

**Summer Training at
Bombay Hospital, Indore
1 April- 31 May, 2015**

**Analysis of Code Blue Process
Measurement of Hand Hygiene Compliance
Patient Satisfaction**

**By
Dr. Neha Raisane**

**Under the guidance of
Dr. N.D.Sharma**

**MBA- Hospital & Health Management (MBA-HM)
2014-2016**



IIHMR University, Jaipur

CERTIFICATE

This is to certify that Dr. Neha Raisane has undergone her Summer Training in Bombay Hospital, Indore from 1st April 2015 to 31st May 2015. The candidate herself carried out all the studies related to her Summer Training. Her approach to the study has been scientific and analytical.

The summer training is in partial fulfilment of the course requirement recommended for the award of Master in Business Administration-Hospital & Health Management.

I wish her success in all her future endeavours.



Col. (Dr.) Ashok Kaushik,

Dean (Academic and Student Affairs)

IIHMR University, Jaipur



Prof. Narottam Das Sharma

(Assistant Professor)

IIHMR University, Jaipur



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INTERNSHIP COMPLETION CERTIFICATE

To Whom So Ever It May Concern

This is to certify that Dr. NEHA RAISANE, a student of IIHMR University, Jaipur (Rajasthan) has successfully completed 2 months internship (from 1st April 2015 to 31st May 2015) at BOMBAY HOSPITAL, INDORE in the Administrative Department. During the period of her internship programme she has worked on the following 3 projects-

- Analysis of Code Blue Process
- Measurement of Compliance of Health Care Workers regarding Hand Hygiene.
- A study on inpatient satisfaction in private and semi-private wards.

She was punctual and found to be sincere. Her performance during the internship was satisfactory.

DR. DILEEP SINGH CHAUHAN
Medical Superintendent
Bombay Hospital, Indore

Dr. Dileep Singh Chauhan
Medical Superintendent
Bombay Hospital, INDORE

PREFACE

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 as follows:

1. To understand and learn day to day operational management of a Hospital/ Health Care organization and its service contents.
2. To identify issues/problems with certain operational areas.
3. To acquire more knowledge on roles and responsibilities of key players and stakeholders in the hospital.
4. To gain perspective in the functions of various departments by interaction with key stakeholders, policy makers, academicians and researchers.
5. To work on a Project assigned by the summer training organization.

During the training, I had an overview of several departments of the hospital. Also, I worked on three projects given by my mentor in the organisation. They are:

1. Analysis of Code Blue Process
2. Measurement of Hand Hygiene compliance among health care workers
3. Patient satisfaction in semi-private and private wards.

ACKNOWLEDGEMENTS

I extend my sincere gratitude to **Dr. Dileep Singh Chauhan**, Medical superintendent, for giving me the opportunity to do my internship and undergo the process of learning at Bombay Hospital, Indore. I appreciate the guidance provided by him on my projects.

I would also like to thank **Mr. Ravi Makhija (OSD)**, **Dr Yagyesh Pauranik (OSD)** and **Dr. Mayank Jain (OSD)** for giving me the valuable information, helping me during the course of my learning and constant support.

I am also very grateful to all the staff of the hospital for their cooperation and providing me with the necessary information for my learning and projects.

I would take this opportunity to extend my sincere thanks to **Dr. S.D. GUPTA**, Director, IIHMR University, Jaipur and **Mr. N.D. Sharma** (Faculty and Mentor), IIHMR University, Jaipur for their valuable contribution and support.

However, I accept the sole responsibility for my possible error of omission and would be extremely grateful to the readers of this project report if they bring such mistakes to my notice.

Date: 31st May 2015

Dr. Neha Raisane
IIHMR University, Jaipur

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ABBREVIATIONS

- AERB: Atomic Energy Research Board
- AKU: Artificial Kidney Unit
- ALS: Advanced Life Support
- ACLS – Advanced Cardiac Life Support
- BARC: Bhabha Atomic Research Centre
- BHI: Bombay Hospital Indore
- BHT: Bombay Hospital Trust
- BLS: Basic Life Support
- CME: Continuous Medical Education
- CMO: Casualty Medical Officer
- CPR- Cardio Pulmonary Resuscitation
- CSF: Cerebro- Spinal Fluid
- CSSD: Central Sterilisation & Supply Department
- CT: Computed Tomography
- DNB: Diplomat of National Board
- EBM: Evidence Based Medicine
- ECG: Electro Cardio Gram
- ECHO: Echocardiography
- ED- Emergency Department
- EDP: Electronic Data Processing
- EEG: Electro Encephalogram
- EHS: Executive Health Scheme
- EMG: Electro Myography
- ENT: Ear Nose Throat
- ER-Emergency Room
- FNAC: Fine Needle Aspiration Cytology
- GM: General Manager
- GI: Gastro Intestinal
- HOD: Head Of the Department
- HR: Human Resource
- ICU: Intensive Care Unit
- ICCU: Interventional Critical Care Unit
- IDCCM: Indian Diploma In Critical Care Medicine
- IDSP: Integrated Disease Surveillance Programme

- IP: In-patient
- IPD: In-patient Department
- IT: Information Technology
- IV: Intravenous
- KTR: Kidney Transplant Recovery
- MLC: Medico- Legal Case
- MOU: Memorandum Of Understanding
- MRI: Magnetic Resonance Imaging
- MS: Medical Superintendent
- NABH: National Accreditation Board For Hospital and Healthcare service providers
- NACO-National AIDS Control organisation
- NICU: Neonatal Intensive Care Unit
- NS: Nursing Superintendent
- OP: Out-patient
- OPD: Out-patient Department
- OSD: Officer on Special Duty
- OT: Operation Theatre
- PGDCC: Post-graduate Diploma in Clinical Cardiology
- PFT: Pulmonary function Test
- PPE: Personal Protective Equipment
- RMO: Resident Medical Officer
- RR: Recovery Room
- TFT: Thyroid Function Test
- TRF: Test Requisition Form
- USG: Ultra Sonography
- VF-Ventricular Fibrillation
- WHO-World Health Organisation



Bombay Hospital
& Medical Research Centre

Hospital Profile

BOMBAY HOSPITAL

- Considered the premiere private trust hospital in India.
- Set up in 1952 by philanthropist Dr. Rameshwar Das Birla.

BOMBAY HOSPITAL, INDORE

- Bombay Hospital, Indore was started in October 2003.
- Bombay Hospital is the largest trust hospital and only NABH accredited hospital in Madhya Pradesh.
- It has all functional departments and very comprehensive support services & engineering services.
- It is planned as a 600 bedded tertiary care hospital (235 functional) with 65 beds providing class 1 intensive care, 5 operating rooms organised in surgical suites, 1 minor OT for emergency services, with all being Zero bacteria operating rooms.
- It is a centre for DNB training (Diff. Specialities like anaesthesia, radio, medicine) PGDCC, IDCCM and also has a school of Nursing.
- It is one of the best hospitals in Central India.
- It provides world class medical facilities and infrastructure.

VISION: To render the same level of service to the poor as the rich will get in a good hospital.

MISSION: "Hospital shall provide the best possible medical treatment delivered most efficiently in the shortest possible time, at minimum cost to all sections of the society irrespective of caste, creed or religion".

MOTTO:

- A patient is the most important person in our hospital.

- He is not an interruption to our work; he is the purpose of it.
- He is not an outsider in our hospital; he is a part of it.

We are not doing him a favour by serving him; he is doing a favour by giving us an opportunity to do so.

INFRASTRUCTURE OF HOSPITAL

- Covered area – 4 lakh square feet, Plot Size – 9 acres, No. of floors – 12
- No. of basements – 2, Parking space – around the entire hospital
- No. of lift – 5 , No. of staircase – 2, No. of building – 2

ACADEMIC ACTIVITIES: DNB, PGDCC, IDCCM, Bombay Hospital College of Nursing, Indore

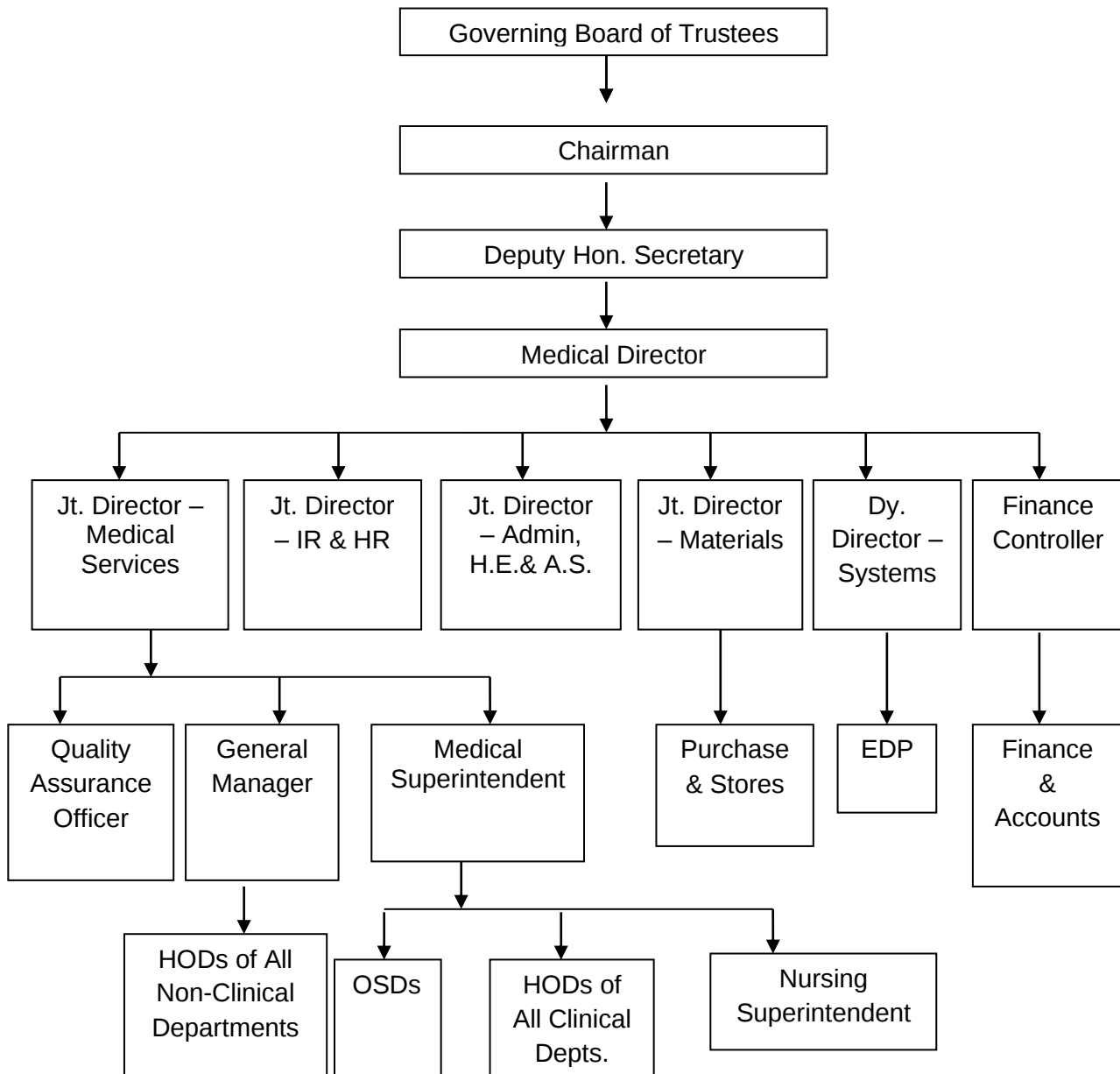
CORPORATE SOCIAL RESPONSIBILITY: Free OPD, General ward – free bed and diet charges.

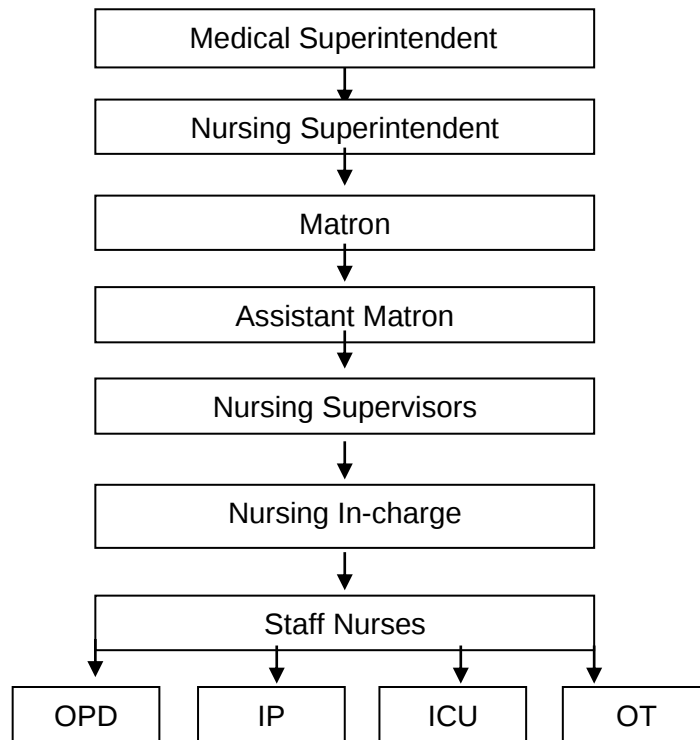
MILESTONES:

- Ranked 1st by 'The Week' magazine, November 2011.
- ICICI Lombard Award & NABH Accreditation

QUALITY GOALS:

- To establish the quality objectives and key quality indicators for all departments.
- To undertake daily surveillance of the high risk areas and procedures to ensure lower infection rates.
- To capture all the requisite quality indicators, analyse them and implement the necessary corrective and preventive actions to mitigate the risks.

ORGANISATIONAL HEIRARCHY**Figure 1**

NURSING HEIRARCHY**Figure 2****General Manager:**

- Responsible for the non-clinical services such as Engineering Services, Marketing & Public Relations, Security and Housekeeping.

Medical Superintendent:

- To supervise Emergency Department, admission process and discharge process.
- To guide the Diagnostic Departments – blood bank, radiology, endoscopy and dialysis etc.
- To recruit Consultants.
- To recruit Resident doctors
- To recruit, select and appoint and ensure placement of nursing staff.
- To see the attendance, leaves of consultants and medical officers.
- To take part in the Multi-disciplinary facility rounds.
- To arrange for the appointment of necessary doctors and consultants in consultation with the Board of Directors.
- To look after duty rota of consultants and medical.
- To supervise the functioning of all Medical officers, junior doctors and night doctors in the hospital.

