Summer Training at

Shalimar Bagh (New Delhi)
(9th April 2012- 31st May 2012)

Analysis of the Discharge Process

By
Jayshree Duggal

Under the guidance of
Dr. Nirmal Kumar Gurvani

Post Graduate Diploma in Hospital and Health Management
2011-2013

Institute of Health Management Research,
Jaipur
2012

INSTITUTE OF HEALTH MANAGEMENT RESEARCH
1, Prabhu Dayal Marg
Sanganer Airport, JAIPUR - 302 011, INDIA
Tel. : 3924700, 2791431-32
Fax : 91-141-3924738
E-mail : iihmr@iihmr.org
URL : http://www.iihmr.org
Gram : HEALTHINST

Certificate

This is to certify that Dr. Jayshree Duggal from Institute of Health Management Research, Jaipur has undergone Summer Training in Fortis Hospital, Shalimar Bagh, New Delhi from 9th April, 2012 to 31st May, 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)
IHMR, Jaipur

Dr. Nirmal Kumar Gurbani
Associate Dean Professor.
IHMR, Jaipur

Fortis
HOSPITAL
Shalimar Bagh

Fortis Hospital
A Block, Shalimar Bagh, Delhi - 110 088 (India)
Telephone : 011 4530 2222
Fax : 011 4530 2211
Emergency : 011 4788 4788, 105010
E-mail : contactus.sb@fortishealthcare.com
Website : www.fortishealthcare.com

31st May 2012

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Jayshree Duggal** from Institute of Health Management Research, Jaipur has successfully completed her Training from **9th April'12 to 31st May'12** in the Medical Administration Department. She has submitted her project title **"ANALYSIS OF THE DISCHARGE PROCESS".**

During training her performance was good.

We wish her the best for all her future endeavors.

For **Fortis Health Management North Ltd**
Fortis Hospital, Shalimar Bagh

Fortis Health Management (North) Ltd. DELHI

Pushpam Kashyap
Head Human Resource

ACKNOWLEDGEMENT

I take immense pleasure in completing this project and submitting the summer report. The 8 weeks with Fortis Hospital, Shalimar bagh, New Delhi has been full of learning and sense of contribution towards the organization. I would like to thanks Fortis to giving me an opportunity of learning and contributing this project.

I also wish to express my sincere thanks to Medical Superintendent Dr. Rajeev Nayyar for granting me the privilege to be a part of their hospital and learn from my experience there.

I thank my mentor Mrs. Geetika Jassal(Medical coordinator) for being a sincere advisor and support in my project, being a source of encouragement. My heartfelt gratitude to all members and staff of the Medical services Department for their understanding and assistance in completing my project.

I am highly grateful to Dr. S.D. Gupta (Director, IIHMR Jaipur), Dr. (Brigd) S.K. Puri (Dean Student and academic affairs and HOD of Hospital Stream), Mr. Hem Bhargava (Manager, Student Affairs) and Mr. Dalbir Singh (In charge Placement).

I extend my heartfelt gratitude to Dr. Nirmal kumar Gurbani for helping me to complete my project report and for being a constant help throughout the course of writing report.

Lastly , I wish to thanks each and every person who has been a helping hand in my endeavor, in one way or the other and also to my family for always being a much needed inspiration for me.

Dr. Jayshree Duggal

Table of contents

ABBREVIATONS

- CME- Continuing Medical Education
- CSSD- Central Sterile Supply Department
- CT- Computerized Topography
- CTVS- Cardio Thoracic and Vascular Surgery
- ECG- Electrocardiogram
- ENT- Ear Nose Throat
- ER- Emergency Room
- F&B- Food & Beverages
- GI- Gastrointestinal
- HR- Human Resource
- ICD- International Classification of Diseases
- ICU- Intensive Care Unit
- IPD- In-patient Department
- IT- Information Technology
- MRI- Magnetic Resonance Imaging
- OBG- Obstetrics and Gynecology
- OPD- Out-patient Department
- OT- Operation Theatre
- SRL- Super Religare Laboratories
- TPA- Third Party Administrator
- UHID- Unique Hospital identification
- IP number- In Patient number
- VIP- Very Important Person
- PHC- Preventive Health centre
- HOD- Head of the Department
- MS- Medical Superintendent
- NS- Nursing Superintendent
- PCS- Patient Care Services
- PWD- Patient Welfare Department

- FOS- Fortis Operating System
- MRD- Medical Records Department
- BME- Biomedical Engineering
- NIC- Non Intensive Cadiology
- IVF- In Vitro Fertilization
- NICU- Neonatal Intensive Care Unit
- MICU- Medical Intensive Care Unit
- SICU- Surgical Intensive Care Unit
- CCU- Cardiac Intensive Care Unit

INTRODUCTION

Summer Training is an integral part of the Post Graduation Diploma in Hospital Management (PGDHM). We have completed our first academic year and as a part of the curriculum, the students are supposed to undergo a two months training in a hospital. The main purpose is to get an orientation towards the layout, operations and workflow of the hospital.

Objectives:

The main objectives are to:

1. Get an overview and develop understanding of the hospital's functioning.
2. Gather knowledge about the process flows of major clinical and non clinical departments in a hospital.
3. Help the management study and address some issues/problems associated with some specific operational area/department.

INTRODUCTION TO THE HOSPITAL

INTRODUCTION TO FORTIS GROUP

HISTORY

Fortis Healthcare Limited was established in 1996 by its founder, Late Dr. Parvinder Singh. His vision of medical care was,

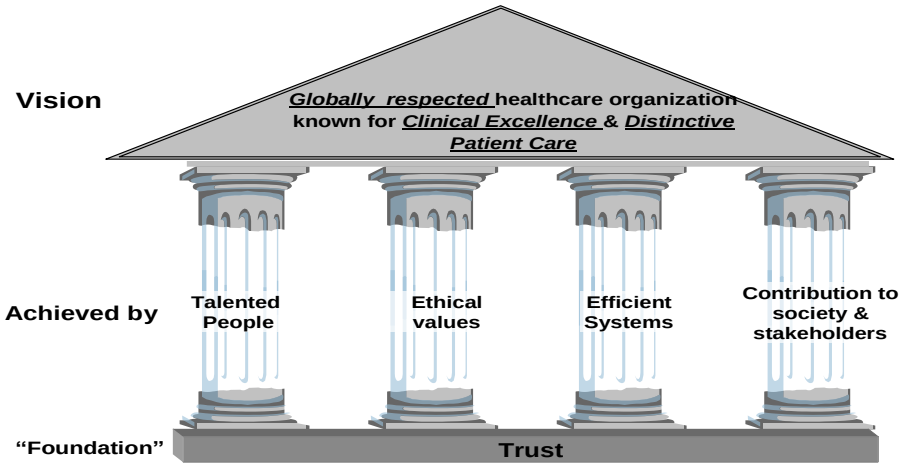
"To create a world class integrated Health Care delivery system in India, entailing the finest medical skills combined with compassionate patient care."

Fortis took its first step towards becoming a world-class provider of integrated healthcare delivery in India by setting up its first hospital at Mohali, Punjab. **Fortis Healthcare Limited** is an established chain of super specialty hospitals based in Delhi, also available in Amritsar, Kolkata, Navi Mumbai, Mohali, Jaipur, Chennai, Kota, Bengaluru. Fortis Healthcare was founded by Late Sh. Parvinder Singh. The first Fortis Hospital was started in 2001 at Mohali.

The group Chairman is Mr. Malvinder Singh and Executive Vice Chairman is Mr. Shivinder singh. The Chief Executive Officer is Mr. Aditya VIj

VISION

Globally Respected Health care organization recognized for Clinical Excellence and Distinctive Patient Care.



MISSION

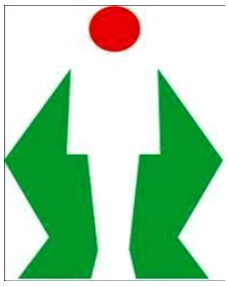
Working together to become a self-sufficient health care facility of first choice in the region by 2013 by providing excellent medical care services and continuously enhancing the quality health care through our finest medical and non-medical inspired professional and dedicated partners

VALUES

Patient Centricity	• Commit to 'best outcomes and experience' for our patients. • Treat patients and their caregivers with compassion, care and understanding. • Our patients' needs will come first
Integrity	• Be principled, open and honest. • Model and live our 'Values'. • Demonstrate moral courage to speak up and do the right things.
Teamwork	• Proactively support each other and operate as one team. • Respect and value people at all levels with different opinions, experiences and backgrounds. • Put organization needs' before department / self interest.
Ownership	• Be responsible and take pride in our actions. • Take initiative and go beyond the call of duty. • Deliver commitment and agreement made.
Innovation	• Continuously improve and innovate to exceed expectations. • Adopt a 'can-do' attitude. • Challenge ourselves to do things differently.

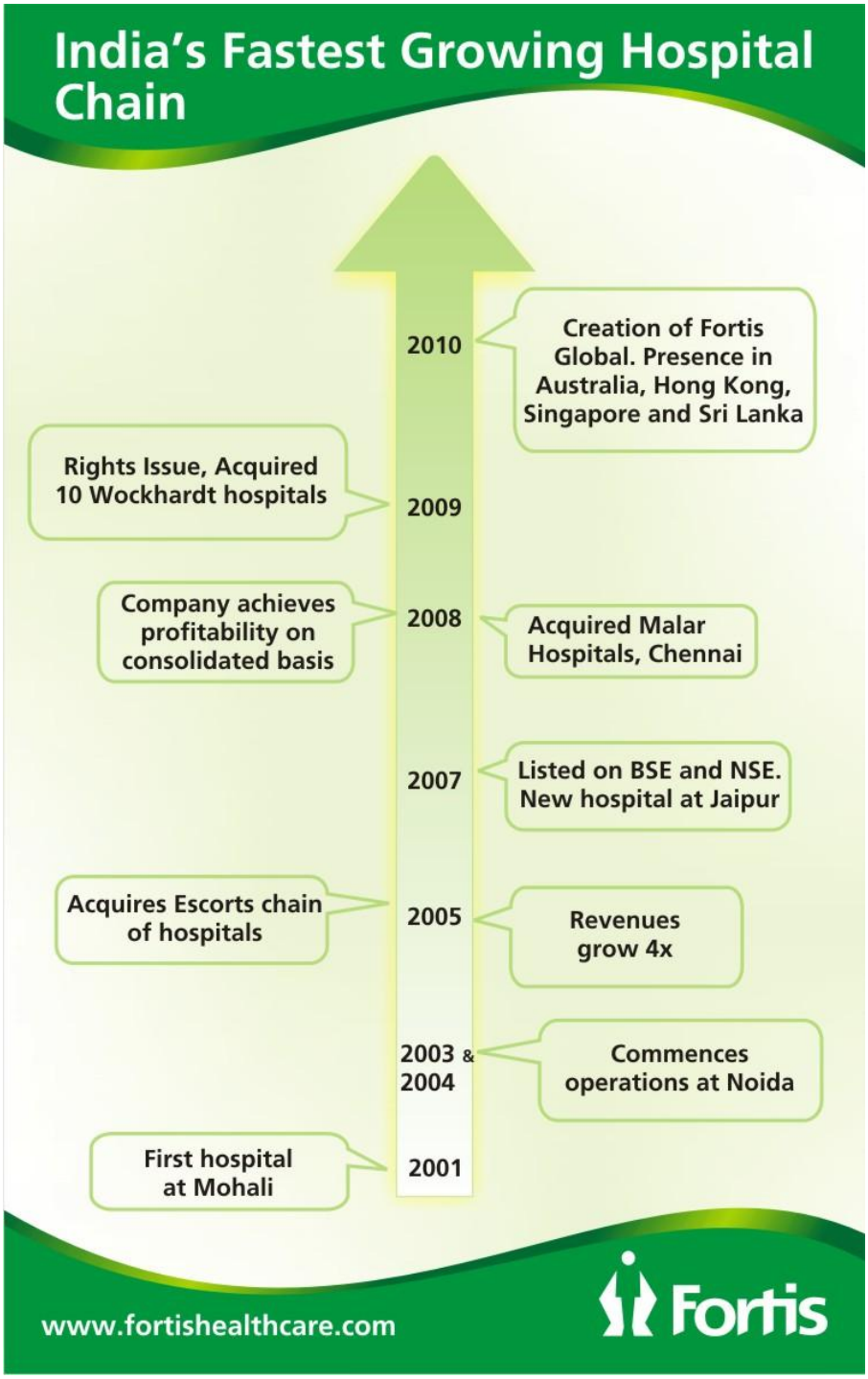
THE FORTIS LOGO

Every entity, human or corporate, has a hallmark, a signature that identifies it. The hallmark of Fortis Hospitals, distinguishing them from their contemporaries, is the element of “Patient Centricity” in hospital designs, services, programs and most significantly, in the caring approach of its medical and non-medical people. This is also very well depicted by Fortis Logo.



