An Analytical Study of Human Resource Planning in Admission and Billing Services of Inpatient Department

Internship Training
at
Manipal Hospitals, Bangalore

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TO WHOMSOEVER MAY CONCERN

This is to certify that Dr. SONIYA SHARMA, student of Post Graduate Diploma in Hospital and Health Management (PGDHM) from Institute of Health Management Research, Jaipur has undergone internship training at MANIPAL HOSPITALS, Bangalore from 20th February 2014 to 20th May 2014.

The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.

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ManipalHospitals
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This is to certify that **Dr. Soniya Sharma** has done her Internship in the department of Corporate Relations and Billing at Manipal Hospital, Bangalore.

She was with us from 1st April 2014 to 20th May 2014 and her conduct was satisfactory.

We wish her success in her future endeavors.

For Manipal Hospitals, Bangalore
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CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled … "An Analytical Study of Human Resource Planning in Admission And Billing Services of Inpatient Department at Multispecialty Hospital in Bangalore" …and submitted by… Dr. SONIYA SHARMA… Enrollment No….1383… under the supervision of… (Brig.) Dr. S.K.PURI … for award of Postgraduate Diploma in Hospital and Health Management of the Institute carried out during the period from 20th February 2014 to 20th May 2014 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other Institute or other similar institution of higher learning.

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ABSTRACT

In today's scenario health sector deemed as corporate sector rather than as a service sector. The health industry is essentially labour-intensive, manpower constitutes a critical component. Health manpower planning consists of determining how best to produce, deploy and use manpower in the right numbers and with the right skills to perform health service functions. The identification of minimum number of people required to perform smooth function with adequate skills at admission and billing department is a key factor, in order to avoid delays and to improve customer satisfaction. A detailed study was carried out for admission and billing process especially for cashless patients where delays are more liable due to various constraints. A time study was conducted at each stage of admission and discharge by means of: self-observation, semi structured questionnaire and experts opinion. The primary and secondary data was collected and analysed for admission and billing process for a period of last three months, then a gap analysis was carried out, to identify the delay at each stage and to compare with actual time required to perform that task. In addition to this the number of patients for admission and discharge, according to various shifts were calculated and a duty roaster was prepared.

The study revealed that maximum number of admissions and discharges observed during 9AM-5PM. From data analysis it is identified that total number of employees required is 37, on the contrary, to the present number of employees, which are 43. It is also noticed that the efficiency reduces by 10% due to frequent movements. This can be avoided by increasing supporting staff to employees or by providing relevant facilities, in order to facilitate the employees to carry out their task at their work station itself. The negligible discharges between 11PM-6AM were noticed, which indicates that no exclusive staff is required in case of cashless patients (TPA/Corporate billing) during this shift.

Keywords:

Manpower, Admission, Discharges, Cashless, Time-Gap analysis, Duty roster.

(*353 words*)

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The success of any task would be incomplete without the expression of appreciation of gratitude to the people who made it possible... It is a pleasant aspect that I now have the opportunity to express my gratitude for all of them. This is a humble attempt in this regard. I would like to render my sincere thanks to **Manipal Hospital, Bangalore** for providing me with such unique learning experience.

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LIST OF ABBREVIATIONS

HR	HUMAN RESOURCE
OPD	OUT-PATIENT DEPARTMENT
IPD	IN-PATIENT DEPARTMENT
PCC	PATIENT CARE CORDINATOR
TPA	THIRD PARTY ADMINISTRATION
A&B	ADMISSION & BILLING
DS	DISCHARGE SUMMARY
SPOC	SINGLE POINT OF CONTACT
MP	MANPOWER PLANNING
CS	CLINICAL SUMMARY
ICU	INTENSIVE CARE UNIT
OT	OPERATION THEATRE
UB	UPPER BASEMENT
LB	LOWER BASEMENT
NICU	NEONATAL INTENSIVE CARE UNIT
CCU	CARDIAC CARE UNIT
OOT	OPTHALMO OPERATION THEATRE
USG	ULTRA SONOGRAPHY
MHB	MANIPAL HOSPITAL BANGALORE
MHI	MANIPAL HOSPITAL
DOA	DATE OF ADMISSION
DOB	DATE OF BILLING

DOD	DATE OF DISCHARGE
ESR	EXECUTIVE SPECIAL ROOM
SSR	SEMI SPECIAL ROOM
UDR	ULTRA DELUXE ROOM
USR	ULTRA SPECIAL ROOM
ECHS	EX-SERVICEMEN CONTRIBUTORY HEALTH SCHEME
CB&A	CORPORATE BILLING AND ADMISSION
HOD	HEAD OF DEPARTMENT
HMIS	HOSPITAL MANAGEMENT INFORMATION SYSTEM
WMR	WORKLOAD TO MANPOWER RATIO
CT	COMPUTED TOMOGRAPHY
EMG	ELECTROMYOGRAPHY
MRI	MAGNETIC RESONANCE IMAGING
MICU	MEDICAL INTENSIVE CARE UNIT
CSSD	CENTRAL STERILE SUPPLY DEPARTMENT
PICU	PAEDIATRIC INTENSIVE CARE UNIT
PRO	PUBLIC RELATION OFFICER

“***This report has been prepared in the format used for papers appearing in the Journal*** ****”.

Chapter 1

1 Organization Profile

Manipal Hospital, situated on Old Airport Road, Bangalore is a landmark destination for quality and affordable health care entity in the whole of South India. From the year 1991 when it was first set up, it has grown in strength to become the flagship hospital of the Manipal Hospitals group. Situated near the city center. The 600 bed centrally air-conditioned hospital is the first tertiary care multi superspeciality referral centre in Karnataka. This hospital provides a team of highly experienced doctors and support staff. State-of-the-art equipment and world-class facilities have provided millions of national and international patients with exemplary health care. Being the nerve centre of the Manipal Hospitals Group, it provides path breaking care in niche fields like liver, kidney and bone marrow transplants, besides 55 other specialties. Manipal Hospital is also highly regarded as a specialty referral Centre in India.

It is India's first hospital to be ISO 9001:2000 certified for Clinical, Nursing. Diagnostics and Allied Areas. The hospital has been declared winner of the

Manipal Hospital Bangalore has been ranked the Best Super Specialty Hospital in Bangalore by THE WEEK HANSA Research consecutively for the past 9 years and has also been ranked among the Best hospitals in India for Cardiology, by THE WEEK - HANSA research 2011

(A) Quality Policy

"*We will provide patient centric and ethical healthcare with empathy by harnessing technology and research in clinical care.*

*We will strive to meet the expectations of our beneficiaries and deliver excellence in all our services through a team of trained and dedicated personnel in line with our motto "**Life's on**".*

*We will ensure that our actions reflect that we are truly '**INSPIRED BY LIFE**'."*

(B) Facilities

- 600-bed strength
- Over 275 consultants
- Over 1700 well-trained support staff
- Over 43 specialties
- Intensive Care Units(120 beds)
- Medical ICU (26 beds)
- Intermediate Care ICU (10 beds)
- Neuro Surgical ICU (14 beds)
- Pediatric ICU (10 beds)
- Neonatal ICU (35 beds)
- Cardiac ICU (21 beds)
- Renal ICU (4 beds)
- Multi-Specialty Services Under One Roof
- Hi tech Ambulance Services
- Hi tech NABL Accredited Diagnostic Services
- 24 X 7 Pharmacy
- 24 X 7 Blood Bank
- Telemedicine
- Valet Parking Services to Accommodate over 300 Vehicles
- Out Patient Consultations on Sundays & Holidays
- Evening Out Patient Consultations
- Comprehensive Health Check Facilities

(C) Services

Accident & Emergency
Anesthesiology
Cardiology
Critical Care Medicine
Dermatology
Diabetes & Endocrinology
Dietetics
ENT
Fetal Medicine
Gastroenterology
General Surgery
Genetics
Internal Medicine
Laboratory Services
Manipal Andrology & Reproductive Services
Manipal Health Check
Medical Oncology & Hematology
Minimally Invasive Surgery
Nephrology
Neuro Surgery
Neurology
Nuclear Medicine
Obstetrics & Gynecology
Ophthalmology
Orthopedics
Pediatric Endocrinology
Pediatric Surgery
Pediatrics
Physical Medicine & Rehabilitation
Plastic Surgery
Psychiatry
Radiation Oncology
Radiology
Respiratory Medicine
Rheumatology
Sports & Exercise medicine
Stem Cell
Surgical Gastroenterology
Surgical Oncology
Transfusion Services (Blood Bank)
Urology
Vascular surge

(D) Manipal International Patient Care

Manipal International Patient Care Centre is a specialized service provided by Manipal Hospital, Bangalore which caters to the specific needs and demands of international patients. It is located in the heart of the IT capital of India and is well connected and accessible by air, rail and road from most parts of the country.

Hundreds of domestic and international flights operate to and from the Bangalore International Airport.

The centre serves as a single window for high quality medical care for patients and their families from overseas. The highly professional team at the International Patients Centre provides customized service to each and every patient with high attention to detail. Over the years thousands of foreign nationals have placed their trust in this group and experienced the excellent medical care at Manipal Hospitals. Many of the doctors here have international affiliations with various institutions across the world including the UK, USA, Australia etc. The services and facilities provided at Manipal Hospitals are peer reviewed and medically audited, thus putting to rest any concerns about safety and efficacy.

(E) Manipal Homecare Services

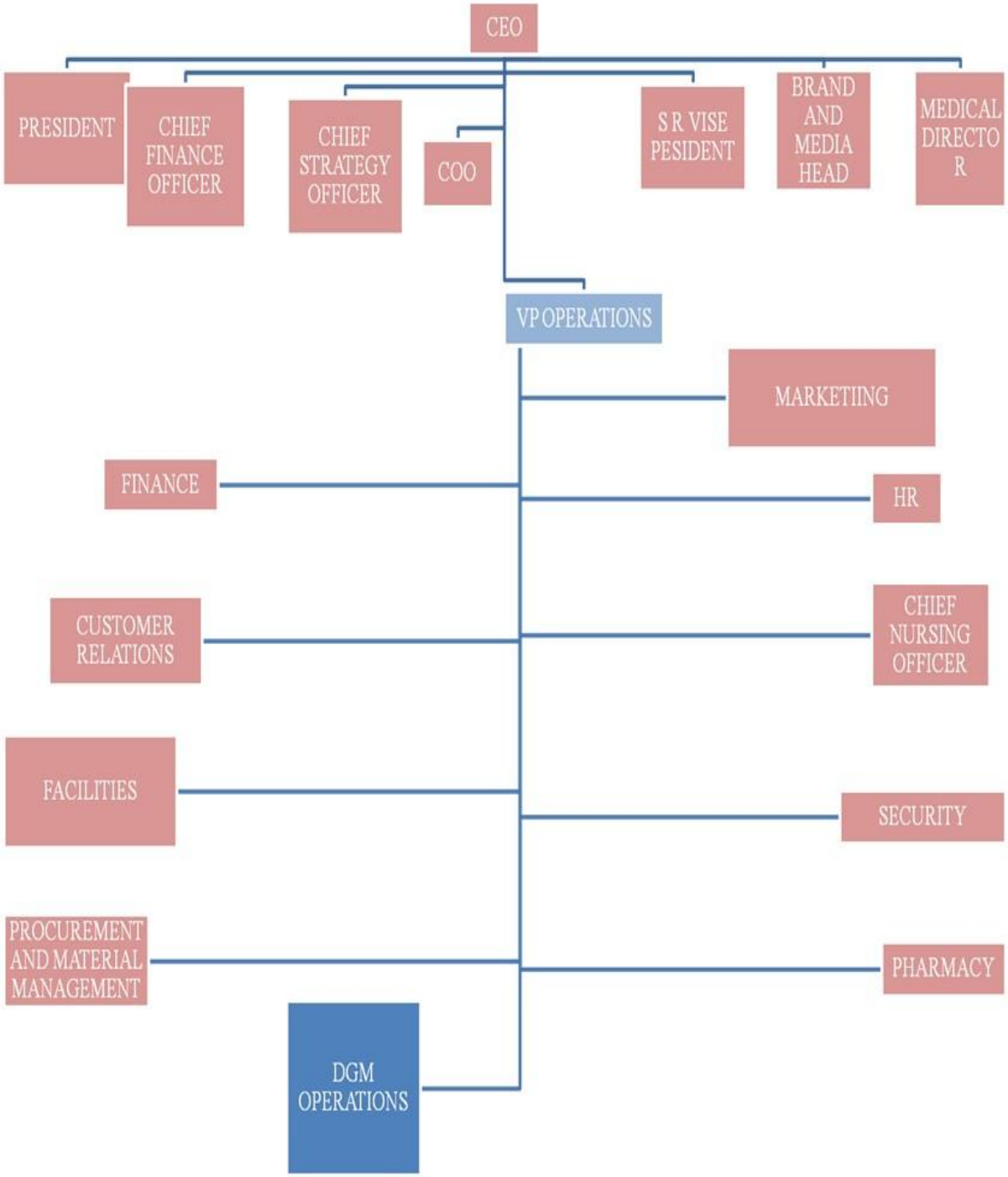
Manipal Homecare service, a dream of founder (Late) Dr. T.M.A. Pai, was launched to provide the best medical services and nursing care and reach out to patients in the comfort and privacy of their homes. They understand that recovery is faster when person is at home. With Homecare services, they intend to make it easier for patients by providing them the medical services at their home without disturbing their normal life.