- To oversee the practice of evidence-based medicine, safety initiatives, quality assurance, Improve clinical performance and implementation of NABH standards in medical staff.
- To coordinate activities of the Hospital's Infection Control and safety Programs.
- To keep track of admission, discharge, leave against medical advice discharge, medico legal and deaths on a daily basis.
- To look into the IT Systems – quality related issues.
- To oversee the functioning of the Clinical (Biomedical) Engineering department.
- To oversee the Pharmacy operational aspects, except procurement.

Nursing Superintendent:

- Responsible and overall In-charge of nursing services in the hospital.
- To bring to the notice of medical director all the matters, untoward incidents and happenings in relation to patient care this includes patients complaints, medication related issues, medical officers, medical equipment, furniture and nurses grievances.
- Responsible for implementing hospital policies among various nursing units.
- To ensure safe and efficient care rendered to patients in various wards.
- To ensure that all nurses deal with patients in a courteous manner and are soft spoken with empathy with the patients and their relatives.
- To educate nursing staff of all categories by conducting awareness programme on universal precautions, ALS, BLS and CME's.
- To ensure to maintain discipline and punctuality among all the nursing staff.
- To assist MS in recruiting nursing staff.
- To investigate all complaints regarding nursing care and personnel and take suitable corrective action.
- To ensure all the records and registers are maintained properly in the wards by nursing staff.
- To carry out regular ward rounds of the hospital including surprise checks.
- To accompany medical superintendent while making hospital rounds.
- To attend hospital meetings and conferences when advised so.
- To recommend personnel and material requirement of the hospital wards and nursing services.
- To be a member of procurement and condemnation of linen and other materials of the wards.

SCOPE OF HOSPITAL SERVICES

The departments provide the following types of services:

- Outpatient Services
- In patient Services
- Intensive care services

- Emergency ,High dependency services
- Operation theatre services

The following is there list of various departments in Bombay Hospital, Indore:

Medical Specialties General Medicine Obstetrics and Gynaecology Paediatrics Anaesthesiology Dermatology Radiology Chest Medicine Gastroenterology Neurology Nephrology Cardiology Oncology & Haematology Psychiatry Endoscopy	Surgical Specialties General surgery Orthopaedic surgery Otorhinolaryngology Ophthalmology Surgical gastroenterology Neurosurgery Plastic surgery Urology Cardiac Surgery Onco Surgery
Related Services Ambulance Physiotherapy Executive Health Check-Up Nursing Housekeeping Kitchen & Dietary Laundry Security & Fire Safety	24 hour services Emergency Ambulance Operation theatre services Haemo and Peritoneal Dialysis Laboratory Radiology & Imaging – X-Ray, CT Scan, MRI Blood Bank
Administrative services Medical administration Engineering Services Human resource Material management Marketing & TPA claims	24 Hour Managerial services Front Office Billing Facility maintenance & Management Security Diagnostic Services

Accounts & Finance	Pathology Laboratory
Quality management	Radiology & Imaging-X-Ray,CT Scan,MRI
IT department	Blood Bank
Medical Record Department	Electroencephalography(EEG)
Biomedical Engineering	Echocardiography & Tread mill test (Echo-TMT)
	Ultra-Sonography(USG) (24 hours)
	Pulmonary Fuction Test(PFT)
	Colposcopy

Table 1**FLOOR WISE DISTRIBUTION****Basement**

- X-Ray , CT, MRI, Physiotherapy, Blood Bank, Laundry, Store Room

Ground Floor

- Admission Counter, State Bank of India (bank), Casualty , Minor OT, Pathology, Cafeteria , Pharmacy, Free OPD (BPL Patients), Pharmacy

First Floor

- Medical Records Department, Consultant Rooms, IT Department, Ophthalmology Department, Executive Health Scheme, GI Endoscopy, Colonoscopy
- USG, Echo/TMT, EMG, EEG
- Conference Room, Nutrition
- Administrative Block
 - Medical Administration, Marketing, Accounts, Biomedical Engineering
- MS's Room, NS's Room, GM's Room

Second Floor

- OT
- ICU (RR)
- CSSD

Third Floor

- Mess

Fourth Floor

- New ICU
- ICCU
- Cathlab

Fifth Floor

- Labour Room
- NICU
- General Ward
 - Male Ward
 - Female Ward

Sixth Floor

- Nursing College

Seventh Floor

- Hostel for Student Nurses

Eighth Floor

- Hostel for Staff Nurses

Ninth Floor

- Hostel for RMOs, DNBs, and PGDCC students.

Tenth Floor

- Economic Wards
- Dialysis Unit & KTR

Eleventh Floor

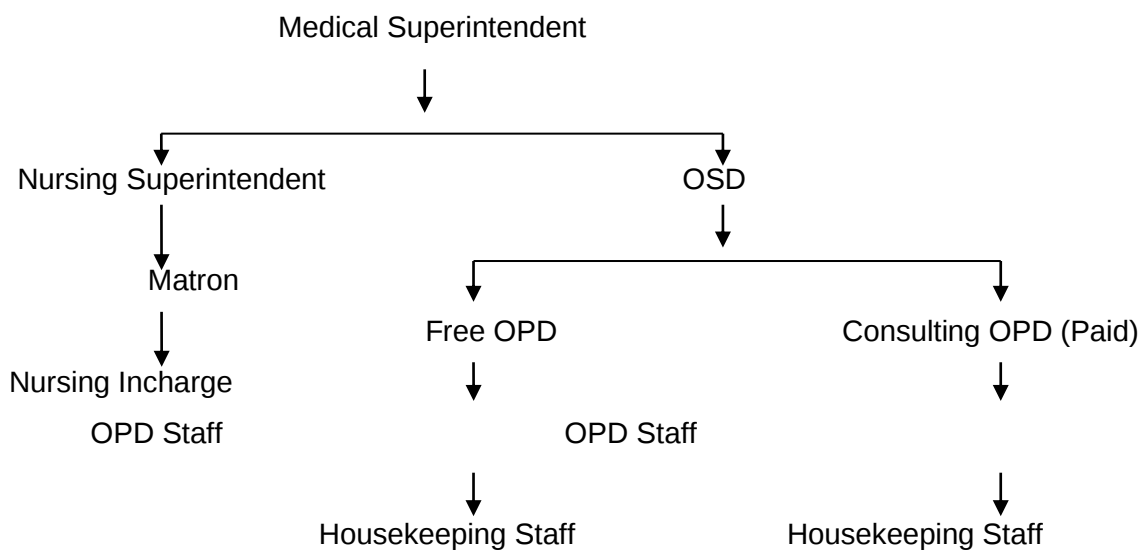
- Non AC Private Rooms
- Semiprivate Rooms

Twelfth Floor

- 1st Class AC Rooms
- Deluxe Rooms

Outpatient Departments:**OPD PATIENT FLOW:**

OPD (outpatient department) is **defined** as a **hospital** department where patients receive diagnoses and/or treatment but do not stay overnight. Thus, **OPD** treatment is for patients who do not require hospitalisation. **OPD** is the mirror of the **hospital**, which reflects the functioning of the **hospital** being the first point of contact between the patient and the **hospital** staff. Patients visit the **OPD** for various purposes, like consultation, day care treatment; investigation, referral, admission and post discharge follow up.

1. DEPARTMENTAL HIERARCHY:**Figure 3****2. ROLES AND RESPONSIBILITIES:**

- **Deputy Medical Superintendent:**
- **Nursing Superintendent:**
- **Medical Officer – Free OPD:**
- **Consultants – Consulting OPD:**
- **OPD Staff Nurses:**
- **Housekeeping In-Charge:**
- **Housekeeping staff:**

3. DEPARTMENT WORKING HOURS:

- Free OPD working hours : 9 a.m. to 5 p.m.
- Consulting OPD working hours : 9 a.m. to 7 p.m.
- Every OP area is equipped with 2 nursing staff and 1 attendant.

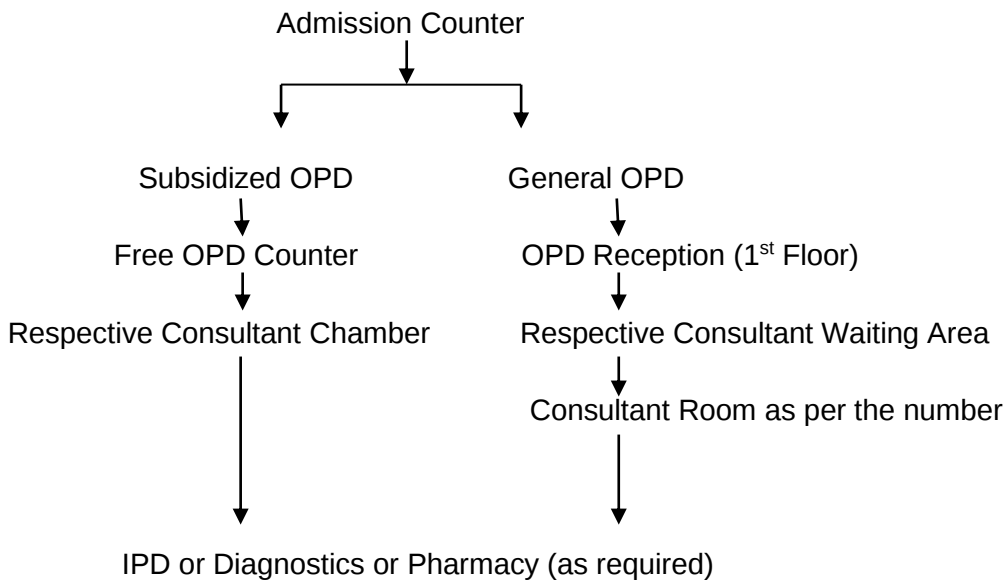
Process Flow of OPD:

Figure 4

4. PROCEDURES:

- **Registration:**
- **Billing:**
- **Initial assessment:**
 - **Investigations:**
 - **Admission from OPD:**
 - **Referral of patients:**
 - **Transfer of patients:**
- **Hospital Infection Control:**

5. QUALITY OBJECTIVES:

- Timely assessment of all OP patients by the Consultants.
- Timely screening of all OP Patients by the dietician.
- Completion of OP medical records with respect to date, time, name and sign.
- Completion of OP medical records with respect to the patients' demographic and clinical details.
- Ensure collection of feedbacks from all OP patients.

- Ensure safety and comfort of all OP patients.

IN-PATIENT SERVICES -A patient who is admitted to a hospital or clinic for treatment that requires at least one overnight stay.

IPD PATIENT FLOW

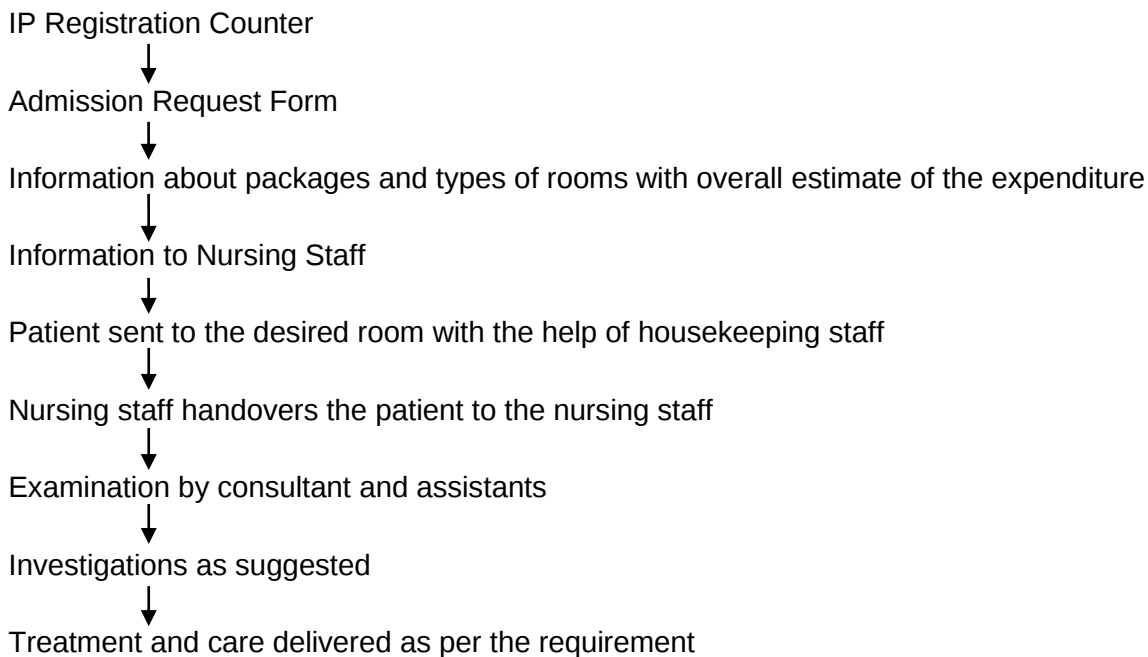


Figure 5

ICU

Definition: Care given to patients whose condition is life- threatening and needs constant close monitoring and support from equipment and medication to keep normal body functions going, is known as Intensive Care. This level of care is given in Intensive Care Unit (ICU).

Location: Bombay Hospital, Indore has 4 ICUs-

- RR- Recovery room located in the West wing of the 2nd floor of the building.
- New ICU located in the East wing of the 4th floor of the building.
- ICCU- Interventional Critical Care Unit or Cardiac ICU located in the East wing of the 4th floor of the building
- NICU- Neonatal ICU located in the East Wing of the 5th floor of the building (near Labour Room).

Beds:

- RR - 26 beds

- New ICU - 21 beds
- ICCU - 10 beds
- NICU - 5 beds

Scope of the Department: Medical Intensive Care unit for all patients, especially those who are critically ill and require intense and continuous care with sophisticated equipment to support the failing organ systems.

Services provided:-

- Basic life support
- Advanced Cardiac life support
- Ventilation- intubations
- Monitor, Defibrillation – Dc shock
- Inotropic supports
- Tension Pneumothorax

NICU: Neonatal Intensive care Department functions to provide relief of ailment to the neonates with medical problems. Patients could be in or outpatient.