The two hands that fuse seamlessly with a human form, express the reassuring approach to healthcare. A constant reminder to all that Patient Centric care is fundamental to Fortis ethos. Green is the color of healing and is symbolic of the steadfast focus: to ensure the health and well being of those it ministers to. Red is an expressive of the dynamic zeal with which it strives to make it a reality.

MILESTONES


India's Fastest Growing Hospital Chain
2010
Creation of Fortis Global. Presence in Australia, Hong Kong, Singapore and Sri Lanka
Rights Issue, Acquired 10 Wockhardt hospitals
2009
Company achieves profitability on consolidated basis
2008
Acquired Malar Hospitals, Chennai
2007
Listed on BSE and NSE. New hospital at Jaipur
Acquires Escorts chain of hospitals
2005
Revenues grow 4x
2003 & 2004
Commences operations at Noida
First hospital at Mohali
2001
www.fortishealthcare.com
Fortis

INTRODUCTION OF FORTIS HOSPITAL (SHALIMAR BAGH)

Fortis, Shalimar Bagh was started in October 2010. It is the wide ranging Multi Super Speciality Hospital in this part of the city offering super specializations within departments, with the mission to provide quality medical care. This is the largest hospital in the Fortis Group so far, and is intended to serve the residents of North, West and North West Delhi, and the neighboring states. Fortis Group is committed to excellence and quality, and has established an international reputation for offering the very best in healthcare. At Fortis, in your neighborhood, you will experience the same care across wide ranging specialities, at affordable prices. Leading doctors, surgeons and specialists ensure that our standards of care are continually improving. Our friendly and professional team ensures that patients feel relaxed and comfortable during their stay.

The hospital is situated in the heart of North Delhi and offers a convenient location for patients, their attendants and families. Located between the Ring Road and the Outer Ring Road, the hospital lies in the vicinity of Netaji Subhash Place and Azadpur Metro Stations. Owing to this, it is easily accessible to the residents of Delhi by road and metro, and to those coming in to the city by GT Karnal Road and Rohtak Road.

Fortis Hospital, Shalimar Bagh, is the first hospital building in India to have acquired green building certification. It has been designed as an energy efficient building that complies with the ECBC (Energy Conservation Building Code) and is undergoing TERI GRIHA (Green Rating for Integrated Habitat Assessment) green rating certification. Sustainable design concepts have been incorporated in different aspects of the building design starting from sustainable site planning to simulation and analysis of various alternatives, leading to optimization of building envelope, thereby reducing external solar gains. In-depth analysis and optimization of the lighting system has resulted in significant savings in lighting in the building. Simulation of the air-conditioning system has enabled evaluation and selection of various energy efficiency measures.

The Hospital is 550 bedded out of which fuctional are 170.

SUPER-SPECIALITIES

The Hospital focuses on super specialities in

- Cardiac Sciences
- Neuro Sciences
- Renal Sciences
- GI Diseases,
- Orthopaedics including Spine and Joint Replacements
- Minimal Access Surgery
- Mother & Child

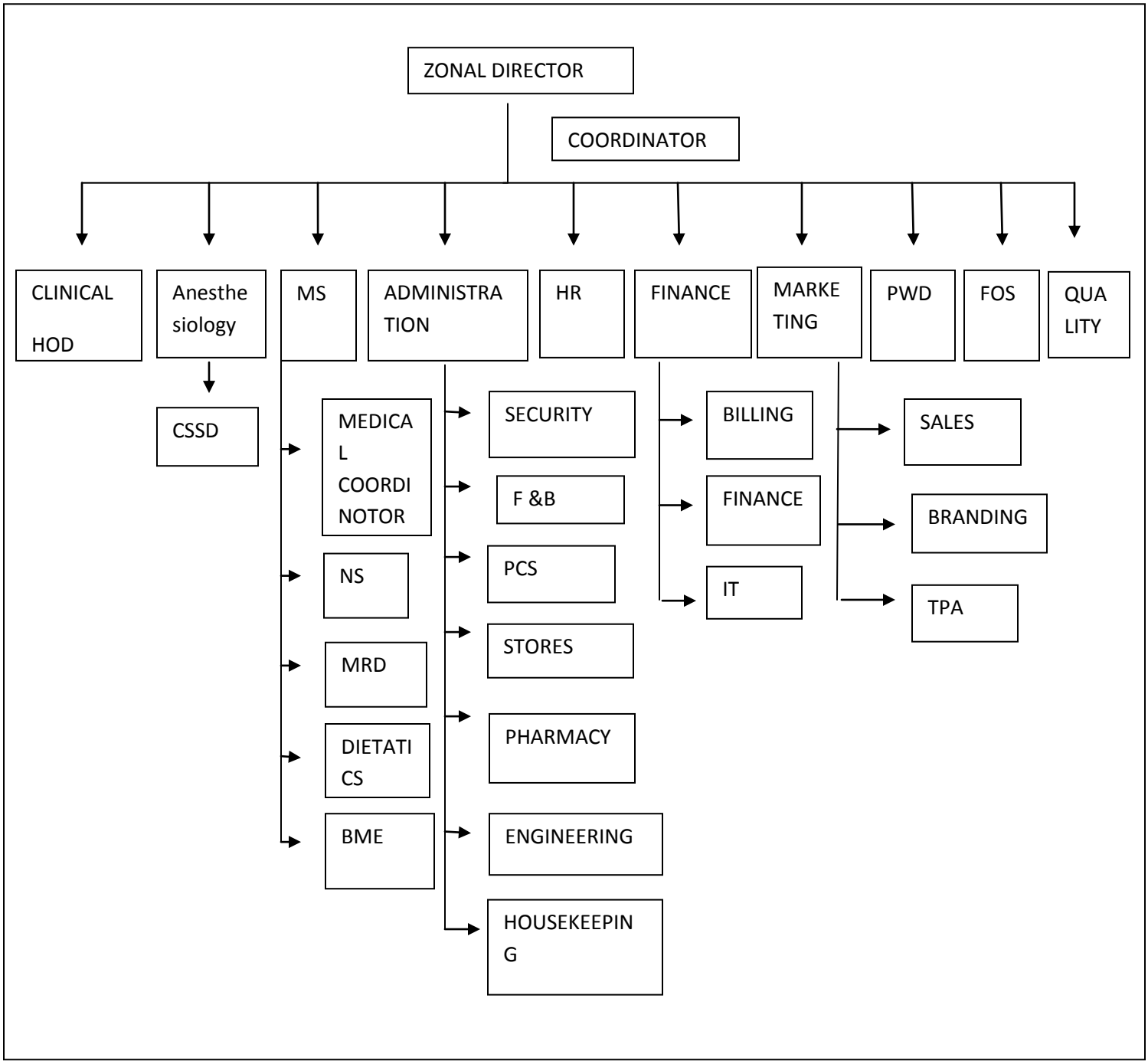
MULTI-SPECIALITIES

- Dermatalolgy
- ENT
- Anesthesiology
- Critical care
- Optahlomology
- Internal Medicine
- Mental health and sciences
- Psychiatry
- Dental
- Endocrinology
- Pulmonology
- Plastic surgery
- Foetal medicine
- Oncology
- Rheumatology

SPECIAL CLINICS

- PHC
- Speech therapy

ORGANOGRAM


ZONAL DIRECTOR
COORDINATOR
CLINICAL HOD
Anesthesiology
MS
ADMINISTRATION
HR
FINANCE
MARKETING
PWD
FOS
QUALITY
CSSD
MEDICAL COORDINOTOR
NS
MRD
DIETATICS
BME
SECURITY
F &B
PCS
STORES
PHARMACY
ENGINEERING
HOUSEKEEPING
BILLING
FINANCE
IT
SALES
BRANDING
TPA

FLOOR WISE DIVISION OF DEPARTMENTS

The hospital has 5 floors and two wings. In A wing on all floors, there are all critical Units

UPPER BASEMENT

- Administration
- Pharmacy
- CSSD
- MRD
- F & D
- Purchase
- Stores
- Mortuary
- Housekeeping
- Blood bank
- Laboratory
- Staff Cafeteria

GROUND FLOOR

- PCS
- OPD
- Emergency
- PHC
- Diagnostics centre
- Billing
- TPA
- NIC
- Prayer room
- Physiotherapy
- IVF CENTRE
- Pharmacy(out patient)
- Sample collection room
- Patient waiting area
- PWD
- Patient cafeteria

FIRST FLOOR

- Labour room
- NICU
- Wards & rooms

SECOND FLOOR

A WING

- Gastroenterology OPD
- Nephrology OPD
- Oncology OPD
- Dialysis
- Endoscopy
- Chemotherapy

B WING

- Rooms & wards

THIRD FLOOR

A WING

- Cardiology OPD
- Cath lab
- CCU

B WING

- Rooms & wards

FOURTH FLOOR

A WING

- SICU
- MICU

FIFTH FLOOR

A WING

- OT Complex

B WINGS

- VIP Deluxe room

FOS

Fortis is implementing Fortis operating system (FOS), which would ensure that all key patient facing processes in a hospital are understood, manualised and implemented. This will ensure consistency in operations so as to deliver a uniformly high level of service to patients. FOS will facilitate replicability and scalability across the Fortis network, thereby ensuring that patients will experience great service across Fortis hospital network.

OPD

The objectives of department:

- Present correct information and inquiry handling.
- Perform registration, OPD cash and credit billing within the target time.
- Scheduling appointment for Doctors.
- Guide patients/attendants/visitors in the facility.
- To drive satisfaction and delightful experience.

The OPD is located at ground floor, second floor and third floor.OPD at ground floor-pediatrics , gynecology, urology, neurosurgery, dental sciences, Dermatology, Dietetics, pulmonology, ENT, ophthalmology, internal medicine, orthopaedics.OPD at second floor-Gastric, oncology, nephrology. OPD at Third floor- Cardiac.

The functions are-

- Registration has done by the front office assistant and they generate one UHID number for the new patient.
- Billing has been done either for the consultation/investigation.
- They provide information/enquiry to the patient and their attendant.
- Consultation of the Doctors.

- Telephonic query handling.
- Counseling regarding package.
- To make the FOS.

IPD

The main IPD reception is located on the ground floor. The patient comes at the reception, new IPD number is generated in the UHID number only and the patient then goes to the counseling room ,where he is informed about the all the expenses of the treatment and they fill the consent form, then they provide the room to the patient. Patient will usually be admitted through the following ways-

- Through OPD, advised admission by consultation with our consultants.
- Through emergency.
- Through referral to our consultants.
  Patients have a choice of staying either in wards, of 4 bedded room, 2 bedded rooms, single and suites.

After the patient is admitted, the nurses indent all required medicines and medical consumables that would be needed by the patient in the Med Track System. The Pharmacy department then gets the messages through the system and then dispatches the medicine to the respective floor .In the similar way the nurses indent the medicines prescribed by Doctors for the patients.

When the Patient is admitted the dietician is informed through the system and then dietician prepares the diet chart for the patient and F&B department is given the same.

When the patient is being discharged either the doctor informs one day before or on the same day. The Doctor prepared the discharge summary ,and nurse send the billing sheet to the billing department for the bill preparation, nurse returns extra medicine to the pharmacy department, pharmacy accepts returns and updates system .Billing department prepares bill and when bill is prepared, billing department informed to the patient attendant through message and call. Then bill settlement is done by the patient attendant.

PCS

There are three counters at the reception- OPD Registration, IPD and Enquiry

OPD Registration Counter

It deals with all the registration related to OPD.

When a patient comes first time to the Fortis Hospital, patient is given a registration form and after the patient fills that form, patient is given UHID (Unique hospital identity number) and next times he comes UHID number remains, IP number changes. All the billing related to OPD Consultation, Procedures and LAB and Diagnostic Tests are done here. The Consultation fee is different for different doctors.

IPD Registration

Patient is told about the rough estimate of the cost and a consent form is given to the patient. Only IPD admission is done here. For billing a separate counter is there.

Enquiry Counter

Patient takes appointment of the doctor from here and can ask all other information from here.