Whether checking blood pressure, chemotherapy port flushing, IV infusions, collecting blood samples at specified times or dressings or asking a General Practitioner to visit patient—Manipal Homecare services is always ready to help patients out with a wide range of medical services. Homecare is not an emergency medical service and is operated according to a pre-scheduled plan from 8:00 am to 8:00 pm from three different locations in Bangalore.(after 8:00 pm only emergency medical services are provided, ,homecare services only deals with the pre scheduled plans between 8:00am to 8 :00 pm

(F) Floor Wise Distribution of Departments at MHB

FLOOR	DEPARTMENTS
Lower Basement	Dietary, Housekeeping, linen, Radiotherapy, Radiology,(CT, MRI)
Upper Basement	Fetal Medicine, Sports and Exercise Medicine, Maternity, OB-GYN Pharmacy stores, Laboratory, Health check, Surgical Gastroenterology, Physical Medicine and Rehabilitation, Orthopedics.
Ground Floor	Radiology(X Rays),Blood Bank, Diabetes & Endocrinology, Pharmacy, Casualty Pediatric, Emergency, Cardiology, Pediatrics General surgery, Rheumatology, Dental medicines. Registration, Enquiry, Corporate, Spine Care department, Relations, Public relations office, Billing & Admission, cash counter, Medical record, Oncology, Casualty, pediatric emergency, Medical social worker, Administration, International patient care center, Customer care, Neuro Development therapy, laboratory Collection, Minimal Access surgery, TMT, ECHO, ECG, Blood Bank, Nuclear Medicine, Travel Desk, Reception, Counseling room, Home Care, Pharmacy
1st Floor	Plastic Surgery, ENT, ITU, Internal medicine, Neurology/ Neurology Surgery, PICU, Respiratory medicine, Pulmonology Psychiatry, Urology, Nephrology, Ophthalmology, Dermatology, & Pediatric Surgery
2nd Floor	MICU, Fetal Medicine & OBG, Anesthesiology, Maternity, ICU Pharmacy, GOT, Neuro OT, Ortho OT, NICU, NSICU & Ophthalmology OT
3rd Floor	Clinical Research, Waiting lounge
4th Floor	CCU, Cath Lab
5th Floor	Wards{Special, Semi Special, Executive(Semi Sep ,Special) General}, Information center, Day Care
6th Floor	IT & Corporate
7th Floor	Wards -Cardiac General, Nephro, Day Care, Ophthalmology General, (Special, Semi Special, & Executive)
8th Floor	Dialysis & Wards (Ultra Special)
9th Floor	Wards (Special, Semi Special), Medicals Genetics, MARS & IT
10th Floor	Pharmacy, Wards(Semi Special, Special, General, Rehabilitation, Speech Therapy)
11th Floor	Wards-Ultra Deluxe, Ultra Special, cardio & ortho (Special). Semi Special, General

(G) Organization Hierarchy



1.1 Tasks Performed during internship

A. Study of the various processes in Admission and Billing departments, by:

i. Taking informal interviews of the concerned people in the various concern departments of Admission and Billing.
ii. Self-Monitoring the process activities through work- time study.
iii. Analysing the data obtained from Admission and Billing department for last one month.
iv. Taking experts opinion.

B. Regular interaction with Supervisors, Patient Care Coordinators (PCC's) nursing, Billing, Admission and Discharge staff for issues related to different processes causing for delays at various stages.
C. Summarizing and analyzing the data on a regular basis and finding out the various areas of improvement.
D. Preparation of shift schedule.
E. Preparation of duty rosters for Admission and Billing department staff.

1.2 Study of processes

To improve the customer satisfaction by reducing their waiting time during Admission and Discharge, I was assigned the task to study the these processes in the hospital and then carry out an analysis, theoretical versus actual man power requirement, to carry out smooth function at Admission and Billing departments. I was also assigned to prepare duty roster for staff according to frequency of Admissions and Discharges at various time slots.

Following are the brief Admission and Discharge process steps which are being followed in the hospital

1) Out Patient Department

- ✓ **Process flow for OPD patients**

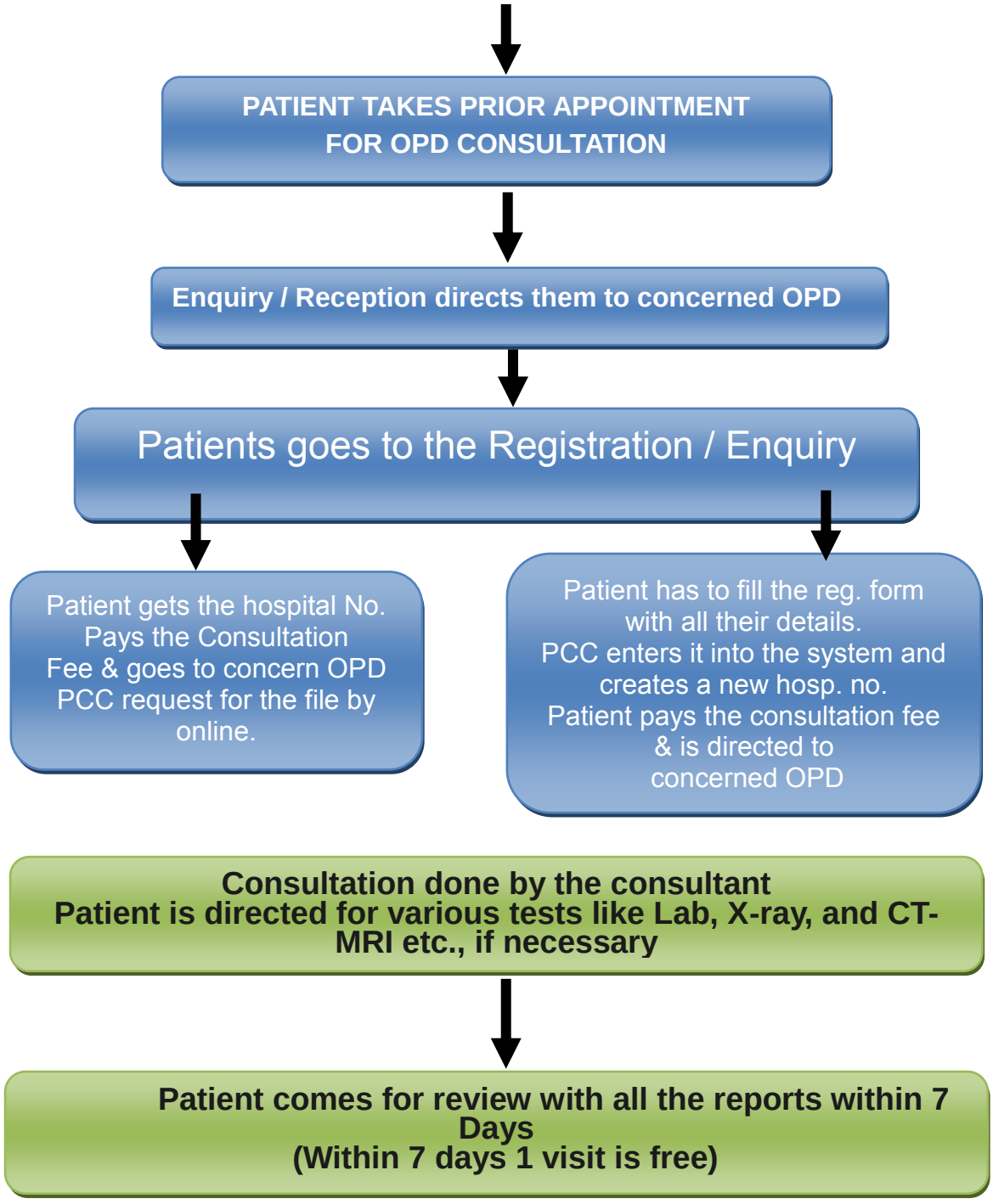


Figure 1-1 OPD process flow diagram

2.1 PCC'S DAILY ROUTINE WORK IN OPD

- ✓ Check if all appointment files are received.
- ✓ Ensure that all appointment files are kept in the consultant room.
- ✓ When the patient arrives at the OPD, ask the patient whether he/she has taken an appointment or is this the first visit.
- ✓ Look for the payment receipt and enter it in the register.
- ✓ Inform the patient about his/her waiting time.
- ✓ Ensure Feedback forms are given and collected.
- ✓ Direct them to the consultation room when it is his / her turn.
- ✓ Non appointment-ensure to inform the patient of the waiting time or ask them if they would like to meet any other consultant of their choice.
- ✓ Ensure that a senior citizen or a very sick patient be given the first priority to see the doctor.
- ✓ After consultation is done ask whether he /she needs an appointment for the next visit.
- ✓ If there is any reference shift the patient with the porter to the other department.
- ✓ Direct the patient to the concerned dept. for any investigation.
- ✓ In case of admission for cash patient see that admission form is duly filled by the consultant & then direct them to the admission counter.
- ✓ If he/she is a credit patient see that insurance form are duly filled by the doctor & direct them to corporate office.
- ✓ Ensure that subsequent days appointment list be requested online.
- ✓ Ensure that all the files are sent back online to MRD.

- ✓ **OPD Admission Process:-**

Admissions are of the following types:

- Cash OPD admissions.
- Insurance/TPA/Company OPD patients.

