Summer Training at

P.D. Hinduja National Hospital and Medical Research Centre, Mumbai

- **Triage Based Patient Analysis in A & E Department**
- **Error Prone Abbreviation**
- **Quality Assessment in Food Service Department**

By
Mili Jha

Under the guidance of
Dr. Monika Chaudhary

MBA- Hospital & Health Management (MBA-HM)
2015-2017

The IIHMR University, Jaipur
2016

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

IIHMR UNIVERSITY

CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Ms Mili Jha** student of **MBA Hospital and Health Management** from the IIHMR University; Jaipur has undergone summer training at **P.D.Hinduja Hospital** from 1st April to 31 st May, 2016.

The candidate has successfully carried out the study designated to her during summer training and her approach to the study has been sincere, scientific & analytical.

The internship is in fulfilment of the course requirements.

I wish her all success in all her future endeavours.

Col. (Dr.) Ashok Kaushik
Dean (Academics & Student Affairs)
IIHMR University, Jaipur

Monika Chaudhary
Associate Professor,
IIHMR University, Jaipur

P. D. HINDUJA NATIONAL HOSPITAL
& MEDICAL RESEARCH CENTRE
(Established and managed by the National Health & Education Society)

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PHONE : 2445 1515, 2445 2222, 2444 9199 FAX : 2444 9151

June 10, 2016

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Ms Mili Jha a student of MBA in Hospital Management from Indian Institute of Health Management Research (IIHMR), Jaipur, did her internship in our Hospital from 1st April - 31st May 2016. During this period her assignment was as follows:

1. Error prone abbreviation
2. Time motion study in Accident and Emergency Department
3. Quality Assessment in Food Service Department

I wish her all the success in future endeavors.

Joy Chakraborty
Chief Operating Officer

PREFACE

During the training, I had an overview of several departments of the hospital. Summer internship is an integral part of MBA-HM curriculum. As a part of the course, the students of first year are required to undergo summer placement at any reputed organization to get in depth exposure to various departments of the organization and understanding of health care delivery system and its functions.

The major objectives of the summer internship are to understand and learn day to day operational management of a Hospital/ Health Care organization and its service contents. It is to identify issues/problems within certain operational area, acquire more knowledge on roles and responsibilities of key players and stakeholders in the hospital. To understanding the perspective of the functions various departments by interaction with key stakeholders, policy makers, academicians and researchers.

Acknowledgement:

Summer training at P.D. Hinduja Hospital and Research Centre**,** Mumbai helped to provide me a both learning experience as well as a glimpse into the daily managerial level issues of this renowned hospital. I was fortunate enough to interact with the esteemed authorities and staff of the hospital, who have encouraged and guided me with their support and patience.

I offer my sincerest gratitude to Mr. Joy Chakroborty **CEO** for providing me an opportunity to carry out my internship at **P.D. Hinduja Hospital, Mumbai**

I want to express my gratitude and sincere thanks to my mentor Dr. Preeti Goraksha**,** Senior Manager Clinical Services Unit, for her constant support and invaluable time-to-time guidance and constructive feedbacks me to develop ideas, think more critically and more value to my work

I also want to extend my thanks to **Dr. S.D. Gupta,** Director-IIHMR for incorporating right attitude towards learning and **Col. (Dr.) Ashok Kaushik,** Dean-Academic and Students Affairs, IIHMR, for helping and supporting me to reach my goals and endeavors.

Finally I acknowledge my indebtedness to the staff of the Hospital and our respected teachers of IIHMR especially Ms Monika Chaudhary for providing her constant support by guiding me throughout my internship tenure.

Lastly, I could never finish my report without the help of other working staffs who helped me throughout the journey.

Sincerely,

Mili Jha

MBA-HM (2015-2017)

Table of Contents

Abbreviations –

OPD – Out Patient Department

IPD – Inpatient Department

CSSD – Central sterile supply department

TAT – Turnaround time

GSR – Goods Service Receipt

ADR – Adverse Drug Reaction

NDPS – Narcotic drug and psychotropic substances

LASA – Look Alike Sound Alike

VED – Vital, Essential, Desirable

ROL – Reorder Levels

DTC – Drugs and therapeutics committee

PPE – Personal Protective Equipment

PPM – Planned Preventive Maintenance

CMS – Chief Medical Services

ICN – Infection Control Nurse

CNS – Chief Nursing Superintendent

OT – Operation Theatre

ICU – Intensive Care Unit

ER – Emergency Room

CSSD – Central Sterile Supply Department

BHU – Body Holding Unit (Mortuary)

FSD-Food Service Department

E-MRD-Medical report Department

AHU – Air handling Unit

HEPA Filter – High Efficiency Particulate Air filter

MGPS – Medical Gas Plant System

STP – Sewage Treatment Plant

ETP – Effluent Treatment Plant

WTP – Water Treatment Plant

AMC – Annual Maintenance Contract

CMC – Continuous Maintenance Contract

CAMC – Comprehensive Annual Maintenance Contract

RO plant – Reverse Osmosis Plant

HOSPITAL OVERVIEW-

P.D. HINDUJA NATIONAL HOSPITAL AND MRC

Introduction

The late Sh. Paramanad Deepchand Hinduja had in 1951established a charitable hospital under auspices of "The National Health and Education Society". Later the Hinduja foundation under the patronage of Sh. S.P. Hinduja, launched an U.S. $30 million (about Rs 35 crore) project to develop this into a modern, technologically advanced Tertiary Care Hospital Medical Research complex. The Hospital project with 342 beds inclusive of 53 critical care beds was dedicated to the memory of late Sh. P.D. Hinduja and opened in August 1986. Today it is one of South Asia's most modern centers for health care. It has a unique collaborations program with Massachusetts General Hospital, Boston and the Washington Hospital Centre, Washington D.C., U.S.A.

History

Behind the ultra modern and internationally acclaimed in extending world class medical services which are offered at P.D. Hinduja National Hospital & Medical Research Centre, lies a 50 years old dream.

A mission to assimilate the finest in medical and surgical talent and technique, to bring them closer to the common man, it was nurtured in the heart of great founder, **Shri Parmanand Deepchand Hinduja- a hard working philanthropist**, who laid the foundation of the National Hospital, way back in 1951. Today, the P.D. Hinduja National Hospital stands as a concrete testimony to the fulfillment of his dream.

Hinduja Hospital is an **ultramodern multi specialty tertiary care hospital with a Medical Research Centre in collaboration with Massachusetts General Hospital (MGH), Boston.**

The hospital has an inpatient capacity of 381 beds inclusive of 57 critical care beds in different specialties. As a tertiary care hospital, the services offered are comprehensive covering investigation & diagnosis to therapy, surgery & post – operative care. The inpatient services are complemented with a day centre, out-patient facilities and an exclusive centre for health check for executives.

Location

Located in Mumbai, the heart of the financial and commercial capital of India, it is landmark in itself.

Situated in Mahim, Veer Sarvakar Marg, its unique structure and immensity of size and its colour white and yellow edifice immediately distinguishes it from rest of the surrounding. The

OPD block (Hinduja Clinic) and IPD (West Block) is connected through a bridge over the road. The hospital is well connected through roads, railway and air.

Philosophy

The Hospitals philosophy is '**To provide World Class Quality Health Care Services to all sections of the society**' with emphasis on philanthropy. To fulfill this objective the hospital has highly qualified & dedicated medical professionals, paramedics and managerial support staff who regularly enhance their skills to the most contemporary world standards.

Mission

To create Hinduja Hospital as a world class medical institution by delivering quality medical care to all patients as well as continuing medical education to all doctors and training to nurses and by under taking basic and clinical research with a focused on the needs of the country.

Vision

Quality healthcare for all

Quality Policy

To **our** patients **we** commit **our** best we aim to

- Assure best outcome.
- Build seem less services.
- Create values.
- Satisfied with personalized care.
- Pledge to set and practice high standards through an effectively quality management system and ensure that our services always meet the expected requirement of our clients and patients.

Quality Objectives

- To create a safer environment for the patient as well as staff by reducing the errors.
- Involvement of staff in the quality improvement to take the working to higher level continuously.
- Continual improvement in every area of the hospital services.

Achievements

- Hinduja hospital was the first disciplinary tertiary care hospital to have been awarded the **prestigious ISO 9002 certification** from **KEMA of Netherlands** for quality management system.
- Hinduja hospital was recently awarded the prestigious '**Golden Peacock Global Award for Philantrophy in Emerging Economics 2006**.'
- The First Hospital Laboratory in India to be **accredited by the College of American Pathologists.**
- P.D. Hinduja Hospital is the second hospital in the city to receive the **NABH accreditation**, on July 1, 2009.
- Hinduja Hospital was recently awarded the **IMC Ramakrishna Bajaj** Award for Quality.

Medical Expertise

With over **86 hospital based consultants**; which is a unique feature of the hospital, there is always an experienced specialist available to initiate treatment without delay. The various specialties covered are Cardiology, Cardiothoracic Surgery, Neurology, Neurosurgery, Orthopedics, Oncology, Ophthalmology, Rheumatology, Endocrinology, ENT, Gastroenterology, Pediatrics, Pediatric Surgery, Pediatric Neurology, Urology, Nephrology, Dermatology, Dentistry, Plastic Surgery, Gynecology, Pulmonologist, Psychiatry, General Medicine & General Surgery.

Technology Upgrade

1. Gamma Knife- gold standard in Radio surgery, a non invasive neurosurgical tool.
2. **Twin speed MRI**, a revolutionary technology in neurovascular and cardiology imaging.
3. **BancTec NR 730 analyzer** for micro culture.
4. **Gamma Camera / PET scan** which redefines the treatment in cancer management, orthopedics, neurology and cardiology.
5. Digital Linear Accelerator Clinic 2300 C/D with MLC & micro MLC with portal vision along with CT stimulator, dedicated 3D computerized planning system for achieving a high tumor dose and increased cure rate and a low normal tissue dose to reduce toxicity.
6. Vacationer system for blood collection.

7. Holmium Laser, thus replacing surgeon scalpel.

   Synchromesh CX-7 fully automated for pick-up, delivery and analysis of the sample and reagent.

8. Computerized Humphrey's perimeter for early diagnosis of glaucoma.

9. Digital Subtraction Angiography for cerehaed angiography, peripheral and renal angioplasty, biliary drainage and nephrectomy.

10. Viewing wand navigation system to conduct minimal invasive neurosurgery procedures.

11. **GE Volume Light Speed CT,** which captures images of the heart in just 5 heartbeats at the speed of light.

12. **GE INNOVA 2000 CATH LAB** machine for better visibility of blood vessels.

13. The **Radial Lounge, First of its kind in India,** is a unique concept for carrying out Coronary Angiographies and Angioplasties procedure. In support of the Nephrology services at the hospital.

Human Touch

1. Hospital provides charity to 20% of patients, spending approx 80 million for this purpose every year.

2. It ensures equal care and service to the charity and paying patients without discrimination in its OPD and Wards.

The Firsts to Hinduja Hospital Credits to:

- One of the first hospitals in India to perform laparoscopic gall bladder surgery.
- One of the few hospitals in India to perform Cochlear Implantation.
- The first hospital in India to start a Pain Management Clinic.
- For the first time in India awake craniotomy for an epilepsy surgery was performed at the hospital.
- It offers the facility for Therapeutic drug monitoring for the highest number of drugs in the India.
- Started the first screening center for breast cancer in Mumbai.

- The first private hospital in Mumbai to perform cadaver kidney transplant &peripheral blood stem cell transplant.
- The first one in Mumbai to introduce high resolution scanning (HRCT) of the lungs.
- The first few in Mumbai to install Digital Video EEG which is capable of recording the electrical events of the brain.
- The first hospital in Mumbai to start Home Care, which is a service of nursing care at your doorstep.
- The first in India to set up Vulvar Clinic.
- The first hospital in Mumbai to start a Sleep Laboratory.

Basic Facts about P.D. Hinduja Hospital

- Bed strength = 402 beds inclusive of 52 critical care
- Bed occupancy rate =100%
- ALOS = 5.1 days
- Mortality Rate =35 death per month
- Patient to Nurse Ratio = 6:1
- Number of Discharges/month = 2000
- Number of OPD patient/day = 900-1000
- Number of Emergency case = 45-50 / day
- Building of Hinduja Hospital = 3
  - ✓Hinduja Clinic (OPD) = 4 floors (3+1 floor)
  - ✓West Block (IPD Block) = 16 floors
  - ✓Lalita Girdhar Block = 8 floors

CLINICAL SERVICES

ADMISSION & BILLING DEPARTMENT

Introduction:

Admission & Billing Department in its endeavor ensures:

1. To provide excellent quality health care to all sections of society.
2. To provide a friendly, compassionate, humanely & satisfactory atmosphere during the stay of the patient at the hospital.
3. To create an environment of high quality patient care, treatment & management delivered effectively & efficiently starting from admission to discharge.

Following are the services offered----

1. Registration of the new patient
2. Booking/Reservation –Bed & Operation theatre
3. Admission
4. Billing
5. Discharge
6. Corporate/ T.P.A. Help Desk
7. T.P.A. Deficiency
8. Outstanding Counseling & Recovery
9. Lobby Reception
10. Accident & Emergency Counter

REGISTRATION

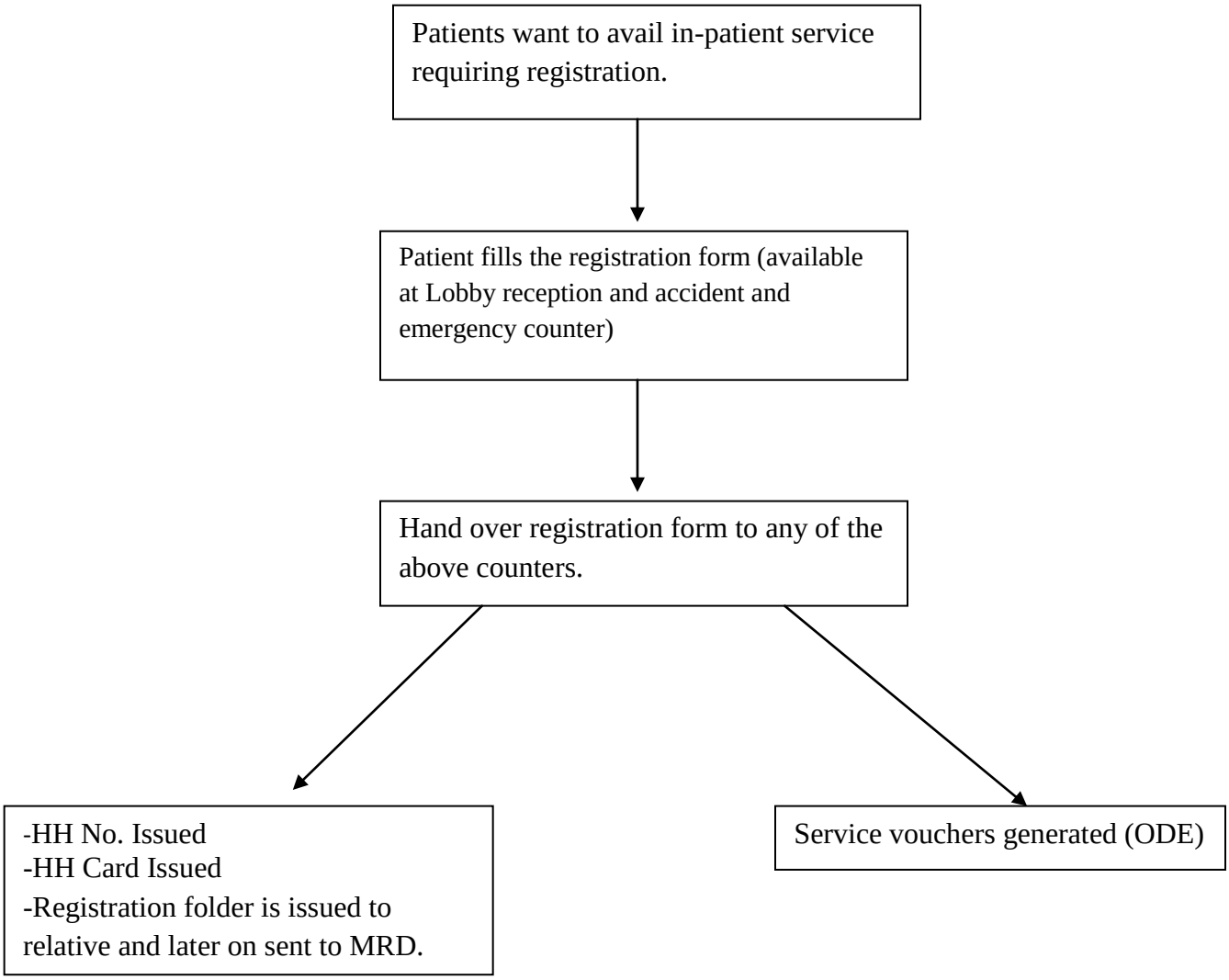


Figure 1 –Process Flow of Registration Department

OUTPATIENT DEPARTMENT

Patients who in the considered view of a competent medical professional do not immediately require Hospital admission and who can be satisfactorily treated on a domiciliary basis are classified as Ambulatory Patients, and are commonly referred to as outpatients. Hence the department of ambulatory care is also known as Outpatient Department.

The Hinduja Clinic aims to provide:

High quality of ambulatory care services to the community in a secured environment.

Ensuring safe, appropriate interventions, treatment and care which are delivered humanely and efficiently.