Special Packages

- A Golden Age Club is there for the people above 60 years. Its Annual Membership fees - Rs 1000. A patient who is member of this club gets various discounts.
- Vaccination Program
  A vaccination program is there for the new born who are born in the hospital. They are given discount on vaccinations and doctors consultation and various procedures.
- Corporate Program
  Hospital has tie up with various Corporate like RBI, DDA, HUDCO, IFFCO, IGL, NDPL etc. Employees from these can avail discounts on various procedures by showing ID Cards.

The functions are:

- Patient reception
- Solving patient query
- Giving appointments
- Billing of consultation, lab services and diagnostics

BILLING

All the billing related to IPD patients are done here.

On daily basis auditing is done regarding all the transactions of the procedures done on patients like Lab test, diagnostic test and surgical procedures and consultation charges of the doctor and all the medications have been recorded by the nurses in the system with nursing bill

At the time of discharge a checklist is maintained that consists of

- Nursing bill sent time
- Discharge received
- Discharge initiation time
- Pharmacy clearance
- Financial discharge
- Bill sent to TPA (in case of TPA patients)
- Bill given to cashier
- Inform attendant
- Bill settlement time

When a patient is discharged nurses send a nursing bill to the billing department and then at billing department note the time and start billing procedure. They check the nursing bill with all the entries made in the database system. Then they check whether pharmacy have made the clearance. After the pharmacy gives the clearance in the system, then financial discharge is done. After this no transaction can be done of that patient. Then bill is sent to cashier or in case of TPA patients to TPA. The patient's attendant is informed by a call and a message that bill is ready.

PATIENT WELFARE DEPARTMENT

The department is located at the ground floor. The main aim of the department is to make and position the hospital as a 'centre of Excellence' by ensuring customer satisfaction through personalized customer care, following the guiding principles of empathy, care and compassion to make the patients feel cared for. The scope and complexity of services provided by this department is to enhance the customer satisfaction.

The objectives of PWD are to -

- Handle in-house public relations with patients/ relatives and other visitors.
- Ensure that our processes are 'customer centric'.
- Ensure these are followed.
- Create a pleasant experience for the patients and their attendants.

EMERGENCY

The Emergency department specializes in focusing on triaging, diagnosing, providing primary care& treatment of acute illness & injuries that require medical attention. The emergency constitutes 5-10% of the hospital bed strength. The emergency is located at ground floor, & is provided with separate entrance. The location of emergency is such that it had an easy access to radiology, laboratory, blood bank. The emergency department had a reception area, procedure room, triage room, examination room & ward. In the triage room the patients are prioritized according to the urgency of the treatment required.

The main functions are

- Emergency patient management
- ALS
- BLS
- Transportation by the ambulance
- Dead patient management.

From emergency department patient either discharged or shift to the wards, ICU, and dead patient to the mortuary.

Intensive Care Unit

The ICU is a department where critically ill patients are admitted for intensive and specialized care.

There are 4 ICU's in the hospital – SICU, MICU, CCU, NICU. SICU and MICU are located at the 4th floor. CCU is located at the Second floor in Cardiology Department. NICU is located at the first floor.

All these ICU's had a waiting area for the patients' relatives. There is a specific visit time. Outside the ICU there is a duty doctor's room, changing room. There is a nursing head assigned in each ICU. There are three shifts of the nurses. There is an isolation room present in the ICU.

OT COMPLEX

The OT complex is located at the fifth floor. The aim of the department of OT and Anesthesiology is to provide the highest quality of care for the patients undergoing various types of surgeries. The OT complex has 8 OT dedicated to various specialties'. They are fully

equipped with newest technology equipment ensuring world class treatment for the patients. OT complex has – 8 OT's, Pre operative room, post operative room, CTV's ICU, Doctor's longue, Paramedic Lounge, changing rooms, Anesthesiology department. The OT has Laminar flow systems fitted with HEPA filters to create an infection-free environment. In addition to these, the OTs is equipped with state-of-the-art computerized navigation systems and high flexion implants.

LABOUR ROOM COMPLEX

Labour room is located at the first floor .It has various parts-labour room, Birthing suite, NICU.

DIAGNOSTICS

The diagnostics department is located at the ground floor. It is outsourced department

It had following equipments:

- 1.5 Tesla MRI
- CT scan (32 and 40 sections)
- Digital X-ray 8300ma
- fluoroscopy
- Ultrasound
- Mammography

LABORATORY

The laboratory is located at basement .It has been outsourced SRL laboratory .The laboratory is divided into 3 subparts-pathology, biochemistry and microbiology. All the billing related to laboratory is done at the OPD counter only. whenever patient is advised any lab test he then goes to the reception counter then pays the bill ,then patient goes to the sample room for giving the sample, sample is then send for the lab test and they gives the report either on the same day or on the next day.

BLOOD BANK

Blood bank is located in the basement area. The blood donation is accepted as either voluntary or as replacement. The donor first comes to the reception of the blood bank & fills the form i.e. available in both hindi & English .The donor goes to the blood bank officer for physical examination. After the donor is declared fit to donate he is then send to blood donation room.

The standard blood volume is taken is 350ml & 450ml.The collected blood is stored in the quarantine room as blood is untested then blood is tested for HIV, Hepatitis B& C, syphilis, & malaria. After the testing of the blood the blood components are separated. The separated components are stored in the storage room.RBC is stored at 2-6°C &FPP is stored at -35°c,the platelet is stored at 20-24°c under continuous agitation.

PHARMACY AND STORES

The pharmacy and stores is located at basement

PHARMACY

The main work of pharmacy is compounding and dispensing medicine. The medicines and consumables are kept systematically. The medicines and vaccines that need cold storage are kept in refrigerators. When a patient is discharged a list is send by the nurse if any medication is to be returned. It is entered into the system and deducted from the patient bill and pharmacy gives the clearance.

The nurses indent the medicines and medical consumables in the MED TRAK system by adding in patients ID. The pharmacy gives the medicines according to the indent given by the medicines. If the medicine is finished the indent is unpacked and the nurse is informed and asked to indent again by telling the brand that is available.

STORES

Here all the high cost consumables and medicines needed in the surgery are ordered on the Vendor Management inventory (VMI) basis. The equipments and medications are with vendors and taken from them according to the need. VMI is of two type- cases and inventory basis.

CSSD

The CSSD department is located at the basement

The objective of establishing this department is to make reliably sterilized articles available at the required time and place for any agreed purpose in the hospital as economically as possible.

The functions are:

- It receives stores, sterilizes and distributes to all departments including the wards, OPD and other special units.
- It processes and sterilizes syringes, rubber goods (catheters, tubing etc.), surgical instruments, treatment trays and sets, dressing etc.
- It ensures economic and effective utilization of equipment resources of the hospital under controlled supervision.

The CSSD department is located at the basement.

It is divided into three zones decontamination area, clean area and sterilization

In decontamination area the used instruments from various departments come through Dumbwaiter lift or manually and entry is done in record register. The instruments are cleaned in wave cleaner, multienzyme cleaner and washed by disinfectant. Then the instruments are sent to clean area where they are packed and put in sterilizers for sterilization. The various sterilizers are steam sterilizers and Ethylene Oxide sterilizers. They have two doors one in clean area from where the clean instruments are put and the second door opens in the sterilized area where the sterilized equipments are taken out. They are the dispatched to the various departments through lift. The sterile sets are checked for color change. Biological indicator test, bowie-dick test and other chemical indicator test are conducted daily.

MEDICAL RECORDS DEPARTMENT

The medical records department is located at basement.

The functions are

- Proper storage and maintenance of medical records
- Maintenance of integrity and confidentiality of medical records
- Submission of required data to government
- Classify the medical files as per ICD-10
- Obtaining missing patient files
- Online birth and death registration.

They keep the record for 10 years for the expired patients and 5 years in general.

BIOMEDICAL ENGINEERING

The main objective of the department is to facilitate the usage of latest technologies in the diagnosis, treatment and care of patients. It is responsible for proper usage and quality performances of these costly equipments and tools inside the hospital. The department maintains

- records of hospital equipments
- conduct daily rounds to ensure the smooth functioning of the equipments
- facilitation and identification of equipment requirements
- planning technical comparison
- ordering installation
- deployment of all existing units and new projects
- conduct regular preventive maintenance servicing for all equipments at regular intervals
- facilitation equipment replacement

ADMININISTRATION

Administration department is located in the basement area. It has following department-

- General administration
- Finance
- Marketing
- IT
- HR
- Medical administration

GENERAL ADMINISTRATION

It includes-

- Security
- F & B
- PCS
- Engineering
- Purchase
- Stores
- Pharmacy

MEDICAL ADMINISTRATION

- Quality
- FOS
- Dietetics

MARKETING

The main functions of department are-

- Branding and promotion
- Online marketing
- Corporate link ups
- Conduct CMES
- Prepare brochures and pamphlets
- International patient dealing

FINANCE AND ACCOUNTS

Under the finance department comes billing and finance.

The functions of the financial departments are interlinked with the functioning of practically all other departments. The primary and essential functions of this department are:

- To maintain financial records
- To make payments of bills and expenses on time
- To collect accounts due
- To monitor the cash flow/ funds
- To make payments of wages and salaries
- To provide information regarding financial condition to managers and decision makers of the hospital
- To make patient related bills.

IT DEPARTMENT

The Functions of IT department is**:**

- Maintenance of all the software's in the hospital.

- Modifications of the software are as per the requirements of the department.
- It covers the following modules:
    - IPD Billing
    - OPD Billing
    - Administration
    - House keeping
    - Ward/Nursing
    - Diet
    - Visitor’s pass
    - Stores
    - Purchase
    - LIS
    - RIS

HUMAN RESOURCE

The main Functions are

- Development of HR policies and strategies
- Manpower Planning
- Recruitment and Selection
- Employee Training
- Salary Determination
- Performance Appraisal
- Personnel Data entry and record maintenance
- Consultation and Advisory services to management and employees
- Grievance Handling

HOUSEKEEPING

The housekeeping department is located at the basement. It is outsourced to Rare Hospitality services. Each floor is assigned a housekeeping supervisor who is the incharge of all housekeeping functions of floor.

The main functions are -

- Sanitation and Hygiene
- Odor control
- Waste disposal
- Pests, rodents and animal control
- Interior decoration
- Infection control
- Laundry services
- Uniforms

STORE AND PURCHASE

Stores receives all equipments, instruments and items of raw material, consumables, printing and stationary, medicines and other essential goods required by the hospital.

The main functions are:

- Procurement of stores through indigenous and foreign resources
- Checking of requisition and purchase indents
- Negotiating contracts
- Issue of purchase order
- Follow up of purchase orders for delivery in time
- Serving as an information centre on the materials' knowledge.

ENGINEERING AND MAINTENANCE

The engineering department is located at the basement. The equipments under the department are AC plant, chilled water pump, condenser pump, AHU, package unit, electrical substation, fire system, RO plant pump, hot water pump, medical gases.

The main functions are-

- Installation and commissioning
- Breakdown call management

- To maintain electric and water supply
- Air conditioning and refrigeration
- Intramural transportation

SECURITY

Security department is located at the basement

Security services ensure the total safety and security of the internal as well as external customers.

The main functions are-

- To secure the infrastructure and hospital property
- Safety of patients
- Control of flow of visitors
- VIP security
- Parking management

FOOD AND BEVERAGES

The F&B store is located at the basement and the kitchen is located at ground floor.

The main functions are-

- To ensure that PMS is done according to F & B service standards
- To ensure proper room service to the attendants.
- To check the quality of grocery items as per the approved brand list and standard specifications
- Food services to consultants, doctors, and rest of the staff
- Food services extended during guest visit, CME, workshop and other important meeting.

INTRODUCTION

STUDY BACKGROUND

Health care industry growing day by day as it has become one of the largest service industry, the competition among the health care providers is also reach at peak. Along with it expectations of the customers (patients) are also intensified. Now patients expect quality services from the providers therefore many quality concepts came in focus in hospitals eg.- Accreditation for quality standards, Six sigma, lean health care practice etc. Care with patient satisfaction is the common goal of every hospital in now days. By providing the quality patient experience, hospitals can win patient loyalty and secure the position of provider of choice in competitive healthcare marketplace[1]

Quality is thus a perception that is based on an individual's value system. It relies heavily on the culture, life experiences, and expectations of each individual. Quality receives a new definition in each interaction between an individual and an item for which the term is evaluated**.** It is "one of those things that is very difficult to define, but that anyone can recognize-I know it when I see it." High quality is achieved by continual improvement in terms of customers' expectations. The aim of continuous quality improvement is to meet the customer, not just the competition. [2]

Health care delivery is a complicated process which involves large numbers of workers. Different workers have different customers, depending upon the nature of an individual worker's job assignment. “Quality” health care has a wide variety of meanings. To some people, sitting in the waiting room a short time to see a doctor means “quality” health care. To others, being treated politely by the hospital staff means “quality” health care. There are those who define “quality” health care by how much time the doctor devotes to examining patient.