OPD ADMISSION PROCESS FLOW

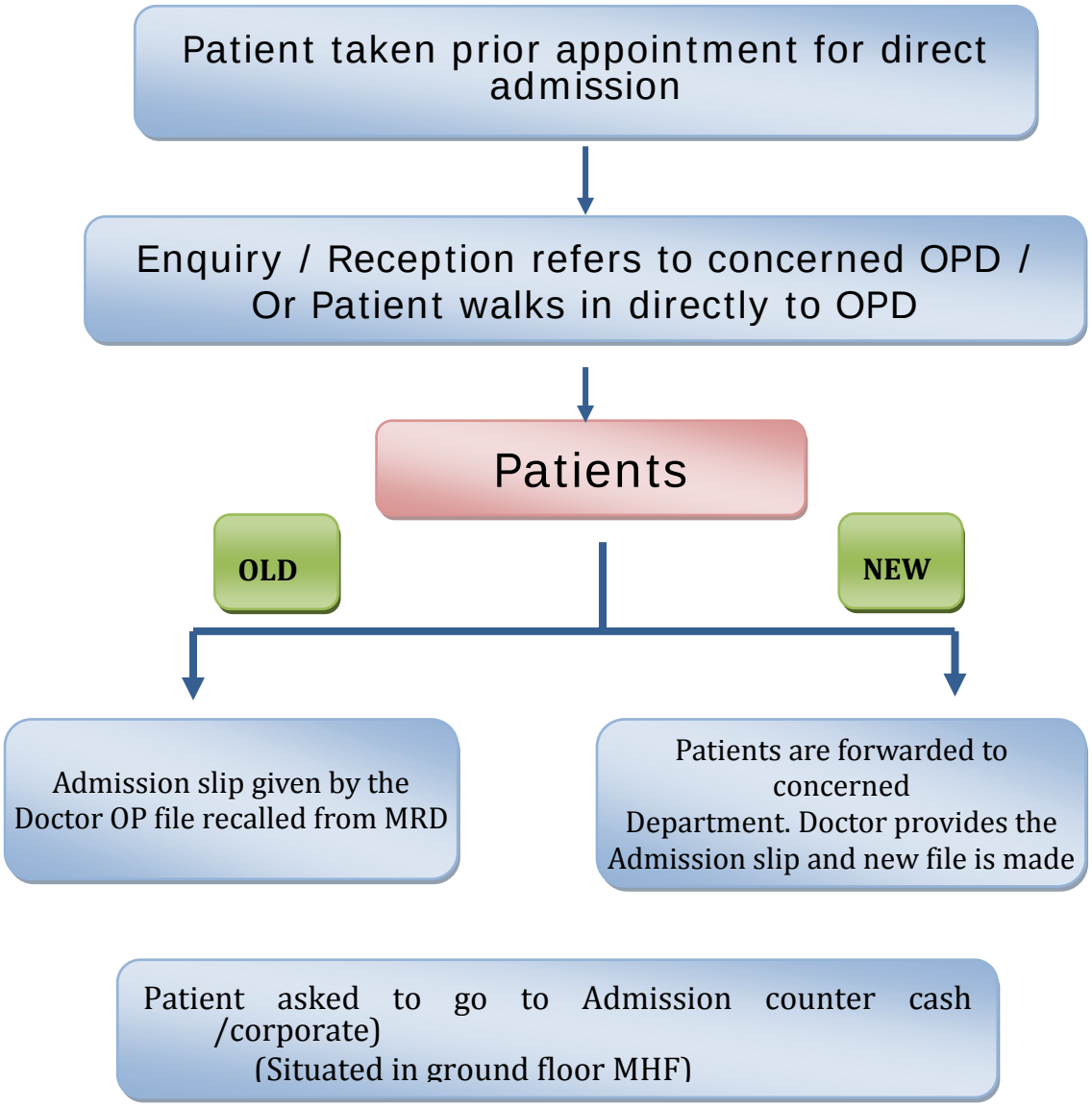


Figure 1-2 OPD Admission flow diagram

A.2 Appointment system and registration formalities:

- Patients are categorized as :

    1. Appointment patients
    2. Walk in patients

- In condition of Triage /emergency, billing and registration are followed by immediate treatment,

    - I.e. requiring patients are directly sent to I.C.U ward, formalities of billing are done later.
- Regarding laboratory tests, patient are referred for test can get the test done and billing done before.
- It is mandatory to fill *hospital requisition form* in case of patient going for radiology tests,
- Patients are only required to bring their hospital number if they are revisiting hospital, new patients are not required to get anything with them, unless they are NRI's and foreign origin (are required to submit deer copy of passport and also show the original one).
- Walk -ins are of 2 types---
    - Those coming to hospital for treatments without a prior appointment
    - Those that had appointments but missed them for some reason and then kept in waiting for the same day.
- Road map given at the time of registration is given.
- Patient first directed to enquiry office and then later to registration desk. At inquiry desk the time of patient arrival and patient's number (from the start of the day) is written by person at reception, patients are then directed to the registration counter.
- Amount estimated is asked for in advance for O.P.D. Patients.
- Consulting doctors writes the admission form if admission is required, also a rough estimate of total charge is also given by the consultant and estimated length of stay also given by doctor
- For appointment patients the ***available slot*** is given on call or in person and consultant is marked as blocked for the particular timing
- In O.P.D. certain departments junior resident are present to perform the initial assessment and tests so as to *decrease the patient waiting time and save consultants time* ,for eg, X rays can be taken by them in orthopedics department, urology department, obs gynaecology,,while the initial assessment of vital signs are recorded by the sisters
- In heavy loaded departments like orthopedics O.P.D and obs gynecology it is preferable to have ratio of nurse to consultant should be 1 :1 ,,but in departments like endocrinology ,etc it can be less,

- In pediatric department nurses can perform /measure the height and weight while patient's medical history is recorded by resident doctor.