Location and Layout

FLOORS	WING 1	WING 2	WING 3	WING 4
Ground Floor	Medical/Surgical/Oncology	Radiation Oncology	AKD Department	Gamma Knife, Medical Reports Delivery Counter and OPD Path Lab
First Floor	Consultants	General Radiology and Ophthalmic	ENT and Medical Records	Consultants
Second Floor	Consultants, Neurology Department	Consultants	Consultants, CDC and Physiotherapy	Dental and Consultants
Third Floor	Blood Donor Room, Blood bank and Stat. Lab	Endoscopy, Bronchoscopy, Urodynamic	Cardiac, PFT Lab, Consultants	Executive Health Check up

Table 1 – Location and Layout Of OPD Department

Sections and Timings of OPD

Hinduja is divided into:

a) Hinduja Clinic: where patients have to pay for the services rendered

(Timings: 8.00 hrs to 20:00 hrs-from Monday to Friday)

(Timings: 8.00hrs to 18.00 hrs-Saturdays)

b) Free OPD : where patients get free consultation

(Timings: as per consultant's schedule)

c) Report Delivery

(Timings: 8:00 hrs to 20.00 hrs- Monday to Friday)

(Timings: 8:00 hrs to 18.00 hrs-Saturdays)

OPD ORGANOGRAM

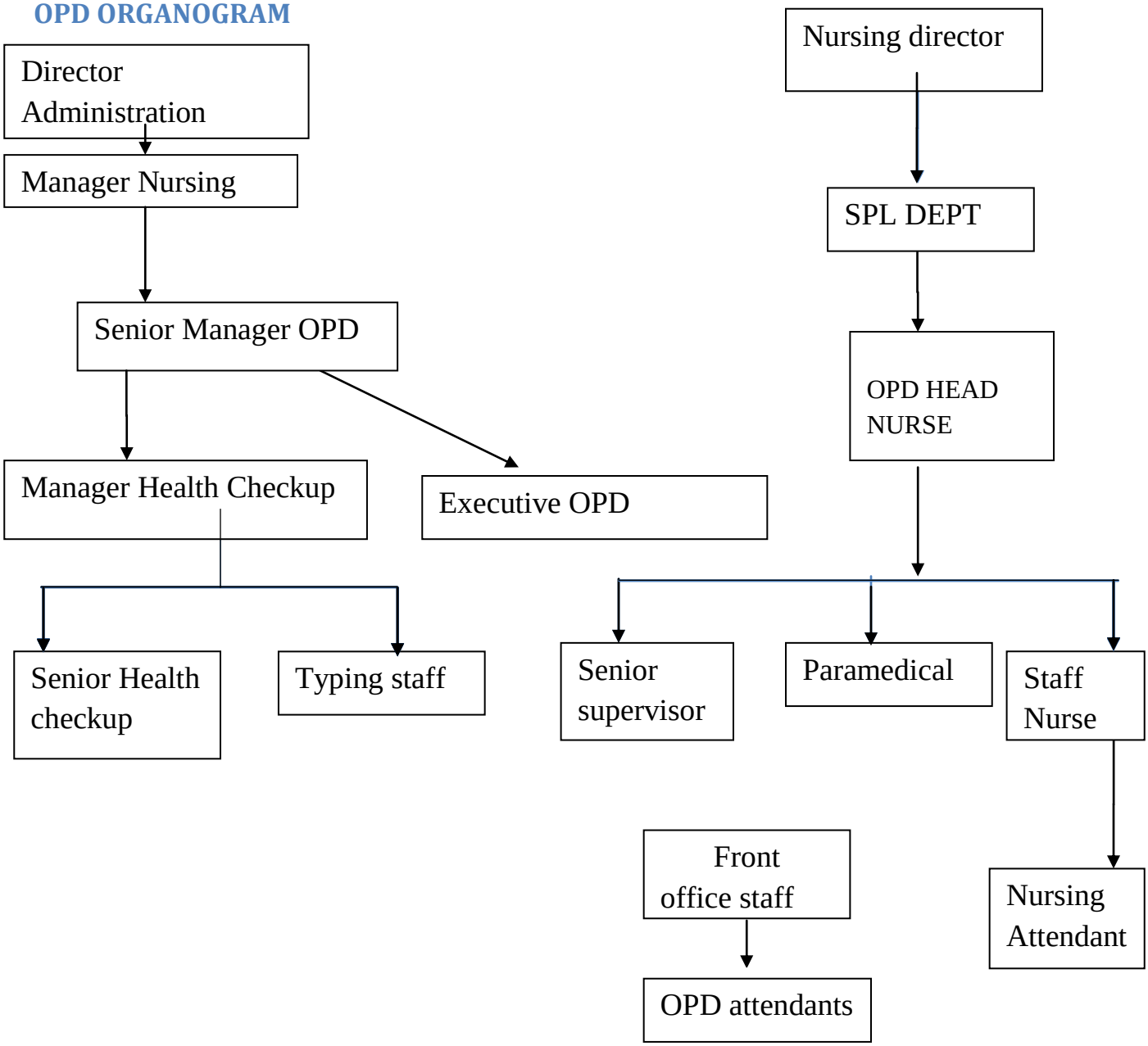


Figure 2 – Organogram of OPD Department

Following Services are provided in the OPD:

- Medical/Surgical/Oncology
- Health checkup Packages
- Laboratory Investigations
- Imaging Services
- Cardiology Investigations
- Neurology Investigations
- Pulmonary Investigations
- Pain Management
- AKD (Artificial Kidney Department)
- Gamma Knife
- Endoscopy
- Bronchoscope
- Urodynamic Study
- Physiotherapy
- CDC
- ENT
- Ophthalmology
- Dental Procedures
- Radiation Oncology

ACCESS TO OPD SERVICES:

- HINDUJA HOSPITAL CARD (HH NUMBER)

All patients who visit the Hinduja Clinic or Free OPD for the first time for consultation/other services are issued a card. This card is known as the HH Card and is attached to the registration form and is issued to the patient at the time of registration. The HH number is present on the card.

The HH number and card being important as with the help of it, Medical Record folders can be accessed . Patients are advised to always carry their HH card number whenever they are visiting the OPD for follow up visits or when admitted as inpatient.

- PATIENT CARD-STAFF

All time full employees of the hospital and their dependent family members are entitled to free treatment, as one of the staff welfare measures. For this purpose the employees are issued a patient card-STAFF.

- EXTERNAL PATIENT TOKEN NUMBER

Outpatients visiting OPD for the first time, as referrals from external sources, and requiring only investigations, are not issued a HH card. The system generates an EX no. for that particular transaction only.

- OPD APPOINTMENT

Appointments can be fixed over the telephone to the HTMT Call centre (facility for patient appointments have been outsourced) or personally across the Reception counter. Fax and e-mail facilities are also available.

- NON APPOINTMENT PATIENTS

In the normal course, consultants in the Hinduja Clinic see the patients only by prior appointment. However exceptions are made to this system in the interest of the patients, or Non Appointment or Walk in patients are given appointment if a time slot is available. Patients, who have come as Non appointments are normally seen by the consultants after all the other waiting patients with prior patients, are seen (except in emergency cases).

HEALTH CHECKUP

The Executive Health Checkup department, a part of OPD services is a wing of this Multispecialty Hospital dedicated to the diagnostic and preventive side of patient care. The executive Health Checkup department is a place where healthy patient come in for prognosis of disease or to know about the preventive and curative aspect of Conditions they may already have.

This system facilitates the patient to get all the required investigations/consultations done without having to pay for either consultation and/or for each individual item of Pathological or Imaging Investigations.

It is a centre point where the potential customers come directly in contact with the hospital services. This department therefore can be a point to draw in patients to become in-patients or for them to come even for follow-up OPD consultations.

The health checkup consists of 7 employees.

The packages in this Health check program have been developed by a team of highly qualified and experienced medical personnel and are designed to offer a complete medical check-up and within their limitations detect any latent health problems. In addition, these packages are offered at special discount rates that make them truly worthwhile. At the end of the day, candidates leave the hospital with all their reports. The customers of this department are called Executives. On an average the inflow of customers is 25-30/day however on weekends the number rises to 45.

The departments with which the Health Checkup team works in Co-ordination are:

Pathology, Cardiology, ENT, Dental and Radiology

The visiting consultants are from the following facilities: Physicians,Surgeons and Gynecologists.

The ranges of packages provided are:

1. Premium Package
2. Special Package
3. Special Ultra Package
4. Comprehensive Package
5. Comprehensive Plus Package
6. Basic Package

7. Well women Pearl package

8. Well women Ruby package

9. Care Plus Package

IN-PATIENT DEPARTMENT

The IPD Building is a 16 floors building.

- First Floor-admission and billing Department, Accident and Emergency, MRI ,Customer Care
- Second Floor- Cath Lab, I.C.U.(Non-ventilated)
- Third Floor-Operation Theatres(9)
- Fourth Floor-Short Stay services, Stop Over Unit,2 Operation Theatres(for minor surgeries)
- Fifth Floor-CSSD, Medical Stores, Pharmacy
- Sixth Floor-Food Services Department, Provision Stores, Cafeteria
- Seventh Floor-Special and Deluxe Rooms ,PICU(6 beds) and NICU (3 beds)
- Eighth and Ninth Floor-General Wards-median, median-A and Median-B (42 beds each)
- Tenth Floor-Intensive Care unit: ICCU (12 beds) and critical Patients (11 beds)
- Eleventh Floor-Deluxe and Suites(8 beds)-earlier there were 30 general beds
- Twelfth and thirteenth floor-Median-A and Special (26 beds each)
- Fourteenth Floor-(28 beds) Specially for Day care and Kidney transplant patients
- Fifteenth Floor-Suites (2) and Deluxe(12)
- Sixteenth Floor-24 beds for median, Median-a, Special and 9 beds for oncology patients.

FINAL BILL GENERATION

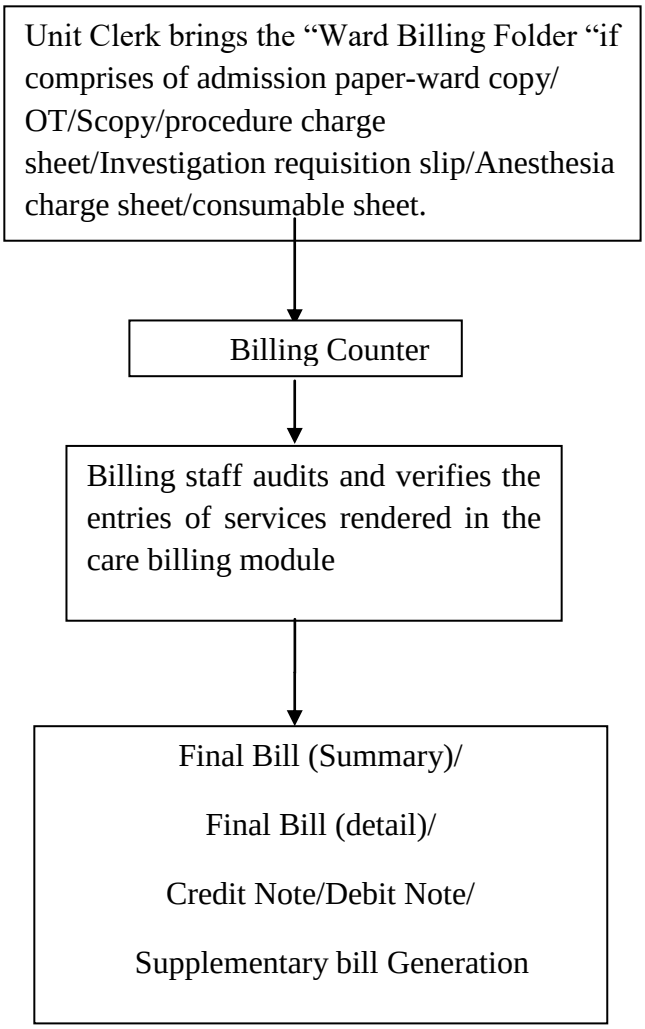


Figure 3- Process Flow Of Bill Generation

DISCHARGE PROCESS

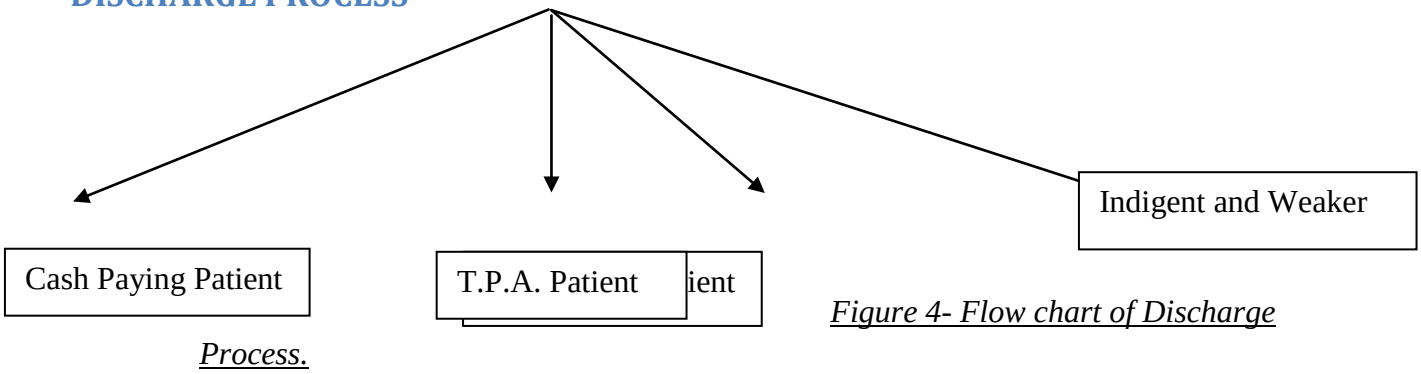


Figure 4- Flow chart of Discharge Process.

SHORT STAY SERVICE UNIT (SSSU)-4th Floor, West **Block**

STAGE-I Patient Selection

The patient concerned will be seen by the consultant on an OPD basis. For a new patient, there would be necessarily Registration followed by vouchering.

In the event that the patient meets the selection criteria for Short Stay surgery, the patient has to proceed with Pre admission procedures.

STAGE-II Pre-Admission Procedure

The patient would proceed to do OT/Bed Booking in SSSU Completion of relevant Lab investigations.

STAGE-III Pre Operative Stage

Based on the consultant's decision for Preoperative anesthetists work up,fitness for surgery would be given by the anesthetists.

Patient would follow up with concerned surgeon with lab reports/relevant investigation reports/fitness certificate.

In the event that the patient is fit to operate,the consultant can choose to give Consent for the same at this stage.

STAGE-IV Pre-Admission

Patients will be asked to report at the Reception desk in Casualty area 1 hr prior to schedule timing.A designated CCC will then escort the patient to the SSSU billing area.

STAGE-V Admission

Following biling formalities, the patient will be taken to the SSSU. The nursing staff will inform the OT desk/concerned Consultant/Registrar about the arrival of the patient.

The SSSU staff nurse will coordinate transport of the patient to the OT at the scheduled time.

Following surgery the recovery area staff nurse will keep the SSSU staff nurse informed about the patient's status. After the patient has been shifted to the recovery area, concerned surgeon would need to visit and complete the discharge formalities including preparation of discharge.

Admitting Consultant/nominated medical officer will examine the patient and will give the order to physically discharge the patient. The SSSU nursing staff would discharge the patient ,based ONLY on written order from the concerned authority.

STAGE-VI Discharge

Following recovery in SSSU and discharge ,the patient will be shifted in wheel chair/stretcher; herein the patient will be accompanied by the CCC till Casualty exit. The CCC will also enquire on the necessity of clinical care for the patient, and if so,details of "Care @ Home" will be given.

ACCIDENT & EMERGENCY

Introduction

- The A & E Department is the face of any hospital,which works around the clock through the year.
- Department is manned by highly trained medical & paramedical staff & it serves all the immediate emergency medical interventions.
- It can be divided into the following areas-Accident and Emergency,Casualty Centre and Minor OT.
- 4 bedded Accident & Emergency department along with 2 casualty centre beds is an ultra modern facility well-equipped with sophisticated & advanced equipment specialized & skilled doctors and nurses is highlight of the department.

Scope of Services

- The department is responsible for treatment of emergency cases.
- The department is responsible for informing the police in cases of traumas, poisoning, suicide, homicide, rape, assault etc.
- Notification of all notifiable diseases to BMC.
- A & E is also a centre for all immunizations for staff as well as patients. The needle stick injury protocol for all staff is also carried out here.
- A & E is a very important constituent of the disaster management team-internal as well as external.
- Transfer of patients.
- First aid camps/teams

- Responsible to arrange for the ambulance services for transportation or transfer of patients. It also in arranging Hearse services.

STAFFING

Categories of staff numbers	Nos
Executive Administration	1
CMO	8
Nurses	16
Nursing Assistant	2
Clerks	2
Attendants	15
Barbers	3

Table 2- Staffing Pattern of Accident & Emergency

TRIAGE:

Triage is a French word meaning classify or sort. The triage desk is strategically situated in the lobby of the Accident & Emergency Department. Staff deputed at the desk is a Triage Nurse.

Purpose:

To ensure a standardized system whereby patients seeking medical care in the Accident & Emergency are seen in order of priority based on Acuity Level.