There are three major steps that a patient has gone through the experience the hospital services i.e. Admission process, Treatment & diagnosis and Discharge process. As the final step in the hospital experience, a discharge process is likely to be well remembered by the patient. Even if everything else went satisfactorily, the slow and lengthy discharge process may result in low patient satisfaction. Slow and unpredictable discharge translate into reduction in effective bed capacity and delay in admission process[3]. A good discharge experience leaves the patient with positive emotions and a strong affinity for returning to the facility. [4]

A discharge process require effective communication, complete documentation and proper interdepartmental coordination. The hospital discharge process is initiated on the recommendation of a physician. The process may vary from hospital to hospital as hospitals have their own policies regarding discharge. There are many stakeholders such as patient, doctor, nurse, GDA, lab technician, pharmacist, patient care coordinator, patient care executive, TPA, patient attendant and there are many departments like nursing ward, pathology lab, pharmacy, and IP billing department are involved in the whole process. All these departments further have

many activities to complete patient discharge. Delay in discharge of a patient is common problem of maximum hospitals. Because it involves many stakeholders, departments and activities, the issues are also according to activities and department wise that combined cause delay in patient discharge. Some reasons of delay are due to hospital side, some are due to TPA approval and some are from patient side. Issues related to TPA office and patient side are unavoidable but issues related to hospital side are actionable and can be controlled.

Delay in discharging the patients not only increases dissatisfaction with the health care provided in hospital, but also causes delay in the admission of new patients. Patient dissatisfaction reflects upon the quality of health care provided by the hospital, thus it is necessary to study the cause of inefficiencies in the discharge process and locate bottlenecks in order to improve the discharge process in the hospital.

RATIONALE OF THE STUDY

Available beds are a hospital's most important resource and the length of stay in hospital is an important factor in its efficiency. The unnecessary occupation of hospital beds and rooms and consequent low hospital bed turnover rate represent a waste in health care resources, and result in heavy associated organisational costs (Porhasani 1995). A fast discharge process can ensure early availability of patient beds, which in turn, can reduce the waiting time of patient admissions or even reduce the incidence of patient rejection due to unavailability of beds.

A fast discharge lead to patient satisfaction toward the quality services of hospitals and it indirectly enhance the revenue of the hospital. However the discharge is a very complex process so it should be properly understand and extract out the issues that cause delay.

REVIEW OF LITERATURE

David Anthony, et al. (Feb., 2005), Re-engineering the Hospital Discharge: An Example of a Multifaceted Process Evaluation[5]**-**

The aim of the study was to develop the interventions for improvement of existing discharge process. Using the resources of the Boston University- More house College of Medicine AHRQ Developmental Centre for Patient Safety Research (funded by the Agency for Healthcare Research and Quality), multidisciplinary teams has been assembled to identify and address the sources of error at discharge. The detail evaluation of the process was done that include probabilistic risk assessment, process mapping, qualitative analyses, failure mode and effects analysis, and root cause analysis by these multidisciplinary team.

With the above analyses the advisory group brought together for three 2-hour sessions to create a newly re-engineered discharge process. Each of the eight groups described their new map and the new themes or principles that they thought important to any new process. These "principles of the newly re-engineered hospital discharge" are listed below:

- There must be explicit delineation of roles and responsibilities.
- Patient education must occur throughout the hospitalization, not only at the time of discharge.
- Information must flow easily from the PCP to the hospital team, among the hospital team, and back to the PCP.
- Information should be captured throughout the hospital stay, not only at the time of (or after) discharge.
- Every discharge must have a written discharge plan that is Comprehensive in scope and that addresses medications, therapies, dietary and other lifestyle modifications, follow up care, patient education, and instructions about what to do if the condition worsens. This comprehensive discharge plan should be completed before the
  Patient leaves the hospital.
- Waiting until the discharge order is written before beginning the discharge process is likely to increase the risk of errors.

- All patients should have access to their discharge information in their language and at their educational level.

Improving Inpatient Discharge Cycle Time and Patient Satisfaction[6]**-**

This project had done by Sigma breakthrough technology inc. (Global management consulting firm specializing in the deployment of Six Sigma and Lean methodologies) at Columbus Regional Hospital (CRH) Columbus, Indiana. Using the Six Sigma methodology and DMAIC roadmap, the project team greatly reduced the cycle time required to discharge patients from a baseline average of 202 minutes to 115 minutes. In addition, within a few weeks of implementing the changes, patient satisfaction with timeliness of the discharge process improved from a baseline of 47.6% to 76.0%. Finally, the team was able to reach the target of $29.67 for the cost of non-chargeable items per discharge, resulting in substantial savings to the hospital.

Christopher G. Maloney, et al.(2007), A Tool for Improving Patient Discharge Process and Hospital Communication Practices: the Patient Tracker [7]**-**

This quality improvement pilot project took place at Primary Children's Medical Centre (PCMC), Salt Lake City, Utah.

The team identified that the ultimate bottleneck for patient flow occurred on the general wards resulting from inefficient discharge of patients to home. Patients who could have been transferred from the paediatric intensive care unit (PICU) or admitted from the operating room (OR) and ED did not have a floor bed. Patients who could have been discharged to home from the general ward were still occupying a hospital bed. The discharge process was unnecessarily delayed and the entire hospital flow was disrupted.

The team recognized that the hospital could increase its effective capacity by making more efficient use of existing bed space and by establishing a daily routine for forecasting and executing discharges. One of the solutions was to develop and implement *Patient Tracker*, a web-based software application, to improve coordination and communication between disciplines and to establish an efficient discharge process.

Team developed and implemented a web-based software application called “Patient Tracker” to manage the discharge process, minimize delays in admission and reduce surgical procedure cancellations. Team also tested the effectiveness of the software on the work flow by comparing outcomes between the pre-implementation control group (2002–2003) and the post-implementation experimental group (2003–2006). Following the implementation of the software, the number of cancelled surgical procedures decreased (120 vs. 12, $p<0.01$). During the same period, the average number of inpatient admissions increased (5725 vs. 6120), and the median emergency department LOS decreased (247 vs. 232, $p<0.01$).

Captain S. Erin Elarton (Feb.23, 2005), Improving the Discharge Process to Optimize Patient Throughput[8]**-**

Study conducted at Ben Taub General Hospital (BTGH), Houston, Texas(United States).The purpose of the study was to identify impeding systematic delays in the patient discharge process, quantify the extent of the delays, and recommend performance improvement initiatives for the BTGH to expedite bed turnaround times. A pilot study was conducted on four inpatient nursing units at BTGH. Data were collected on two surgery units (4A & 4B) and two medicine units (6A & 6B) to determine the delays in discharging patients (N = 633).

According to the study – The average time from the discharge order written to the time a bed was reported clean was 307 minutes on surgery units 4A & 4B (n = 32). The average time from discharge order written to bed clean on medicine units **6A** & 6B was 238 minutes (*n* = 31). The average time a bed was dirty before the dirty bed was reported to housekeeping was 56.8 minutes on the surgery units and 52.4 minutes on the medicine units. Recommendations of the study- BTGH staff needs to regularly collect, measure, and report key performance indicators and set targets for continuous improvement of bed turnaround times on all nursing units as well as other units that patients may flow through. A data analyst will be needed to continuously monitor bed turnover times and discharge times of day. The BTGH needs to establish a discharge time of day that the entire organization should strive to meet. The discharge holding area should be renamed the "Discharge Lounge" to signify its intended purpose which is simply an area for patients await transportation.

OBJECTIVES

MAIN OBJECTIVE

Understand all sequential steps of current discharge process and identification of bottlenecks for delays in discharge process.

SPECIFIC OBJECTIVES

1. Understand the each step of current discharge process.

2. Measure the average time taken for completion of each step.

3. Identify the reasons for delay in discharge process.

4. Recommend possible solutions to solve out the issues for delay in patient discharge.

METHODOLOGY

STUDY DESIGN- Cross sectional descriptive study.

STUDY AREA- Fortis Super Speciality Hospital ,Shalimar Bagh, New Delhi

STUDY POPULATION- Admitted patient at general nursing ward.

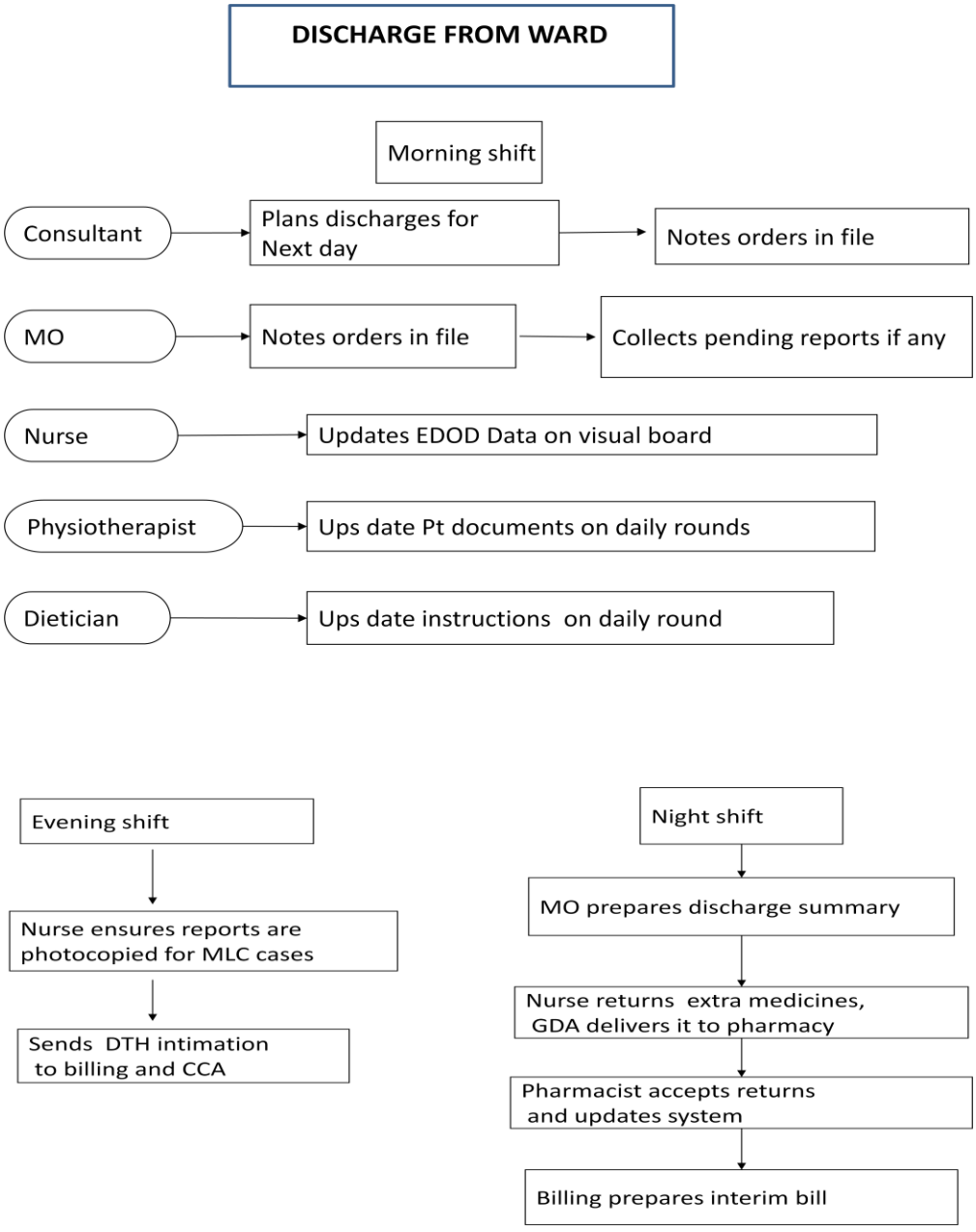
SAMPLE SIZE AND SAMPLE DESIGN- 120, Purposive sampling