In addition to care of diseases, we aim at primary prevention of disease, offering comprehensive clinical examination and screening for silent diseases, and provide appropriate advice.

Departmental Hierarchy: ICU

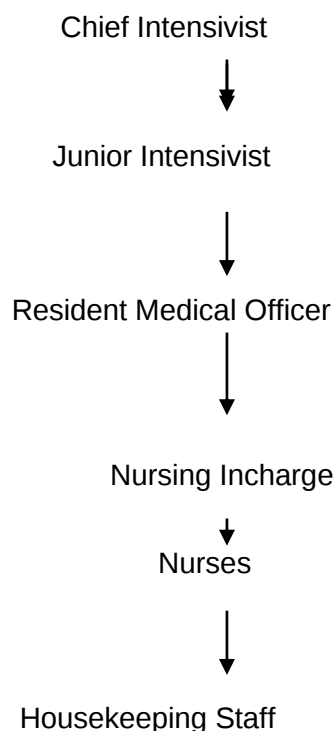
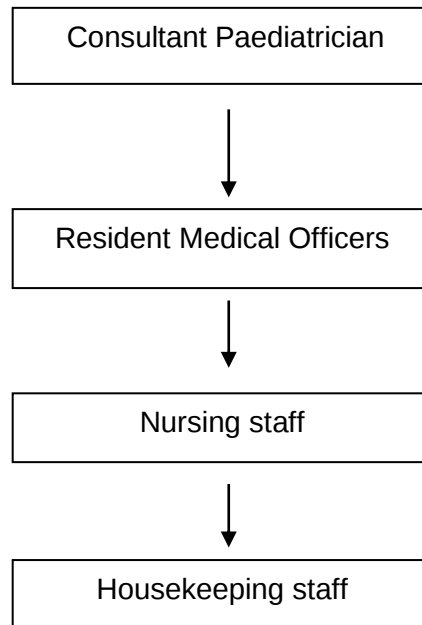


Figure 6

NICU:**Figure 7**

Manpower: The department operates with 3 shifts 24 hours a day.

Number of Staff:

Doctor – 08.00am – 04.00pm
12.00pm – 08.00pm
08.00pm - 08.00am

} each shift one Doctor

Nurse – 07.00am – 03.00pm
01.00pm – 09.00pm
09.00pm - 07.00am

} three in each shift

Housekeeping Staff – 08.00am – 04.00pm
12.00pm – 08.00pm
08.00pm - 08.00am

} four in each shift

EMERGENCY & CASUALTY PATIENT FLOW

An **emergency department (ED)**, also known as an **accident & emergency department (A&E)**, **emergency room (ER)**, **casualty department**, is a medical treatment facility specializing in emergency medicine, acute care of patients who present without prior appointment, either by their own means or by that of an ambulance. The emergency department is usually found in a hospital or other primary care center.

Due to the unplanned nature of patient attendance, the department must provide initial treatment for a broad spectrum of illnesses and injuries, some of which may be life-threatening and require immediate attention. In some countries, emergency departments have become important entry points for those without other means of access to medical care.

The emergency departments of most hospitals operate 24 hours a day, although staffing levels may be varied in an attempt to reflect patient volume.

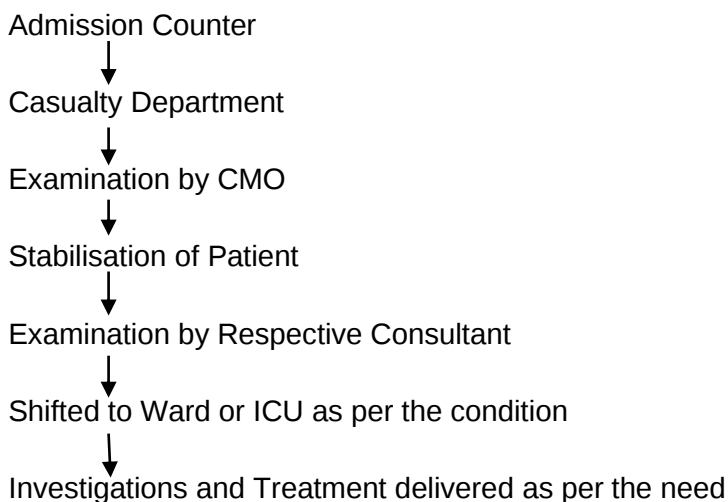


Figure 8

BLOOD BANK

INTRODUCTION:

- BHI blood bank is located in Main building and is used for collection of blood from voluntary / replacement donor and preparation of blood components under complete aseptic precautions for providing safe blood transfusion and to ensure patient safety. Blood is potentially hazardous and is given when clinical benefit to the patient outweighs the potential risk.

- Being a Super speciality hospital, BHI Blood bank works 24 x 7 throughout the year since the demand for blood and/ or component is to be met with efficient blood bank staff and blood storage under hygienic conditions.
- The requirement of a blood bank is set by National AIDS Control organization (NACO) and other Central license approving authority (WHO) is met with all facilities and is provided with:
- Medical examination room (M.O) with adequate furniture and facilities for registration and selection of donors.
- Blood collection room (air conditioned)
- Blood component preparation (air-conditioned to maintain temperature between 20°C - 25° C)
- Laboratory for blood group serology and screening for blood transmissible diseases like Hepatitis, Syphilis, Malaria, HIV antibodies (air conditioned).
- Sterilization-cum-washing room.
- Refreshment-cum-rest room (air conditioned).
- Store-cum-records Room

PURPOSE:

The objective of this document is to define the services that will be provided by Department of Blood Bank, BHI.

SCOPE:

BHI blood bank maintains privacy to patients. Donor Screening is done thoroughly. Blood is collected from voluntary/ replacement donors with minimal risk of contamination of equipments unrelated to blood collection. BHI blood bank has facilities for storage of blood or blood components. Storage of finished products prior to distribution or issue. Proper collection, processing, compatibility testing, storage and distribution of blood and blood components is performed. Proper conduct of all packaging, labelling and other finishing operations.

Organisational Hierarchy:

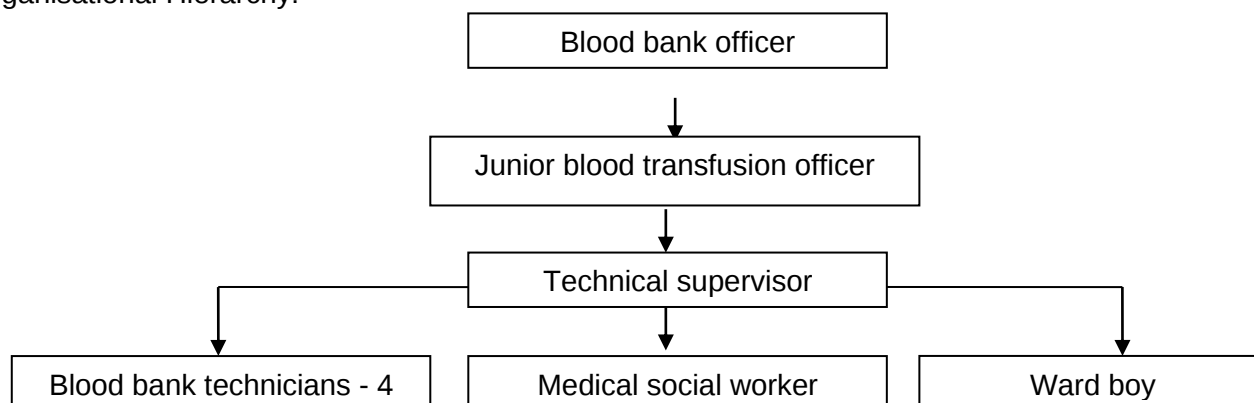


Figure 9

DEPARTMENT WORKING HOURS:

Sl.	Designation	Working hours	Shift timings
1.	Blood bank In-charge		10.00 A.M – 6.00 PM
2.	Medical Social Worker		10.00 A.M – 6.00 PM
3.	Blood bank Technician		7.00AM – 3.00 PM / 10.00 AM – 6.00 PM / 3.00 PM – 11.00 PM/ 11.00 PM – 7.00 AM
4	Ward boy		7.00 AM – 4.00 PM/ 4.00 PM – 10.00 PM

Table 2

DISCHARGES IN THE HOSPITAL:

Discharge from the hospital is the point at which the patient leaves the hospital and either returns home or is transferred to another facility such as one for rehabilitation or to a nursing home. Discharge involves the medical instructions that the patient will need to fully recover. Discharge planning is a service that considers the patient's needs after the hospital stay, and may involve several different services such as visiting nursing care, physical therapy, and home blood drawing.

Description

Hospitalization is often a short-term event, so planning for discharge may begin shortly after admission. The physicians, nurses, and case managers involved in a patient's care are part of an assessment team that keeps in mind the patient's pre-admission level of functioning, and whether the patient will be able to return

home following the current hospital admission. Information that could affect the discharge plan should be noted in the patient's medical record so that it will be taken into account when discharge is being scheduled.

While a person has been in the hospital, physicians other than the primary care physician have been in charge of the patient's care. Good discharge planning involves clear communication between the hospital physician(s) and the primary care physician. This may be done by telephone and/or in writing. The information to be conveyed includes:

- a summary of the hospital stay
- a list of test and surgeries performed, with results
- a list of test results still pending
- a list of tests needed after discharge, such as a repeat chest x ray
- a list of medications the patient is being discharged with, including the dosage and frequency
- a copy of the patient's discharge instructions
- when the patient should see the primary care physician for a follow-up appointment
- the plan for outpatient treatment, such as home intravenous **antibiotics** or parenteral nutrition to ensure that responsibility for this treatment has been clearly transferred and that the primary care physician accepts the treatment responsibility
- discharge instructions to the patient on activity level, diet, and **wound care**

Before leaving the hospital, the patient will receive discharge instructions that should include:

- an explanation of the care the patient received in the hospital
- a list of medications the patient will be taking (the dosage, times, and frequency)
- a list of potential side effects of any newly prescribed medications
- a prescription for any newly prescribed medications
- when to see the primary care physician for a follow-up appointment
- **home care** instructions such as activity level, diet, restrictions on bathing, wound care, as well as when the patient can return to work or school, or resume driving
- signs of infection or worsening condition, such as pain, fever, bleeding, difficulty breathing, or vomiting
- an explanation of any services the patient will now be receiving, such as for a visiting nurse, and to include contact information

The term discharge planning may be used to refer to the service provided to help patients arrange for services such as rehabilitation, physical therapy, occupational therapy, visiting nurses, or nursing home care. This service may be provided by a case manager or by the hospital's social service department. The patient may request this service, or the physician may make the request in the form of a referral to the department.

The patient will need to be evaluated to see what services he or she requires, as well as what services he or she qualifies for (such as meals-on-wheels), or what services the patient's insurance will cover. The patient may be discharged home with a visit from a visiting nurse later the same day to assess the patient's need for these services and to make arrangements for him or her in the home. A person may be discharged home only when certain equipment such as a hospital-style bed and oxygen has been delivered to the home. If a patient feels he or she is being discharged before he or she is ready, the patient can file a complaint with the hospital's ombudsman.

Bombay Hospital:

On an average 10 to 15 patients were discharged every day from Bombay hospital and average time taken was 1 hour 20 minutes.

Discharge Process:

Doctor rounds done



Patient needs to be discharged



Discharge summary to be prepared by RMO



Return of extra medicines to pharmacy



Assembling Order – 1 file for all



After receiving of discharge summary & return to pharmacy, Files are send to admission counter



Patient is given discharge card and allowed to leave the hospital.

Figure 10



Bombay Hospital
& Medical Research Centre

A Project Report on

Analysis of

Code Blue Process

Disaster: A disaster is any event causing widespread destruction and distress. Certain codes have been identified as a part of disaster management.

There are four emergency codes identified in Bombay Hospital – Indore. They are:

EMERGENCY CODES RESPONSE			
Code	Situation	To be Contacted	Message
"Code Red"	Fire	Duty Manager / Security Assistant / Maintenance Engineer/ Liaison officer / Medical Superintendent / General Manager / Nursing Superintendent	Code red - fire detected at "<location>". Please activate emergency response team
"Code Blue"	Cardiac Arrest	Emergency Medical Intensivist / Assistant Nursing Superintendent / Director of Nursing / Medical Superintendent	Code blue at "<location>". Respond immediately
"Code Pink"	Child Abduction	Duty Manager / Security Assistant / Nursing supervisor / Chief Administrative Officer / Medical Superintendent / General Manager / Nursing Superintendent / CMO / Security	Code pink - child missing from "<location>". Close all exits & initiate search
Code Orange	Hazardous Material Spill/Release	Nursing supervisor//Medical Superintendent/Laboratory Manager/Assistant / General Manager / Nursing Superintendent / CMO / Security	Code Orange at "<location>". Respond immediately

Table 3

□ **Code blue:** An emergency situation announced in a hospital or institution in which a patient is in cardiopulmonary arrest, requiring a team of providers (sometimes called a '**code team**') to rush to the specific location and begin immediate resuscitative efforts. Code blue is an emergency response system for alerting the code blue team of intensivist, nurses.

S.No.	Committee members	Number
1	Anaesthetist	1
2	Physician	1
3	Cardiologist	1
4	Member from code blue team	1
5	Code blue team Nurse	1
6	NABH Coordinators	

Table 4

Code Blue Team – intensivist, nurses, RMO's and they are BLS (Basic Life Support)/ACLS (Advanced Cardiac life support) trained.

Every month code blue, code red, code pink is conducted; meanwhile it is monitored and analyzed according to their respective checklist. Code blue is evaluated through CPR Checklist and code blue evaluation checklist. After evaluation meeting is conducted in which points are discussed and corrective and preventive actions are noted and finally minutes are made.

Important Terms used in CODE BLUE:

Basic Life Support

The preservation of life by the initial establishment of and / or maintenance of airway, breathing, circulation and related emergency care.

Breathing

The spontaneous movement of air in and out of the lungs.

Cardiac Arrest

Cessation of the heart action.

Cardiopulmonary Resuscitation

The technique of rescue breathing combined with chest compressions. The purpose of cardiopulmonary resuscitation is to temporarily maintain a circulation sufficient to preserve brain function until advanced life support treatment is available.

Carotid Pulse

Pulse felt in one of the two main arteries of the neck located on either side of the trachea.