TRIAGE PROCESS FLOW

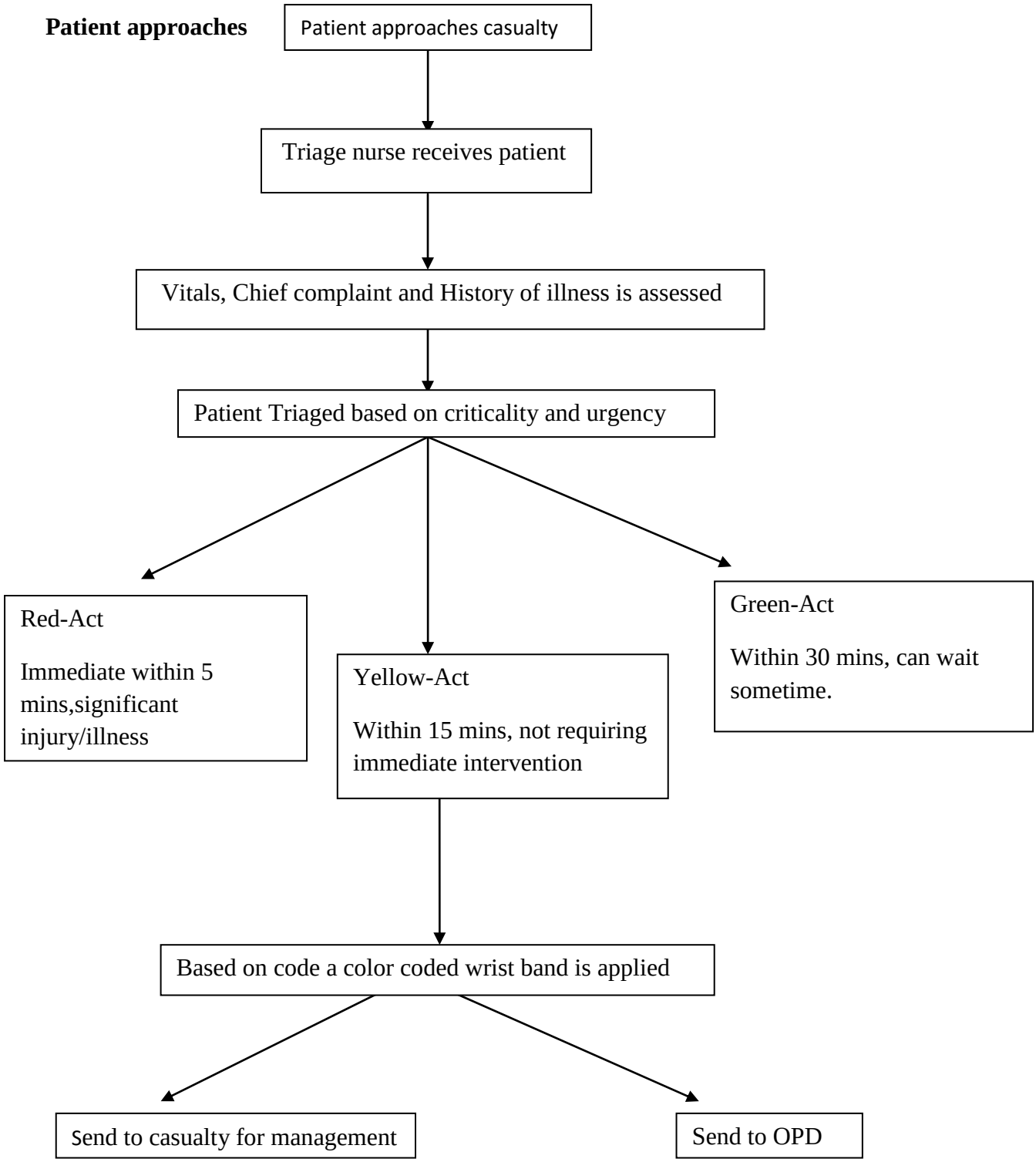


Figure 5-Triage Process Flow

Casualty centre booking :

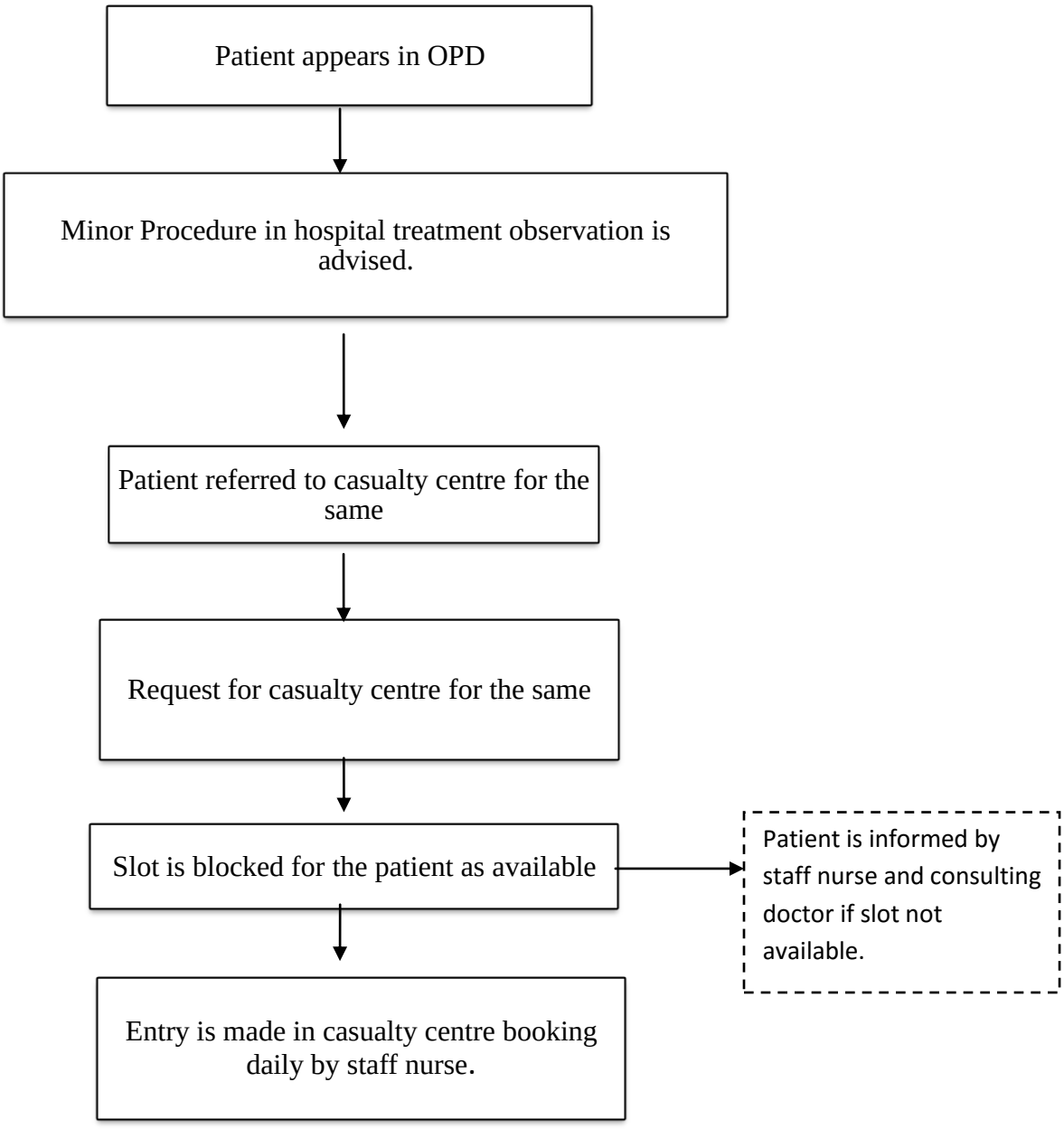


Figure 6- Process Flow for Casualty Centre Booking

CATH LAB

Introduction

Cath Lab is located on the second floor of IPD building. It is well equipped to perform various heart related procedures such as Angiography, Angioplasty, Pacemaker etc. Two types of packages are provided-Radial Package and Femoral Package. It has a separate admission counter,which takes admissions till 9 A.M. There are on an average 8-10 cases /day.

Scope of services

-Diagnostic Services

-Therapeutic Services

Organogram

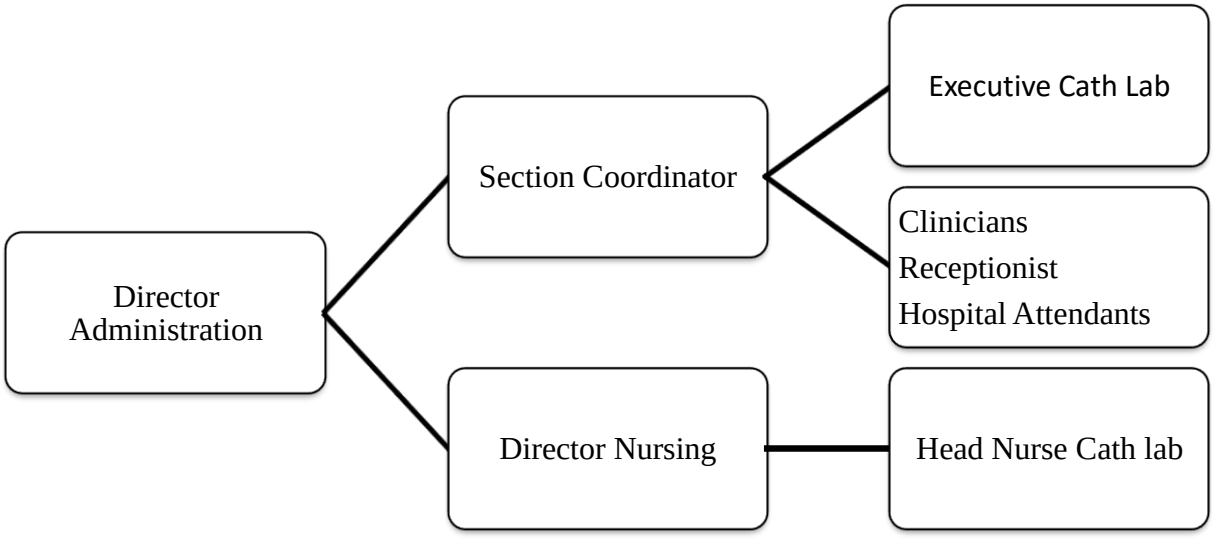


Figure 7- Organogram Of Cath Lab

Categories of Staff

TYPE	NO.S
Executive-cath lab	**1**
Technicians	**4**
Receptionist	**2**
Hospital Attendants	**4**
Nurse	**3**

Table 3- Staff distribution of CATH Lab

Billing:

Primary Responsibility: Technician,Receptionist,Billing Clerk

- After completion of the procedure, receptionist does the entries of the services rendered for billing
- O.T. Details
- Cardiologist/Anesthesia Details-
- Consumable/equipment details
  - Categorized into : Consignment and Stock items
  - Consignment items charged after preparation of GN number and by intimating the Medical store and Material Department does entries at the billing counter.
  - Catalogue number of the items is put by the receptionist and the items are selected by the drop down menu.
  - Voucher number is generated.
- Sending of procedure Requisition Slip & Cath Lab Charge Sheet

Procedure for Admission

- Primary Responsibility: Clerk from Admission Counter, Receptionist
- Admission for IPD Patients:
  - Patient is admitted to the hospital on a written note whether from Cardiologist Admission cum O.T. booking form, which state about the demographic details of the procedure.
  - Staff at the admission counter does the admission formalities.

- Visitor pass is issued then and Admission deposit is taken through cash/credit card/pay order/Demand draft/cheque and service is generated.
- Then the O.T. clearance slip is issued for the procedure.
- Admission for day care procedures i.e. Angiography Packages-Radial and Femoral

In the morning 7:30 am to 9:30 am all day care admission is being procedure in cath lab, afterwards same is done for Accident and Emergency.

Working

- Primary responsibility: Admission billing staff, Receptionist
- Working can be done in either of the following ways:
  - Direct call from the cardiologist/clinical associate
  - By patient's on the basis of consultants letter/admission cum O.T. booking form
  - By receptionist at Cath lab
- Reservation done by cardiologist/clinical associate-Depending on the type of procedure,cardiologist/clinical associate calls at the booking counter/accident & emergency counter at admission and billing department.
- Reservations done by patient- Depending on the type of procedure-Patient/Relative approaches booking counter /accident and emergency counter at admission and billing department.
- Reservation done by receptionist-
  - Majority of them done by this
  - Cardiologist calls the reception counter and gives the patient's HH number details, name, demographic details, date of admission, date of procedure, bed class, slot if any etc.
  - Depending on the type of procedure i.e. Day Care or Routine cares, receptionist calls the respective counter for booking all day procedures booking is being done at the accident and emergency counter/booking counter.
  - Reservation number is then generated and staffs give that number to the receptionist.

Discharge

Type of Procedure	Location and Discharge Process
Day Care Angiography-Radial	Accident and Emergency counter
Day Care Angiography-Femoral	Accident and Emergency Counter
Therapeutic procedures-Femoral/Angioplasty/BMV/ Post plasty thrombosis/pacemaker implantation	Cashier counter of the Admission and Billing department

Table 4- Primary Responsibility: staff Nurse ,Receptionist,Billing Clerk

- After completion of discharge formalities at the respective counters, patient's relative is being given the discharge slip.
- Discharge slip is pre-printed in 4 copies-
  - White original-to be given to receptionist at cath lab or floor staff nurse
  - Pink-attached to respective billing folder of the patient
  - Blue-to be given to security while going out
  - White-is the book copy
- Document given to patient can be categorized into 3 parts:
  - Cash paying patients-Inpatient final bill-patient copy, settlement service voucher and Inpatient final bill
  - Credit party patients-Inpatient final bill (detail)
  - TPA Patients-Inpatient final bill(detail) & settlement slip of TPA security deposit
  - Procedural Chart

CLINICAL ADMINISTRATIVE SERVICES

AMBULANCE SERVICES

Introduction

Ambulance services under the purview of the Accident & Emergency department. Hospital offers round the clock ambulance services, geared to meet any emergency – surgical or medical.

There are two types of Ambulance services.

- Cardiac ambulance (Advance care ambulance)
- Non Cardiac ambulance
- The cardiac ambulance serves all critical all critical patients coming in from
    - Nursing homes
    - Office
    - House
    - Accident site- RTA
    - All critical patients who requires medical intervention immediately
- The Non cardiac ambulance serves patients who are
    - Discharged
    - Planned admissions
    - For appointments to Hinduja clinic.

Air Ambulance

Air ambulance is a blessing when the critical patient is in a remote area and urgently needs to be transferred to a tertiary care centre like Hinduja hospital for specialist treatment. Hinduja hospital, in its continuous endeavor to provide quality health care for all now offers air ambulance services for seamless transfer of national and international patients.

NURSING DEPARTMENT

Introduction

Hinduja hospital has a very efficient nursing department. This department is divided into two categories, **Clinical** and **Administrative.** It also has Special Nurses who are trained in a particular area and work only in that area.

Clinical:

The division deals with administration of clinical services to the patients. The Hierarchy in Clinical Nursing division is-

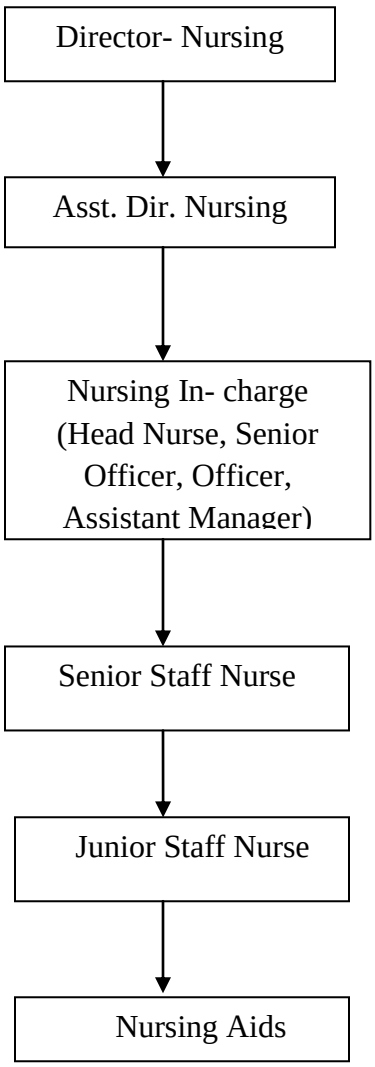


Figure 8- Hierarchy in Clinical Nursing division

Administrative:

The Administrative Nursing Division comprises of staff development. It deals with providing continuous training with formal structural programs and informal training. Induction Training and On-job training are also a part of staff development. Once a week, mainly on Thursdays, in-house training is given to the nurses.

Special nurses

The special nurses are trained in a particular area, and are assigned to work in that area only.
There are 8 special nurses-

1. Diabetic Nurse Educator
2. Oncology Nurse
3. Infection Control Nurse
4. Breast Clinic Nurse
5. Stoma Care Nurse
6. Pain Management Nurse
7. Diabetic Foot Care Nurse
8. Home Care Nurse

- The patient to nurse ratio in the hospital varies from 4:1 to 6:1
- The nurse work in the OPD, IPD, Radiology, S1.
- In the IPD building, at each floor nursing stations are present in each wing. The nurses operate from these areas.

Education and training facility for nurses

In line with its continued commitment towards education and training in the field of healthcare, particularly the preparation of highly competent nursing professionals dedicated to patient care, the Board of Management has upgraded its school of nursing to a fully fledged **College of Nursing**. Prior to this, the hospital successfully conducted over two decades, a recognized three and half year diploma in General Nursing & Midwifery (GNM) for female candidates. Its students over the years excelled in academics, co- curricular, extra curricular activities and clinical practice.

LAUNDRY SERVICES

- The importance of a clean, hygienic, un-stained and defect free linen for optional patient care has been stressed upon since the very inception of hospitals. Clean linen delivery in a timely manner to healthcare areas is important.
- Laundry service is responsible for providing an adequate, clean and constant supply of linen to all users. The laundry facilities is designed, equipped and ventilated to reduce the dissemination of microorganisms on to finished textiles. The basic tasks include: sorting, wasing, extracting, drying, ironing, folding, mending and delivery.
- Cleaning of soiled linen collected from patient care areas.