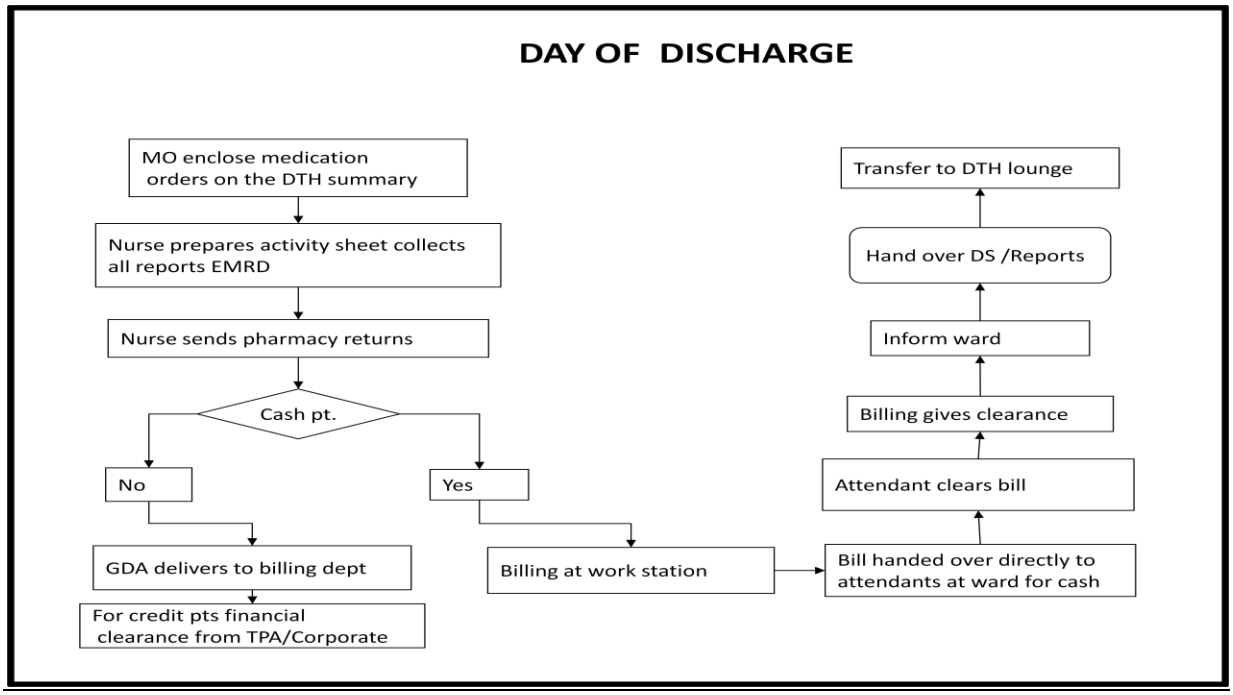
DATA COLLECTION TOOLS – ,MED TRACK ,Discharge Tool Kit Sheet, MS.excel sheet for timings of completion of each discharge step.

DATA COLLECTION TECHNIQUES – Observational

STUDY FINDINGS

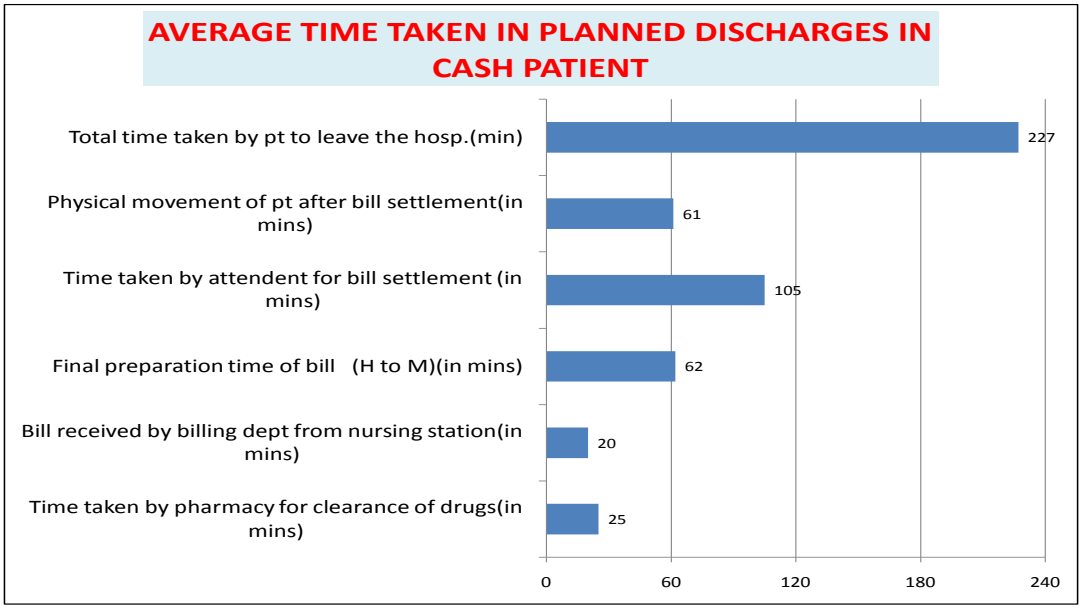
CURRENT DISCHARGE PROCESS





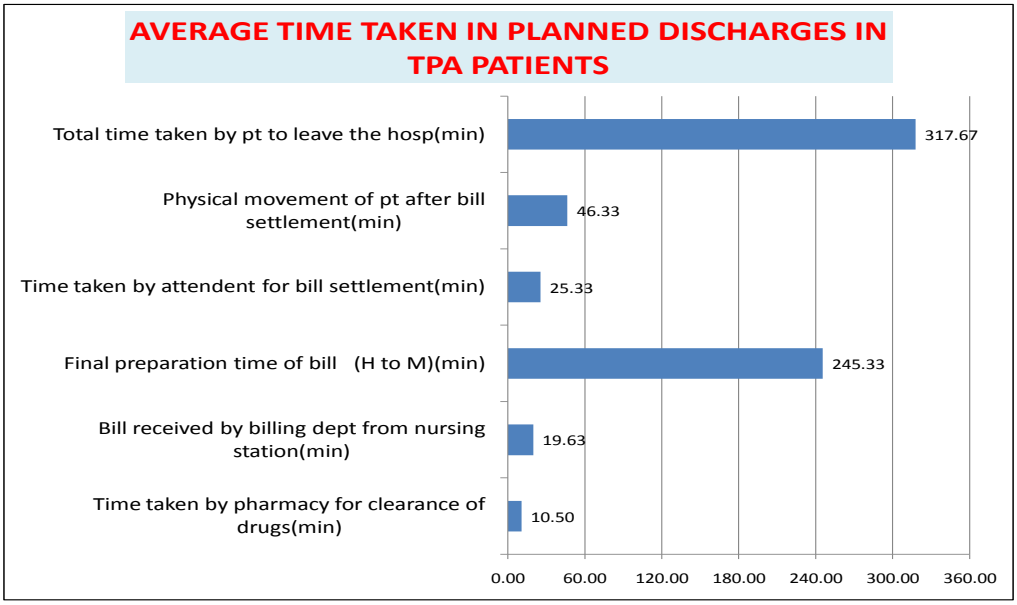
DATA FINDINGS

Average time taken in planned discharges in cash patients-



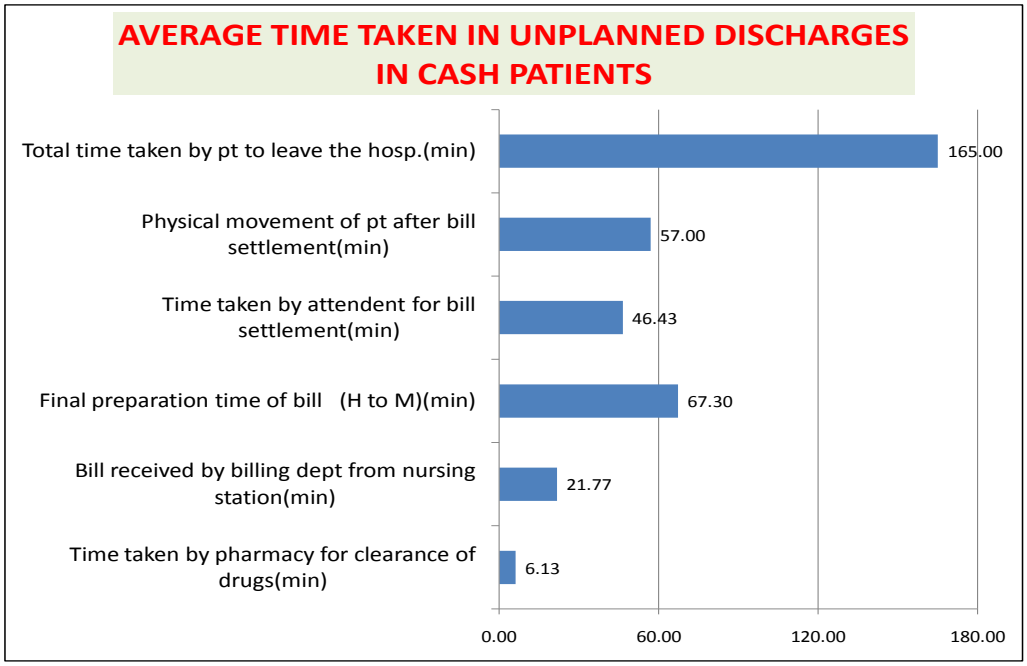
Average time taken in planned discharges is 227 minutes (3hrs.47mins.) and maximum average time taken in bill settlement by attendant that is 105 minutes.

Average time taken in planned discharges in TPA patients-



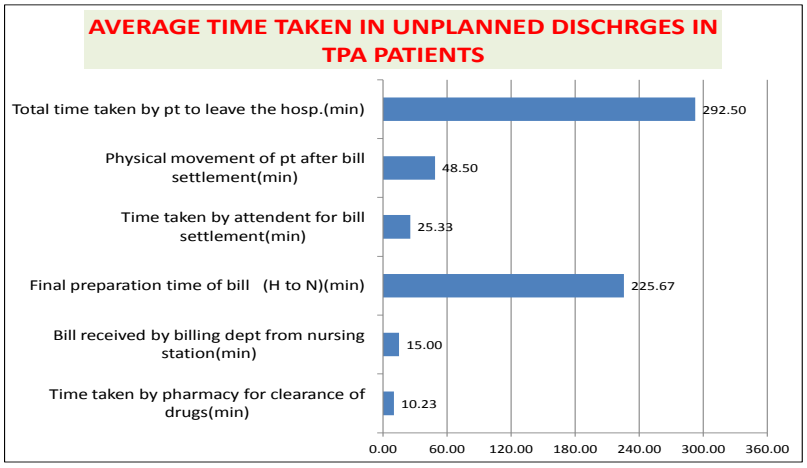
Average time taken in planned discharges in TPA patients is 317.67 minutes (5 hrs.17mins.) maximum time taken in final preparation of bill that is 245 minutes (4hrs.05mins.).

Average time taken in unplanned discharges in case of cash patients-



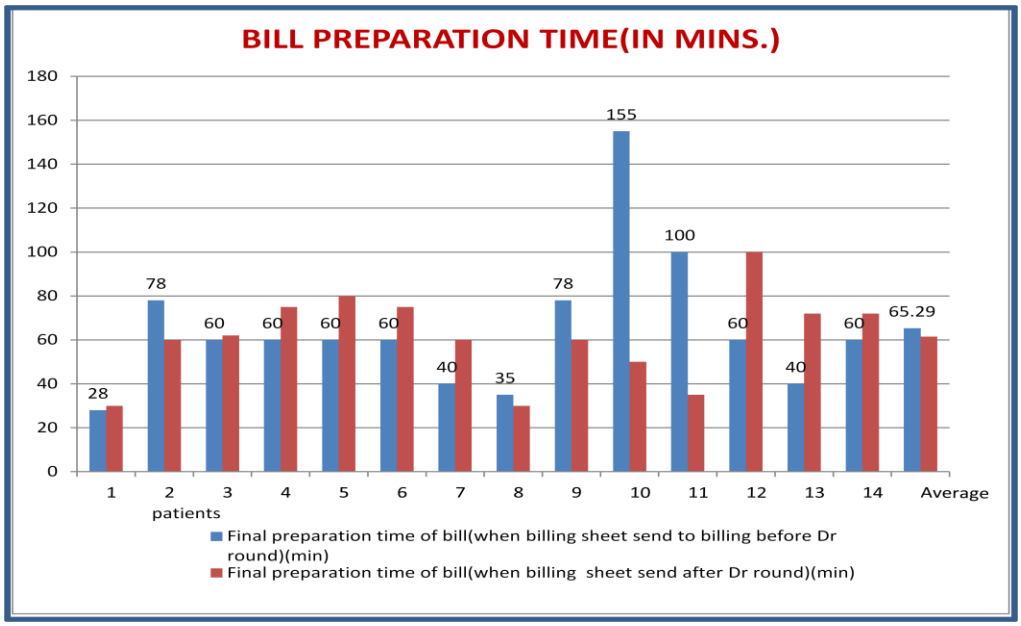
Average time taken in unplanned discharges of cash patients is 165 minutes (2hrs.45mins) and maximum time taken in final preparation of bill that is 67 minutes