Defibrillation

The application of a controlled electric shock to the victim's chest in order to terminate a life threatening cardiac rhythm (ventricular fibrillation or pulseless ventricular tachycardia).

Defibrillator

A device which stores electric energy which can be discharged when required for the purpose of achieving the passage of an electric current through the heart in an attempt to achieve defibrillation.

Ventilation

The movement of air between the environment and the lungs.

Xiphoid Process

The pointed process of cartilage, supported by a core of bone, connected with the end of the body of the sternum.

Cardiac / Respiratory Arrest & Medical Emergency**Chain of Survival Concept**

The highest potential survival rate from a cardiac arrest can be achieved only when the following sequence of events occurs as rapidly as possible:

- Recognition of early warning signs;
- Activation of the appropriate response system;
- Basic CPR;
- Defibrillation;
- Management of the airway and ventilation; and
- Intravenous administration of medications.



Figure 11

These links are indispensable and have been associated with links in a chain.

Weakness in any link and loss of connection between the links lessens the chance of survival for the patient.

Basic Life Support (BLS) is the preservation or restoration of life by the establishment of and / or maintenance of airway, breathing, circulation, and related emergency care.

Basic Life Support is only a temporary measure to maintain ventilation and circulation. The purpose of BLS is to help maintain myocardial and cerebral oxygenation until Advanced Life Support (ALS) personnel and equipment are available.

Basic Life Support therefore covers the first three components of the "chain of survival" i.e. early access, early cardiopulmonary resuscitation (CPR) and early defibrillation. Early defibrillation is facilitated by the use of Automated External Defibrillators. Most adults with sudden non-traumatic cardiac arrest are found to be in ventricular fibrillation (VF). For these patients, the time from collapse to defibrillation is the single greatest determinant of survival.

Rate of Chest Compressions

Staff should perform chest compressions at a rate of approximately 100 compressions per minute (at almost 2 compressions/second).

Ratio of External Cardiac Compression to Inflation

A universal compression-ventilation ratio of **30:2** (30 compressions followed by 2 ventilations) is recommended regardless of the number of staff members present. **Note** - Compressions must be paused to allow for ventilations.

*Change in CPR Sequence: C-A-B Rather Than A-B-C**

2010 (New): A change in the 2010 AHA Guidelines for CPR and ECC is to recommend the initiation of chest compressions before ventilations.

2005 (Old): The sequence of adult CPR began with opening of the airway, checking for normal breathing, and then delivering 2 rescue breaths followed by cycles of 30 chest compressions and 2 breaths.

Why: Although no published human or animal evidence demonstrates that starting CPR with 30 compressions rather than 2 ventilations leads to improved outcome, chest compressions provide the blood flow, and studies of out-of hospital adult cardiac arrest showed that survival was higher when bystanders provided chest compressions rather than no chest compressions. Animal data demonstrate that delays or interruptions in chest compressions reduce survival, so such delays and interruptions should be minimized throughout the entire resuscitation. Chest compressions can be started almost immediately, whereas positioning the head and achieving a seal for mouth-to-mouth or bag-mask rescue breathing all take time. The delay in initiation of compressions can be reduced if 2 rescuers are present: the first rescuer begins chest compressions, and the second rescuer opens the airway and is prepared to deliver breaths as soon as the first rescuer has completed the first set of 30 chest compressions. Whether 1 or more rescuers are present, initiation of CPR with chest compressions ensures that the victim receives this critical intervention early.

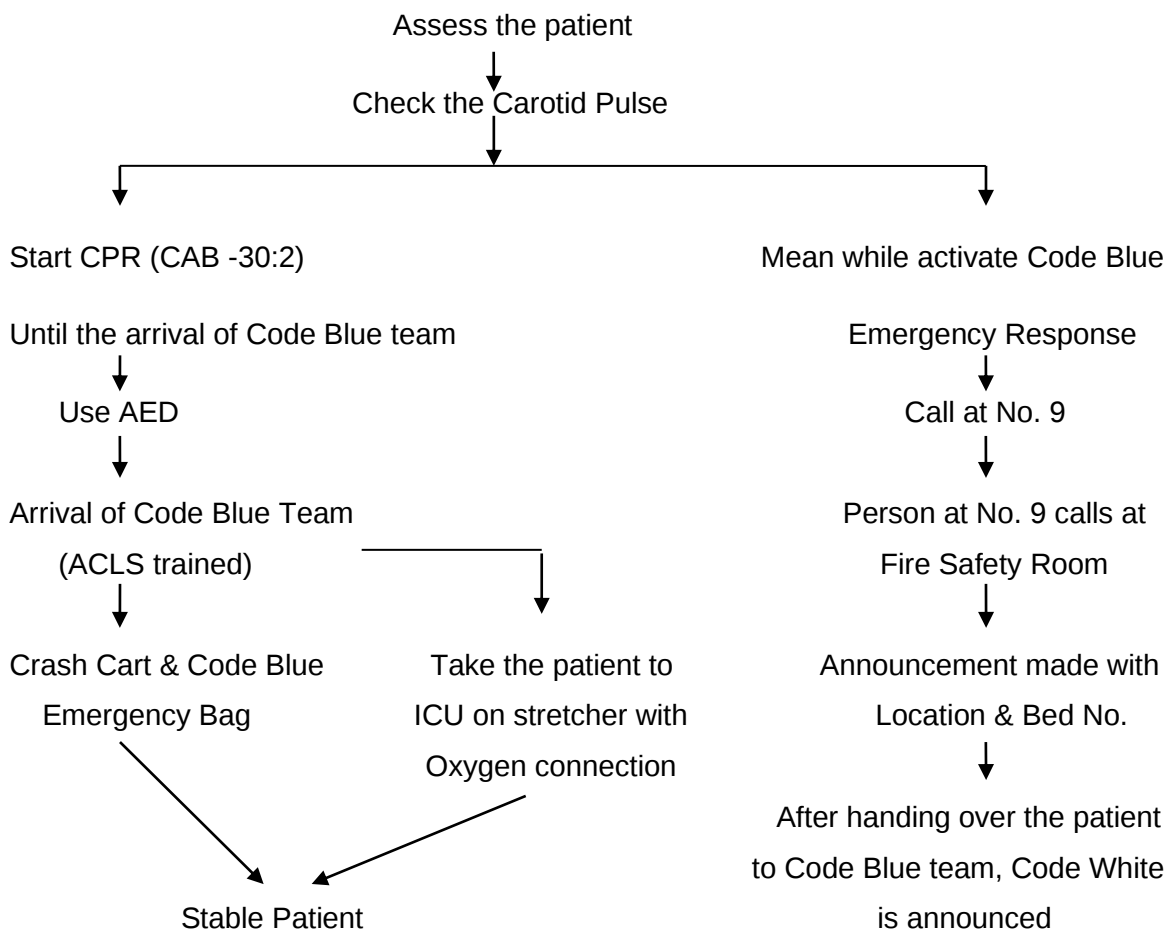
Code Blue Process:

Figure 12

Objectives-

1. To analyze the code blue process.
2. To identify the loopholes in the process
3. and rectify them so as to fasten the code blue process.

Methodology-

1. Area of research - Bombay Hospital-Indore (M.P.)
2. Duration of Study – 10 months
3. Study design-Retrospective study as it uses historical data to understand trends.

Analytical-to use facts for analysis
4. Sampling Technique- Purposive Sampling
5. Sample Size- Total Number of CPR events reported as well as mock drills conducted within this period.
6. Data Sources-Secondary data –obtained from records maintained in the code blue file in the administration department. Code blue evaluation checklist was prepared by the code blue committee of Bombay hospital.

Data Analysis:

Data analysis is done using **Pareto analysis**. A technique used for decision making based on the Pareto Principle, known as the 80/20 rule. It is a decision-making technique that statistically separates a limited number of input factors as having the greatest impact on an outcome, either desirable or undesirable. Pareto analysis is based on the idea that 80% of a project's benefit can be achieved by doing 20% of the work or conversely 80% of problems are traced to 20% of the causes.

Step 1 – List all the problems associated with code blue process.

Step 2 – Identify the root causes of each problem.

Step 3 – Score problems

Step 4 – Group problems together by root cause

Step 5 – Add up scores for each group

Step 6 – Take action accordingly

Among all the CPR events and mock drills conducted, variations occurring were recorded .For Pareto analysis all variations were studied and their root causes were found out.The errors considered in Pareto analysis are given in the following table:

Table 5

Pareto Analysis			
Code Blue Errors			
Error (Cause)	Count	Cumulative Count	Cumulative %
Person not present in fire room	68	68	33.1
Speakers not working properly	45	113	55.1
Double call system	31	144	70.2
AED not checked properly	22	166	80.9
Oxygen not present with trolley	12	178	86.8
Checklist not updated	11	189	92.1
ACLS/BLS training not proper	9	198	96.5
Staff training not proper	7	205	100.0

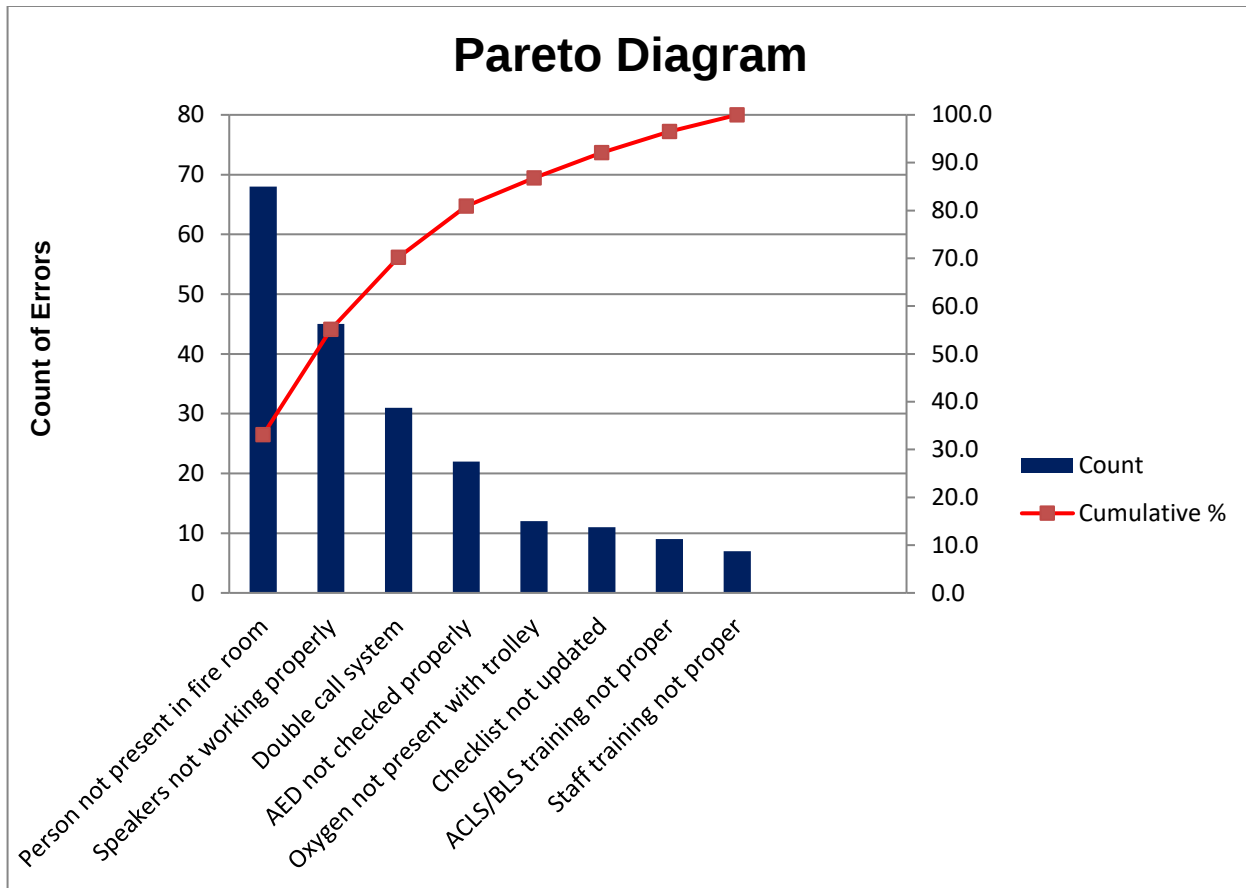


Figure 13

Draw a line at 80% on the y-axis running parallel to the x-axis. Then drop the line at the point of intersection with the curve on the x-axis. This point on the x-axis separates the important causes on the left (vital few) from the less important causes on the right (trivial many).

After drawing line and separating all the causes, It is found that the most important factors for delay in code blue process are:

1. Person not present in fire room
2. Speakers not working properly
3. Double call system

First, these problems should be solved in order to reduce 80% of the problems.

Recommendations:

- PA system should be improved by
 1. Ensuring that some or other person is available for 24 hours in fire safety room for announcement.
 2. Speakers should be regularly monitored and replaced ,if not working properly.
 3. Double call system increases the time for code blue emergency system. It should be reduced to a single call system.9 No. Should be given the announcement system facility.
- AED should be checked properly and monitored so as to ensure high efficiency and proper working.
- ACLS/BLS training should be given properly to the staff and their tests should be conducted.
- Training to other staff for code blue process should be given.
- Emergency bag and crash cart trolley should be checked and updated regularly.



Bombay Hospital
& Medical Research Centre

A Project Report on Hand Hygiene Compliance

Introduction:

Hand hygiene is now regarded as one of the most important element of infection control activities. In the wake of the growing burden of health care associated infection (HCAIs), the increasing severity of illness and complexity of treatment, superimposed by multi-drug resistant (MDR) pathogen infections, health care practitioners (HCPs) are reversing back to the basics of infection preventions by simple measures like hand hygiene. This is because enough scientific evidence supports the observation that if properly implemented, hand hygiene alone can significantly reduce the risk of cross-transmission of infection in healthcare facilities.

Normal flora of hands:

There are two types of microbes colonizing hands: the resident flora, which consists of microorganisms residing under the superficial cells of the stratum corneum and the transient flora, which colonizes the superficial layers of the skin, and is more amenable to removal by routine hand hygiene. Transient microorganisms survive, but do not usually multiply on the skin. They are often acquired by health care workers (HCWs) during direct contact with patients or their nearby contaminated environmental surfaces and are the organisms most frequently associated with HCAIs.