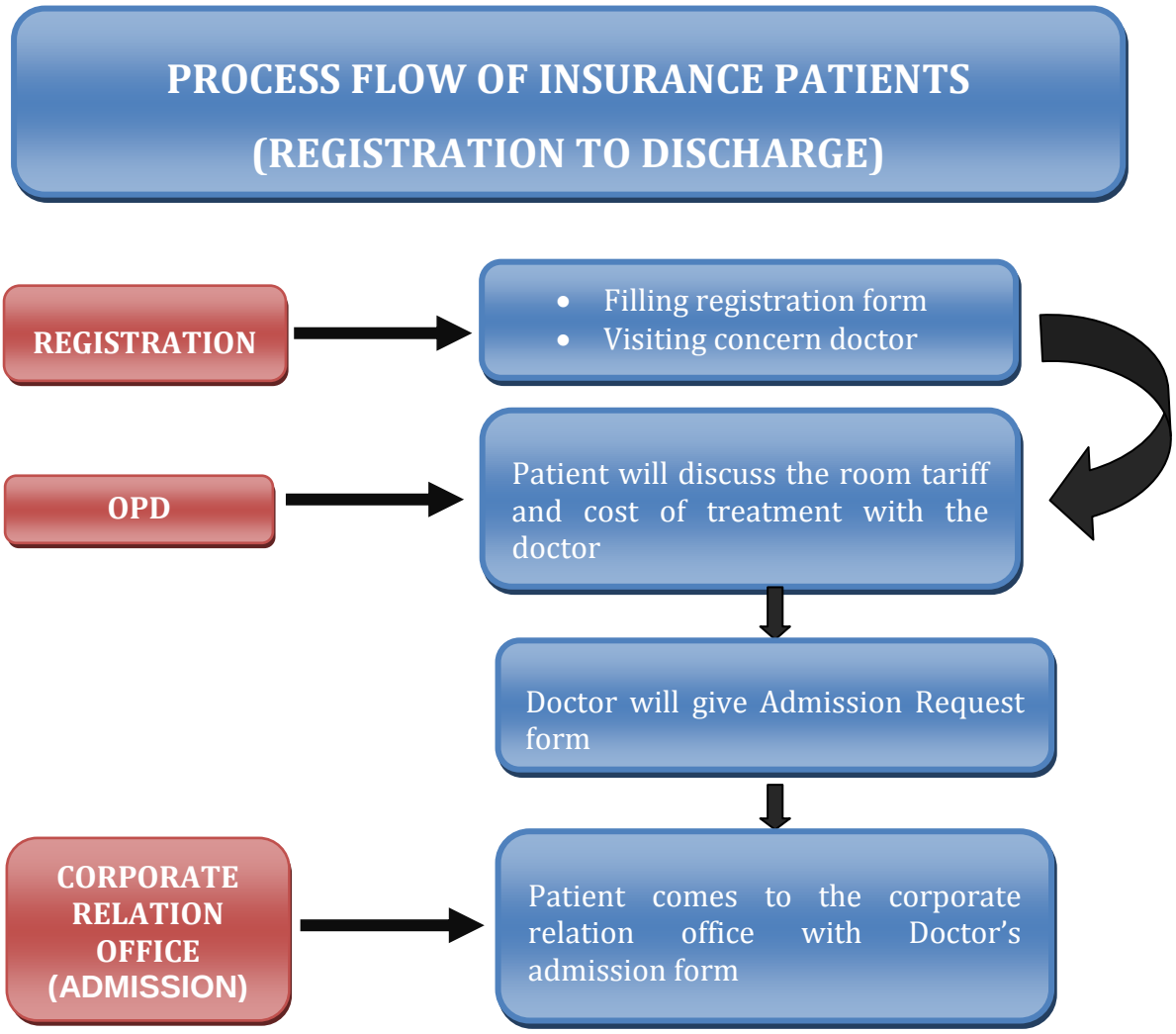
2) IP Department

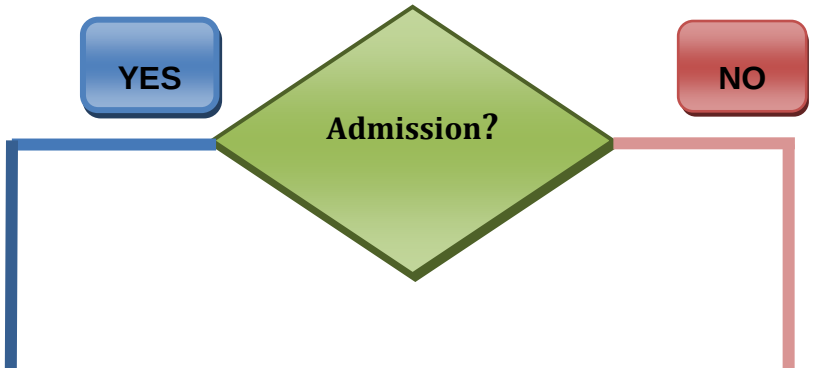
✓ IP Admissions

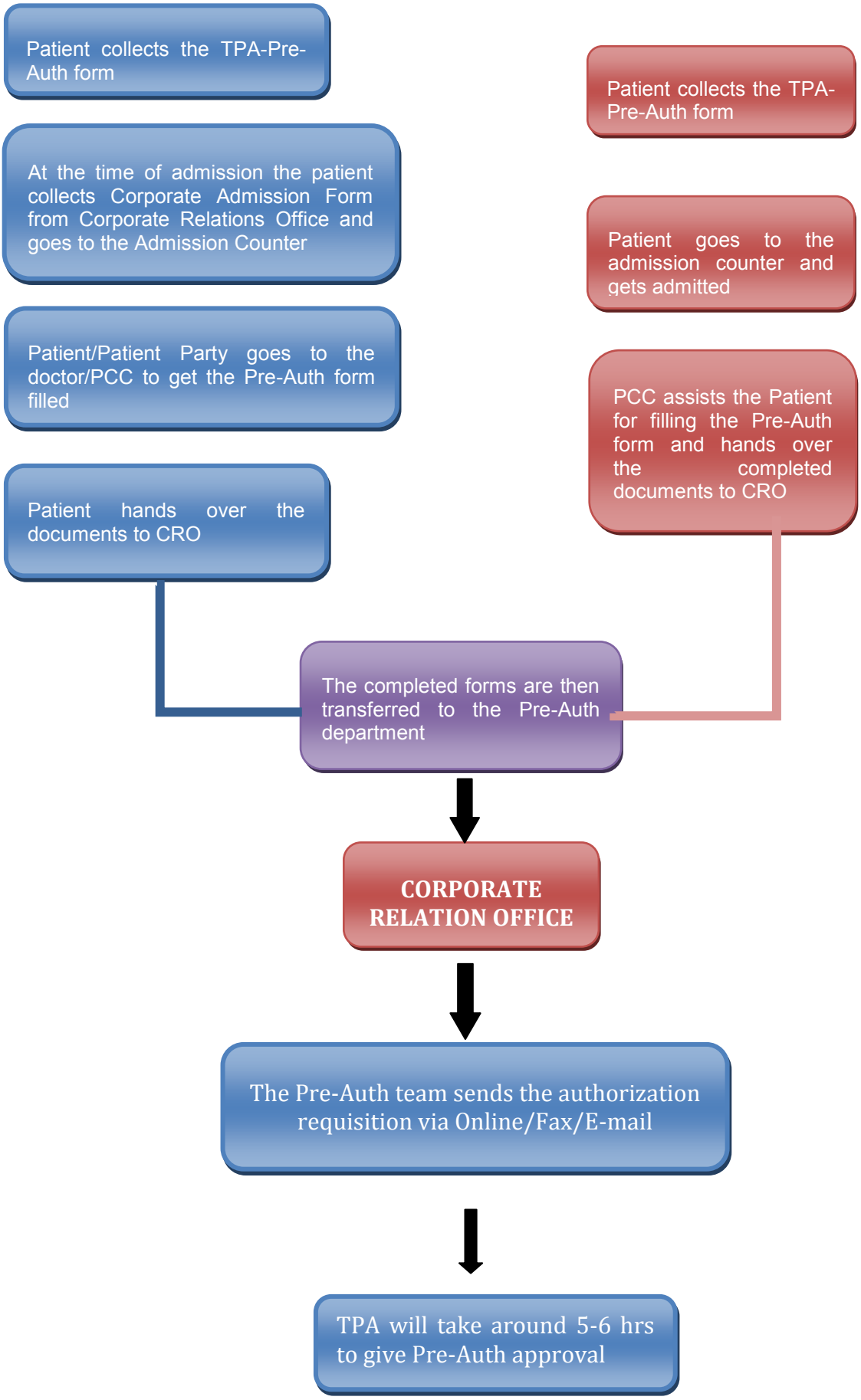
IP admissions can be classified in three following categories:

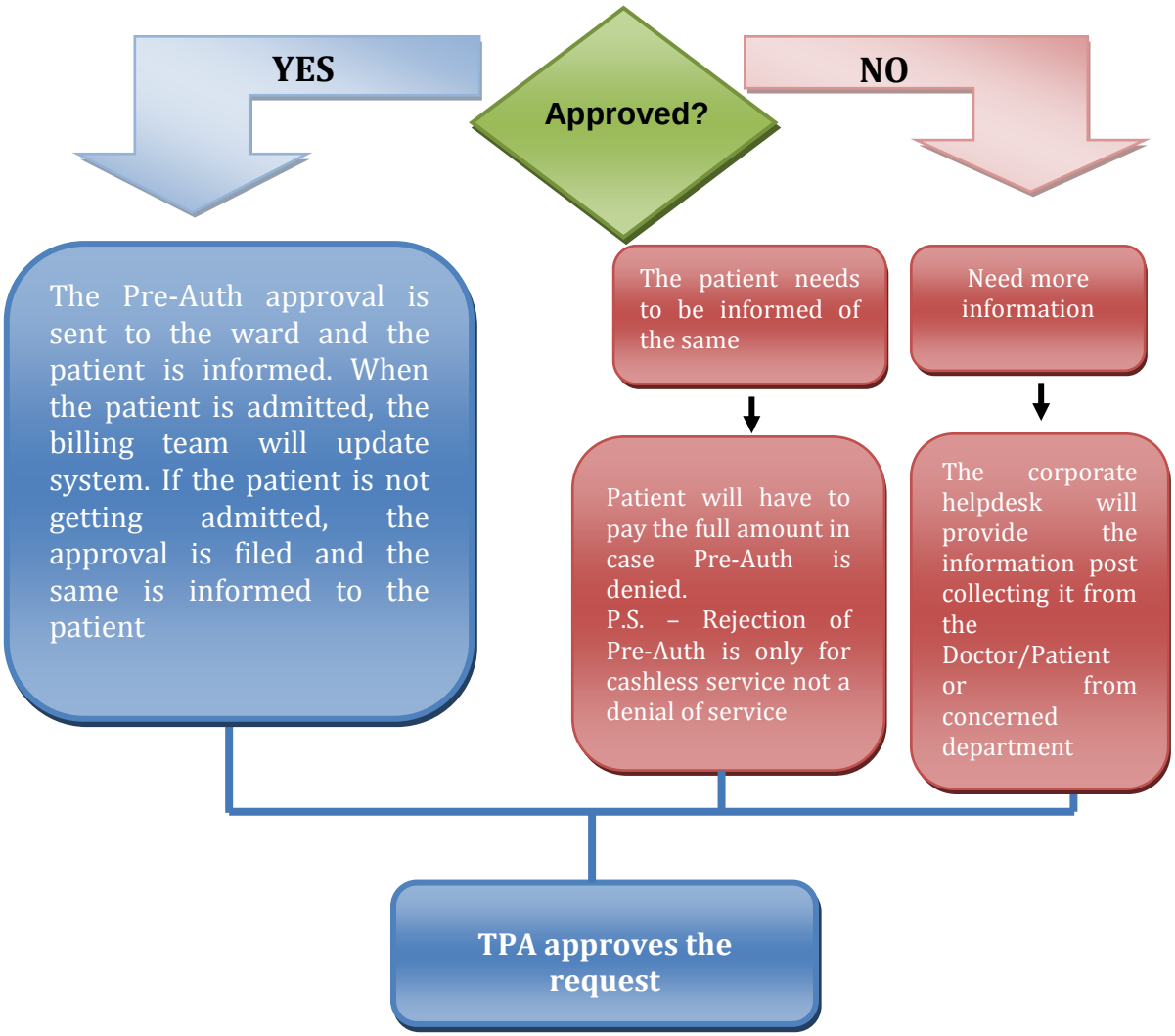
i. Cash IP admissions

ii. Insurance/TPA IP admissions



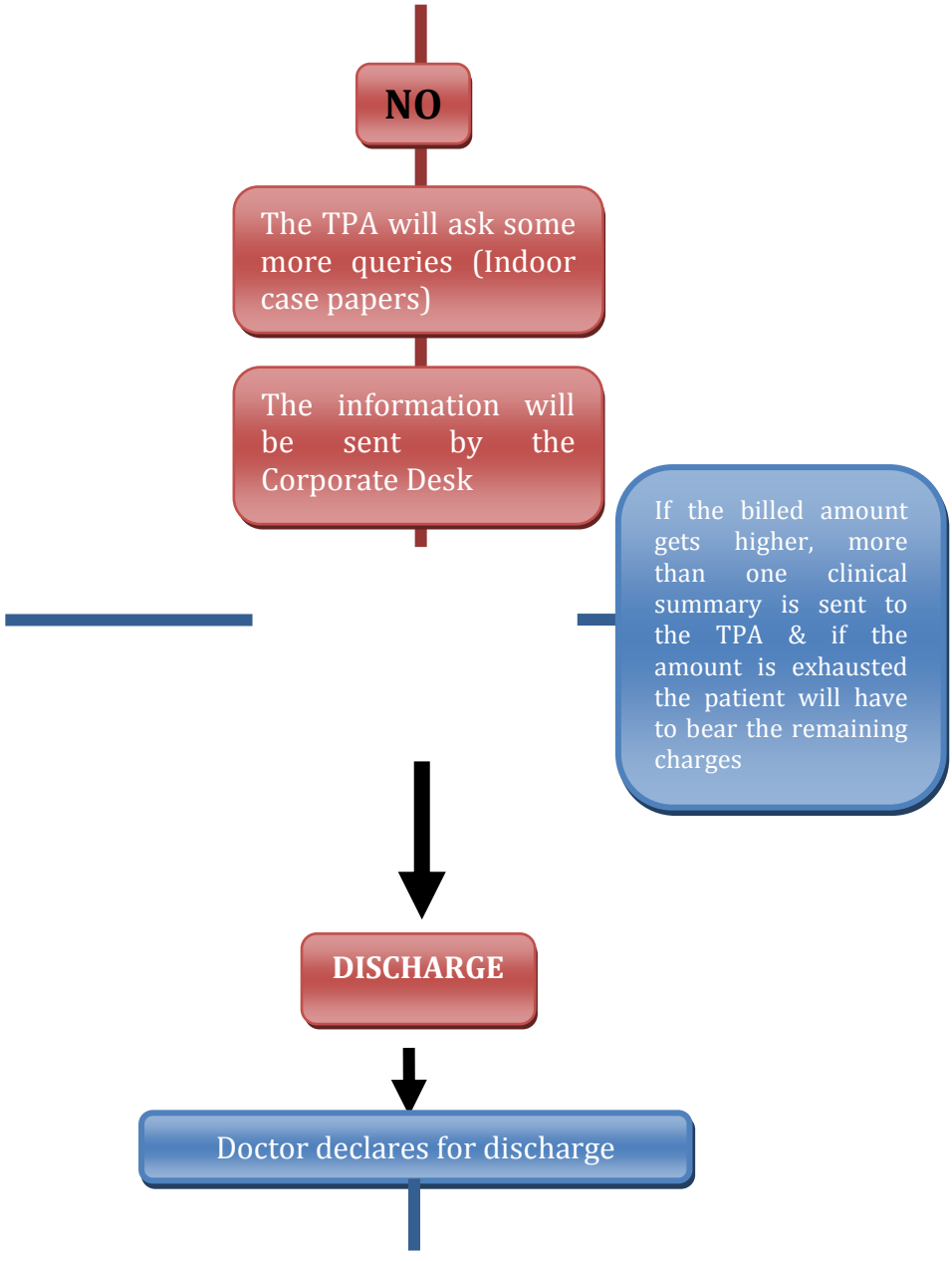



Patient collects the TPA-Pre-Auth form
At the time of admission the patient collects Corporate Admission Form from Corporate Relations Office and goes to the Admission Counter
Patient/Patient Party goes to the doctor/PCC to get the Pre-Auth form filled
Patient hands over the documents to CRO
Patient collects the TPA-Pre-Auth form
Patient goes to the admission counter and gets admitted
PCC assists the Patient for filling the Pre-Auth form and hands over the completed documents to CRO
The completed forms are then transferred to the Pre-Auth department
CORPORATE RELATION OFFICE
The Pre-Auth team sends the authorization requisition via Online/Fax/E-mail
TPA will take around 5-6 hrs to give Pre-Auth approval



INTERIM ENHANCEMENT

If the bill amount goes higher than the approved amount


NO
The TPA will ask some more queries (Indoor case papers)
The information will be sent by the Corporate Desk
If the billed amount gets higher, more than one clinical summary is sent to the TPA & if the amount is exhausted the patient will have to bear the remaining charges
DISCHARGE
Doctor declares for discharge