Average time taken in unplanned discharges in case of cash patients-



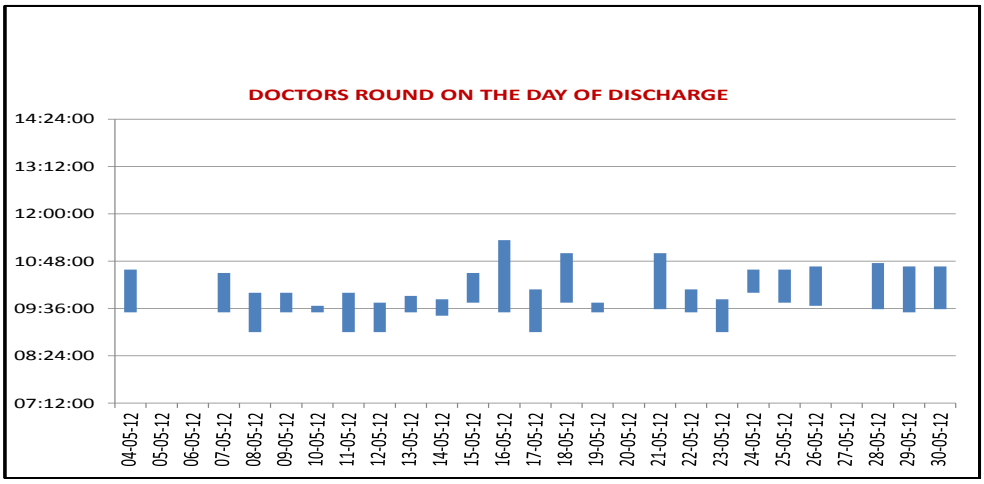
Average time taken in unplanned discharges of TPA patients is 292.50 minutes (4hrs.52mins.) and maximum time taken in final preparation of bill that is 225.67 minutes (3hrs.45mins.).

Comparison of time consumed in final bill preparation, when billing sheet send to billing before doctor round and after doctor round in planned discharges



Average time consumed in final bill preparation when billing sheet send to billing before doctor round is 65 minutes and average time consumed in final bill preparation when billing sheet send to billing after doctor is 29 minutes.

Timings of Doctor's rounds in planned discharges



Timings of doctor's rounds between 9:00am to 11:20am in planned discharges.

DISCUSSION

The findings shows that Length of Discharge Process **(Unplanned)** < Length of Discharge Process **(planned).** Average time taken in planned discharges in case of cash patients (Total time taken by patient to leave the hospital) was 227 minutes as compared to average time taken in unplanned discharges in case of cash patients(Total time taken by patient to leave the hospital) which was 165 minutes ,reasons behind this was that-senior consultant visit late for the rounds in planned discharges due to which delay occured in the whole discharge process. Sometimes bill was ready but patient attendant was not ready to pay there bills, because patients want to be consulted by a Senior Consultant before discharge ,so patient wait for the concerned doctor. Sometimes bill settlement was done by the patient but they want to take the lunch & then left the hospital.

Average time taken in planned discharges in TPA patients was 317.67 minutes (5 hrs. 17mins.),delay occur due to getting approval from insurance company.

More time consumed in final bill preparation when billing sheet send to billing before doctor round(i.e. 65 minutes)as compared to the time consumed in final bill preparation when billing sheet send to billing after doctor round (i.e. 29 minute),this was because when Dr came for the round, he sometimes add any medicine to the patient before discharge due to which again charges have to be add in the bill by the billing department, due to which delay occured in preparation of bill even if billing sheet send before Dr round. Sometimes drug return done in pharmacy department after Dr round(in planned cases) due to which some changes have to be done in bill,so this also one of the reason delay in bill preparation even if billing sheet send before Dr round.

The physicians visits most of their patients(planned to be discharged) between 9:35-11:30 a.m. ; thus any delay in the physicians' visits causes delays in the discharge of their patients. Although it was a prior planned discharge but still it was observed that the discharge procedure begins after Dr's round, such as the concerned nurse sends the billing activity sheet to the billing department, remaining medicines are returned to the pharmacy department, then bill was prepared by the billing department, then bill settlement was done by the attendant of the patient, after which the patient can left the hospital.

The factors affecting waiting time in the discharge process, is as follows:-

- Physicians do not visit patients on time.
- Delay by the concerned Dr in completing the discharge summary sheet.
- Delay in sending billing activity sheet to Billing department because consultant come late for the rounds.

- Sometimes bill is ready but patient attendant is not ready to pay there the bills,because of Demand of patients to be consulted by a Senior Consultant before Discharge,so patient wait for the concerned Dr.
- Family/Transportation issues,is one of the reasons for delay in Discharge process

RECOMMENDATION-

- Incentives/rewards in different forms should be given to the doctors who visit patients timely on respective rounds.
- To speed up of the billing process and to ensure quick turnaround of the final bills, all bills are audited and updated every night to ensure minimum time is taken on the day of discharge. The aim is to complete all the discharges before 11am every day, so that the same beds could be made ready for the new admissions.
- The discharge summary is typed from the day the patient is admitted, is updated on a daily basis and on the day of discharge, only minor additional information is added. "The summary is to be checked and signed by the consultant during his morning visit to the patient on the day of discharge.
- A different mechanism required for increasing the accountability in maintaining the Discharge Tracker.

CONCLUSION –

A effective patient discharge require proper coordination among the all departments and all stakeholders who are involved in discharge process. All steps of discharge process are linked to each other as a chain so if delay occur in any single step then it cause delay in all subsequent steps of patient discharge. As discharge process start from the doctor's round, so doctors round should be on time because any delay in doctor round affects the whole discharge process.

The study shows surprising result i.e. the length of planned discharges is more than the length of unplanned discharges both in cash patient and TPA patient, reason of this finding is that in planned discharges doctors rounds are not on time so it cause delay in sending billing sheet for billing and although billing sheet sent before the doctor round, the billing person has to wait for doctor round to generate final bill because there are some chances of corrections in patient bill by doctor after his round. Apart from this patient also want to consulted by doctor before he leaves the hospital so it cause delay in settlement of the bill.

To reduce the length of planned discharges, doctors' rounds should be on time so that discharge process can be initiated and completed on time. Incentives/rewards in different forms should be given to the doctors who visit patients timely on respective rounds. The bill and discharge summary also should be updated on daily basis so that less time will be consume in its preparation if any correction require after the doctor round at the day of discharge.

The fast discharge process directly related to patient satisfaction and as it is patients' last quality experience in the hospital so it should be deal with effectively and harmoniously so that patient can take good memories with him at home.

REFERENCES

1. ^ Leebov golde group *"Hospital patient satisfaction and the quality patient experience", at www.quality-patient-experience.com/hospital-patient-satisfaction.html*

2. ^ Brent C. James, (1989), *"Quality management for health care delivery" p.17(4) & p.18(6)*

3. ^ Dr.Vinay vatsayan(june 2010), *"A study of the hospital billing system in tertiary care hospital with special reference to insurance patients", p.29(1)*

4. ^ Corey Goodman(July 3,2007), *Discharge planning: Best practices can result in better customer service, market share,(5)*

5. ^ David Anthony, et al. (Feb., 2005), *Re-engineering the Hospital Discharge: An Example of a Multifaceted Process Evaluation,* Advances in Patient Safety: *Vol. 2, p391*

6. ^ Sigma breakthrough technology inc.(2008*), Improving Inpatient Discharge Cycle Time and Patient Satisfaction, Columbus Regional Hospital (CRH) Columbus, Indiana.*

7. ^ Christopher G. Maloney, et al.(2007), *A Tool for Improving Patient Discharge Process and Hospital Communication Practices: the Patient Tracker,* AMIA Annual Symposium Proceeding.

8. ^ Captain S. Erin Elarton (Feb.23, 2005), *Improving the Discharge Process to Optimize Patient Throughput* in an Academic Teaching Hospital & Level I Trauma Center, at *http://www.dtic.mil/dtic/tr/fulltext/u2/a444232.pdf*

APPENDICES

1. Data for planned discharges in cash patient.

						PLANNED DISCHARGES(cash)							
S.NO.	Discharge Date advised on	Time of Discharge advised by the consultant	Type of payment	Dr Round(on the day of D/S	Drug return time to pharmacy	Return for clearance of drugs from pharmacy	Nursing bill sent time	Discharge received	Discharge intimation time	Pharmacy clearance	Financial Discharge	Informed to Attendent	Bill settlement time	Patient finally left the hospital
1	05-04-2012	5:00 PM	cash	10:30 a.m.	5:15a.m.	5:25a.m.	9:20 a.m.	9:25 a.m.	9:17 a.m.	9:23a.m.	9:30 a.m.	9:43 a.m.	11:37 a.m.	1:15 p.m
2	05-04-2012	6:50 p.m.	cash	10:35 a.m.	12:20 a.m.	12:35 p.m.on 4-5-12	12 p.m.	12:05 p.m.	11:50a.m.	12:15 p.m.	12:18 p.m.	12:20 p.m.	12:50 p.m.	1:30p.m.
3	05-04-2012	5 p.m.	cash	9:30 a.m.	4:20 a.m.	4:35 a.m.	8:00 a.m.	8:50 a.m.	8:25 a.m.	8:32 a.m.	9a.m.	9:28 a.m.	11:48 a.m.	12:30 p.m.
4	05-07-2012	5 p.m.	cash	9:30 a.m.	12a.m.on 7-5-12	1 a.m.	9:40a.m.	9:45a.m.	9:36 a.m.	10:10a.m.	10:12 a.m.	10:25 a.m.	3:15 p.m.	4:45 p.m.
5	05-07-2012	5 p.m.	cash	9:45 a.m.	12a.m.on 7-5-12	1:15 a.m.	10:45 a.m.	10:58 a.m.	10:43 a.m.	11:38 a.m.	11:38 a.m.	11:45 a.m.	3:10 p.m.	4:45 p.m.
6	05-07-2012	5:30 p.m.	cash	10:00 a.m.	4 a.m.	5:44 a.m.	7:59 a.m.	8:05 a.m.	7:50 a.m.	8:30 a.m.	8:45 a.m.	9:00a.m.	11:33 a.m.	12:15 p.m.
7	05-07-2012	9a.m.	cash	9:30 a.m.	12:25 a.m.	3:15 a.m.	8:20 a.m.	8:30 a.m.	8:10a.m	8:36 a.m.	8:50 a.m.	9:10 a.m.	9:30 a.m.	10:30 a.m.
8	05-07-2012	3 p.m.On 7-5-12	cash	10:30 a.m.	10:11 p.m.	10:30 p.m.	8:00 a.m.	8:18 a.m.	8:15 a.m.	8:15 a.m.	8:36 a.m.	9 a.m.	10:11 a.m.	11:30 a.m.
9	05-08-2012	4 p.m.on 8-5-12	cash	9:45 a.m.	12:30 a.m.	12:50 a.m.	10 a.m.	10:33 a.m.	10:51 a.m.	10:07 a.m.	11:09 a.m.	11:15 a.m.	11:25 a.m.	11:50a.m.
10	05-08-2012	4p.m.on8-5-12	cash	10 a.m.	12:13 a.m.	12:34a.m.	10:10 a.m.	10:33 a.m.	10:51 a.m.	11:14 a.m.	11:24 a.m.	11:30 a.m.	12:21p.m.	3:00 p.m.
11	05-08-2012	5p.m.on8-5-12	cash	10 a.m.	12:30 a.m.	12:55 a.m.	10:10 a.m.	10:33a.m.	10:51a.m.	11:14a.m.	11:20a.m.	11:25p.m.	2:07p.m.	3:00p.m.
12	05-08-2012	4:15p.m.	cash	9:45a.m.	11:38p.m.	12a.m.	9:47a.m.	9:55a.m.	9:42a.m.	9:55a.m.	10:05a.m.	10:31a.m.	12:10p.m.	12:50p.m.
13	05-08-2012	3:30p.m.	cash	9a.m.	5 a.m.	5:10a.m.	9:20a.m.	9:35a.m.	9:19a.m.	9:26a.m.	9:45a.m.	9:48a.m.	10:15a.m.	10:55a.m.
14	05-09-2012	9a.m.	cash	10a.m.	11p.m.	11:10p.m.	10:09a.m.	10:20a.m.	9:52a.m.	9:53a.m.	10:30a.m.	10:40a.m.	2:30p.m.	3:30p.m.
15	05-09-2012	7:30p.m.	cash	10a.m.	11:30p.m.	11:45p.m.	9:30a.m.	9:43a.m.	9:34a.m.	1:01p.m.	10:10a.m.	10:15a.m.	10:43a.m.	11:30a.m.
16	05-09-2012	9a.m.	cash	9:30a.m.	9:55a.m.	10:20a.m.	9:45a.m.	10:05a.m.	9:56a.m.	10:21a.m.	10:32a.m.	10:35a.m.	11:46a.m.	1:30p.m.
17	13/5/12	7:40p.m.	cash	9:30a.m.	6:12a.m.	6:17a.m.	9:40a.m.	9:45a.m.	9:33a.m.	9:38a.m.	9:48a.m.	10:06a.m.	10:37a.m.	11:40a.m.
18	13/5/12	10:40a.m.	cash	9:55a.m.	11:20p.m.	11:30p.m.	10a.m.	10:08a.m.	10:06a.m.	10:24a.m.	10:35a.m.	11:40a.m.	12:52p.m.	1:20p.m.
19	14/5/12	10a.m.	cash	9:50a.m.	10p.m.	10:10p.m.	8a.m.	8:12a.m.	8:02a.m.	8:15a.m.	8:30a.m.	8:35a.m.	10:06a.m.	10:45a.m.
20	14/5/12	2p.m.	cash	9:25a.m.	10:15p.m.	10:30p.m.	8a.m.	8:38a.m.	8:29a.m.	8:45a.m.	8:54a.m.	9:18a.m.	11:46a.m.	12:30p.m.
21	15/5/12	10a.m.	cash	9:45a.m.	7:05a.m.	7:25a.m.	10a.m.	10:05a.m.	9:51a.m.	9:52a.m.	11:05a.m.	11:12p.m.	4:20p.m.	4:55p.m.
22	15/5/12	11a.m.	cash	9:55a.m.	12a.m.	12:30a.m.	10a.m.	10:20a.m.	10:05a.m.	10:12a.m.	10:25a.m.	11:12a.m.	12:02p.m.	1p.m.
23	15/5/12	11:30a.m.	cash	10:30	7a.m.	7:15a.m.	11:45a.m.	11:50a.m.	11:40a.m.	11:56a.m.	12:02p.m.	12:07a.m.	2:25p.m.	3:15p.m.
24	16/5/12	11:30a.m.	cash	8:30a.m.	No return of drugs	No	8:40a.m.	9a.m.	8:43a.m.	9a.m.	9:15a.m.	9:20a.m.	11:11a.m.	11:55a.m.
25	16/5/12	5p.m.on8-5-12	cash	11a.m.	No return of drugs	No	7a.m.	9:20a.m.	9:17a.m.	9:19a.m.	9:29a.m.	9:35a.m.	10:15a.m.	11a.m.
26	16/5/12	6p.m.	cash	9:30a.m.	No return of drugs	No	8a.m.	9a.m.	9:31a.m.	9:33a.m.	9:37a.m.	9:40a.m.	10:10a.m.	10:40a.m.
27	16/5/12	3p.m.	cash	11:20a.m.	No return of drugs	No	11:30a.m.	11:38a.m.	12:10p.m.	12:39p.m.	12:45p.m.	12:55p.m.	2:02p.m.	3:53p.m.
28	16/5/12	2p.m.	cash	9:40a.m.	No return of drugs	No	9:45a.m.	9:50a.m.	9:54a.m.	10a.m.	10:30a.m.	10:35a.m.	1:17p.m.	2p.m.
29	17/5/12	10a.m.	cash	9a.m.	7:05a.m.	7:33a.m.	9a.m.	9:08a.m.	8:58a.m.	9a.m.	9:15a.m.	9:37a.m.	10:25a.m.	11a.m.
30	17/5/12	6p.m.	cash	10:05a.m.	No return of drugs	No	8a.m.	8:05a.m.	7:56a.m.	8:23a.m.	8:36a.m.	9a.m.	10:54a.m.	12:30p.m.