Importance of hand hygiene:

Proper hand hygiene is the single most important, simplest, and least expensive means of reducing the prevalence of HAIs and the spread of antimicrobial resistance. Several studies have demonstrated that hand washing virtually eradicates the carriage of MRSA which invariably occurs on the hands of HCPs working in ICUs. An increase in hand washing compliance has been found to be accompanied by a fall in MRSA rates. The hand hygiene liaison group identified nine controlled studies, all of which showed significant reductions in infection related outcomes, even in settings with a high infection rates in critically ill patients. Transmission of Health-care-associated *Klebsiella* sp. has also been documented to reduce with improvement in hand hygiene. The evidence suggests that adherence to hand hygiene practices has significantly reduced the rates of acquisition of pathogens on hands and has ultimately reduced the rates of HAIs in a hospital.

Indications for hand hygiene during patient care

Wash hands with soap and water when (i) visibly dirty or contaminated with proteinaceous material, blood, or other body fluids and if exposure to *Bacillus anthracis* is suspected or proven (since the physical action of washing and rinsing hands in such circumstances is recommended because alcohols, chlorhexidine, iodophors, and other antiseptic agents have poor activity against spores); (ii) After using a restroom, wash hands with a non-antimicrobial soap and water or with an antimicrobial soap and water; and (iii) before and after having food. In all other clinical situations described below when hands are not visibly soiled, an alcohol-based hand rub should be used routinely for decontaminating hands. (i) Before having direct contact

with patients. (ii) Before donning sterile gloves when inserting a central intravascular catheter. (iii) Before inserting indwelling urinary catheters, peripheral vascular catheters, or other invasive devices that do not require a surgical procedure. (iv) After contact with a patient's intact skin (e.g., when taking a pulse or blood pressure or lifting a patient). (v) After contact with body fluids or excretions, mucous membranes, nonintact skin, and wound dressings if hands are not visibly soiled. (vi) After contact with inanimate objects (including medical equipment) in the immediate vicinity of the patient. (vii) After removing gloves. (viii) If moving from a contaminated body site to a clean body site during patient care. The WHO "SAVE LIVES": Clean Your Hands programme reinforces the "My 5 Moments for Hand Hygiene" approach as key to protect the patients, HCWs and the health-care environment against the spread of pathogens and thus reduce HAIs. This approach encourages HCWs to clean their hands: before touching a patient, before clean/aseptic procedures, after body fluid exposure/risk, after touching a patient and after touching patient surroundings.

Review of Literature:

1.The significance of hand washing in patient care was conceptualized in the early 19th century.Labarraque provided the first evidence that hand decontamination can markedly reduce the incidence of puerperal fever and maternal mortality.

2.In 1975 and 1985, the CDC published guidelines on hand washing practices in hospitals, primarily advocating hand washing with non antimicrobial soaps; washing with antimicrobial soap was advised before and after performing invasive procedures or during care for high risk patients. Alcohol-based solutions were recommended only in situations where sinks were not available.

3. In 1995, the Hospital Infection Control Practices Advisory Committee (HICPAC) advocated the use of antimicrobial soap or a waterless antiseptic agent for cleaning hands upon leaving the rooms of patients infected with multidrug-resistant pathogens.

4. In 2002, the CDC published revised guidelines for hand hygiene. A major change in these guidelines was the recommendation to use alcohol based hand rubs for decontamination of hands between each patient contact (of non-soiling type) and the use of liquid soap and water for cleaning visibly contaminated or soiled hands.

5. The WHO has launched a global hand hygiene campaign in 2005 the first Global Patient Safety Challenge "Clean Care is Safer Care (CCiSC)", as part of its world alliance for patient safety^{15, 16}. In 2006, advanced draft guidelines on "Hand Hygiene in Health Care" were published and a suite of implementation tools were developed and tested. The first Global Hand washing Day was observed on October 15, 2008. A WHO On May 5, 2009, the WHO highlighted the importance of hand hygiene and launched guidelines and tools on hand hygiene, based on the next phase of patient safety work programme "SAVE LIVES: Clean Your Hands".

Scenario at Bombay Hospital – Indore: The infection control team will have the responsibility of monitoring the occurrence of hospital infection and recommending corrective action. The Infection control team consists of infection control nurses, infection control nursing tutors, infection control officer-microbiologist.

Infection Control Committee:

It is a management committee appointed to direct, monitor and support the hospital's infection control programme. It is made up of the representatives of various clinical and other disciplines. The infection control committee consists of –

1. Medical superintendent
2. Deputy medical superintendent
3. Nursing superintendent
4. Infection control nurses
5. Infection control officer.
6. Officer on special duty

Departmental Hierarchy-

Medical Superintendent

Infection control committee

Infection control team

Hand Washing

Hand washing is usually limited to hands and wrists; the hands are washed for a minimum of 10-15 seconds with soap and water

Purpose-To prevent transmission of infectious agents among patient, healthcare personnel and visitors. It is the single most effective way to prevent the spread of infection.

Types-Antiseptic hand wash, antiseptic hand rub, surgical hand wash.

Indications for soap & water-When hands are visibly dirty, when hands are visibly soiled with blood and body fluids (e.g. vomiting, urine, stool, dressings etc.).After handling contaminated articles like urinals, bed pans, kidney tray dustbins etc .On starting and completion of duty shifts. Before eating and after using a rest room .Prior to putting on sterile gloves for performing any procedures (Example - insertion of a central venous catheter).

Indications for hand rub solution-Before direct contact with patients. After contact with patient (Example-After taking pulse, blood pressure, after changing position). Direct contact in between the patients. Before and after direct contact with IV lines, any tubings etc.Before and after Administration of medication and injection.

General instructions- Remove all the hand and arm jewellery. Apply enough soap on hands to make good lather. Medical hand washing should be done for 20-30 seconds. Surgical hand washing should be done for 3-5 min.

Procedure-Hand antisepsis removes or destroys transient micro-organisms and confers a prolonged effect. It may be carried out in one of the following two ways-

General Hand washing technique-Remove watch and jewellery, stand well away from the sink .Turn on the tap wet hands from finger tips to elbow, holding up to enable water to run down from the finger to the elbow. Apply soap and scrub each hand with the other, using rotatory movements from the finger tips to the elbows with special attention to the nails and finger webs. At the start of the shift, a two minute scrub is considered the shortest acceptable duration for hand washing. A 30 second scrub should be done in between patients who are not grossly contaminated. If grossly contaminated, a 60 second scrub is recommended. Rinse thoroughly under running water ensuring that water flows from the fingertips to the elbows. Close the tap dry with clean towel beginning with the hands and proceeding to the wrists and then to the forearms. Dry with clean towel/paper towel. Turn off water using same paper towel and dispose in proper respectable containers.

Surgical hand wash: Strict aseptic techniques are to be followed by all personnel involved in surgical procedures. A minimum of 5 minutes scrub is recommended before each operation. After the preliminary wash of both hands with soap and water, with the hands held up, scrub the hands with sterile brush and soap, starting at the finger nails, hands, and proceeding over the forearm to the elbow. Ensure that once the brush has been used over the wrist and forearm, that it is not used over the fingertips and palms. Particular attention is given to the fingernails .All personnel should be advised to keep nails short and while scrubbing, the under surface of the nails should be cleaned. Rinse hands with running water. Keep arms and fingers held up and elbow down to ensure flow of water from tips to elbow. As an additional precaution, povidone iodine is applied on both hands and washed off with water after about 1 minute. Dry hand with a sterile towel and avoid touching contaminated articles/surfaces.

Rationale:

Maintaining hand hygiene can drastically reduce the hospital acquired infections on a large scale. So it is essential for every hospital to know compliance regarding hand hygiene among health care workers.

Objectives:

1. To measure the compliance of health care workers regarding hand hygiene.
2. To analyze the root causes of non-compliance and to give recommendations for the same.

Methodology:

Study area-Recovery room located on second floor, ICU and ICCU on fourth floor.

Study duration-The study on hand hygiene was carried out for 30 days.

Study design- Observational study

Sampling and Sample size- Purposive sampling was done. Observation was done every day randomly .Sample size-250.

Tools & Techniques for data collection-

Checklist prepared for hand hygiene monitoring by the Infection control committee of Bombay Hospital – Indore. Checklist is given on last page.

Data Analysis:

Data analysis was done in MS Excel. Compliance is calculated from the checklist prepared by the Infection control committee. In the checklist rating was done from 0 to 5.

0-Poor	3-Good
1-Average	4-Very Good
2-Fair	5-Excellent

Calculation-Observed compliance/total compliance * 100

The hand hygiene compliance was calculated and the results were combined department wise and the graphs are plotted in the excel sheet .The following figures show the hand hygiene compliance in various departments.

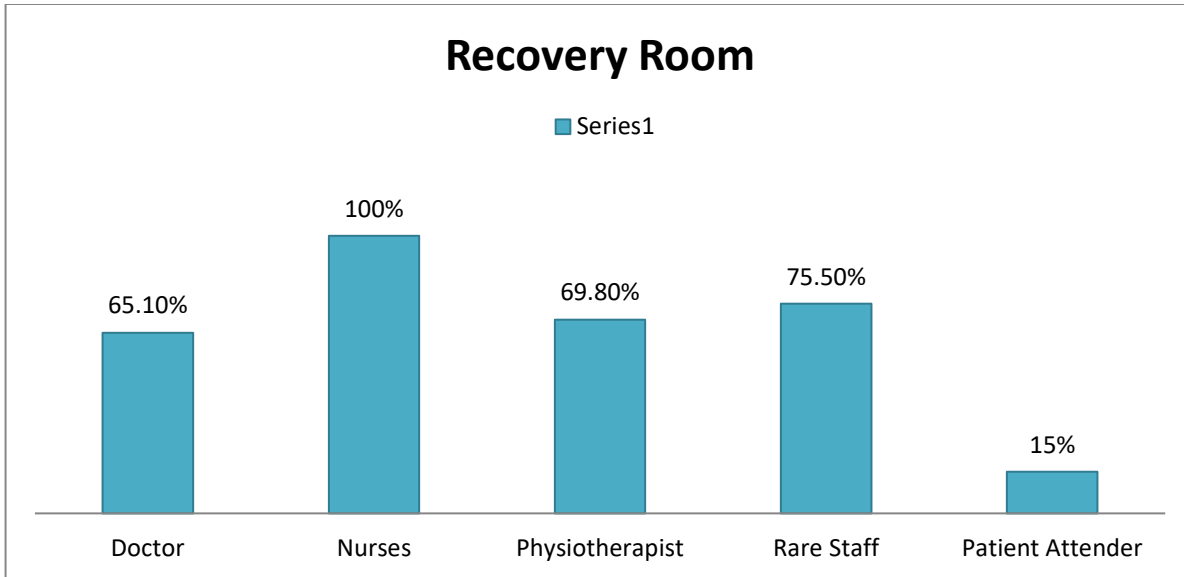


Figure 14

The above figure suggests that doctors, physiotherapist and rare staff have good compliance whereas patient attenders have very poor compliance regarding hand hygiene. Nurses are showing excellent compliance suggesting that they are following very good hand hygiene practices.

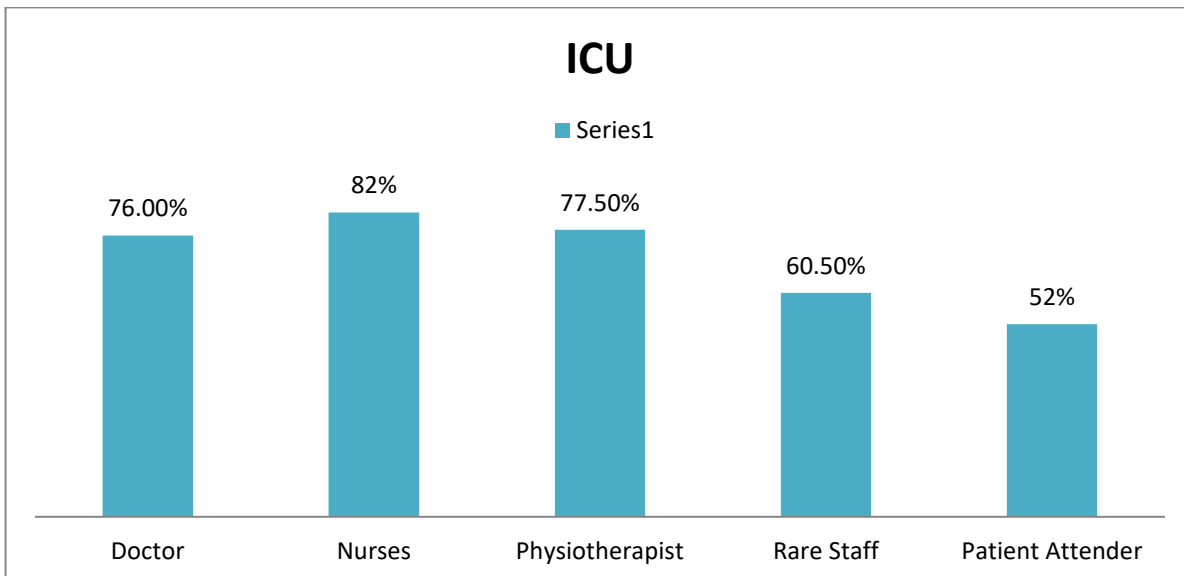


Figure 15

The above figure suggests that all the healthcare workers are showing good compliance except patient attenders which can be due to varied education levels of patient visitors and low awareness among them.