- Storage and distribution of clean, unstained and defect free linen to various areas of hospitals like floors (for patients), CSSD (for sterile linen supply to operation theaters), housekeeping and food service department (for conference and other functions).
- Cleaning, storage and distribution of uniform to all employees and consultants.
- Specific procedure for handling, including labeling of materials contaminated with hazardous materials or body fluids.
- Policies and procedures for cleaning of contaminated materials.
- Storage and distribution of curtains across the hospital facilities.

MORTUARY SERVICES

- Mortuary at Hinduja hospital is managed by A & E department and security and is maintained by Housekeeping department. It currently has capacity to keep 6 bodies.
- Only inpatient bodies are allowed to keep at Mortuary.
- Mortuary is also used to keep Amputated body parts.

ADMINISTRATIVE SERVICES

MEDICAL RECORDS DEPARTMENT

Introduction

A medical record, health record, or medical chart is a systematic documentation of a patient's medical history and care. The term 'Medical Record' is used both for the physical folder for each individual patient and for the body of information which comprises the total of each patient's health history. MR is intensely personal documents and there are many ethical and legal issues surrounding them such as the degree of third –party access and appropriate storage and disposal. MR traditionally compiled, stored and maintained by MRD of the P.D. Hinduja hospital from 1987.

Terminal digit system of files is most secure and safe system as far as the identification of the file is concern. New Registration forms are kept at various stations i.e. OPD, Casualty and admission counters etc.

Patient or next of kin fill up the form for all demographic details and puts the signature, and then the entry is done by the receptionist at counter in the system.

The patient is given a ID card which has 6 digit HH no, and name, sex, age etc. The file has 6 digit numbers where last 3 digits are color coded. The filing system is dependent on the last 3 digits; hence total confidentiality of the patient's file is maintained.

The information contained in the medical record allows health care providers to provide continuity of care to individual patients. The medical record also serves as a basis for planning patient care, documenting communication between the health care provider and any other health professional contributing to the patients care, assisting in protecting the legal interest of the patient and the health care providers responsible for the patients care, and documenting the care and services provided to the patient. In addition, the medical record may serve as a document to educate medical students/resident physician, to provide data for internal hospital auditing and quality assurance, and to provide data for medical research.

The most basic rules governing access to a medical record dictatethat only the patient and the health care providers directly involved in delivering care have the right to view the record. The patient, however, may grant consent for any person or entity to evaluate the record.

Research, auditing and evaluation

Individuals involved in medical research, financial or management audits, or program evaluation have access to the medical record. They are not allowed access to any identifying information, however the patients or their representatives the right to a copy of their record, except where information breaches confidentiality (e.g. information from another family member or where a

patient has asked for information not to be disclosed to third parties) or would be harmful to the patient's well-being (e.g. some psychiatric assessments).

Objectives

1. To aid in the diagnosis and treatment of patient
2. To provide written documentation of directed medical care and to show services were medically necessary
3. To assist in the research of disease and injuries so other patients may benefit from previous patient care
4. To substantiate procedure and diagnostic code selection for research purposes
5. To comply with legal requirements
6. To legally defend the physician in the event of lawsuits

Location & layout

The MRD is located on the 1st floor, 3rd wing of the OPD. It is spread over 1500 sq.ft. with additional area of allocated for the storage of records.
The department has over 80,000 active files in the OPD, while are being maintained in archived form for legal/research purposes.

Nature of activity

1. Allocation of H.H. No.
2. Collection of computerized list of Discharged / death cases
3. Collection of health record charts from wards / casualty
4. Assembling in standard order
5. Deficiency check
6. Medical coding
7. Indexing
8. Filing of various reports
9. Operation procedure
10. Retrieval and issuance of files
11. Receiving and storing of files
12. Medical certificates, injury certificate, corresspondancen of L.I.C claims and legal matters etc
13. Third party administration queries and any other insurance companies queries pertaining to the patient illness and its duration

INFORMATION TECHNOLOGY

Introduction

Primary purpose of Information Technology department is to:

- Cater to any needs of computerization within the organization
- Maintenance of existing hardware and software
- Provide guidance to the user in terms of operation procedure
- Develop a user friendly and automated software system

Today, I.T. department is the backbone of hospital operation which facilitate in achieving the quality service, performance and maximum results. The department is responsible for providing highly automated user friendly and zero defect computer based solutions as per the requirements of the Hospital. This department works under the direction and supervision of the Dy. Director (Information Technology)

Scope of services

I.T department has three sections.

- Software section
- Hardware section
- Telecom section

1. Software section is responsible for system operation & control, software maintenance, controlling database backups & their libraries and to provide ongoing assistance to the application users. It is also responsible for system recovery in case of failure and for recording and monitoring down time of the system for optimal & smooth performance of the organization
2. Hardware section is responsible for hardware functions of the system with zero downtime and high availability. It also fulfill the hardware related requirements from users and supports there systems. This section introduces the technology which is use full for users in there day to day working.
3. Telecom section is responsible for implementation of new technology and maintenance of telecommunication operations of the hospital. Telecom section also looks after the maintenance of wireless system and paging system.

ENGINEERING DEPARTMENT

Introduction

Engineering and Maintenance Department is manned for 24 hours for keeping round the clock vigil on the proper functioning of plant engineering equipment coming under the purview of the department. This covers maintenance of major supplies to the hospital such as power, water, medical gases, air- conditioning and related equipment supporting the same, which form the life line to the hospital's activities.

The responsibilities of the department are:

1. Operation and maintenance of plant equipment installed in the basement of main building and various other areas to support the normal functioning of the hospital.
2. Repair work of equipment related to the department's responsibility

The policy of the department is:

1. Serve well with safety and in time
2. Continuous improvement, cost saving
3. Optimum utilization of manpower and equipment
4. Optimum utilization of inventory
5. Teamwork

Objective: To ensure uninterrupted support and supply of engineering services to end users by adopting correct process and practices leading to successful maintenance of all engineering systems in fully operational condition, at all the times.

Scope of Engineering Services:

The major engineering services involved are as follows:

- Electrical power supply- Normal & Emergency
- Air conditioning, ventilation & refrigeration
- Steam & Hot water supply
- Water stations & cold water supplies- Filtration systems
- Medical gases supplies
- Fire detection, alarm & fighting systems
- Internal & External plumbing systems
- Civil works- Masonry, Carpentry, Glasswork, Upholstery, Painting etc
- PNG & LPG supply
- Safety assessment of facilities

THE KNOWLEDGE CORE

Research is an important activity of Hinduja Hospital. It is recognized as a Research Organization by the Department of Scientific & Industrial Research, Ministry of Science &Technology and Government of India. Various clinical research projects are carried out with the objective of improving medical practices. A Research Advisory Committee with eminent scientists and researchers from all parts of the country guide & give direction to the research programme. The hospital is recognized by the Bombay University for M.Sc. and PhD in Applied Biology. The faculty members are recognized guides for M.Sc and PhD, Bombay University. The Hospital is approved by the Diplomate National Board for specialization in the following DNB RECOGNIZED SPECIALITIES.

MATERIAL MANAGEMENT

The materials management department aims at maintaining uninterrupted supply chain without effecting cost, quality and service parameters.

The materials management department can be classified majorly under 2 heads i.e. purchase department and stores.

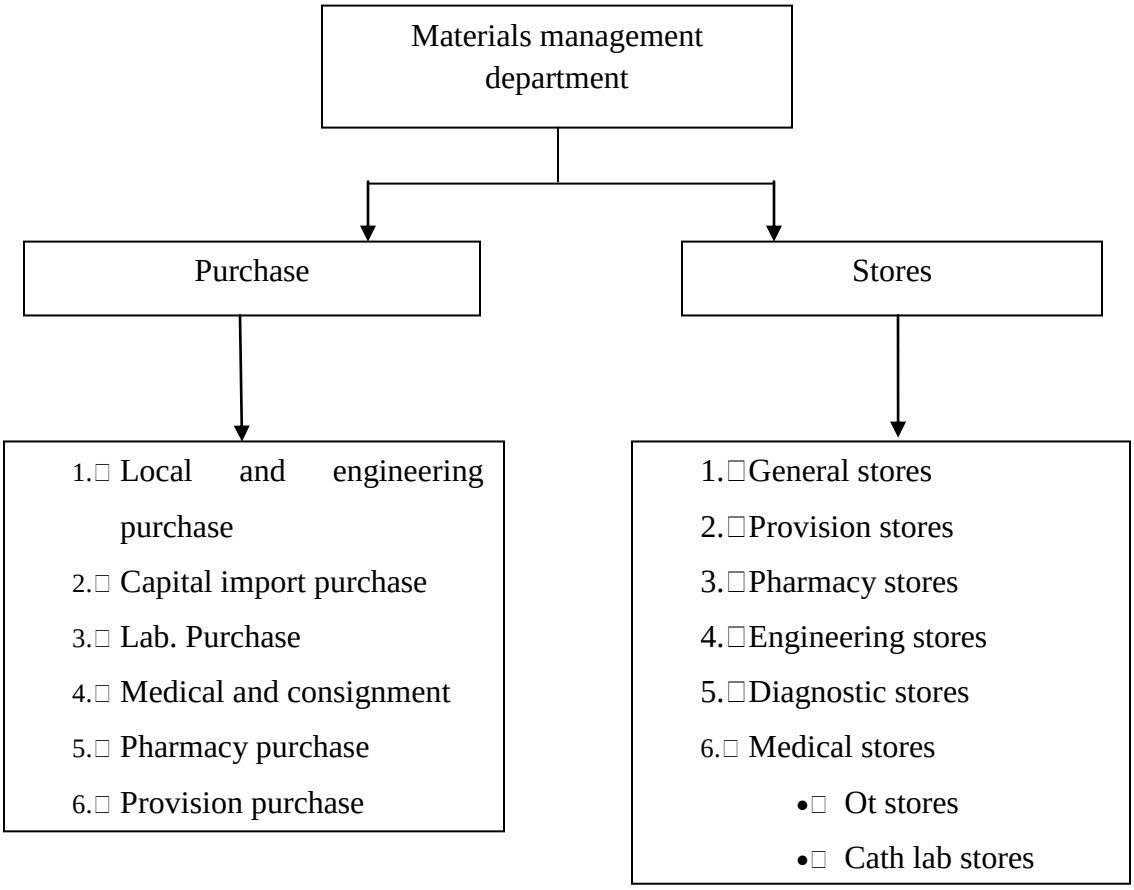


Figure 9- Classification Of Material Management Department.

Organogram-

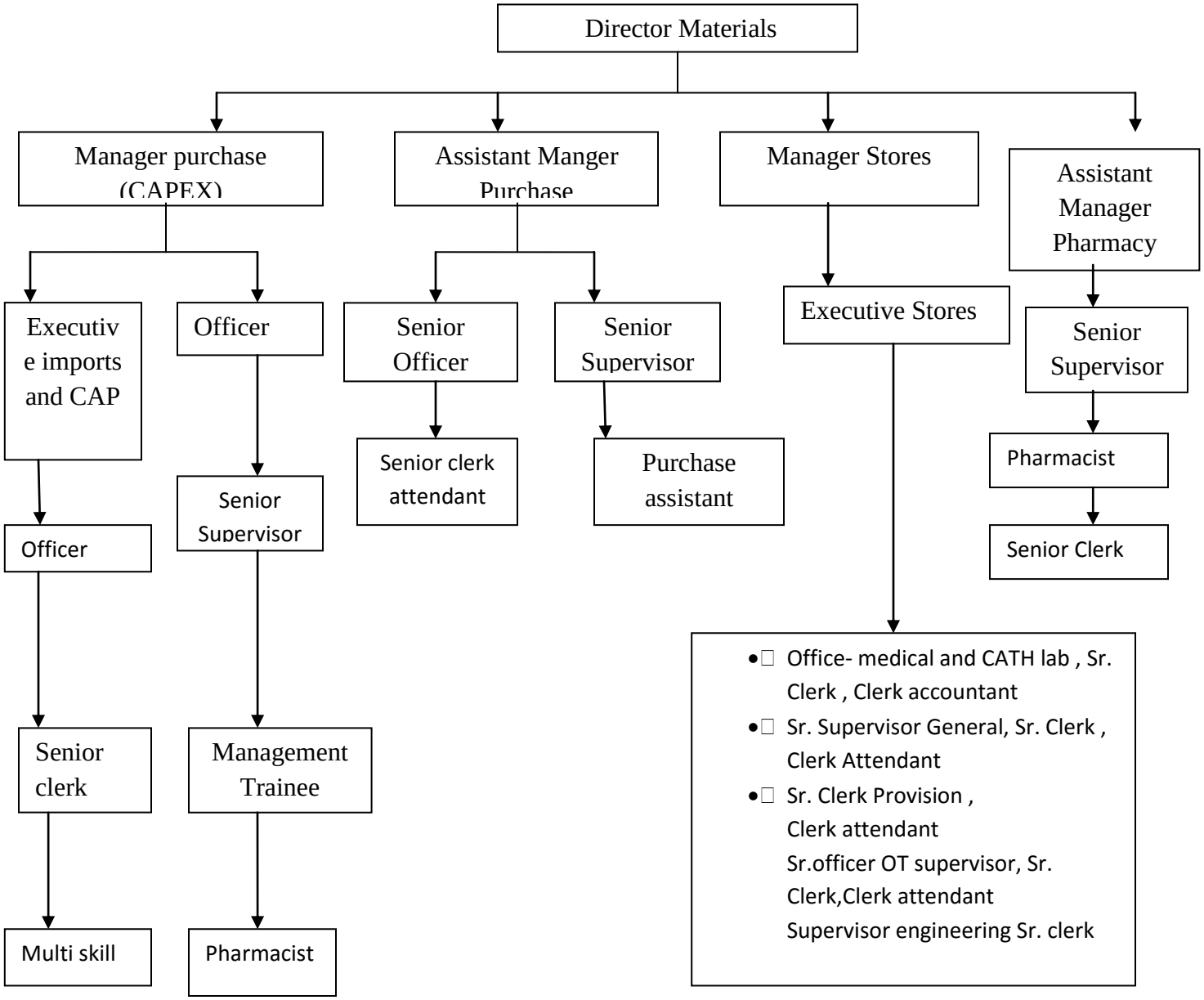


Figure 10- Organogram Of Material Mangement Department

Categories of staff:

Type	Nos.
Director	1
Manager	3
Executive	2
Sr. Officers	2
Officers	3
Executive Secretary	1
Sr. Supervisors	5
Supervisors	3
Management Trainee	1
Pharmacists	15
Senior Clerk	10
Clerks	3
Purchase Assistant	1
Attendants	18
Multi skills	2
Piece Rate	1
Casual	5
Temporary Attendant	1
Total	77

Table 5- Categories Of staff in Material Management Department

Pharmacy

Hinduja Hospital runs an inpatient pharmacy which works 24/7 throughout the year and consists of Dispensing area and store. It is located on the 5th floor of the new building. The Pharmacy also has a formulary with around 3000 items mentioned in it and also a DTC (Drug and therapeutic committee), with senior doctors, nurses and pharmacists as its members. In the pharmacy no cash transaction take place and no relative has to go there, the nurses enter the medications required into the system from the floors, and then a floor wise consolidated report is taken and all the items are sent together in 7 rounds to the nursing station at each floor by the pharmacy attendants. The patient is billed from the pharmacy on his HH No. and the information is sent to billing department directly. The pharmacy keeps only 1 brand of the drugs, which is generally the research molecule. They also have a provision for narcotic drugs, which they store in a lock according to the narcotic drugs and psychotropic substances act. The narcotic prescriptions are kept in a record. The hospital formulary is updated periodically. A pharmacy news bulletin is also prepared and is given to the doctors.

The inventory control methods used are:

1. ABC- Always better control
2. HML-High Medium Low
3. VED- Vital essential Desirable
4. XYZ
5. GOLF-Government Open Local Foreign Product
6. SDE- Scarce Difficult Easy
7. FSN- FAST, SLOW and Non- Moving

PROJECT 1…

[Triage based patient analysis in A & E Department]

TIME MOTION STUDY IN A&E DEPARTMENT

Project On	Tim motion study on A & E departments	
Department	Accident and Emergency	
Project Period	From: April 2016	To: May 2016
Conducted by Name:Ms Mili Jha Designation:Student, IHMR JAIPUR Signature: Date:		**Authorized by** Name:Dr Swapnil Karnare Designation: Dr Manager-Admin Signature: Date:

INTRODUCTION

The emergency department of the hospital is the community's main access in an emergency. It is the face of the hospital, performance of this dept determines the image of any hospital. Emergency department must be well equipped to provide initial treatment to the variation in patients from illness to injuries. Patients entering the emergency dept can be in severe life threatening condition to minor dressing, in order to differentiate between the severity of patient and the provide healthcare efficiently and effectively, triage system is made.

- Triage can be defined as a priorization of patient care based on the severity of the injury/illness, prognosis and availability of resources. The department is responsible for maintaining the records for all suicide, homicide, rape, assault, poisoning, death, records etc. It is the centre for all immunizations for the staffs as well as the patients. The needle stick injury protocol is carried out here for all the staffs. Ambulance services for transportations or transfer of patients co-ordinates with the emergency dept.

  The Emergency department of P.D Hinduja hospital has 6 emergency beds with standardized equipment's like defibrillator, multipara monitors, ventilator, central oxygen and suction facility, crash cart with emergency lifesaving drugs.
  Attached Minor OT with anesthesiology equipment for performing emergency procedures.

- 24x7 on call support from various specialties including neurosciences, musculoskeletal, urology, cardiology, surgery, gastroenterology, pediatrics etc.