2. Data for unplanned discharges in cash patient.

S.NO.	Discharge Date advised on	Time of Discharge advised by the consultant	Type of payment	Dr Round(on the day of D/S	Drug return time to pharmacy	Return for clearance of drugs from pharmacy	Nursing bill sent time	Discharge received	Discharge intimation time	Pharmacy clearance	Financial Discharge	Informed to Attendent	Bill settlement time	Patient finally left the hospital
1	05-04-2012	10:45a.m.	cash	10:45a.m.	no	no	10:45a.m.	11:00a.m.	10:43a.m.	10:51a.m.	11:51a.m.	11:54a.m.	4:13p.m.	4:35p.m.
2	05-07-2012	10:00a.m.	cash	10:00a.m.	9:50a.m.	10:00a.m.	11:10a.m.	11:20a.m.	11:26a.m.	11:37a.m.	12:18p.m.	12:19p.m.	12:25p.m.	1:00p.m.
3	05-07-2012	10:00a.m.	cash	10:00a.m.	10:05a.m.	10:10a.m.	10:15am	10:30am	10:20am	10:23am	10:27am	10:35am	10:52am	12p.m.
4	05-07-2012	10:00am	cash	10:00am	10:10am	10:15am	10:15am	10:35am	10:09am	10:23am	10:25am	10:28am	11:02am	11:30am
5	05-07-2012	11:10am	cash	11:10am	11:05am	11:10am	11:06am	12:40pm	11:00am	11:47am	12:50pm	12:53pm	2:02pm	2:50pm
6	05-07-2012	9:00am	cash	9:00am	11:05am	11:10am	11:30am	11:35am	11:00am	11:37am	11:50am	12:13pm	12:29pm	1:15pm
7	05-07-2012	10:00am	cash	10:00am	11:05am	11:10am	10:10am	10:30a.m.	10:00am	11:15am	11:20am	12:13pm	12:25pm	1:15pm
8	05-08-2012	9:40am	cash	9:40am	10:05am	11:00am	10:00am	10:33a.m.	11:23am	11:34am	11:36am	11:36am	11:40am	12:30pm
9	05-08-2012	9:45am	cash	9:45am	9:55am	10:00am	10:00am	10:08a.m.	10:35am	10:40am	10:41am	11:00am	11:31am	12p.m.
10	same	9:45am	cash	9:45am	10:00am	10:05am	10:15am	10:40.am.	10:30am	11:07am	11:08am	11:10am	11:37am	12:20pm
11	05-08-2012	9:50am	cash	9:50am	10:43am	10:50am	10:15am	10:40a.m.	10:45am	11:07am	11:30am	11:35am	12:30pm	3:00pm
12	05-08-2012	9:45am	cash	9:45am	10:25am	10:30am	9:50am	10:40a.m.	10:31am	10:37am	10:50am	10:55am	11:26am	12:30pm
13	05-08-2012	9:50am	cash	9:50am	9:55am	10;00am	9:52am	10:08am	9:55am	10:05am	10:08am	11:10am	12:00pm	1:30pm
14	05-09-2012	11:00am	cash	11:00am	12:25pm	12:30pm	12:30pm	12:40pm	12:24pm	12:47pm	1:41pm	1:44pm	2:40pm	3:15pm
15	05-09-2012	10:30am	cash	10:30am	11:05am	11:10am	11:15am	11:20am	11:14am	11:49am	11:50am	11:53am	2:50pm	3:40pm
16	05-09-2012	11:30am	cash	11:30am	no	no	12p.m.	12:10pm	11:51am	12:07pm	12:22pm	12:24pm	12:45pm	1:30pm
17	05-09-2012	9:45am	cash	9:45am	no	no	10:35a.m.	11:00am	10:38am	10:49am	11:04am	11:08am	11:30am	2:20pm
18	05-10-2012	10:15am	cash	10:15am	no	no	10:25am	10:35am	10:32am	11am	11:05am	11:10am	12pm	12:50pm
19	05-10-2012	11:30am	cash	11:30am	11:25am	11:35am	11:35am	11:45am	11:32am	11:47am	12:25pm	12:40pm	1pm	2:15pm
20	05-10-2012	10:35am	cash	10:35am	10:57am	11:15am	10:45am	11am	11:06am	11:15am	12:06pm	12:10pm	2pm	2:30pm
21	05-10-2012	10am	cash	10am	no	no	10:30am	11:15am	11:43am	12:02pm	12:12pm	12:15pm	12:43pm	1:30pm
22	13/5/12	9:30am	cash	9:30am	8:58am	9:15am	9am	9:18am	9:33am	9:40am	9:47am	9:50am	10:30am	11:30am
23	13/5/12	11am	cash	11am	11:05am	11:18am	11am	11:27am	11:10am	11:50am	1pm	1:05pm	1:35pm	2:30pm
24	13/5/12	11am	cash	11am	11:20am	11:35am	11:20am	11:26am	11:30am	12pm	12:08pm	12:15pm	12:30pm	1:20pm
25	14/5/12	9:15am	cash	9:15am	9:25am	9:40am	9:20am	9:45am	10:05am	11:15am	11:20am	11:25am	11:43am	12:30pm
26	14/5/12	10:45am	cash	10:45am	11am	11:15am	10:59am	11:15am	11:05am	11:25am	12pm	12:07pm	1:45pm	2:40pm
27	14/5/12	11am	cash	11am	no	no	11am	11:43am	11:15am	12:35pm	12:47pm	12:51pm	1pm	1:45pm
28	15/5/12	11am	cash	11am	no	no	11:52am	12:10pm	12:01pm	12:16pm	12:20pm	12:27pm	1:10pm	2pm
29	15/5/12	12:45pm	cash	12:45pm	no	no	12:50pm	12:55pm	1pm	1:24pm	1:29pm	1:35pm	2pm	2:30pm
30	16/5/12	10:15am	cash	10:15am	no	no	10:20am	10:35am	10:25am	10:45am	10:50am	11am	11:35am	12:30pm

