as it would help to reduce the discharge time .It would also generate the revenue for the hospital and provide satisfaction to patients and their families.
16. It department can install an online system of confirmation for discharge summary by consultant on HINAI.

8.1 Patient Flow Logistics Co –Ordination Model



Chapter 9

Limitations

1. Study was conducted in a limited period of time.
2. TPA patient were included in the sample but they are counted in delay only after excluding the approval time. We identify the reasons of delay excluding that time.
3. Study was time consuming as it was not possible to track all the discharges of the hospital in limited time period.
4. The discharges are excluded where there was delay in discharge after clearance, when patient stayed in hospital due to their personal reasons for some time.

Chapter 10

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Chapter 11

Annexure

Discharge Tracking sheet

Date:-

					Time					
MRN No.	**Room No.**	**Name of Patient**	**Dr**	**U/P**	**Dr. Visit**	**Discharge**	**Discharge Summary**	**Clearance**	**Physical Out**	**TAT**
			.							

Discharge Tracking sheet:

Time taken by nursing to initiate discharge process post instructions	Time taken to prepare discharge summary post discharge orders	Time taken to prepare discharge summary post discharge orders	Time taken by nursing to exit post clearance	Remarks