The department is supported round the clock by portable digital DR X-Ray, Ultrasound, 64 Slice VCT, 2 MRI machines (1.5 T & 3 T), blood bank, stat laboratory and pharmacy

Research objective –

- **Triage Code System–**

RED	**Severe and Life threatening**	**Within 5 mins**
YELLOW	**Severe but not life threatening**	**Within 15**
GREEN	**Not Urgent**	**Within 30 mins**

Research Methodology

- **Study Design –**

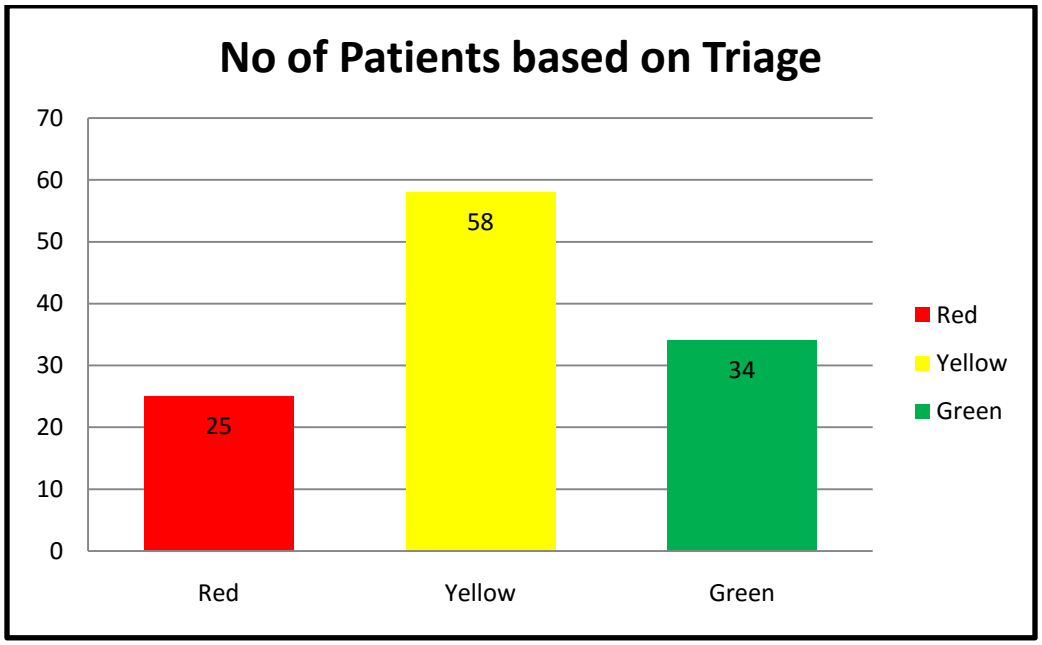
- **Sampling Technique –**

- **Sample size – 120**

- **Tools and techniques –**

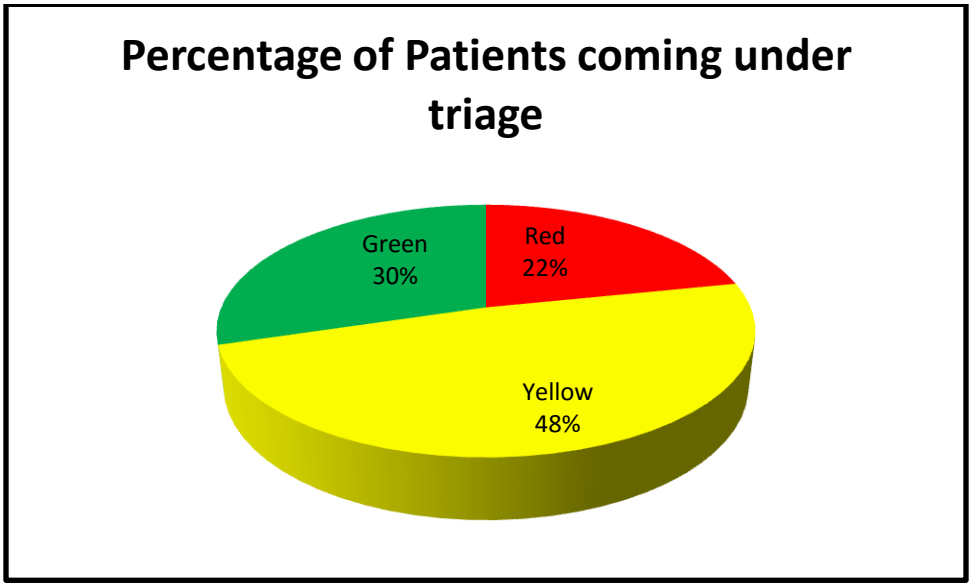
RESULTS AND FINDINGS:

GRAPHICAL REPRESENTATION OF PATIENTS UNDER TRIAGE CODE

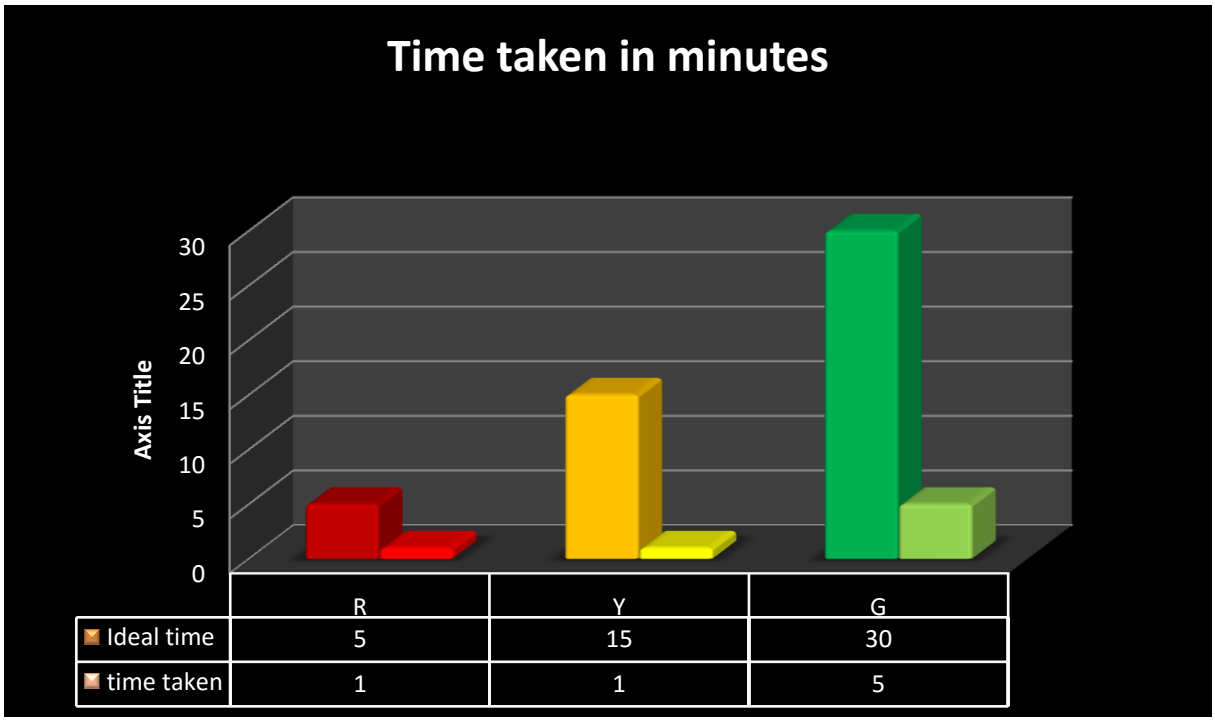


Above graph shows the no of Yellow Triage patients are high. No of Red triage patients are the lowest. Green Triage is the second highest however 20 patients out 34 had only come for Injection or Dressing

GRAPHICAL REPRESENTATION BASED ON PERCENTAGE OF PATIENTS COMING UNDER TRIAGE



GRAPHICAL REPRESENTATION OF COMPARISON BETWEEN IDEAL TIME AND TIME TAKEN:



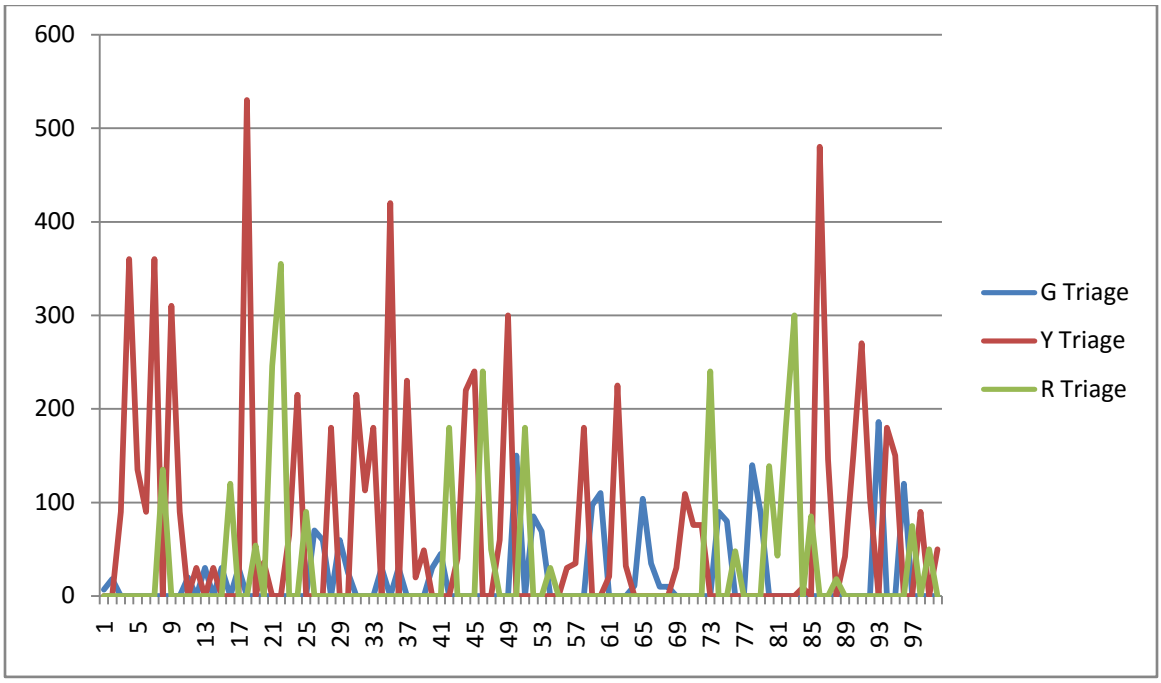
Above shows the comparison between Ideal time and Time Taken:

The average time taken by the CMOs or the nurses is quite lower than the required time.

Triage Code	Red	Yellow	Green
Ideal time	□□	□□□	□□□
Time taken	□□	□□	□□

□ □

Correlation between Average length of stay and Triage Code:

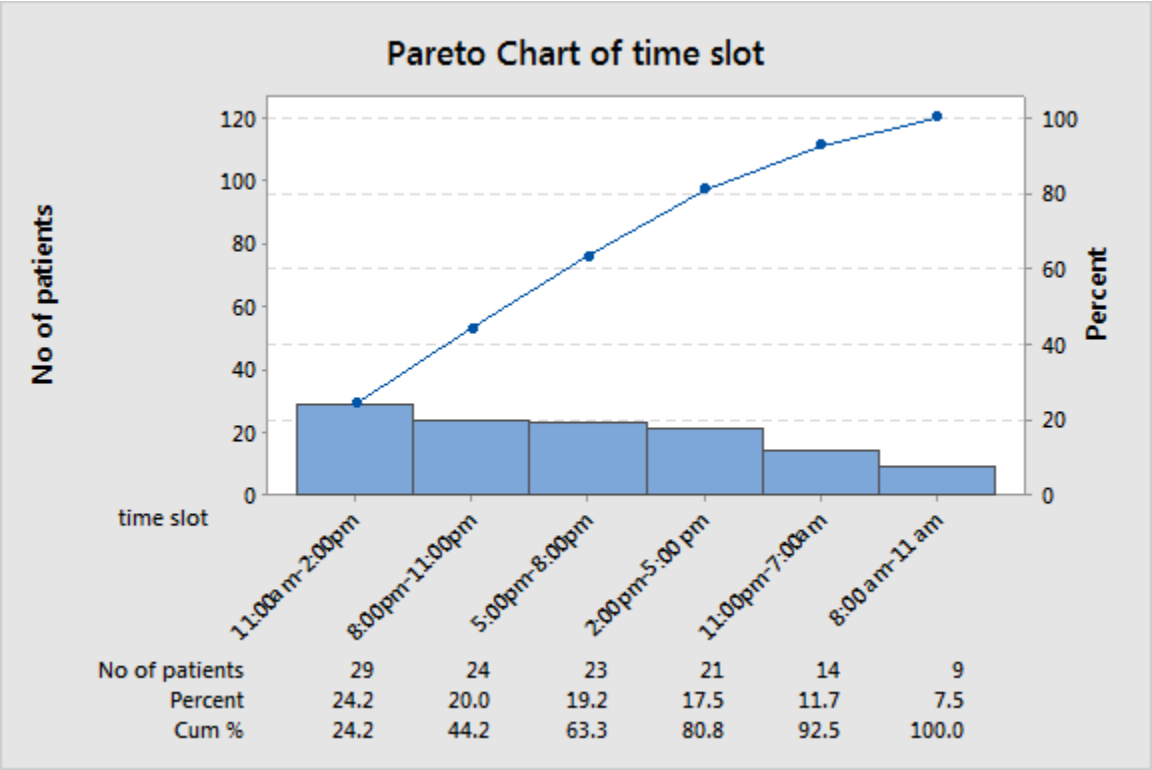


If we compare the average treatment time against the three triages present then we can observe that the **Y Triage and R Triage,** both have more patients that have the most treatment time, whereas the **G Triage** has patients with the least treatment time.

Therefore the average Treatment Time for each Triage is as follows:

1) G Triage – Approximately **57 minutes or 1hour.**
2) Y Triage – Approximately **155 minutes or 2 hours and 35 minutes.**
3)R Triage – Approximately **143 minutes or 2 hours and 23 minutes.**.

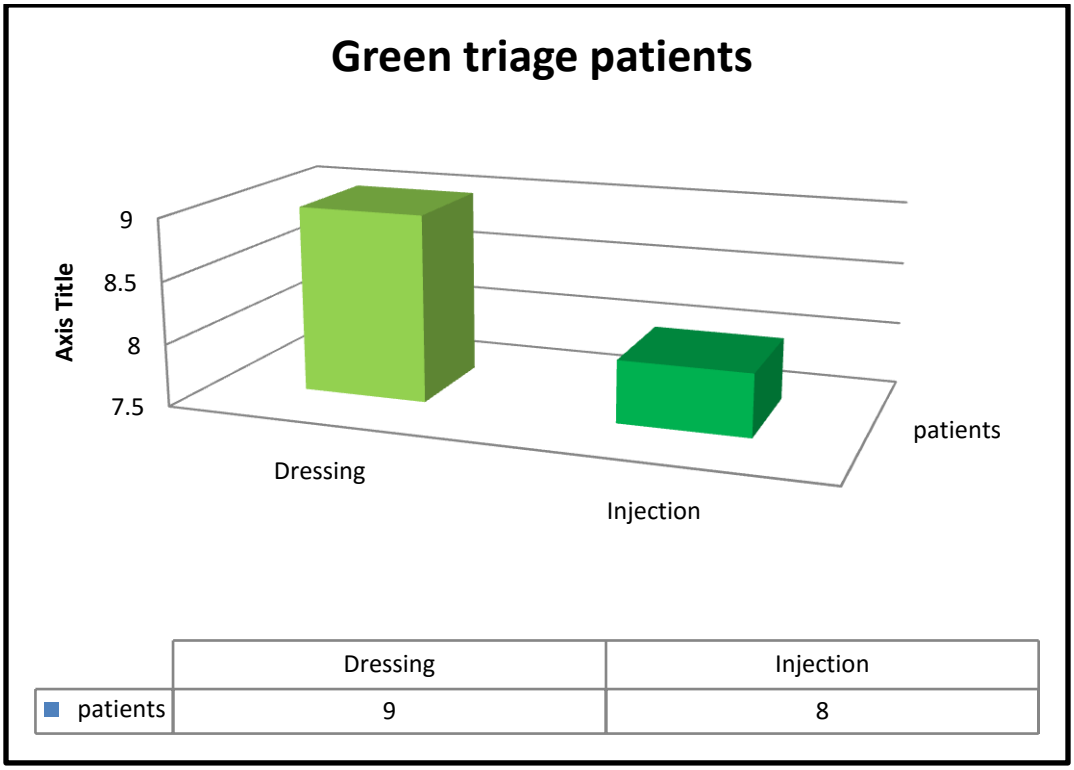
New Patients entry distributed according to the time Slot:



Above graph shows the No of New patients distribution as per the time slot throughout the day. Discharge timings not considered for this Graph or the total no of patients.

- Highest number of patients comes between 11am to 2 pm (time slot).
- Lowest number of patients comes between 8 am to 11am (time slot).
- 80% of the patients come in between 11:00am to 11:00pm in the night.