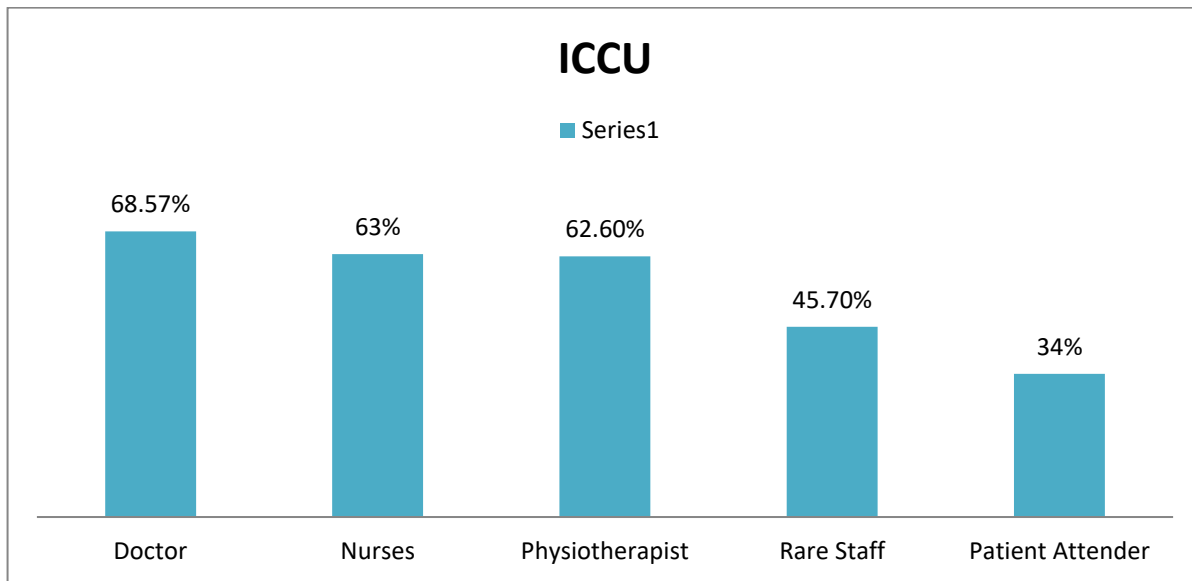


Figure 16

As seen in the above figure, doctors, nurses, physiotherapist show good compliance whereas rare staff and patient attender show low compliance regarding hand hygiene.

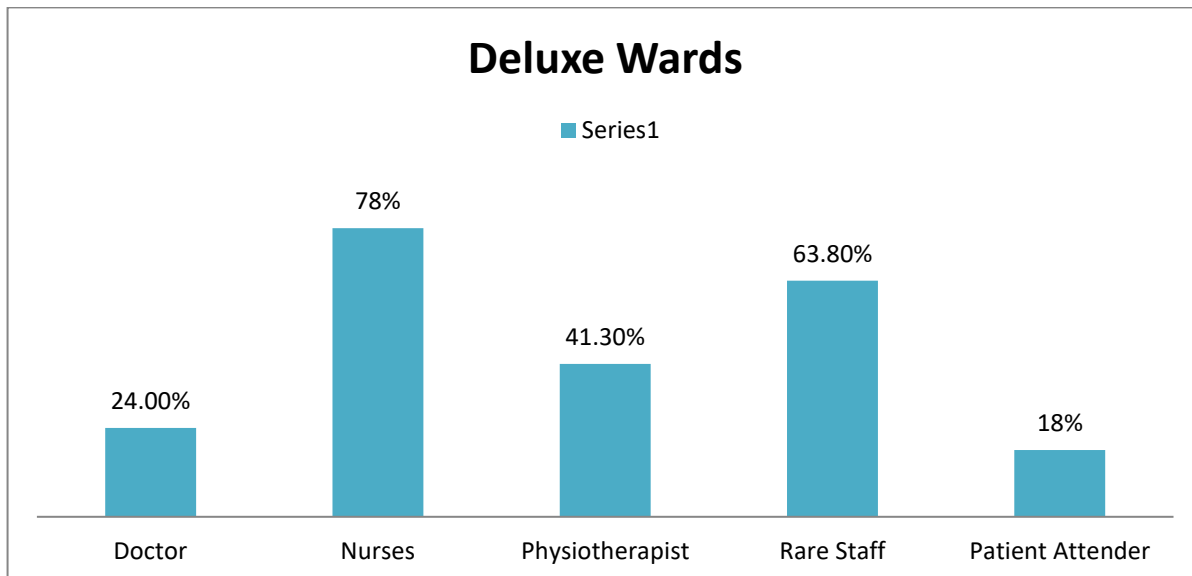


Figure 17

The above figure suggests that nurses and rare staff show good compliance whereas doctors, physiotherapist show low compliance regarding hand hygiene. Patient attender show very low compliance which needs to be focussed.

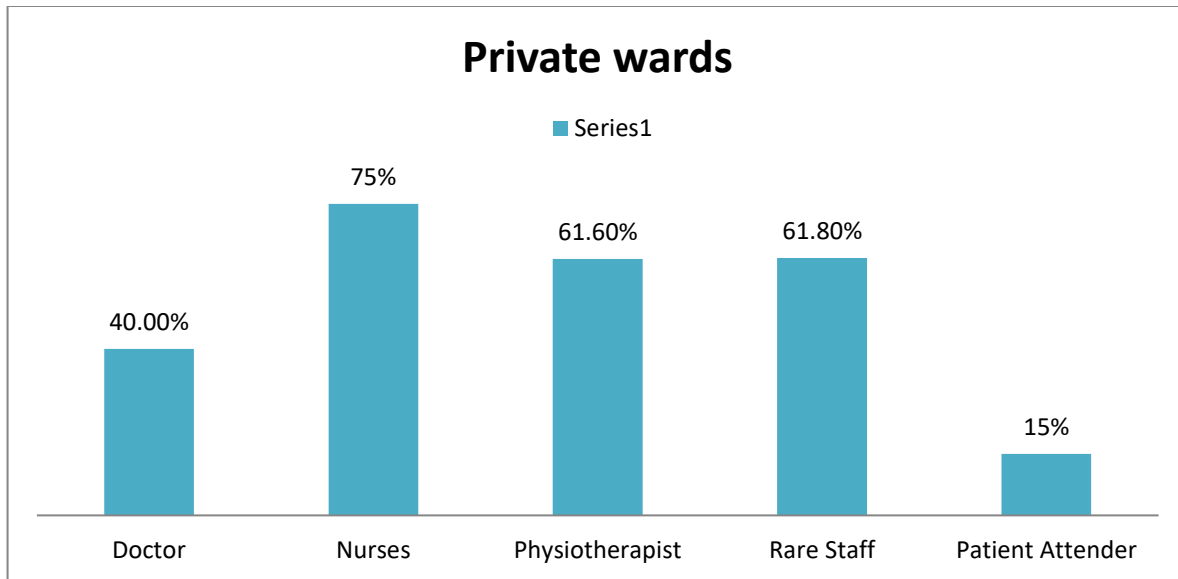


Figure 18

This figure shows that nurses show very good compliance followed by physiotherapist, rare staff, whereas doctors are showing average compliance regarding hand hygiene. Patient attender shows low compliance.

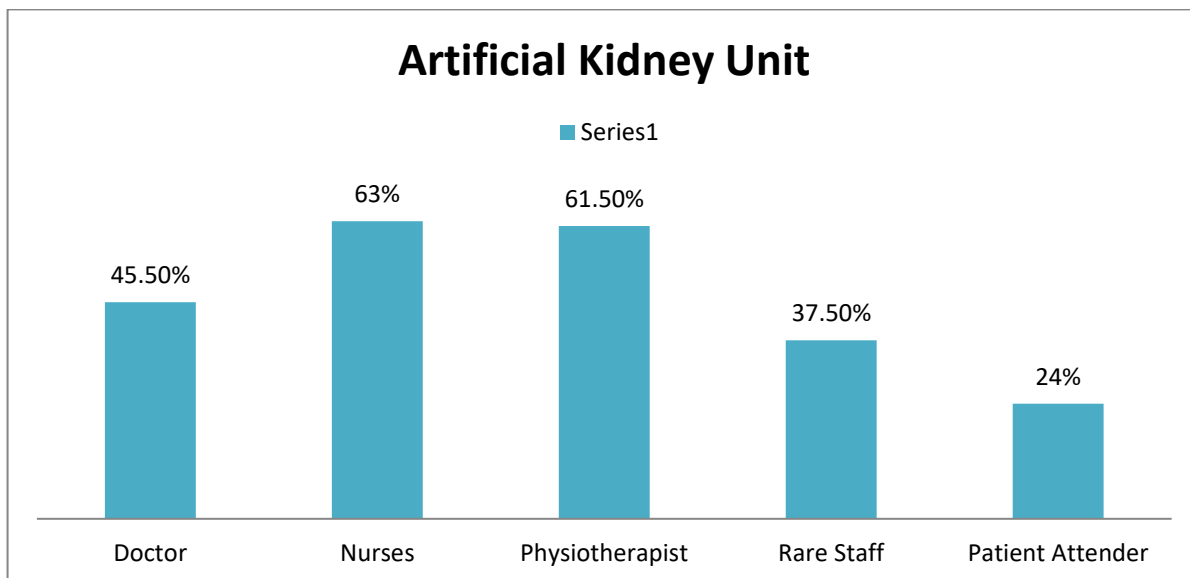


Figure 19

The above figure suggests that nurses, physiotherapist show good compliance whereas doctors-average and rare staff and patient attender low compliance.

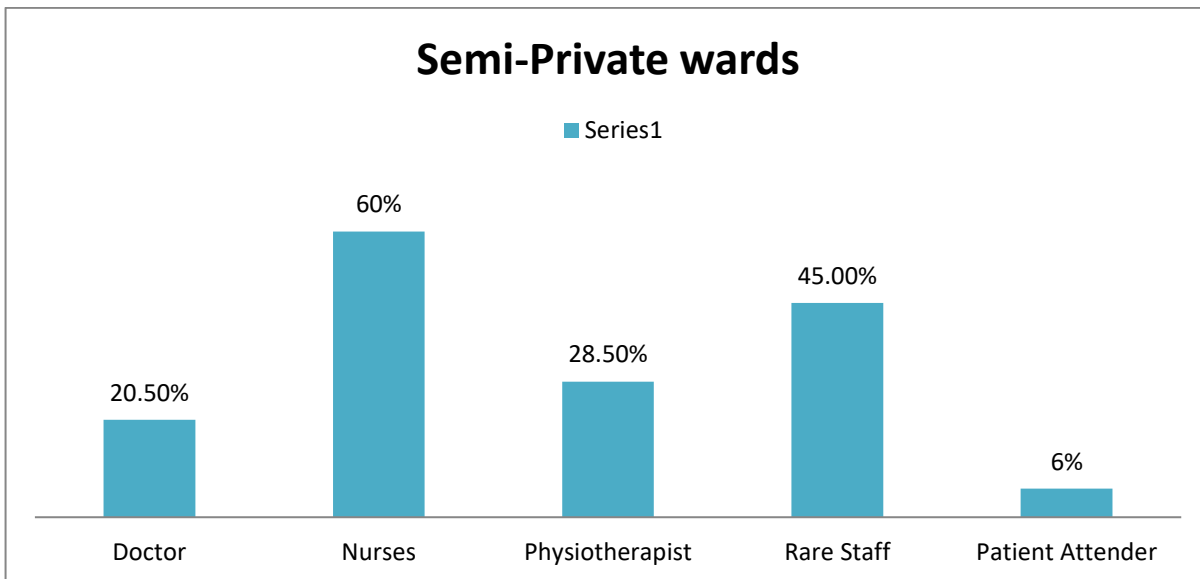


Figure 20

In this figure, it is clear that nurses show good compliance but doctors, physiotherapist show very low compliance and patient attender very low or negligible compliance.

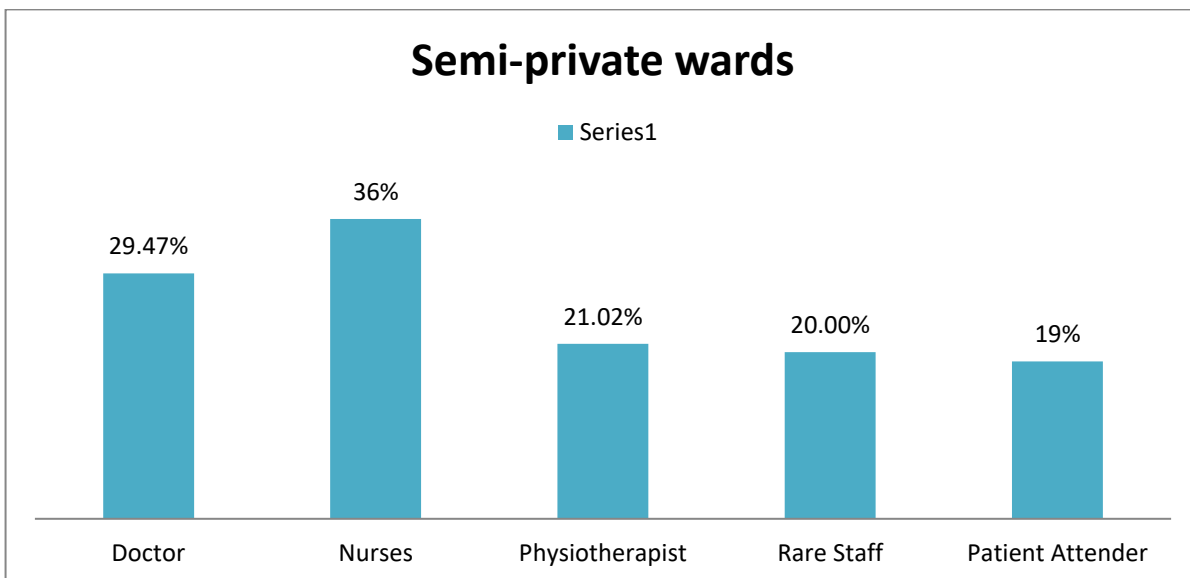


Figure 21

The above figure shows that all the healthcare workers are showing average or low compliance regarding hand hygiene.