3.Data for unplanned discharges in TPA patient

UNPLANNED DISCHARGES															
S.No.	Date advised on	Dr Round	Time of discharge advised by consultant	Type of payment	Drugs return to pharmacy	Return of clearance of drugs from pharmacy	Nursing bill sent time	Discharge received	Discharge intimation time	Pharmacy clearance	Financial discharge	Bill sent to TPA	Informed to Attendent	Bill settlement time(clearance)	Patient finally left hosp.
1	05-10-2012	9:30am	7p.m.	TPA	NO	NO	10 A.M.	10:05A.M.	9:55A.M.	9:56A.M.	10:08A.M.	10:20A.M.	1:50p.m.	2:11p.m.	3P.M.
2	05-10-2012	9:40am	9A.M.	TPA	NO	NO	8A.M.	8:27A.M.	8:18A.M.	8:42A.M.	8:43A.M.	9:33A.M.	12:50p.m.	1:10P.M.	2:20P.M.
3	05-10-2012	9:35am	4P.M.	TPA	NO	NO	8A.M.	8:27A.M.	8:18A.M.	8:42A.M.	8:48A.M.	9:33A.M.	12:15p.m.	12:25p.m.	1P.M.
4	13/5/12	9a.m.	9P.M.	TPA	NO	NO	8:35a.m.	8:45a.m.	8:29a.m.	8:40a.m.	8:54a.m.	9:35a.m.	10:45a.m.	11:30a.m.	12:30p.m.
5	13/5/2012	9:00am	9:00pm	TPA	NO	NO	8:45AM	8:50AM	8:29AM	8:40AM	8:58AM	11:20AM	12:30PM	12:45PM	1:20PM
6	13/5/2012	9:30AM	10:00AM	TPA	6:50AM	7:00AM	9:30AM	9:35AM	9:33AM	9:49AM	9:54AM	10:00AM	1:30PM	2:22PM	3:00PM
7	13/5/2012	10:00AM	8:30PM	TPA	NO	NO	8:00AM	8:10AM	7:52AM	7:57AM	8:20AM	9:00AM	11:35AM	12:22PM	1:30PM
8	13/5/2012	10:00AM	9:00PM	TPA	NO	NO	8:00AM	8:10AM	7:53AM	7:57AM	8:10AM	9:00AM	2:15PM	3:00PM	3:30PM
9	13/5/2012	10:00AM	4:30PM	TPA	NO	NO	8:30AM	8:40AM	8:25AM	8:41AM	8:53AM	11:20AM	2:15PM	2:45PM	3:15PM
10	14/5/2012	9:00AM	11:30AM	TPA	NO	NO	8:45AM	9:00AM	8:40AM	8:50AM	9:00AM	9:30AM	11:00AM	11:20AM	12:00
11	14/5/2012	9:15AM	10:00AM	TPA	6:30AM	6:45AM	8:00AM	8:45AM	8:34AM	8:45AM	9:00AM	9:30AM	1:05PM	1:15PM	2:30PM
12	14/5/2012	9:45AM	2:30PM	TPA	NO	NO	8:00AM	8:38AM	8:30AM	8:45AM	9:00AM	9:20AM	1:00PM	1:20PM	2:15PM
13	15/5/2012	9:45AM	10:00AM	TPA	NO	NO	9:10AM	9:18AM	9:16AM	9:52AM	10:00AM	10:20AM	12:45PM	1:20PM	2:00PM
14	15/5/2012	11:00AM	10:50AM	TPA	NO	NO	11:45AM	11:50AM	11:46AM	11:56AM	12:05PM	12:30PM	2:00PM	2:20PM	3:00PM
15	15/5/2012	10:05AM	6:00PM	TPA	6:00AM	6:10AM	8:00AM	8:30AM	8:38AM	8:54AM	9:15AM	9:38AM	12:00PM	12:25PM	1:45PM
16	15/5/2012	10:10AM	8:00PM	TPA	NO	NO	8:00AM	8:30AM	8:39AM	8:54AM	9:10AM	9:55AM	11:45AM	12:10PM	1:30PM
17	16/5/2012	9:30AM	7:00PM	TPA	12:15AM	12:20AM	9:30AM	9:49AM	9:42AM	9:50AM	10:05AM	10:30AM	1:00PM	1:30PM	3:00PM
18	16/5/2012	9:35AM	10:00AM	TPA	NO	NO	8:00AM	9:00AM	8:48AM	9:09AM	9:05AM	9:30AM	12:15PM	12:30PM	1:00PM
19	16/5/2012	9:45AM	5:00PM	TPA	8:50AM	9:10AM	8:30AM	9:18AM	8:50AM	9:32AM	9:50AM	10:05AM	1:20PM	1:40PM	3:00PM
20	17/5/2012	10:30AM	10:00AM	TPA	NO	NO	1:15PM	1:38PM	1:15PM	1:27PM	1:42PM	2:00PM	3:30PM	4:00PM	4:30PM
21	17/5/2012	11:00AM	5:00PM	TPA	NO	NO	10:00AM	10:08AM	9:55AM	10:03AM	10:18AM	10:35AM	1:00PM	1:30PM	2:15PM
22	17/5/2012	10:15AM	5:00PM	TPA	NO	NO	8:00AM	8:07AM	7:57AM	8:23AM	8:35AM	9:00AM	11:15AM	11:45AM	12:30PM
23	17/5/2012	9:35AM	5:00PM	TPA	NO	NO	9:45AM	10:10AM	9:44AM	11:22AM	11:24AM	11:35AM	2:15PM	2:30PM	3:00PM
24	18/5/2012	9:30AM	10:00AM	TPA	9:45AM	10:00AM	9:20AM	9:40AM	9:42AM	10:03AM	10:05AM	10:20AM	11:45AM	12:00	12:30PM
25	18/5/2012	10:05AM	4:30PM	TPA	6:45AM	7A.M.	10A.M.	10:30A.M.	10:16A.M.	10:18A.M.	10:40A.M.	11A.M.	1:55P.M.	1:25PM	2:00PM
26	05-11-2012	9:50am	10:15am	TPA	NO	NO	8:45AM	8:55AM	8:50AM	9:14AM	9:17AM	9:30AM	1:20PM	1:35PM	2:20PM
27	05-11-2012	9:00AM	8:00PM	TPA	NO	NO	9:30AM	10:00AM	9:40AM	9:41AM	10:15AM	10:30AM	1:20PM	1:35PM	2:10PM
28	05-04-2012	10:35a.m.	5p.m.	TPA	5A.M.	5:10A.M.	9:10A.M.	9:20A.M.	9:17A.M.	9:23A.M.	09:40	9:50A.M.	12:58p.m.	1:20p.m.	2pm
29	05-04-2012	10A.M.	10A.M.	TPA	12:50A.M.	1A.M.	8A.M.	8:10A.M.	8:04A.M.	8:33A.M.	8:40A.M.	9:50A.M.	12:08p.m.	1:25p.m.	2:15pm
30	05-07-2012	10A.M.	5P.M.	TPA	10:35p.m.	2:56a.m.	10:00a.m.	10:12a.m.	9:59a.m.	10:10a.m.	10:48a.m.	11:00a.m.	4:38p.m.	5p.m.	5:30pm

3. Data for unplanned discharges in TPA patient

S.No.	Dt. Advised on	Time of D/S advised by dr.	Type of payment	Dr. round	Time of drug return to pharmacy	Drug return clearance from pharmacy	Nursing bill sent time	Discharge received	Discharge intimation time	Pharmacy clearance	Financial discharge	Bill sent to TPA	Informed to attendent	Bill settelment time	Patient finally left the hospital
1	13-5-12	9:40AM	TPA	9:40AM	9:00AM	9:20AM	9:25AM	9:30AM	9:09AM	9:21AM	9:35AM	10:00AM	2:10PM	2:15PM	3:00PM
2	14-5-2012	11:00AM	TPA	11:00AM	9:30AM	10:00AM	11:00AM	11:43AM	11:00AM	12:23PM	12:30PM	12:45PM	3:00PM	3:20PM	3:50PM
3	15-5-2012	9:00AM	TPA	9:00AM	9:32AM	9:50AM	9:45AM	9:58AM	9:40AM	9:51AM	11:00AM	11:20AM	1:30PM	2:00PM	3:00PM
4	15-5-2012	9:45AM	TPA	9:45AM	NO	NO	10:00AM	10:05AM	9:58AM	10:00AM	10:02AM	10:35AM	3:55PM	4:20P.M.	5P.M.
5	05-10-2012	10:05am	TA	10:05am	10:09am	10:25am	10:35am	10:55am	10:39am	11:03am	11:14am	11:30am	1:15pm	1:35pm	2:30pm
6	05-10-2012	10:05am	TPA	10:05am	10:34am	11am	10:30am	10:55am	10:39am	11:03am	11:10am	11:15am	2:15pm	2:40pm	3pm
7	05-10-2012	10:15am	TPA	10:15am	NO	NO	9:30AM	9:45AM	9:25AM	9:57AM	9:58AM	10AM	12:20PM	12:45PM	2PM
8	05-10-2012	10:15AM	TPA	10:15AM	NO	NO	10:25AM	10:37AM	10:2OAM	10:40AM	10:45AM	10:55AM	2PM	2:25PM	3:45PM
9	05-10-2012	12PM	TPA	12PM	12:38PM	1PM	12:30PM	12:35PM	12:40PM	1:18PM	1:22PM	1:28PM	3PM	3:30PM	4PM
10	05-10-2012	10:30AM	TPA	10:30AM	10:13AM	10:30AM	10:43AM	10:57AM	10:40AM	11AM	11:24AM	11:30AM	3:25PM	3:45PM	4:20PM
11	05-11-2012	9:30am	TPA	9:30am	10:55am	11:15am	9:32am	9:40am	9:45am	9:27am	10:00am	10:15am	12:00	12:25PM	1:30pm
12	05-11-2012	10:15am	TPA	10:15am	no	no	10:20AM	10:30am	10:20am	10:30AM	10:34AM	10:40AM	1:15PM	1:30PM	2:10PM
13	05-11-2012	9:15AM	TPA	9:15AM	NO	NO	9:30AM	10:00AM	9:40AM	9:50AM	10:20AM	10:25AM	12:30PM	12:45PM	2:00pm
14	05-11-2012	11:00am	tpa	11:00am	no	no	9:15AM	9:25AM	9:05AM	9:30AM	9:35AM	9:45AM	11:45AM	12:10PM	1:00PM
15	16/5/2012	9:30am	TPA	9:30am	8:30AM	8:45AM	9:35am	9:45am	9:30AM	9:50am	9:54am	10:00am	12:30pm	12:45pm	2:00pm
16	16/5/2012	9:30am	TPA	9:30AM	8:30AM	8:45AM	9:35AM	9:45AM	9:30AM	9:50AM	9:45AM	10:00AM	12:30PM	12:45PM	2:00PM
17	16/5/2012	9:40AM	TPA	9:40AM	8:31AM	8:42AM	9:45AM	10:00AM	9:42AM	10:00AM	10:05AM	10:15AM	12:15PM	12:30PM	1:00PM
18	16/5/2012	10:30AM	TPA	10:30AM	10:21AM	10:30AM	10:35AM	10:45AM	10:33AM	11:00AM	11:05AM	11:15AM	1:30PM	1:50PM	3:00PM
19	16/5/2012	10:00AM	TPA	10:00AM	9:54AM	10:10AM	10:10AM	10:25AM	10:05AM	10:20AM	10:24AM	10:30AM	2:15PM	2:35PM	3:15PM
20	17/5/2012	9:20AM	TPA	9:20AM	NO	NO	9:30AM	10:00AM	9:45AM	10:30AM	10:35AM	10:45AM	3:00PM	3:20PM	4:00PM
21	17/5/2012	9:20AM	TPA	9:20AM	NO	NO	9:30AM	10:00AM	10:18AM	11:03AM	11:10AM	11:20AM	2:45PM	3:00PM	3:30PM
22	17/5/2012	10:00AM	TPA	10:00AM	NO	NO	10:10AM	10:20AM	10:10AM	10:30AM	10:35AM	10:50AM	2:30PM	2:45PM	3:20PM
23	17/5/2012	11:00AM	TPA	11:00AM	NO	NO	11:15AM	11:23AM	11:13AM	11:30AM	11:35AM	11:45AM	3:00PM	3:20PM	4:00PM
24	05-04-2012	10am	TPA	10am	NO	NO	10:10AM	10:20AM	10:07AM	10:30AM	10:35AM	10:50AM	2PM	2:30PM	3:15PM
25	05-04-2012	10:30AM	TPA	10:30AM	12:30AM	12:42AM	10:49AM	11AM	10:55AM	11:15AM	11:20AM	11:30AM	2:30PM	3PM	3:30PM
26	05-04-2012	9:30AM	TPA	9:30AM	5AM	5:15AM	9:35AM	9:45AM	9:40AM	10AM	10:07AM	10:15AM	12:45PM	1:15PM	2PM
27	05-04-2012	10:30AM	TPA	10:30AM	NO	NO	10:45AM	11AM	10:43AM	10:51AM	10:55AM	11:10AM	2:10PM	2:30PM	3PM
28	05-04-2012	9:40AM	TPA	9:40AM	10:20AM	10:35AM	09:50	10AM	9:55AM	10:15AM	10:20AM	10:35AM	1:15PM	1:40PM	2:30PM
29	05-04-2012	10AM	TPA	10AM	NO	NO	10:10AM	10:35AM	10:30AM	10:51AM	10:55AM	11:15AM	3:30PM	4PM	4:35PM
30	05-07-2012	10AM	TPA	10AM	10:25AM	10:40AM	10:10AM	10:15AM	10:05AM	10:15AM	10:20AM	10:35AM	3PM	3:25PM	4PM

4. Doctor's round timing in planned discharges

	Dr Round(PLANNED D/S)	
DATE	Dr round(starting time)(A.M.)	Dr round(End time)(A.M.)
05-04-2012	09:30	10:35
05-07-2012	09:30	10:30
05-08-2012	09:00	10:00
05-09-2012	09:30	10:00
13/5/2012	09:30	09:55
14/5/12	09:25	09:50
15/5/12	09:45	10:30
16/5/12	09:30	11:20
17/5/12	09:00	10:05
05-10-2012	09:30	09:40
05-11-2012	09:00	10:00
05-12-2012	09:00	09:45
18/5/12	09:45	11:00
19/5/12	09:30	09:45
21/5/12	09:35	11:00
22/5/12	09:30	10:05
23/5/12	09:00	09:50
24/5/12	10:00	10:35
25/5/12	09:45	10:35
26/5/12	09:40	10:40
28/5/12	09:35	10:45
29/5/12	09:30	10:40
30/5/12	09:35	10:40

5. Doctor's round timing in planned discharges

Final preparation time of bill(when billing send before Dr round)(min)	Final preparation time of bill(when billing send after Dr round)(min)
28	30
78	60
60	62
60	75
60	80
60	75
40	60
35	30
78	60
155	50
100	35
60	100
40	72
60	72