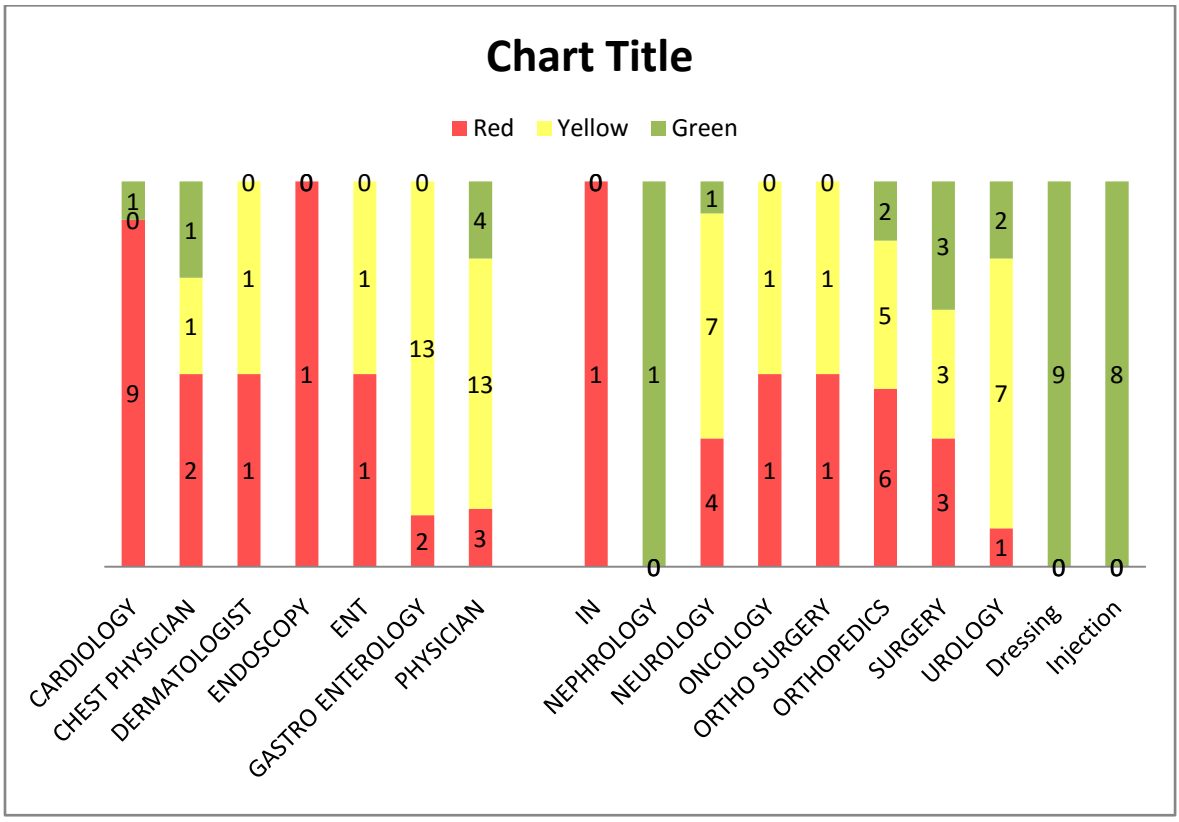
➢ **GRAPHICAL REPRESENTATION OF GREEN TRIAGE PATIENTS**



Graph shows that out of 32 Green triage patients, 17 patients only come for Dressing and Injections. They are not non-emergency patients

- Total no of Green Triage Patients-34
  Patients for Dressing-9
  Patients for Injections-8
- These were the non-emergency patients.
- Injured patients coming for dressing and casualty patients for injections are marked as yellow triage code patients due to their severity.

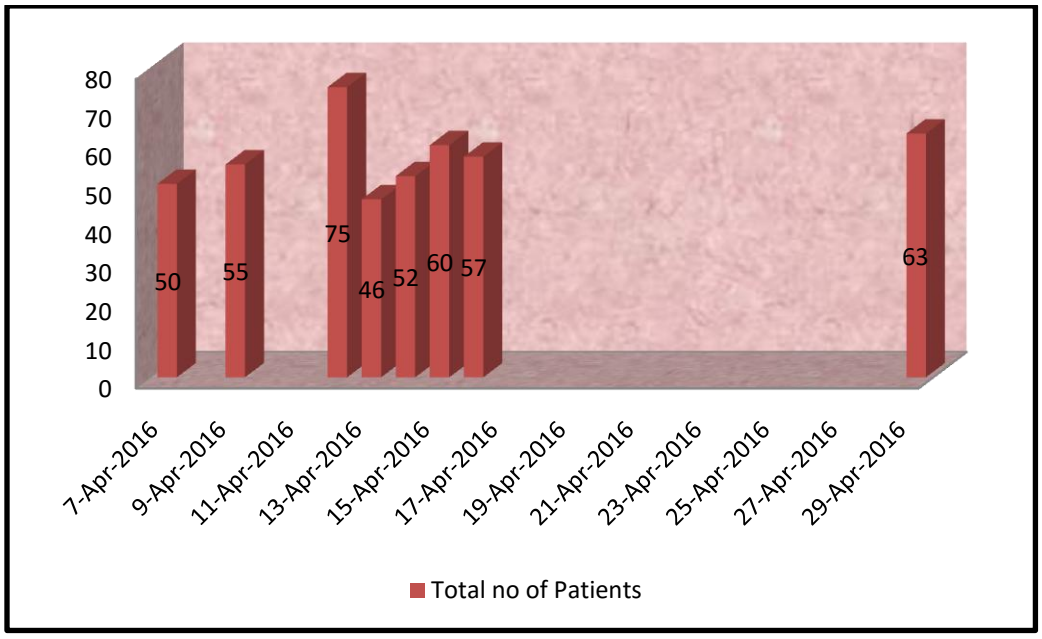
No of Patients distributed according to specialty:



Above graph shows the no of Patients according to the specialty:

- Out of 36 red triage patients, 9 patients had cardiac problem.
- Graph indicates that the highest no of patient for cardiology were under **Red triage code.**
- Highest no of patients for Gastroenterology and physicians were under **Yellow triage code.**

GRAPHICAL REPRESENTATION OF TOTAL NO OF PATIENTS:



Graph shows that the total no of patients recorded from 7/04/2016-16/04/2016 and on 26/4/2016 is 458.Highest no of patients recorded on 12/4/2016. Lowest no of patients on 13/4/2016.Average no of patients per day is 57.

Date	Total no of Patients
07/04/2016	50
09/04/2016	55
12/04/2016	75
13/04/2016	46
14/04/2016	52
15/04/2016	60
16/04/2016	57
29/04/2016	63

OBSERVATIONS:

- Average number of patients in emergency department is 57 per day out of which 20 to 30 % of patients come under 'Green' triage code.
- At certain times, the department was overcrowded owing to the dressing and injection patients were they make 54% of the green triage code patients.
- In some cases, patients panic more than the severity of their illness/injuries. Out of average 57 patients in a day, 5-7 patients suffers from this problem, it is highly common in the patients above the age of 50 years. This results into delay in treatment for the other patients and also increase the healing time.
- Triage table is vacant after 8 pm.
- Non emergency patients (OPD) come to casualty for consultation.
- Families of new B.D patients interrupt in between for post mortem.
- Non emergency patients coming for injections do not like to pay for the casualty injection charges resulting into interruption and nurses have to explain them.
- Patient's families get stubborn about taking the admission even when the bed occupancy rate is high and CMOs suggest them to take their patient to another Hospital.

RECOMMENDATIONS:

- Non-emergency can be treated in the OPD itself or a separate room can be assigned for this purpose.
- In the waiting lounge, charts related to health and patient education can be put up. For e.g. charts regarding Road safety, sanitation, hand wash, ill effects of drinking, smoking or tobacco chewing etc.

PROJECT 2…

[ERROR PRONE ABBREVIATION]

Error prone abbreviation report

Project On	**Error prone abbreviation report.**	
Department	Quality-Admin	
Project Period	From: April 2016	To: May 2016
Conducted by Name:Ms Mili Jha Designation:Student, IHMR JAIPUR Signature: Date:		**Authorized by** Name:KarishmaTitre Designation: Quality Manager - Admin Signature: Date:

Introduction:

Error prone abbreviation is one of the root causes of Medication errors. Illegible handwritings and confusion create by abbreviations, symbols and dose designations can causes severe harm to the patients. To avoid this problem, INSTITUTE FOR SAFE MEDICATION PRACTICES published a list of error prone abbreviations which includes abbreviations, intended meanings, misinterpretations and corrections of respective errors.

Aim:

To analyse the medication sheets in order to detection of the Error Prone Abbreviation.

Objective:

- ❖ To analysis the medical prescriptions and identify the errors in abbreviation, symbols and dose designations.
- ❖ To determine and identify the reasons behind the error caused.

Sampling and Methodology:

- **Study setting**: P.D. Hinduja National Medical Hospital & Research Centre, Mumbai.
- **Study design**: Random sampling technique.
- The study was done with use of e-MRD software.
- **Sample size** = 138
- Each data was analyzed and calculations were done.

Determination of Sample Size:

Each sample were analyzed on the basis of Capital letters, legit handwriting and error prone abbreviation used. Following table shows the parameters on which the data was completed.

Sr No.	Admission No.	H. H No.	Consultant Doctor.	Location.	Discharge Date.	Capital letters (1=yes,2=no and 3=sometimes)	Legit Handwriting (1=yes,2=no and 3=sometimes)	Error prone. (1=yes,2=no)	Error prone abbreviations used.

RESULTS AND FINDINGS:

Oct-15	Capital letters (1=Y /2=N /3=Sometimes)	legible handwriting(1=Y /2=N /3=Sometimes)	Error-prone Abbreviations (1=Y /2=N)
yes	83	149	134
no	47	5	30
sometimes	34	10	NA
No of medication sheet audited	164	164	164
No of flies audited	74	74	74

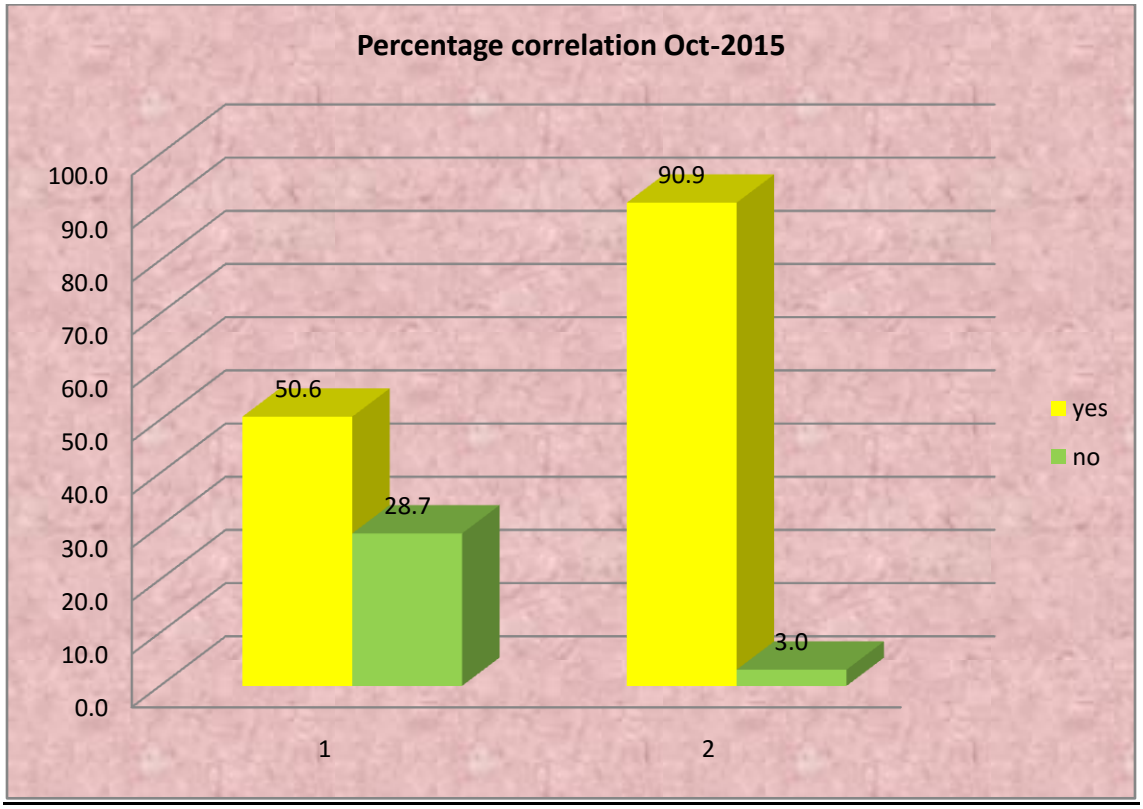
The given sample size was 74(in the month of Oct) out of which 164 medication sheets were audited on the basis of Capital letter, Legit Handwriting and Error prone abbreviation.

The given sample size was 64(in the month of Nov) out of which 207 medication sheets were audited on the basis of Capital letter, Legit Handwriting and Error prone abbreviation.

Nov-15	Capital letters (1=Y /2=N /3=Sometimes)	legible handwriting(1=Y /2=N /3=Sometimes)	Error-prone Abbreviations (1=Y /2=N)
yes	129	198	167
no	54	4	40
sometimes	24	5	NA
No of medication sheet audited	207	207	207
No of flies audited	64	64	64

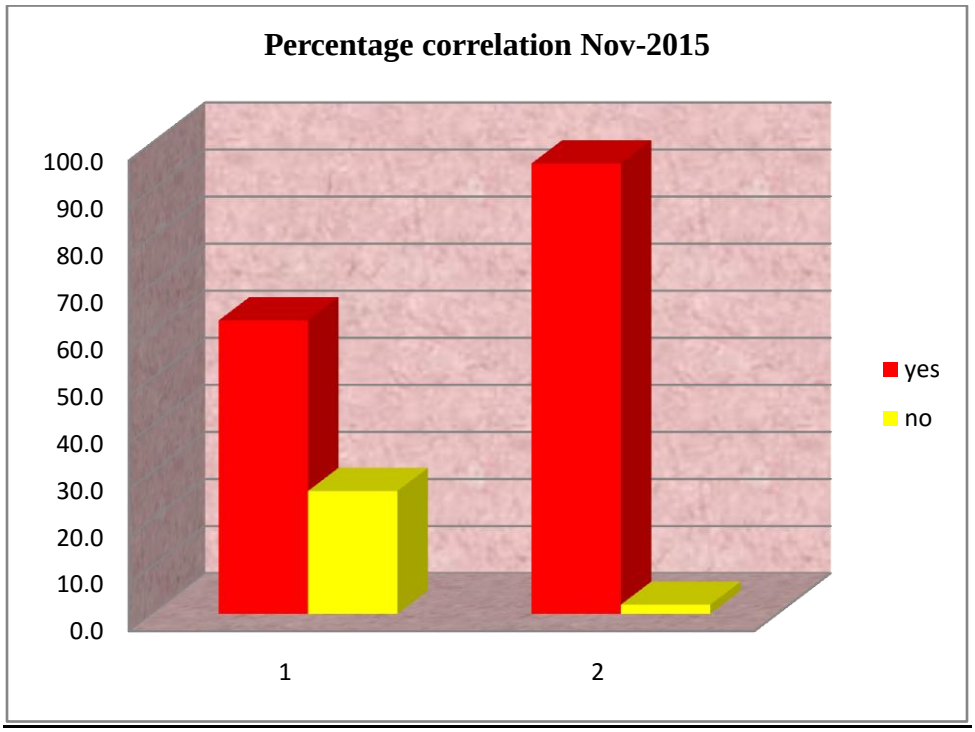
Analysis:

CORRELATION BETWEEN CAPITAL LETTERS AND LEGIT HANDWRITING



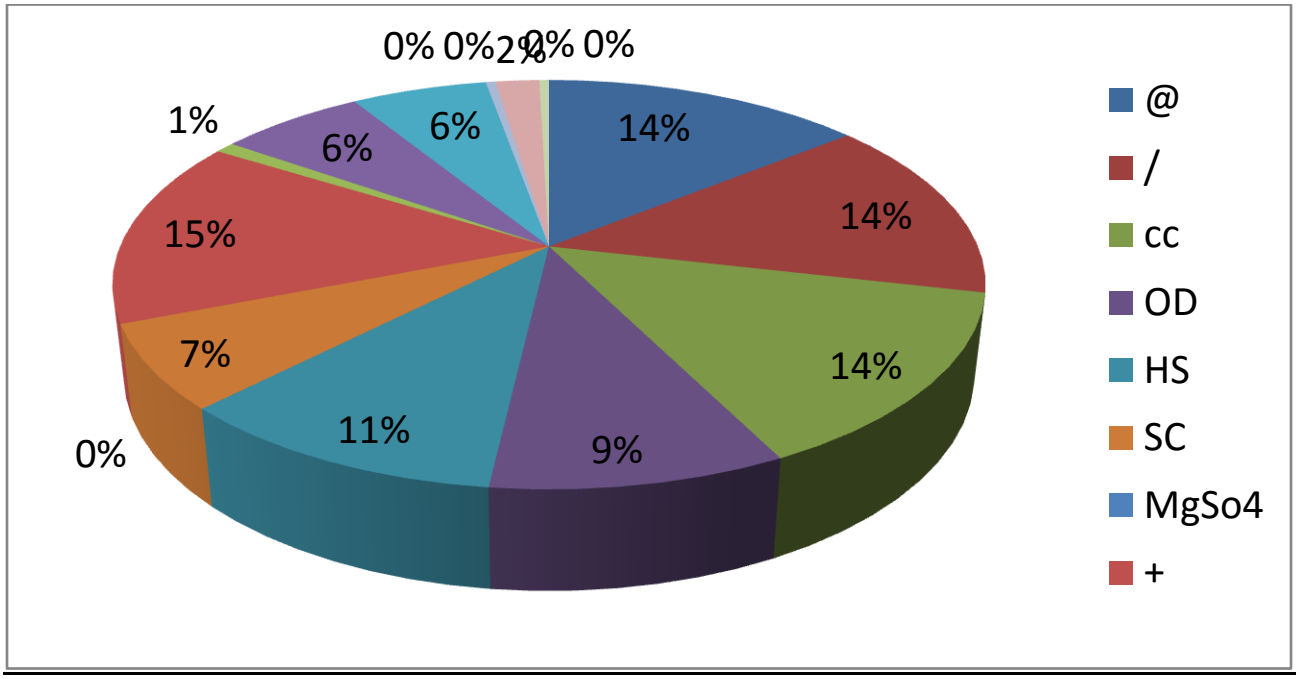
Above graph shows the correlation between Capital letters and legit handwriting. Out of 164 audited sheets 50.6% of the sheets had drug names written in capital letters yet 90.9% of the sheets had legit handwriting.28.7% of the sheets were not had drug names written in capital letter but only 3 % of the sheets did not had legit handwriting which means Legible handwriting is not dependent on capital handwriting.