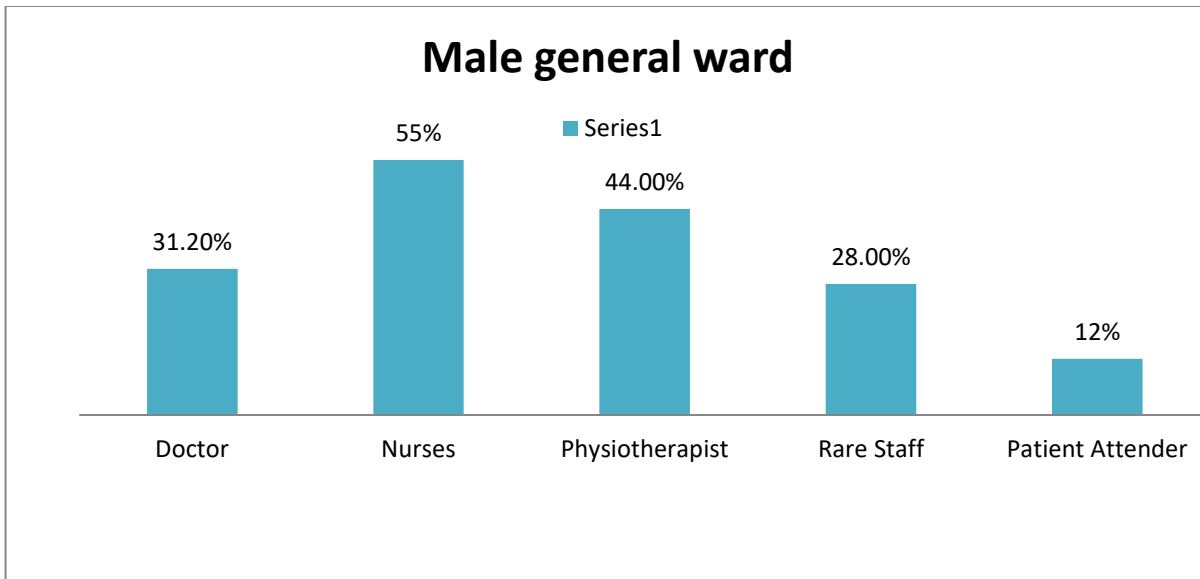


Figure 22

The above figure shows that nurses show good compliance whereas doctors and physiotherapists show less than average compliance and patient attenders show very low compliance.

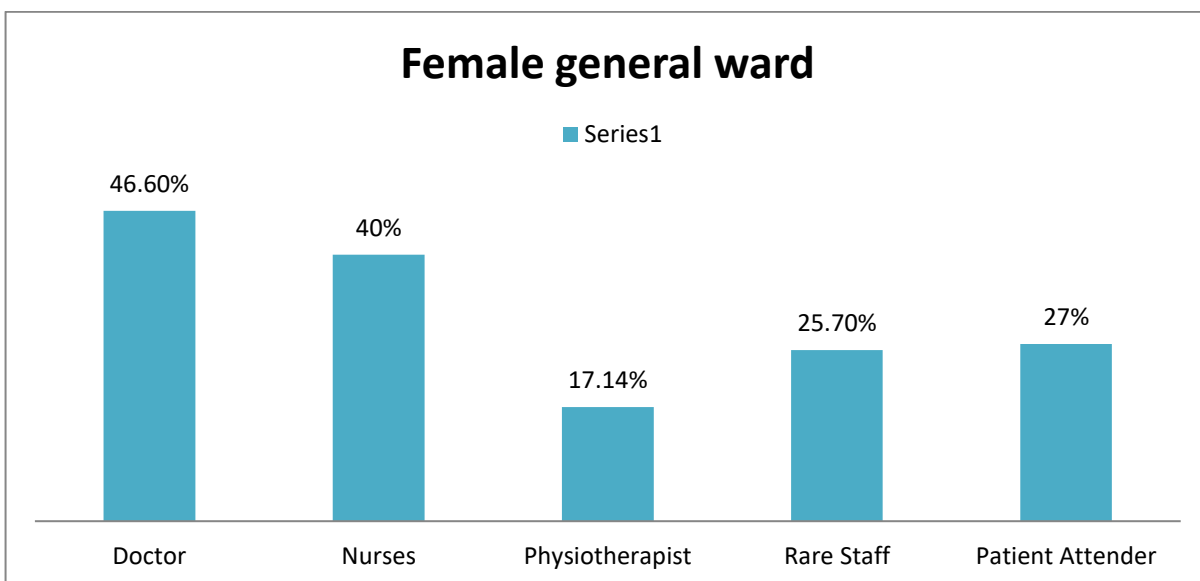


Figure 23

The above graph shows that doctors and nurses show average compliance whereas rare staff and patient attenders less than average with physiotherapists very low score regarding hand hygiene.

Fish-Bone Diagram:

Fish Bone Analysis: Cause and Effect Analysis was devised by Professor Kaoru Ishikawa, a pioneer of quality management, in the 1960s. The technique was then published in his 1990 book, "Introduction to Quality Control." The diagrams created are known as Ishikawa Diagrams or Fishbone Diagrams (because a completed diagram can look like the skeleton of a fish).

Although it was originally developed as a quality control tool, this technique was used in other ways. For instance, you can use it to:

- Discover the root cause of a problem.
- Uncover bottlenecks in your processes.
- Identify where and why a process isn't working.

A cause and effect diagram can be created in six steps...

1. Draw Problem Statement
2. Draw Major Cause Categories
3. Brainstorm Causes
4. Categorize Causes
5. Determine Deeper Causes
6. Identify Root Causes

Causes of Non-compliance regarding Hand Hygiene:

There are six major causes of non-compliance :

1. Attitudes and Beliefs
2. Structural considerations
3. Ineffective training
4. Inadequate safety culture
5. Staff Knowledge
6. Other factors

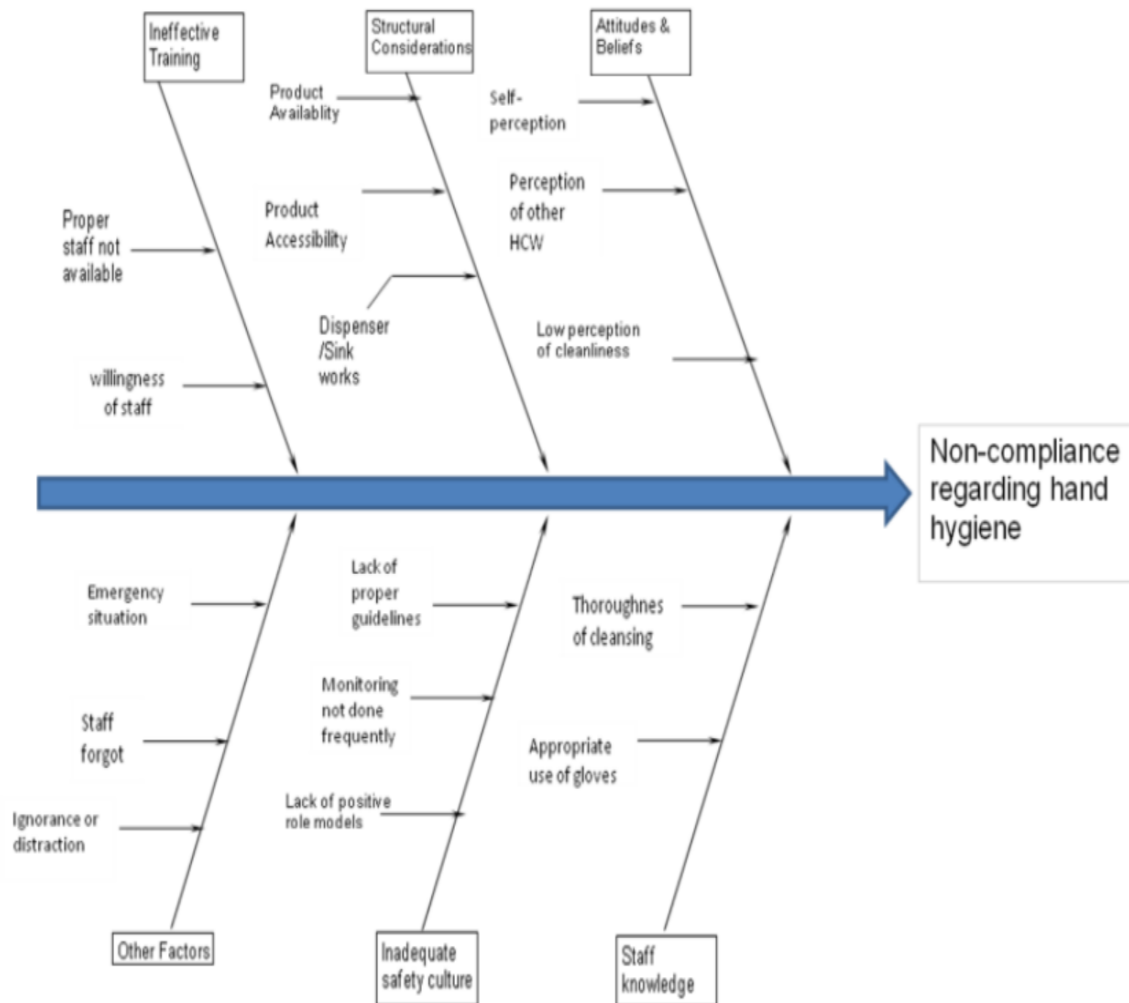


Figure 24

Conclusions And Results:

Detailed analysis of the healthcare workers in all the departments shows that there is variation regarding hand hygiene practices. In some departments, the score is very good whereas in others the score is very low and the same pattern is present among the healthcare workers. Patient attender is consistently showing low score regarding hand hygiene.

Recommendations:

- Regular monitoring and audit should be done to analyse the hand hygiene practices.
- Repeated training and inservice education classes should be provided to all the health care workers.
- Competitions should be held for encouraging the staff members to develop their knowledge of hand hygiene practices.
- Strict guidelines should be present for all the healthcare workers to follow good hand hygiene practices.
- Bedside instructions should be given to patient attenders by nurses to increase good hand hygiene practices among health care workers.
- Postures of hand washing steps should be present above the washing area in all the departments.
- BCC and IEC material should be used to increase the awareness among patient attenders and rare staff.



Bombay Hospital
& Medical Research Centre

A Project Report on Inpatient Satisfaction

Patient Satisfaction

It can be defined as fulfilment or meeting of expectations of a person (patient) from a service or product. When a patient comes to a hospital, he has a preset image of the various aspects of the hospital as per the reputation and cost involved. Although, their main expectation is getting cured and going back to their work, but there are other factors, which affect their satisfaction. Sometimes, they might have rated a hospital very low on the basis of information, they have got from different sources, but they find it above their expectation and they are satisfied. Similarly, if they have got a very high expectation from a hospital, but if they find it below their expectation, they will not be satisfied.

PATIENT AS A CONSUMER

Marketing experts are aware that consumers make their decision about utilization of services on the basis of their perception of the service rather than the reality and hence marketing and patient satisfaction have become of paramount importance as mouth-to-mouth publicity and personal referral is the most common and influential cause of using a particular health facility. Healthcare facility is very difficult to measure; hence, it is a challenge to a healthcare provider to influence a patient's perception of quality of care. A patient's satisfaction may not be totally influenced by the quality of care. A patient's satisfaction may not be totally influenced by the quality of physician available, but it reflects how the medical care has been delivered. To provide highest level of satisfaction that is profitable to both the patient and the provider, management must control both the perception of expectation and the quality of delivery of the healthcare services.

- An inpatient area is that part of the hospital which includes the nursing station, the beds it serves, storage and public areas needed to carry out nursing zone.
- It requires holistic planning and designing to suit the requirements of seekers and providers of patient care.

The following figure shows distribution of beds floor wise and facilities:

	FLOOR	FACILITIES
DELUX	12 th	2 Room set with attached toilet, sofa, TV, Phone, Refrigerator, Central Oxygen, Bed for attendant, fully AC and decorated.
FIRST CLASS	12 th	1 Room with attached toilet, TV, Phone, Refrigerator, Central Oxygen, Bed for attendant, fully AC and decorated.
PRIVATE	11 th	1 Room with attached toilet, TV, Bed for attendant.
ECONOMIC	10 th	1 Room shared by 2 patients with sharing toilet.
MGW	5 th	“A”SIDE- HALL, 34 BEDS “ B”SIDE- HALL, 22 BEDS (Cubical form /4beds)
FGW	5 th	24 beds, 3beds in 1 room

Figure 25

Review of literature:

I. Codman's 'Assessment of the outcomes of care' investigated four aspects of care for each case received: 1) The physicians' or surgeons' input; 2) The hospital's contribution; 3) The patients' disease or condition' and 4) The factors which deterred patient's co-operation.

II. Khosla et al found in their study, emphasis by the patients of two Delhi hospitals on varying needs according to their income groups:

1. Low Income Group- improved physical facilities, improved diet and relaxation of visiting hours, better service by Class IV staff, human and sympathetic behaviour and transport facilities after discharge.
2. Middle and High Income group- personal and prompt attention of doctors, better behaviour by Class IV staff, improved physical facilities, relaxation of visiting hours.

RATIONALE:

Patient satisfaction is at the core of patient centered medicine. Improved patient satisfaction not only leads to an enhanced patient experience—something every sick or injured patient deserves—it is also associated with improved treatment outcomes. Hospitals need to show the community that they are interested in quality care, and they need to find ways to improve in order to remain competitive. Patients are our customers, and as customers, they have the right to choose where to go for their medical care. Patients are easier to serve if they feel their needs are being met. This results in happier staff and patients.

AIMS AND OBJECTIVES:

1. To study the level of patient satisfaction at Bombay hospital
2. To study the different factors affecting patient satisfaction.
3. To suggest measures for improvement of services leading to better patient satisfaction.

RESEARCH Methodology;

Type of study - Analytical study

Population - Patients in IPD

Setting - Private and Semi-private wards in Bombay Hospital

Type of Research: Analytical Research, involves the evaluation of available information in an attempt to explain complex phenomenon.

Type of Study: Quantitative Study is based on the measurement of satisfaction & problems or amount. Quantitative Study is the systematic investigation of quantitative properties and phenomena and their relationships.

Description of Tool

Primary data: 1. by direct filling up of the patient's feedback form

2. By observing the services provided to the patient

Development of Tool- The pre prepared feedback form is filled up by the patients or by his/her relatives regarding the services. The patient feedback form is give in Annexure

Sampling Technique:

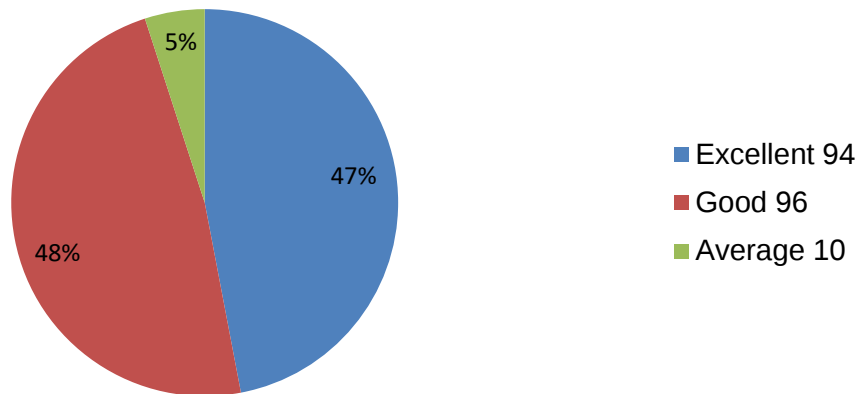
Simple Random sampling technique- Patients were selected randomly.