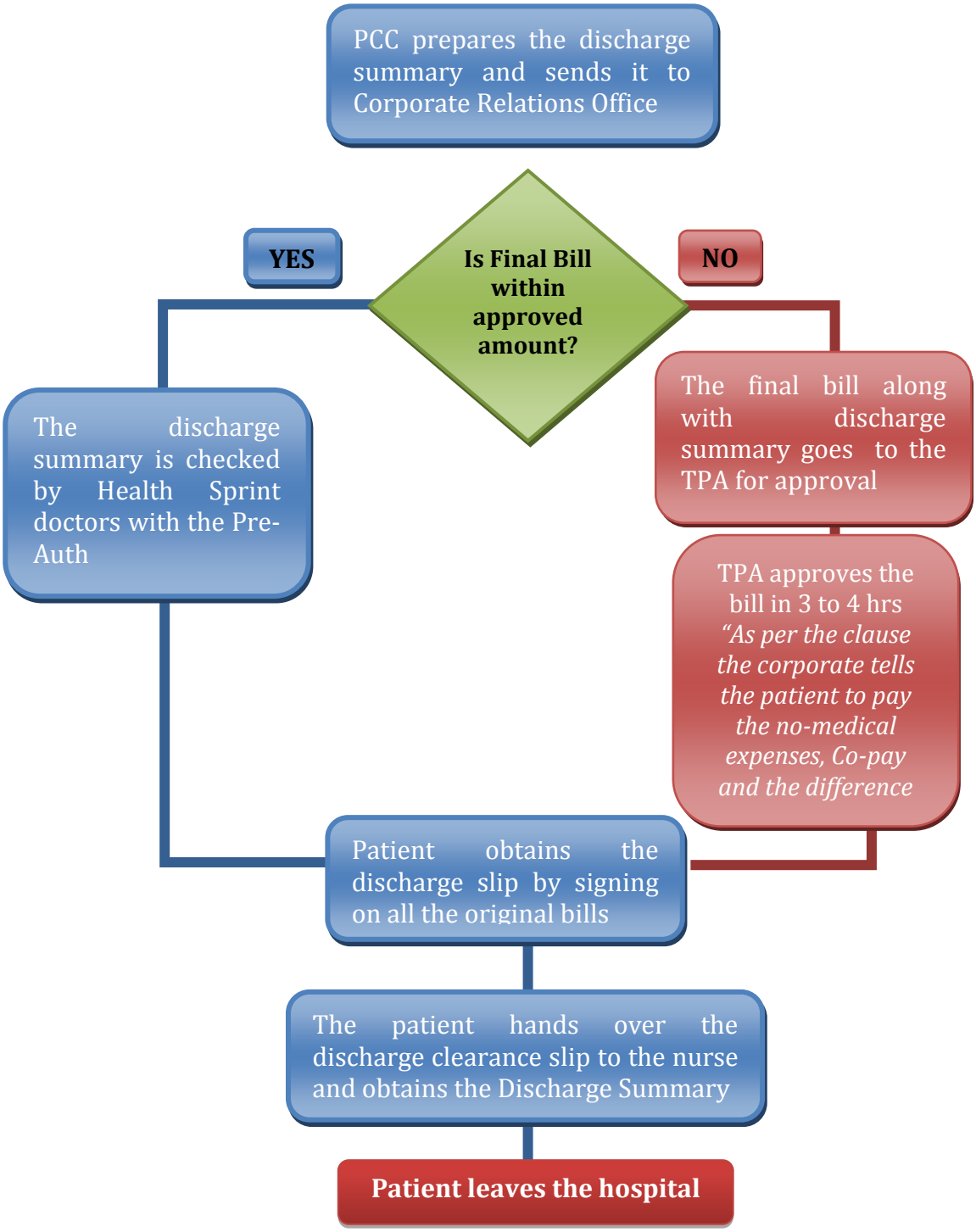


Figure 1-3 Process flow diagram for Insurance patients from Registration to Discharge

PROCESS FLOW OF COMPANY PATIENTS (REGISTRATION TO DISCHARGE)

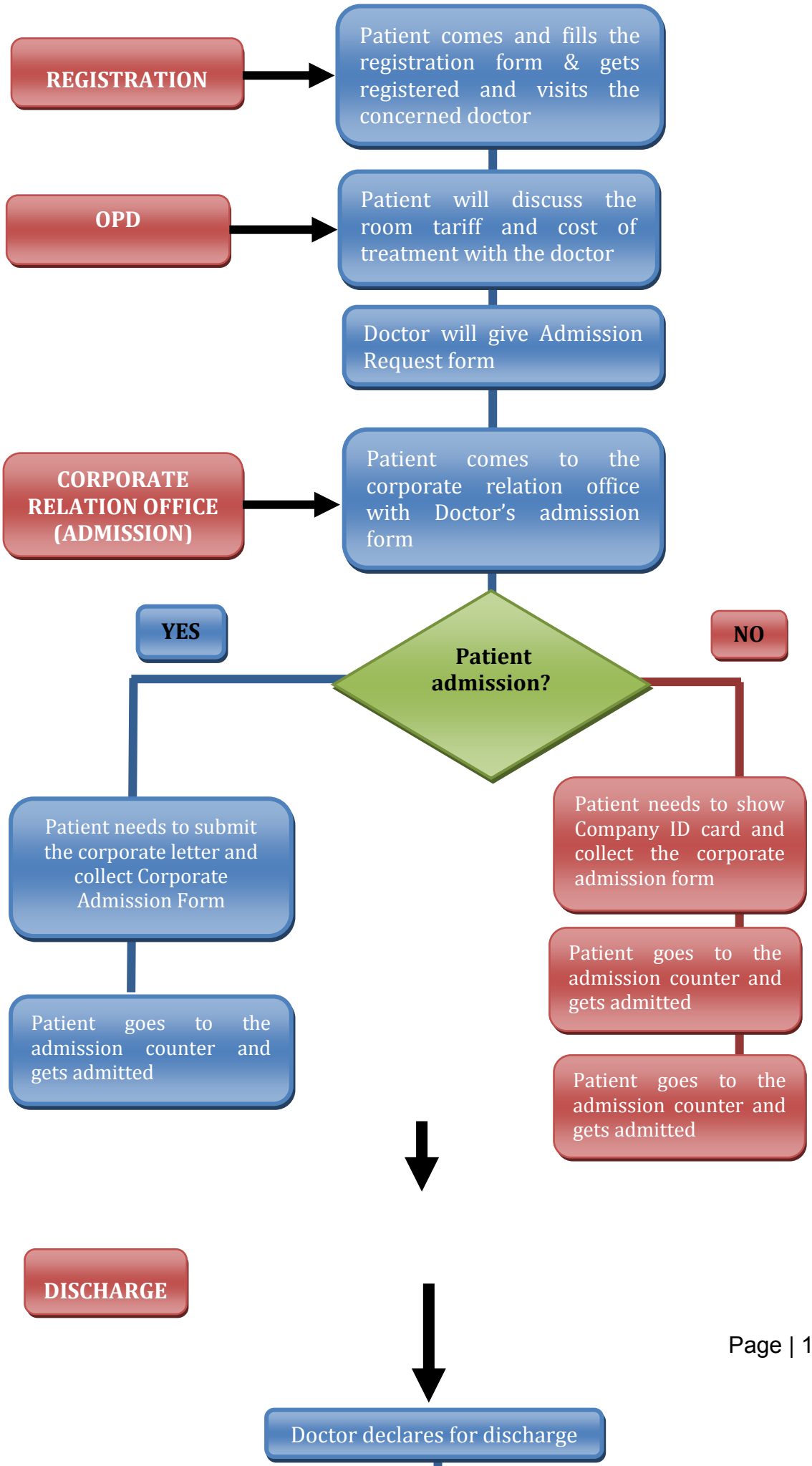

REGISTRATION
Patient comes and fills the registration form & gets registered and visits the concerned doctor
OPD
Patient will discuss the room tariff and cost of treatment with the doctor
Doctor will give Admission Request form
CORPORATE RELATION OFFICE (ADMISSION)
Patient comes to the corporate relation office with Doctor's admission form
YES
Patient admission?
NO
Patient needs to submit the corporate letter and collect Corporate Admission Form
Patient goes to the admission counter and gets admitted
Patient needs to show Company ID card and collect the corporate admission form
Patient goes to the admission counter and gets admitted
Patient goes to the admission counter and gets admitted
DISCHARGE
Doctor declares for discharge

Figure 1-4 Process flow diagram for company patients from Registration to Discharge

CHAPTER 2

2 Introduction

With growing awareness not only that access to health care is a basic human right but that health is a valuable national asset, a primary aim of social development, and an essential means to sound economic and social progress. Since the health industry is essentially labour-intensive, manpower constitutes a critical component. This being so, one of the greatest challenges in health field is that of managing this manpower in a way that will make it less costly but yet fully capable of meeting what is stated goal in most societies, the development of a more accessible, more equitable, more effective health care delivery system. Health manpower planning consists of determining how best to produce, deploy and use manpower in the right numbers and with the right skills to perform health service functions. Manpower planning call the integration of information, formulation of policies and forecasting of future requirements of human resources so that the right personnel are available for the right job at the right time.

Figure 2-1 Schematic view of Manpower planning

Manpower planning is may be defined as a technique for the procurement, development, allocation and utilization of the human resources in the organization. Systematic manpower planning is a must for every dynamic organization. The management has to meet the challenge of various pressures such as political, economical and technological to ensure that the future of the hospital remains bright under all circumstances.

2.1 Aim

To analyse and optimise the Human resource Planning for Admission and Billing services in Inpatient Department at a Multispecialty Hospital.

2.2 Objective

The following objectives were set to accomplish the aim of project.

1. To study the admission and billing process.
2. To identify the number of employees present in admission and billing services.
3. To identify the actual number of employees required in the admission and billing services.
4. To find the work load to human resource ratio in admission and billing department.
5. To prepare effective duty roster in admission and billing department.
6. To reduce the waiting time of the patient especially for admission and billing services.
7. To identify and analyze the time required for admission and discharge process.
8. To identify the major causes responsible for delaying in the admission and discharge process.
9. To identify the ways for optimum utilization of the human resource.
10. To study the job requirement and job description for the employees.
11. To determine the training requirements for skill enhancement of the employees.

2.3 Assumptions

A. ***The staff is fully trained and experienced.***

B. ***The uniform 87% efficiency per employee.***

C. ***The normal operating conditions.***

2.4 Need for human resource planning

There is explicit need for manpower planning in every hospital due to the following reasons:

- Shortage of certain categories of employee
- Advancement of medical science and technology resulting in need for new skills and new categories of employee
- Changes in organization design and structure affecting manpower demand

2.5 Benefits

- ✓ Enables an organization to have the right person at the right place and at the right time
- ✓ Provides scope for advancement and development of employee through training development etc.
- ✓ Helps in anticipating advertisement and salary budgets
- ✓ Plans for better working conditions, fringe, benefits, training needs etc.
- ✓ Gives an idea of the type of tests to be used and interview techniques, in selection process, based on the level of skills, qualification, intelligence, value etc. of future manpower.
- ✓ Significantly improves the customer satisfaction through improved service.

Chapter 3

3 Literature Review

The review of literature suggested that within the healthcare industry, HR planning remains a complex process that is not fully understood and is generally poorly done. Factors that may contribute to this poor planning include limited focus, incomplete or partial data related to human resources supply or projected service demands, competing interests and a general lack of appreciation of the importance of HR strategic planning in health care.

The literature review also revealed a significant shortfall in the planning methodology applied by most jurisdictions. Bloor and Maynard point out "the planning of supply of and demand for human resources in healthcare is a neglected topic characterized by significant methodological weaknesses which have been discussed for decades but not resolved." Many countries rely on major immigration while other countries are the helpless victims of emigration and a "brain drain".