CORRELATION BETWEEN CAPITAL LETTERS AND LEGIT HANDWRITING

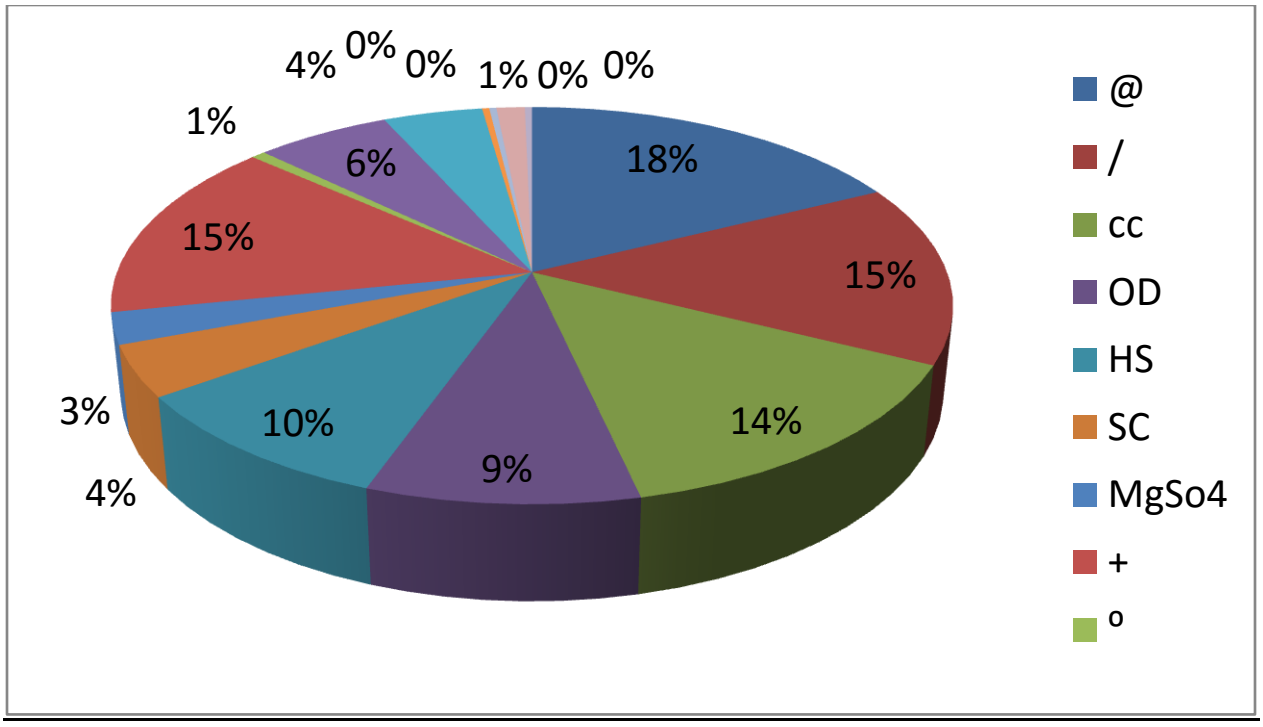


Above graph shows the correlation between Capital letters and legit handwriting. Out of 207 audited sheets 62.3 % of the sheets had drug names written in capital letters yet 95.7% of the sheets had legit handwriting. 26.1 % sheets were not had drug names written in capital letter but only 1.9% of the sheets did not had legit handwriting which means Legible handwriting is not dependent on capital handwriting.

GRAPHICAL REPRESENTATION OF ERROR PRONE ABBREVIATIONS AND SYMBOLS USED (OCT-2015)



GRAPHICAL REPRESENTATION OF ERROR PRONE ABBREVIATIONS AND SYMBOLS USED (NOV-2015)



OBSERVATIONS:

- Apart from the errors mentioned in the ISMP's Error Prone Abbreviation list "SOS" and "IV" are most commonly used.
- In 20% of the Medical prescriptions, drug names are written in capital letters and the handwriting is legit too but in the drug route are just simply scribbled which creates confusion during interpretation.
- @, cc,/ and + are the most commonly used abbreviations.
- In an average 5-6 medical prescriptions of out 138(sample size) do not have any units mentioned along with the dose.
- All medical prescriptions are Hand-written.
- GMO's are changed in every 6 months.

RECOMMENDATIONS:

- "SOS" can be easily misinterpreted as "5-0-5" and "IV" as 5 in roman letters. To avoid these errors, the correct meaning should be used i.e. "if needed" and "intravenous" respectively.
- These errors can be added in the Error prone list.
- Electronic formats can be preferred with an option for units to choose in order to avoid errors and extra typing.
- Big charts can be fixed on the walls in the cabins where the GMO's sit.
- Pocket cards of the list can be provided to them and send them the list via Email.
- Small workshops and test upon the related subject can be preferred.

PROJECT 3…

[QUALITY ASSESSMENT IN FOOD SERVICE DEPARTMENT]

QUALITY ASSESSMENT IN FOOD SERVICE DEPARTMENT

Project On	**Food service department.**	
Department	Quality-Admin	
Project Period	From: 12/may/l 2016	To: 25/May 2016
Conducted by Name: Ms Mili Jha Designation: Student, IHMR JAIPUR Signature: Date:		**Authorized by** Name: Arindam Chatterjee Designation: Quality Manager - Admin Signature: Date:

INTRODUCTION:

Food service Department is one of the most important supporting service of the hospital unlike any other department is the Hospital. FSD's main objective is to make provisions for hygienic & nutritious diet for the indoor patients as per their calories requirement. In Hinduja Hospital, Food department is located on the 6th floor of the IPD building. The entire floor is dedicated for this department; Food department is further divided into different sections like Provision store where minimum 15 days stock is kept then 2 Cafeterias are placed for the staffs.8 Dieticians work under shifts in Food service department.FSD in Hinduja Hospital also have Conveyor Dishwashing machine to in order to maintain the quality of service and Food Safety Standards. Hinduja hospital has Meiko B230 VAP CSS-Top and its installed right next to the Kitchen. In total, 8 operatorswork on the machine throughout the day. It has a capacity of washing 3000 plates/hour. There are two machines in the kitchen, one for coconut shredding and another for vegetable peelingotherwise vegetables and fruits aremostly choppedmanually.P.DHinduja Hospital DNV Accredited. It has become the first Hospital in India to get certified by DNV Netherlands.

Aim:

To analyse the efficiency of work done by the Operators on the Conveyor Dishwashing machine and to analyse the efficiency of work done by the Kitchen mates during vegetable cutting.

Objective:

- To analyze the work efficiency of each operators on the conveyor dishwashing machine and for vegetable cutting.
- To analyze and aid to reduce the time taken by the operators on the Conveyor dishwashing and vegetable cutting.
- To analyze the dedication of work done by the operators.
- To analyze on how to optimize enough work from the operators and minimize the machine stress.

SAMPLING AND METHODOLOGY:

- **Study setting**: P.D. Hinduja National Medical Hospital & Research Centre, Mumbai.
- **Study design**: Cross sectional technique.
- The study was done by counting average of utensils washed per time slot and for vegetable cutting, start time & end time were note.
- **Sample size** = 60
- Each data was analyzed and calculations were done.

DETERMINATION OF SAMPLE SIZE:

- Each sample was analyzed on the basis of average no of utensils washed. Following table shows the parameters on which the data was completed.

➢ Parameters for Conveyor Dishwasher:

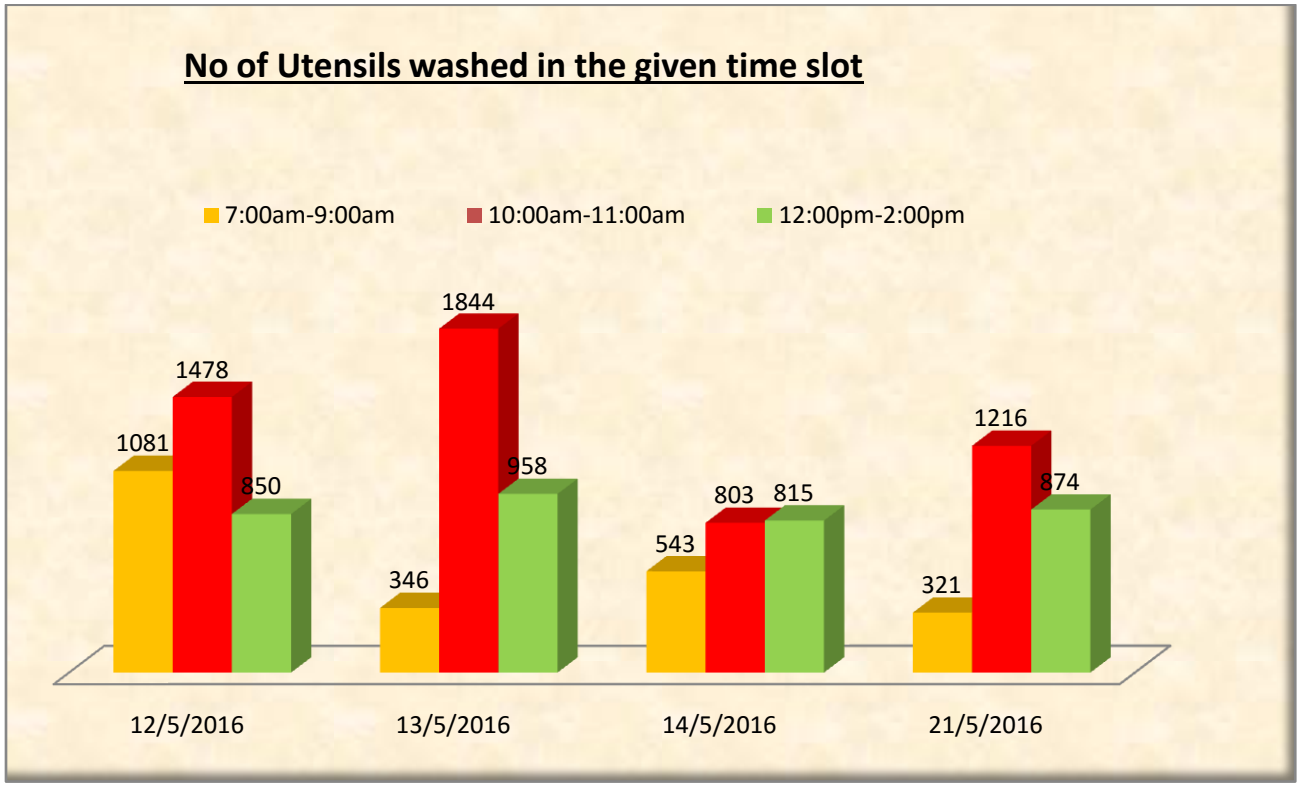
Sr no	Loading Time in.	Loading time out.	No of plates	No of cups/bowls/glass	No of Trays	No of Lids	No of Containers	No of Crates	Operators Name.	Remark

➢ Parameters for Vegetable cutting:

Sr No	Operator	Start Time	Name of the Vegetable or fruit.	Peeling orwashing end time	Cutting start time	End time	Time taken in minutes.	Remarks

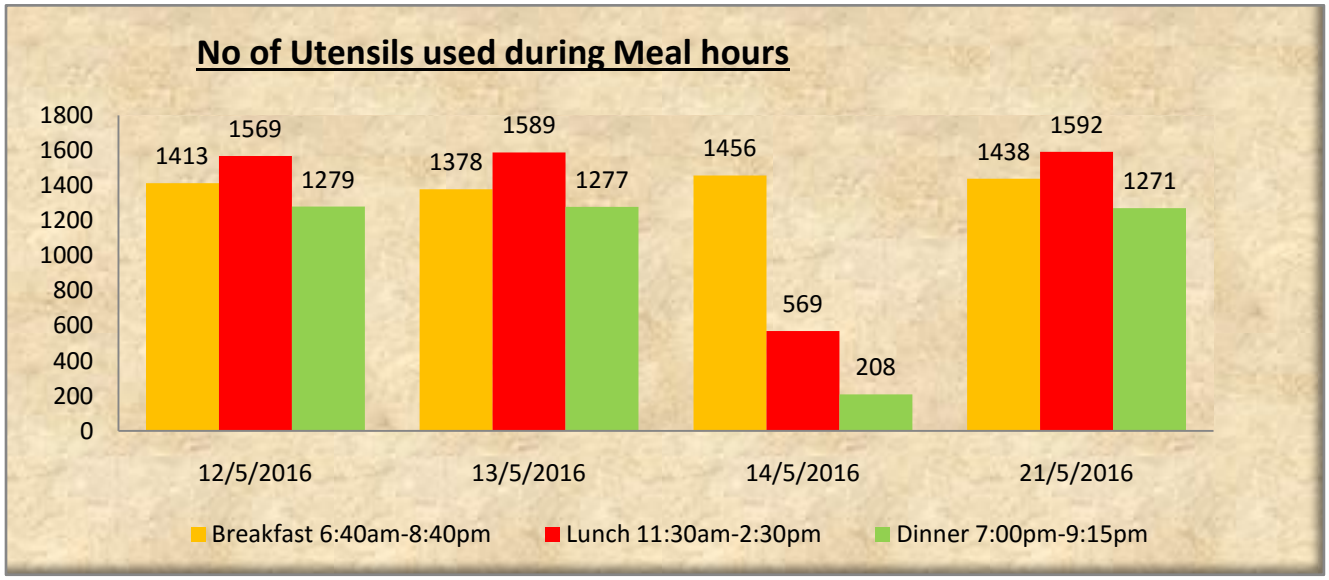
RESULTS AND FINDINGS:

Graphical representation of the no of utensils washed per time slot and the no of utensils used per meal hours:



- Above graph shows the Average no of utensils washed in the given time slot.According to the given graph:
- No of utensils washed between 10:00am-11:00am is the highest.
- No of utensils washed between 7:00am-9:00am is the lowest.
    - Utensils washed between 10:00am-11:00am include utensils from all the cafeterias and patients.
    - Lunch Utensils (both staff's and patient's) are washed between 12:00pm-2:00pm however only 50% of the average no of utensils are washed in this time slot, rest are done in second shift.

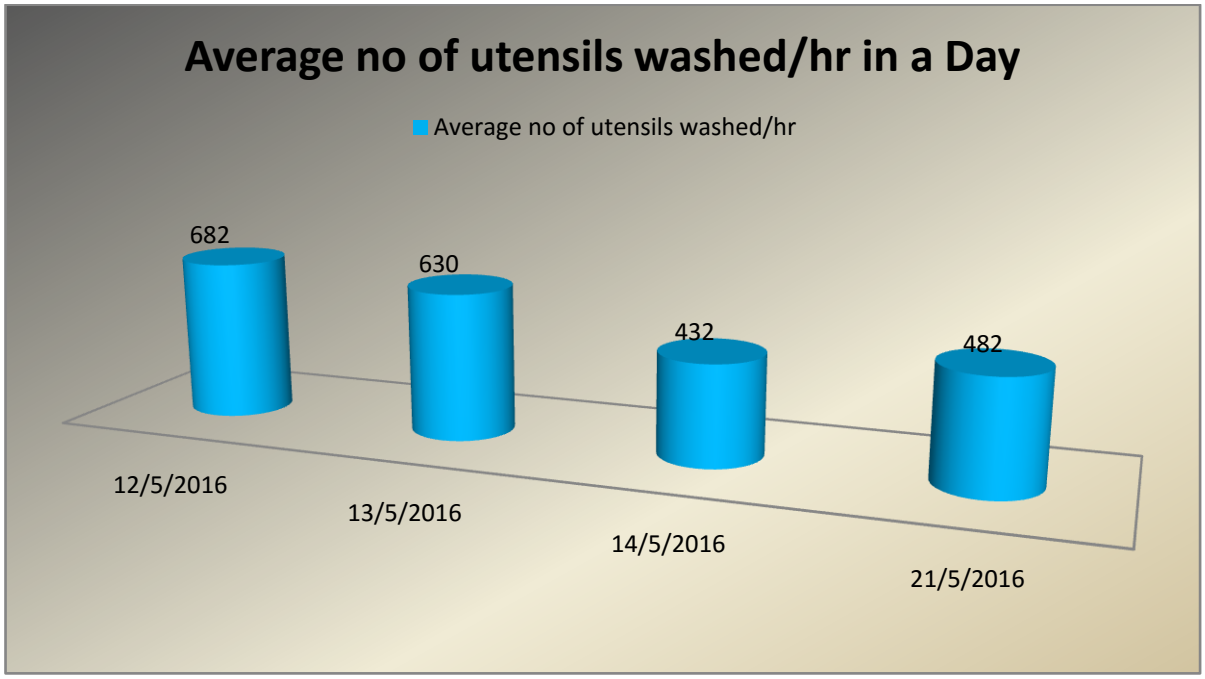
Above Graphs Shows Average No Of Utensils Used During Meal Hours:



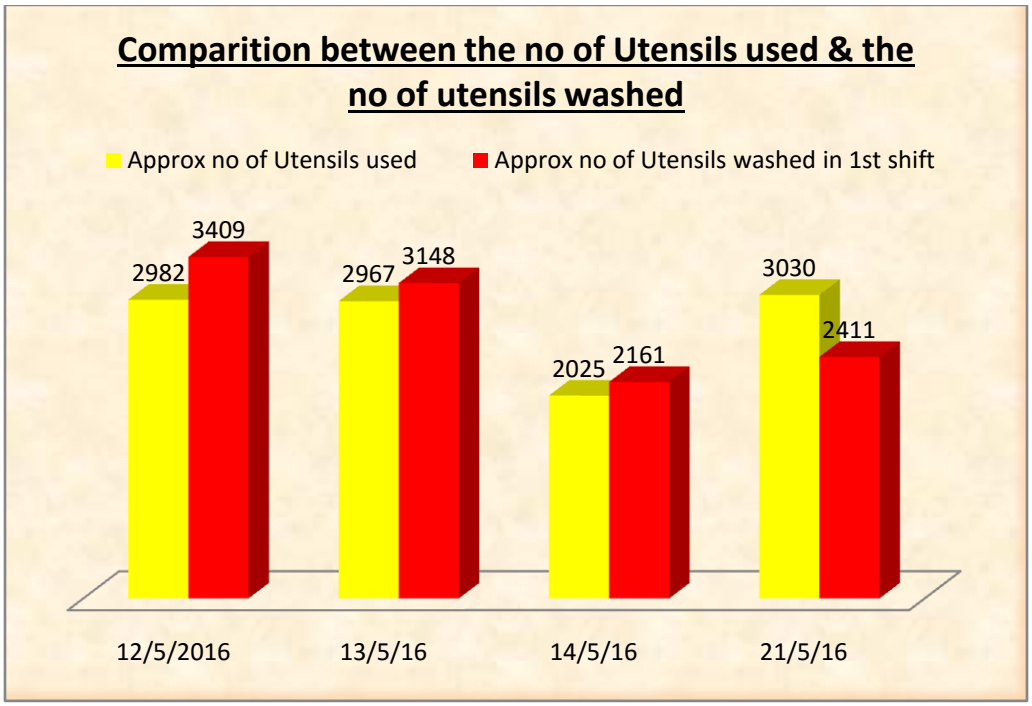
- The no of utensils used during lunch timing is the highest.
- The no of utensils used during dinner timing is the lowest.

Graphical Representation Of Average No Of Utensils Washed Per Hour In A Day:

- Below graph shows that the average no of utensils washed per day varies:No of utensils washed was highest no 12th May 2016.
- It was lowest on 14th May 2016.

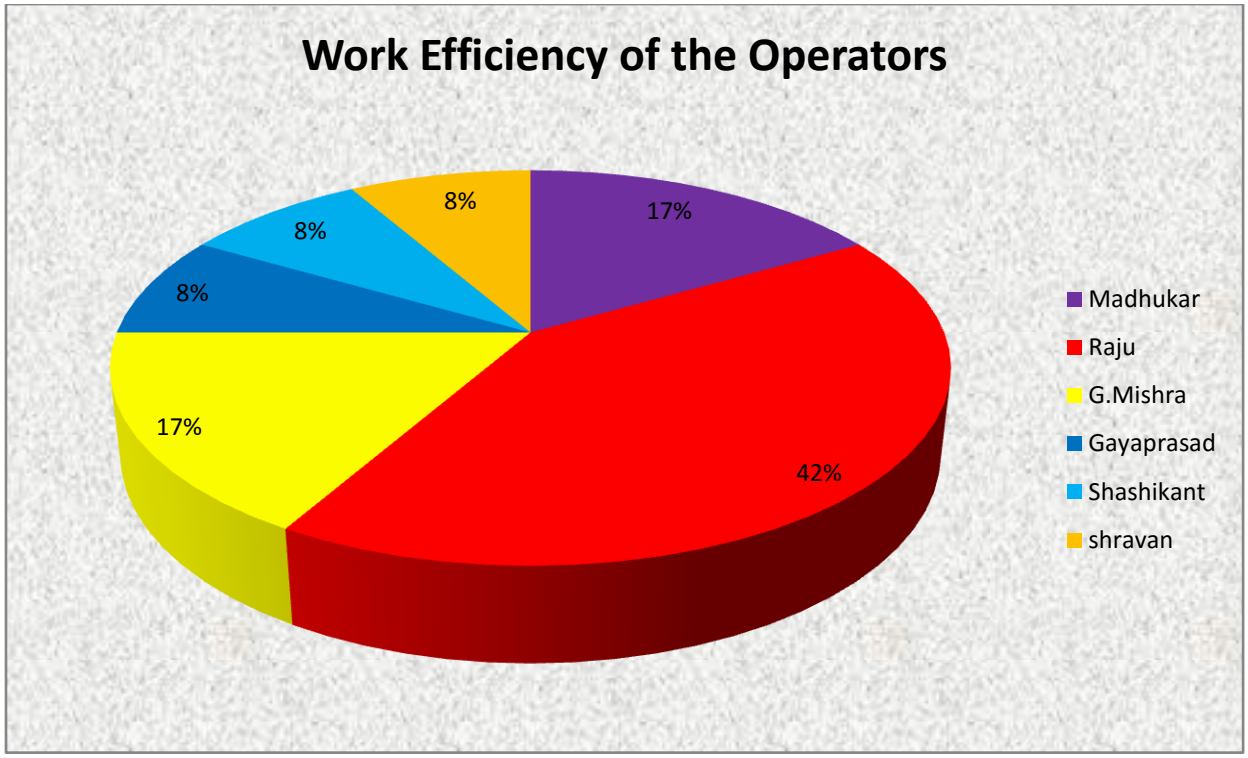


Graphical Representation of Comparison between the no of utensils used and the no of utensils washed:



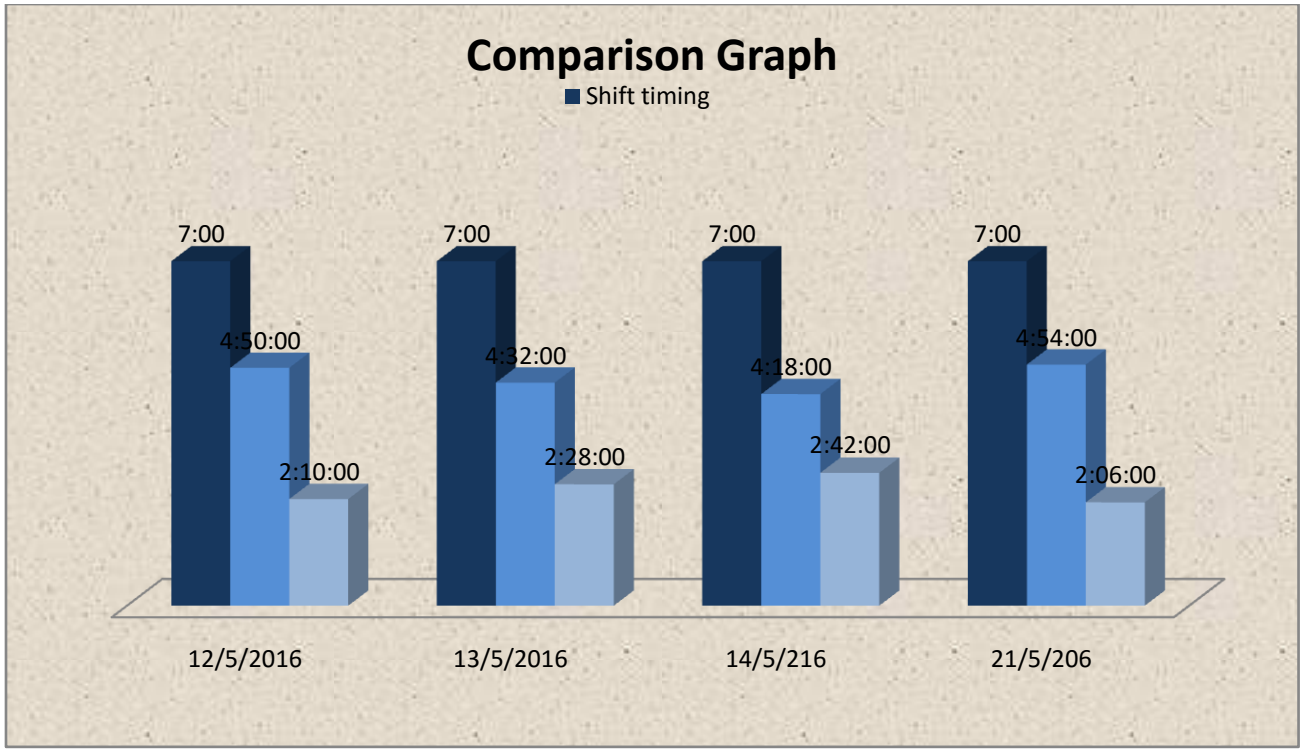
Above graph shows that the average no of utensils washed per day is higher than the average no of utensils used. According to the graph it can be analyzed that the utensils are repeatedly washed. Only on 21st May 25, 2016 the no of utensils washed per day was lesser than the no of utensils used.

Graphical Representation of the Efficiency work done by the Operators:

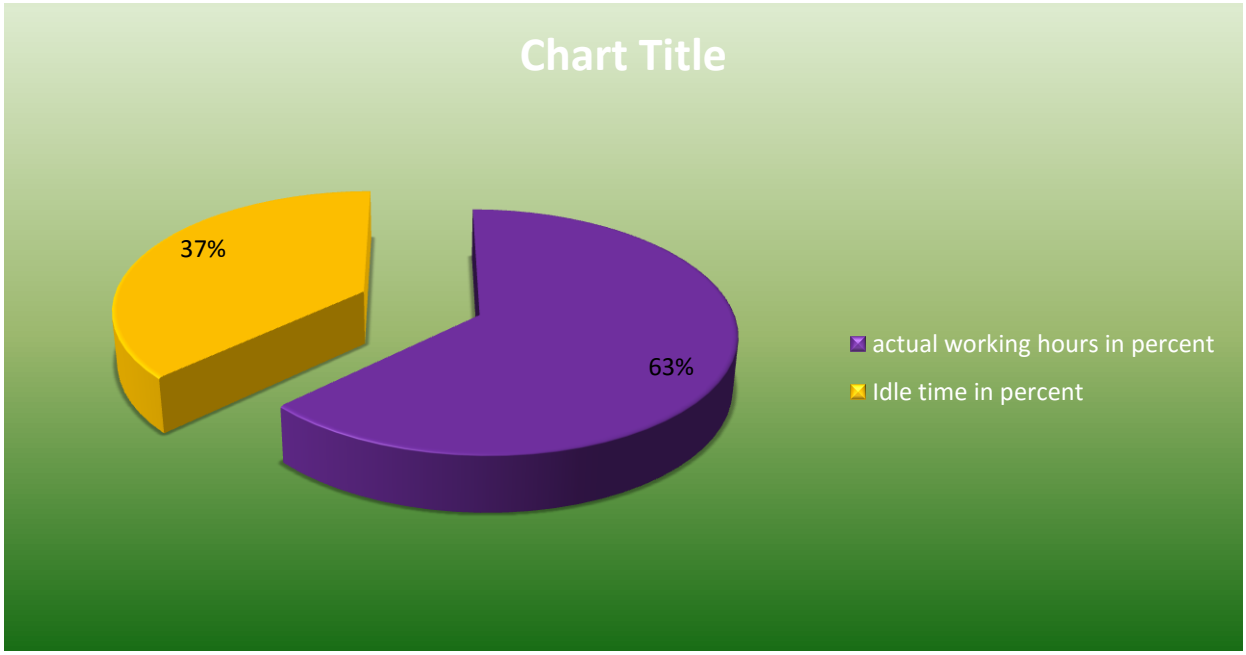


- Above graph shows the efficiency of work done by the Operators during their 8 shift.
- According to the Graph, Raju is found to the most efficient Operator.
- Work efficiency by Madhukar and G.Mishra is average.
- Gayaprasad, Shashikant and Shravan also get floor duties along with the dishwashing work while Madhukar and Raju can only work near the machine due to some medical issues.

Graphical Representation of Working hours:

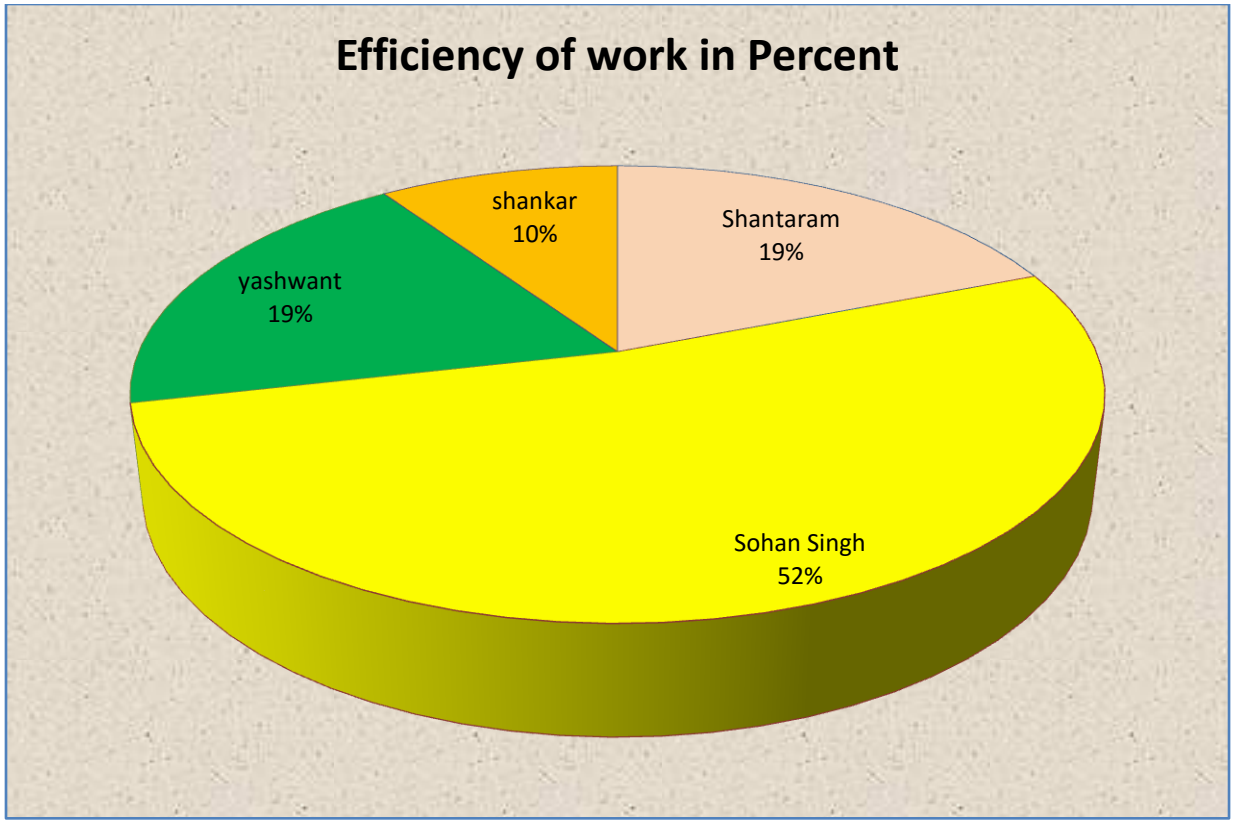


Above Graph shows that in 7 hours shift (excluding meal breaks), Operators only work for 4 hours 35 minutes on an average.



Above pie chart shows that only 63% of the working hours is consumed by the operators.37% is the idle time.

Graphical Representation of working efficiency by kitchen mates:



- Above Graph shows the efficiency in workby the Kitchen mates during Vegetable cutting:
- Sohan Singh is found to be the most efficient kitchen mate.
- Shankar is found to be the least efficient.

OBSERVATIONS:

- Operators working on the Conveyor Dishwasher do not work completely for 8 hours (their shift duration).
- Out of 8 hours, they spend 5 hours on an average per day on the machine.
- More number of utensils washed than the requirement.
- Efficiency of the Operators is not uniform.
- Operators keep the machine on even when there are no utensils or start the machine for very few utensils at times.
- Efficiency of the Kitchen mates is not uniform too.
- Only 1 out of 4 kitchen mates from 1st shift was wearing gloves during the working hours as per the infection control standards.

RECOMMENDATIONS:

- Operators do not wait for Utensils to pile up and they wash them as soon as they come, sometimes the machine works for just 2-3 utensils.
- There is no rack available for the dirty utensils to keep-An extra rack can be placed in order to pile up the dirty utensils so that they can be washed later in a bulk.
- Breakfast utensils can be washed at night the prior day, this will the decrease the load and Operators will not have to come early in the Morning.
- Operators are informed about their duties in the first half hour. They can be informed one day prior during their break hours.
- Fixed break timings can be made in order to optimize their work efficiency, example 30 minutes for Breakfast from 9:00am-9:30am
    - Lunch from 12:00am-12:30pm
    - Dinner from 8:00pm-8:30pm and 30 mins extra break for 2nd shift Operators so that they all get 1 hours break in any shift they work.
    - At least 1 hours break can be provided to them since they have to stand near the machine in hot and steamy zone.

- Target can be set for the Kitchen mates in order to increase their efficiency of work, examples: Each Kitchen mates can be asked to cut or peel/wash “X” kgs of vegetables or fruits every day.
- Wearing of gloves during working hours can be made compulsory.

ANNEXURE:

time motion data.xlsx

Error prone.xlsx

fsd material.xlsx