❖ What is Manpower Planning

"Manpower Planning which is also called as Human Resource Planning consists of putting right number of people, right kind of people at the right place, right time, doing the right things for which they are suited for the achievement of goals of the organization". Human Resource Planning has got an important place in the arena of industrialization. Human Resource Planning has to be a systems approach and is carried out in a set procedure. The procedure is as follows:

1. Analysing the current manpower inventory
2. Making future manpower forecasts
3. Developing employment programmes
4. Design training programmes

❖ Steps in Manpower Planning

1. **Analysing the current manpower inventory**- Before a manager makes forecast of future manpower, the current manpower status has to be analysed. For this the following things have to be noted-
    - Type of organization
    - Number of departments
    - Number and quantity of such departments
    - Employees in these work units

    Once these factors are registered by a manager, he goes for the future forecasting.

2. **Making future manpower forecasts**- Once the factors affecting the future manpower forecasts are known, planning can be done for the future manpower requirements in several work units.

    The Manpower forecasting techniques commonly employed by the organizations are as follows:

    - ✓ **Expert Forecasts**: This includes informal decisions, formal expert surveys and Delphi technique.
    - ✓ **Trend Analysis**: Manpower needs can be projected through extrapolation (projecting past trends), indexation (using base year as basis), and statistical analysis (central tendency measure).
    - ✓ **Work Load Analysis**: It is dependent upon the nature of work load in a department, in a branch or in a division.
    - ✓ **Work Force Analysis**: Whenever work and time period has to be analysed, due allowances have to be made for getting net manpower requirements.
    - ✓ **Other methods**: Several Mathematical models, with the aid of computers are used to forecast manpower needs, like budget and planning analysis, regression, and new venture analysis.

3. **Developing employment programmes**- Once the current inventory is compared with future forecasts, the employment programmes can be framed and developed accordingly, which will include recruitment, selection procedures and placement plans.
4. **Design training programmes**- These will be based upon extent of diversification, expansion plans, development programmes, etc. Training programmes depend upon the extent of improvement in technology and advancement to take place. It is also done to improve upon the skills, capabilities, knowledge of the workers.

❖ Importance of Manpower Planning

1. **Key to managerial functions**- The four managerial functions, i.e., planning, organizing, directing and controlling are based upon the manpower. Human resources help in the implementation of all these managerial activities. Therefore, staffing becomes a key to all managerial functions.
2. **Efficient utilization**- Efficient management of personnel's becomes an important function in the industrialization world of today. Setting of large scale enterprises require management of large scale manpower. It can be effectively done through staffing function.
3. **Motivation**- Staffing function not only includes putting right men on right job, but it also comprises of motivational programmes, i.e., incentive plans to be framed for further participation and employment of employees in a concern. Therefore, all types of incentive plans becomes an integral part of staffing function.
4. **Better human relations**- A concern can stabilize itself if human relations develop and are strong. Human relations become strong trough effective control, clear communication, effective supervision and leadership in a concern. Staffing function also looks after training and development of the work force which leads to co-operation and better human relations.

❖ Manpower Planning Obstacles

Following are the main obstacles that organizations face in the process of manpower planning:

1. **Under Utilization of Manpower:** The biggest obstacle in case of manpower planning is the fact that the organizations in general are not making optimum use of their manpower and once manpower planning begins, it encounters heavy odds in stepping up the utilization.
2. **Degree of Absenteeism:** Absenteeism is quite high and has been increasing since last few years.
3. **Lack of Education and Skilled Labour:** The extent of illiteracy and the slow pace of development of the skilled categories account for low productivity in employees. Low productivity has implications for manpower planning.

Building a New Planning Model to Manage HR Challenges in health care

To build an effective HR plan in health care, planning must start from the position of clearly understanding the unique needs of the population, the resulting priorities and a quantification of the current and forecasted demand for services.

Health and Human Resources planning must also incorporate a clear understanding of the needs of the providers in order to influence access to the limited professional resources available. A report conducted for the Commission on the Future of Healthcare in Canada, by the Canadian Policy Research Networks Fooks, identified four key shifts in thinking that need to occur for HHR planning to be more effective. These include: HHR planning must be done from the perspective of population health needs, leverage national, inter-sectorial and inter-agency cooperation, support a team-based provider model and enable system-based supportive solutions.

- Furthermore, Connolly notes that most HR planning health efforts fail to consider the broader context of the healthcare system and the inter-relationships of various healthcare teams who deliver healthcare services. Existing inefficiencies may not be considered, nor the impact of advances in technology and anticipated changes in service delivery.

To support ongoing HR Planning in health care, the following two-step framework has been developed to guide decision-making. The first step involves designing the Health HR plan by understanding the needs of the population, understanding the needs of providers in order to influence access to the providers and building cooperative relationships to position and support the Health HR plan implementation. The second step involves investigating the use of integrated care team delivery models, leveraging innovative solutions that incorporate system-based solutions to increase the effectiveness and efficiency of resources available, and ongoing refinement and evaluation of the Health HR model.

According to Niles (2013), *the human resource management plays an important role in the operation activities of a healthcare organization*. Human resources can be applied to any activity of the operations of an organization, regardless the nature of the industry.

Figure 3-1 Manpower management

Manpower planning is the first step towards manpower management. It refers to the process of using available assets for the implementation of the business plans. It also involves the process of coordinating and controlling various activities in the organization. An effective manpower planning requires a careful assessment of the future needs of the organization. It involves the development of strategies to match the requirement of employees and availability of positions at a regional as well as a

national level. Those in charge of manpower planning need to have a foresight about the business plans. They need to plan the activities for achieving business growth. They are required to estimate the business needs of the organization and plan for the resources needed to realize the business goals. We can refer to manpower planning as the process of reviewing current resources, predicting future requirements and ensuring that the demand and supply of people and skills is balanced. Manpower planning is useful for both the employees as well as the organization.

Figure 3-2 Schematic view of Strategic Manpower management

Manpower management is a strategic approach to the management of people working for an organization. At its core lies the management of people, better known as employee management. Training and managing the recruited employees is an important part of manpower management. Motivating the workers, helping them update their work knowledge and maintaining the attrition rate to a minimum, are some of the other objectives of manpower management. Human resource managers need to cater to safety of the employees. Absence of workplace safety, lack of motivation and an unhealthy work environment are some of the main factors that lead to dissatisfied employees. Satisfaction breeds productivity and this

fact makes it necessary for the human resource managers to take all the required measures to ensure a positive environment at work.

Chapter 4

4 Study Design and Methodology

4.1 Type of Study

Analytical ⟶ Observational ⟶ Cross-sectional

4.2 Location of Study

Manipal hospitals, at Bangalore

4.3 Subjects of Study

Employees of the admission and billing services of Inpatient department

4.4 Data Collection Method

4.4.1 Primary Data:

Primary data was collected by personal observations and face to face interviewing the employees at admissions and billing departments.

4.4.2 Secondary Data:

Secondary data was collected from the hospital management information systems (HMIS) for admission and discharge details.

4.5 Data Collection Tools

1. Direct observation of staff activities.
2. Self-monitoring.
3. Open ended semi-structured questionnaire.
4. Face to face interview.
5. Expert opinion.

Chapter 5

5 Data Processing and Analysis

Analyse the data collected from the department and calculate the work load to human resource ratio to identify the number of employees required.

5.1 Job Description

5.1.1 Front desk

A. During Admission:

- **Advance booking:** of the patient for admission
- **Briefing:** about bed tariff
- **Bed allocation:** to the patients
- **Explain:** the admission process to the patient
- **Collecting advance**, if necessary
- **Form:** Explaining & giving Pre-auth form
- **Documentation**: Receiving of various documents such as company letter, Photo ID, etc.
- **Form Collection**: Receiving Pre-auth form filled by the doctor
- Addressing the various patients' queries.

B. Before and during discharge:

- **Verification**: Cross check whether the discharge summary & all clinical reports has been sent from ward
- **Coordinate**: With nurses of the other departments
- **Explain**: The Non-Medical expenses, Co-payment, & room difference and collect the payment from the cashless patients for the same.
- **Provide the final bill copy**: To all the cash and corporate patients and the final discharge clearance
- **Cash collection**: From the cash patients
- **Refund**: The excess payment to the patients, if required

C. Miscellaneous activities:

- ✓ **Attending the phone:** calls of internal as well as external customers to resolve their queries
- ✓ **Passes:** Updating the vehicle passes of patient's relative
- ✓ **Updating of pass**: Change the patient's visitors pass when patient shifts from one category ward to another
- ✓ **Coordination:** with doctors, nurses and other supporting staff in the hospital to address various issues
- ✓ **Collection**: of company / Insurance Co-Payment from outpatients

5.1.2 Corporate Billing Rear Desk

- ❖ **Calculate:** non-Medical, Co-payment & room difference as per hospital policy
- ❖ **Cross checking:** the bills such as service tax, Patients share
- ❖ **Bills**: Preparation of final bills
- ❖ **Sending deposit details:** to accounts department for preparing cheque for any refunds
- ❖ **Queries**: Resolve the bill related queries of internal customers

5.1.3 TPA Department

- **TPA processing**
- **Approvals:** Obtain the pre-approval from concern insurance company/TPA during admission
- **Mail**: Sending of Pre- Auth & Estimation letters through mail to cashless Patients
- **Coordinating** with PCC, Doctors, Nurses & other Staffs regarding Insurance related issues
- **Queries**: Resolving the queries raised by insurance companies through concerned doctors
- **Sending** all inpatient case documents to insurance companies
- **Sending** Clinical Summary & bill to TPAs and companies for further enhancement
- **Sending** Final Bill & Discharge Summary to insurance companies before discharge
- **Following up** with TPA's and companies for necessary Discharge approvals

- **Resolve** the insurance related queries of internal and external customers

5.1.4 Collection Section

- **TPA's and corporate** receivable Management
- **Periodic Reconciliation** of outstanding
- **Providing additional information** to all TPA's and corporate patients sought during claim settlement
- **Communication & Co-ordination** among corporate finance/Administration team
- **Reporting and updating** to the HOD regarding the progress & status of the activities regularly
- **Cross checking** the bills thoroughly, whether everything is billed as per company rate or not
- **Maintaining Records** of day to day dispatching company bills through courier
- **Follow up** till final settlement and getting payment from all companies
- **Resolve the queries** raised by companies & resubmitting the same
- **Visiting** regularly all companies

5.1.5 Bill Dispatch Section

- **Cross Checking & Dispatching** the Bills & other relevant documents to Insurance company for Payment settlement
- **Cross Checking** the IP Bills received from Front Desk
- **Follow up** of Pending bills
- **Segregating** of the Bills and letters
- **Creating batch invoice no**. for each and every bill copies
- **Generating break up bills** for discharged patient
- **Investigating reports** generation
- **Follow up** with all pending Investigation reports
- **Generating covering letters & Co-payment receipts** for discharge patients
- **Maintaining Records** of day to day dispatching TPA and company bills through couriers
- **Preparation of duplicate bill** set, if required

5.1.6 Out- Patients Corporate Billing

- **Bills:** Preparing company/insurance outpatient credit bills, except dialysis
- **Collection of documents**: Collect all investigation reports including bills from different departments including pharmacy bill copies and generating the final bills
- **Approvals**: Sending enhancement and getting approval from TPA's
- **Creating Batch invoice no**. & Dispatching to the company / Insurance
- **Coordinate** with the company/insurance outpatients and & sending bills to the concerned TPA's and company
- **Maintaining records** of company and insurance bills in system
- **Queries**: Solve the insurance related queries of outpatients

5.1.7 Support Services

- **Assisting** all office requirement work
- **Document distribution** among various departments
- **Inpatient credit bill** copies segregation and filing
- **Stamping** all TPA bills
- **Copying:** Getting Inpatient credit Copies from record room for any bill queries
- **Delivery** of Bills by hand to TPA and Companies & collection of cheques

5.1.8 SPOC

- ✓ **Taking care of all VIP's and delegates**, who comes in the hospital for the treatment
- ✓ **Cross check** the batch invoice no.
- ✓ **Cross check** the bill copies including all the investigation reports prior to dispatch

5.2 Number of IP Admissions

Table 5-1 Average no of total patients per day according to various time slots

9AM to 5PM	3PM to 11PM	11PM to 6AM	7AM to 9AM	5PM to 7PM	7PM to 9PM	5PM to 9PM	11PM to 7AM	Avg./Day

45	41	10	18	10	11	21	14	106

Table 5-2 Average no of corporate patients per day according to various time slots

9AM to 5PM	3PM to 11PM	11PM to 6AM	7AM to 9AM	5PM to 7PM	7PM to 9PM	5PM to 9PM	11PM to 7AM	Avg./Day
24	25	05	18	06	09	15	08	52

Table 5-3 Average no of Cash patients per day according to various time slots

9AM to 5PM	3PM to 11PM	11PM to 6AM	7AM to 9AM	5PM to 7PM	7PM to 9PM	5PM to 9PM	11PM to 7AM	Avg./Day
21	16	05	05	04	02	06	07	54

5.3 Number of Discharges

Table 5-4 Average no of total discharges per day according to various time slots

9AM to 5PM	3PM to 11PM	11PM to 6AM	7AM to 9AM	5PM to 7PM	7PM to 9PM	5PM to 9PM	11PM to 7AM	Avg./Day
96	19	1	4	5	2	9	2	111

Table 5-5 Average no of corporate discharges per day according to various time slots

9AM to 5PM	3PM to 11PM	11PM to 6AM	7AM to 9AM	5PM to 7PM	7PM to 9PM	5PM to 9PM	11PM to 7AM	Avg./Day

46	8	0	2	2	1	3	1	51

Table 5-6 Average no of Cash discharges per day according to various time slots

9AM to 5PM	3PM to 11PM	11PM to 6AM	7AM to 9AM	5PM to 7PM	7PM to 9PM	5PM to 9PM	11PM to 7AM	Avg./Day
50	11	1	2	3	1	4	1	60

5.4 Number of Employees Required on Front Desk

Table 5-7 Total time required for admissions per day

Avg. No. Of IP Admissions per day	Average time req. For Admission per patient (Minutes)	Total time required for Admission (Minutes)
106	17	1802

Table 5-8 Total time required for discharges per day

Avg. No. Of Discharge patients	Average time req. To discharge per patient (Minutes)	Total time required to discharge (Minutes)
111	13	1443

Miscellaneous Activities required 300 minutes per day

From Table 5-7 and Table 5-8

The total time required per day 3545 minutes (~ 64 Hours) to carry out Admission and Discharge activities.

Available working hours per day per employee

= 420 Minutes

"Number of employees required per day = 8"

Note: Considering 30% leave reserve, total number of employees required will be 8+3 i.e. 11, In addition to this 2 supervisors are required. **Total employees = 13**

5.5 Number of Employees Required in TPA Department

Table 5-9 Total time required for cashless admissions per day in TPA department

Avg. No. Of IP Admission	Average time req. For Admission per patient (Minutes)	Total time required for Admission (Minutes)
52	10	520

Table 5-10 Total time required for cashless discharges per day in TPA department

Avg. No. Of Discharge patients	Average time req. To discharge per patient (Minutes)	Total time required to discharge (Minutes)
51	16	816

Miscellaneous Activities required 60 minutes per day

From Table 5-9 and Table 5-10

The total time required per day 1396 minutes (~ 23 Hours) to carry out Admission and Discharge activities.

Available working hours per day per employee

= 420 Minutes

"Number of employees required per day ≈ 3"

Note: Considering 30% leave reserve, total number of employees required will be 3+1 i.e. 4, In addition to this 1 supervisor required.

Total employs = 5

- *Employees required for Corporate billing on rear desk for additional work = 3*

5.6 Present Employees Distribution

The present distributions of employees across various departments are listed in the table below.

Table 5-11 Present Employee distribution

Sl No	Section	Staff	Supervisor
1	Front Desk	9	1
2	Billing	12	1
3	Corporate Billing	9	-
4	TPA	5	1
5	ECHS	1	-
6	Collection	4	-
Total		40	3

5.7 Optimised Distribution of Employees

Table 5-12 Optimised distribution of employees

Sl No.	Section	No of Employees	No of Supervisor
1	Front desk	11	1
2	Enquiry	1	-
3	Bed allotment	1	-
4	Corporate billing rear desk	3	-
5	Floor billing	9	1
6	TPA	4	1
7	Collection	4	-
8	ECHS	1	-
Total		**34**	**3**

6 Major Findings

- ✓ Approximately 99% of cashless discharges occur between 9AM-5PM.
- ✓ Working efficiency of employees reduces by 10% due to frequent movements.
- ✓ On average basis no cashless discharges are observed between 11PM-6AM.
- ✓ The ratio of cash to cashless discharges 54:46 is obtained.
- ✓ The ratio of cash to cashless admissions 51:49 is obtained.
- ✓ Lack of coordination among various department.

7 Results

(A) Admissions v/s Discharges

- The average 106 admissions per day are recorded, whereas, average 111 discharges.
- The maximum admissions occurred during 9AM-5PM, whereas, minimum admissions recorded during 11PM-6AM, which is similar to the discharges.

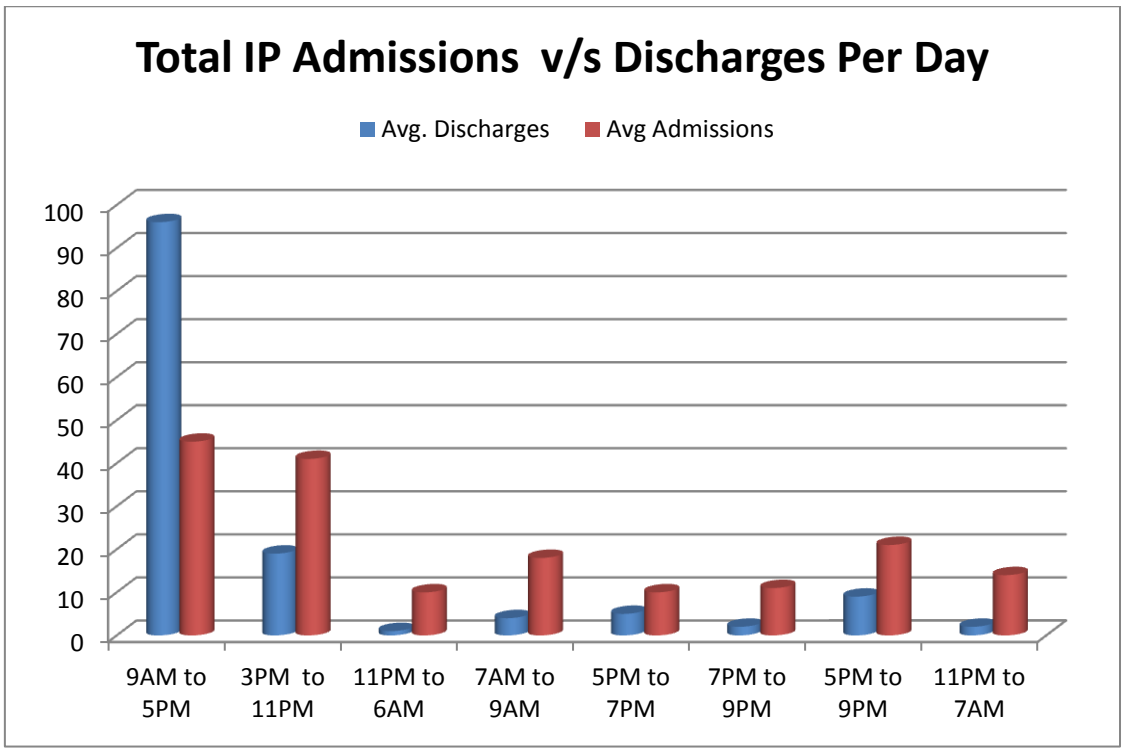


Figure 7-1 Total IP admissions v/s discharges

(B) Corporate Admissions v/s Discharges

- The average 52 corporate admissions per day recorded, on the other hand, average 51 discharges per day, which are almost similar.
- The maximum corporate admissions observed during 3PM-11PM and minimum during 11PM-6AM, whereas, maximum discharges between 9Am-5PM and minimum remains same as admissions i.e. 11PM-6AM.

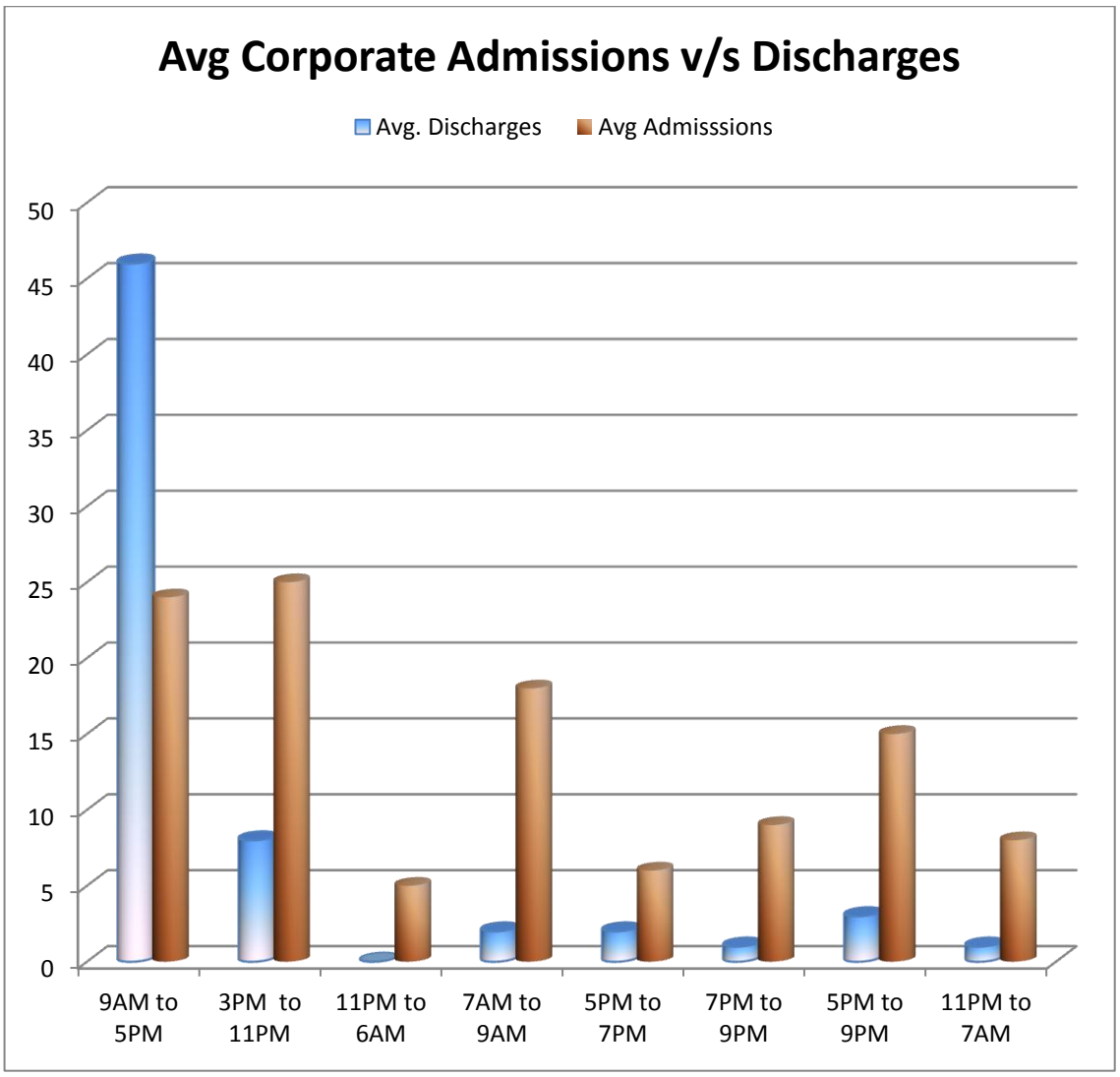


Figure 7-2 Average corporate admission v/s discharges

(C) Cash Admissions v/s Discharges

- The average 54 cash admissions per day recorded, in comparison to 50 discharges.
- The maximum cash patients admission observed during 9AM-5PM, whereas, minimum during 7PM-9PM, which similar to cash patient discharges.

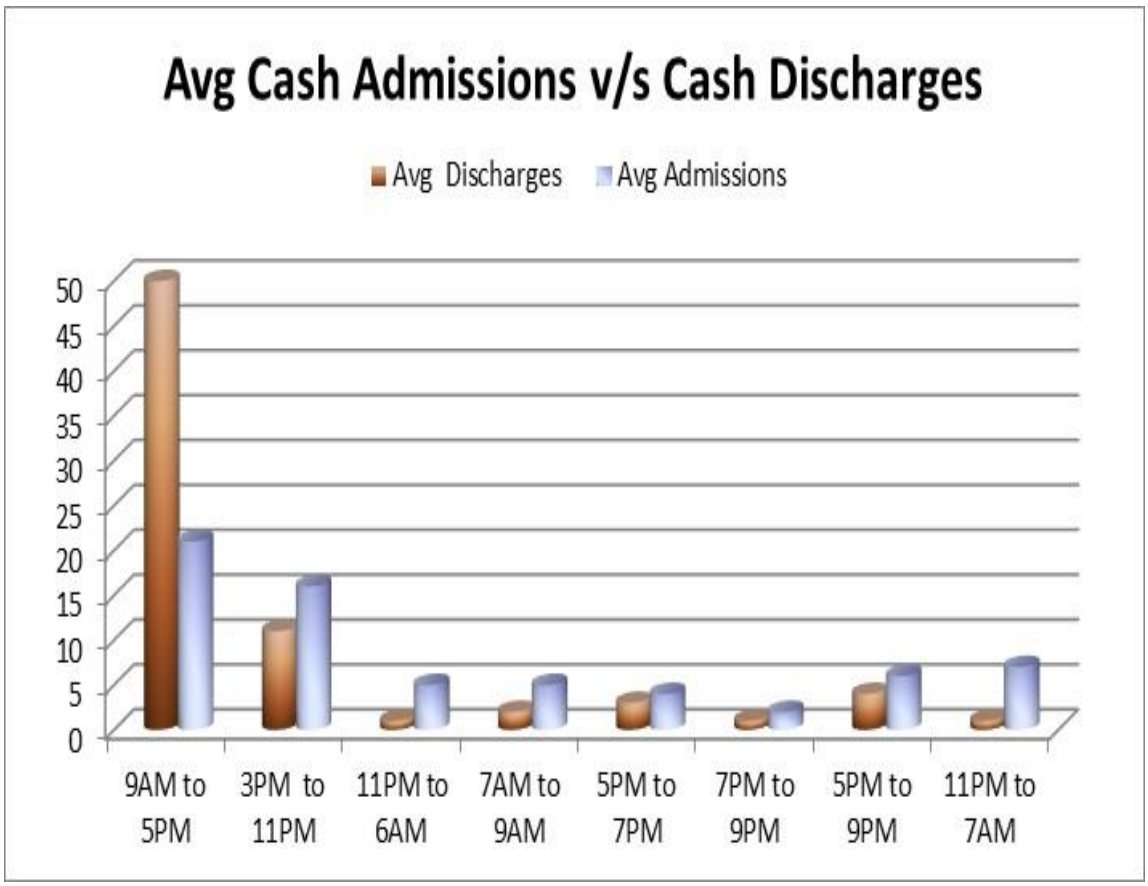


Figure 7-3 Average cash admission v/s discharges

(D) Distribution of employees

- ✓ At present nearly 30% of total staff is employed for Cash Billing.
- ✓ Nearly 23% of total staff is employed for Front desk, which is almost equivalent to the corporate billing rear desk.

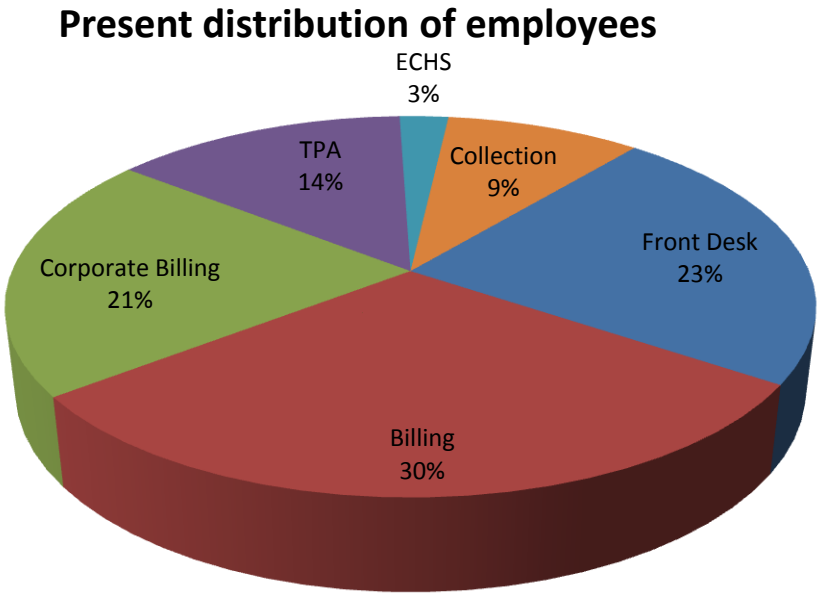


Figure 7-4 Present distribution of employees

- ✓ After optimization the front desk employees increases from 23% to 32% of the total staff, whereas corporate rear desk billing staff reduces to 8%.
- ✓ The floor billing staff also reduces from 30% to 27% to the total staff.

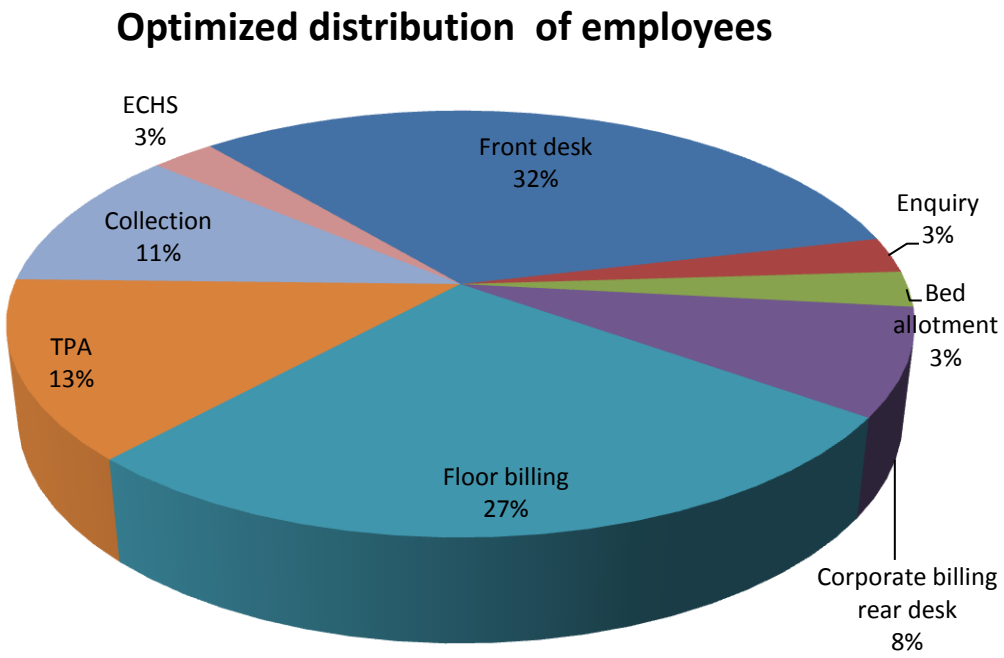


Figure 7-5 Optimised distribution of employees

(E)Duty Roster

1. Front Desk

Table 7-1 Duty roster for front desk

Sl No.	Shift	Staff
1	7AM-3PM	1
2	8AM-4PM	1
3	9AM-5PM	2
4	12AM-8PM	1
5	3PM-11PM	1
6	11PM-7AM	2
7	9AM-5PM (Bed Allotment)	1
8	9AM-5AM (Enquiry)	1
9	30% Leave Reserve	3
Total		**13**

2. Corporate Billing

Table 7-2 Duty roster for corporate billing

Sl No.	Shift	Staff
1	8AM-4PM	1
2	9AM-5PM	1
3	12AM-8PM	1
Total		**3**

3. TPA

Table 7-3 Duty roster for TPA

Sl No.	Shift	Staff
1	7AM-3PM	1
2	9AM-5PM	1
3	2PM-10PM	1
	Leave reserve	1
Total		**4**

Or

Sl No.	Shift	Staff
1	7AM-3PM	1
2	9AM-5PM	1
3	12PM-8PM	1
4	5PM-11PM	1
Total		**4**

Table 7-4 Duty roster for floor billing

Sl No.	Shift	Staff
1	9AM-5PM	8
2	Leave reserve	1
Total		9

8 Conclusion

It is analysed from the data that maximum number of admissions and discharges observed during 9AM-5PM. The total number of employees required is 37, on the contrary, to the present number of employees, which are 43. This is possibly due to integration of different work centres and initiation of multitasking activities of employees. It is also noticed that the efficiency reduces by 10% due to frequent movements. This can be avoided by increasing supporting staff to employees or by providing relevant facilities, in order to facilitate the employees to carry out their task at their work station itself. The negligible discharges between 11PM-6AM were noticed, which indicates that no exclusive staff is required in case of cashless patients (TPA/Corporate billing) during this shift.

9 Recommendations

- There is a need for integration of admission, cashless admission and billing front desks sections to avoid the movements of the patients/patient 'relatives from one desk to another, which causes inconvenience for the patients/patient 'relatives.
- Reduce the frequent movements of front desk employees from front desk to inside the department by providing relevant facilities such as photocopy machine, Fax machine, Scanner etc at their work station to obtain the optimum utilization of human resource.
- Token system should be introduced at TPA section to avoid long waiting queues at TPA desk.
- No night shift is required for TPA billing as no patients were observed during 11PM-6AM. It is also suggested that same people can be used at front desk during peak hour's shift.
- More number of staff required only at the front desk compare to present number of staff to reduce the waiting time of patients/patient 'relatives.
- Entertainment options e.g. T.V., health magazines etc. should be provided for patients/patient' relatives in the waiting area.

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APPENDICES

Appendix A Data Collection