Sample size - 200

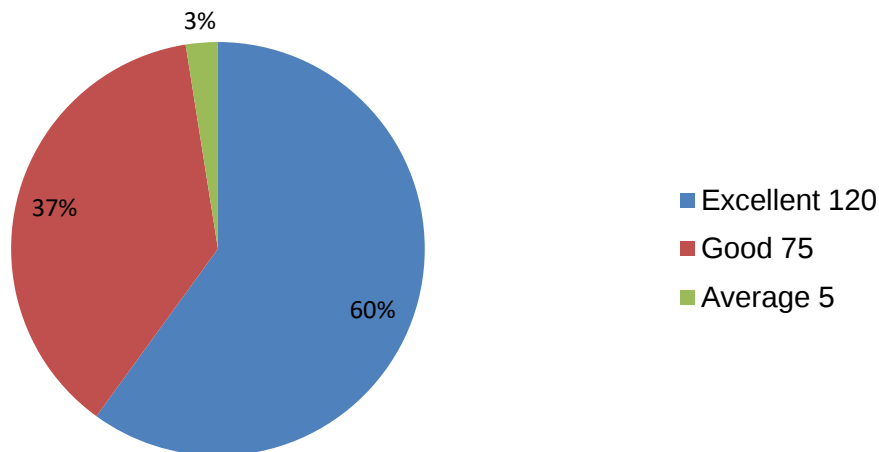
Data Collection:

The collection of data was done for 15 days.

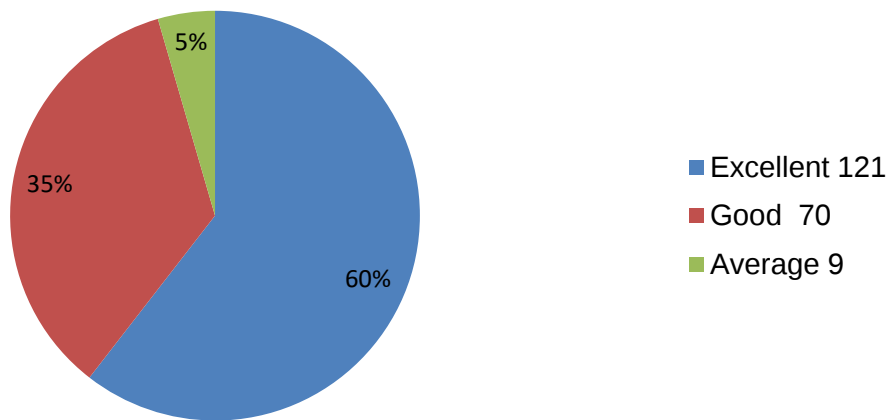
Data Analysis: It was done in MS Excel. All the 13 categories mentioned in the patient feedback form were analysed including clinical and non-clinical services. Each service is analysed carefully by making pie chart and hence the results were given.

Medical Care

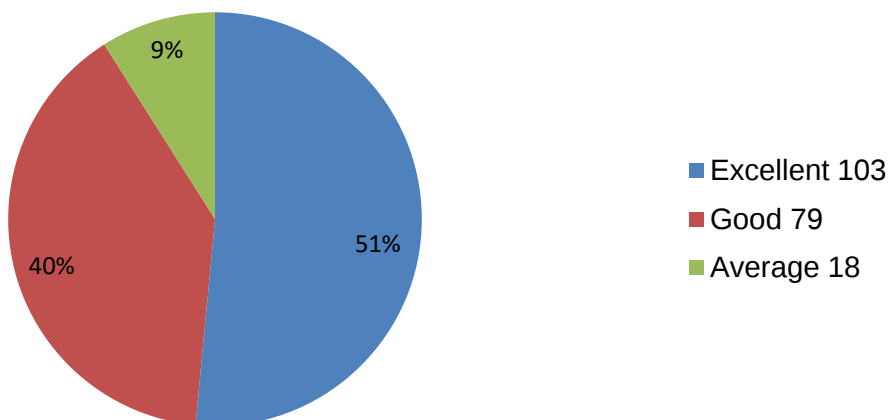
Maximum number of patients is satisfied (47%-excellent and 48%- good) with the medical care provided in the hospital and few (5%) rated it as average due to impact of supportive services (Figure No.26)

Consultants

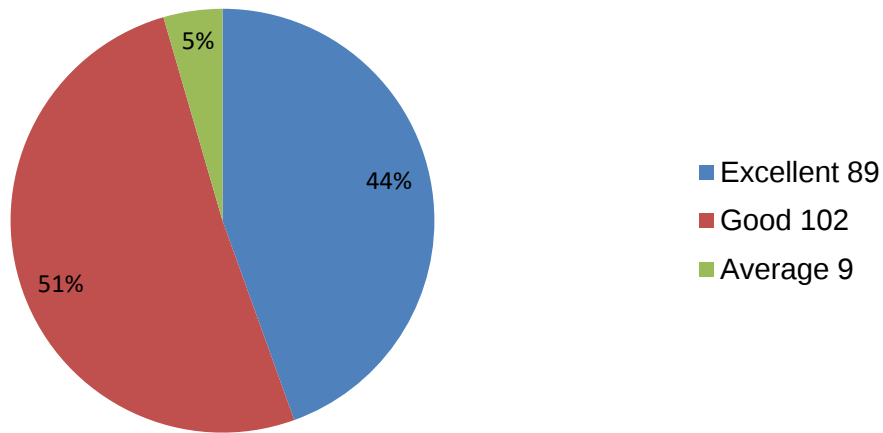
Almost all the patients (60%-excellent and 37%-good) are satisfied with the consultants, their treatment plan and care and 3% rated it as average (Figure No.27)

Junior Doctors

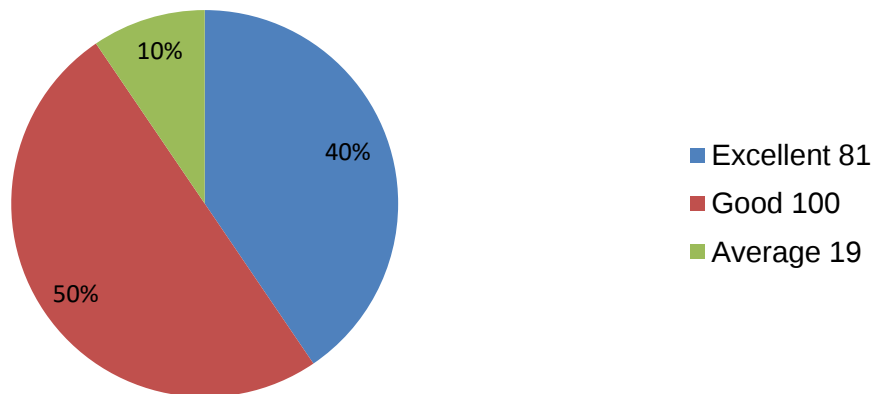
Junior consultants were able to fulfil the satisfaction level of patients (60%-excellent and 35%- good) and only 5% were dissatisfied with the junior consultants (Figure No.28)

Nursing Care

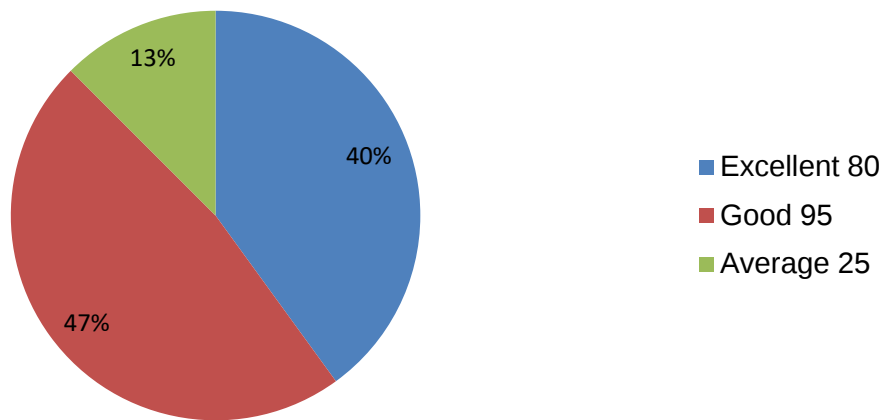
Most(51%- excellent and 40%-good) of the patients were satisfied with the nursing care but 9% were dissatisfied which may be due to language barrier, rude behaviour and delayed response to patient's call because of patient overload and the clerical workload(Figure No. 29)

Diagnostic Department

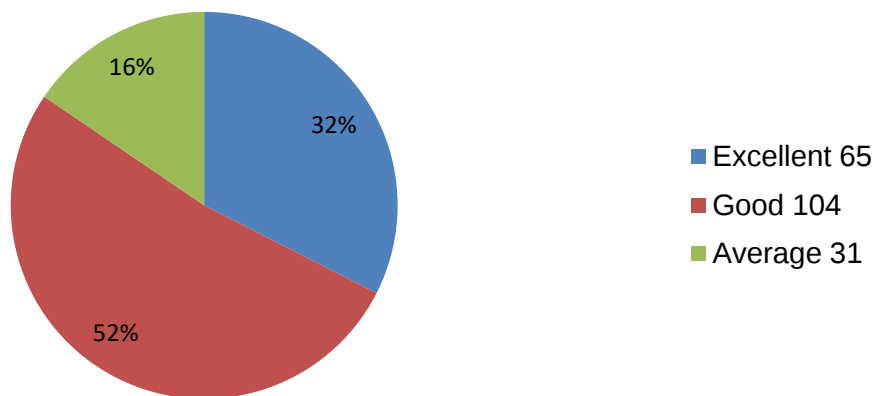
The patients (excellent- 51% and good- 41%) are satisfied with the diagnostic department and few (5%) were dissatisfied due to high costs and long waiting time (for reports)(Figure No. 30)

Pharmacy

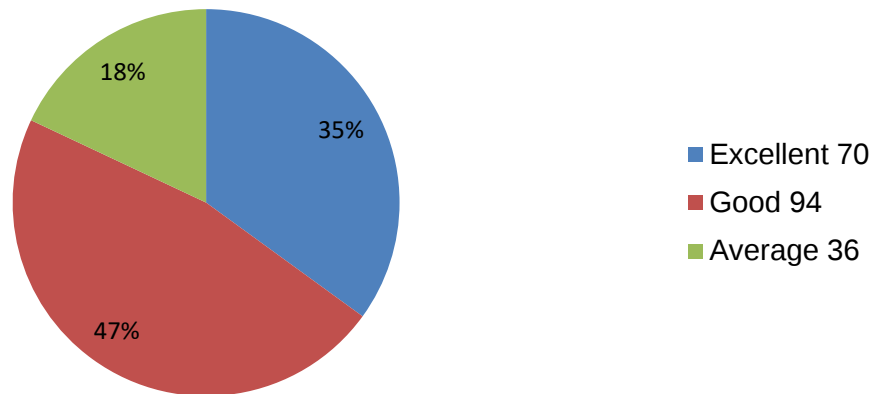
About 90%(40%-excellent and 50%-good) were satisfied and 10 % were dissatisfied due to long waiting time and long distance between in-house pharmacy and IPD (as it is located in a separate building within the hospital premises)(Figure No.31)

Housekeeping

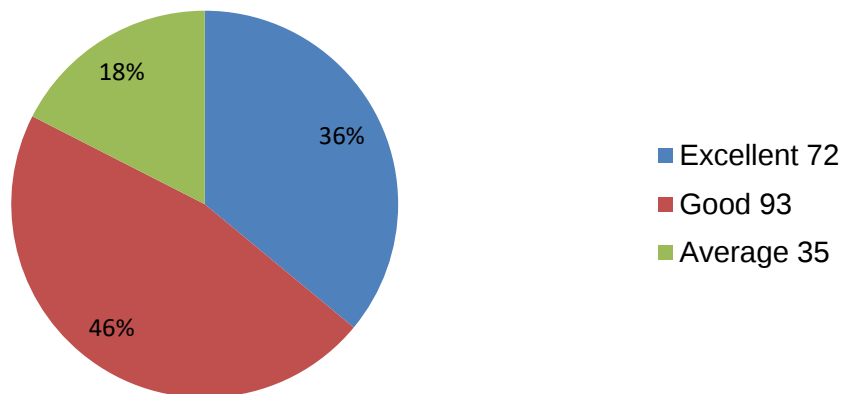
About 87% (good-47% and excellent-40%) were satisfied with the housekeeping services whereas 13% (average) were dissatisfied with the housekeeping services due to improper cleaning and unavailability of rare staff (Figure No.32)

Laundry Services

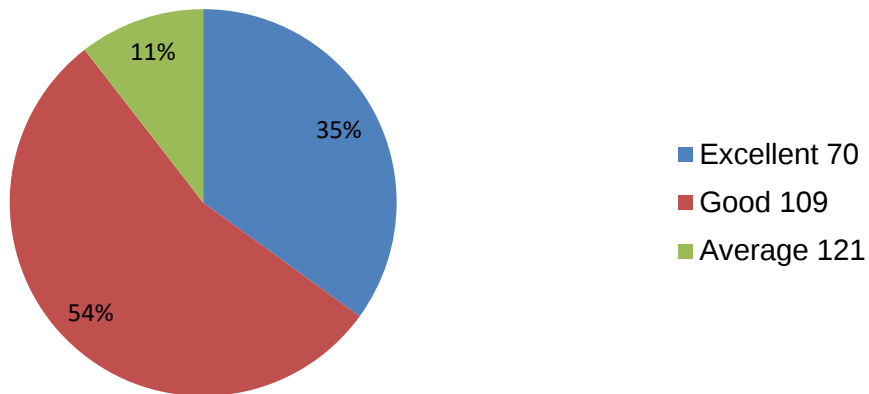
The laundry services were rated as average by 16% patients because patient's dress as well as bed sheets and cushion cover were not changed daily whereas 52% and 32% patients rated it as good and excellent respectively. (Figure No.33)

Food Services

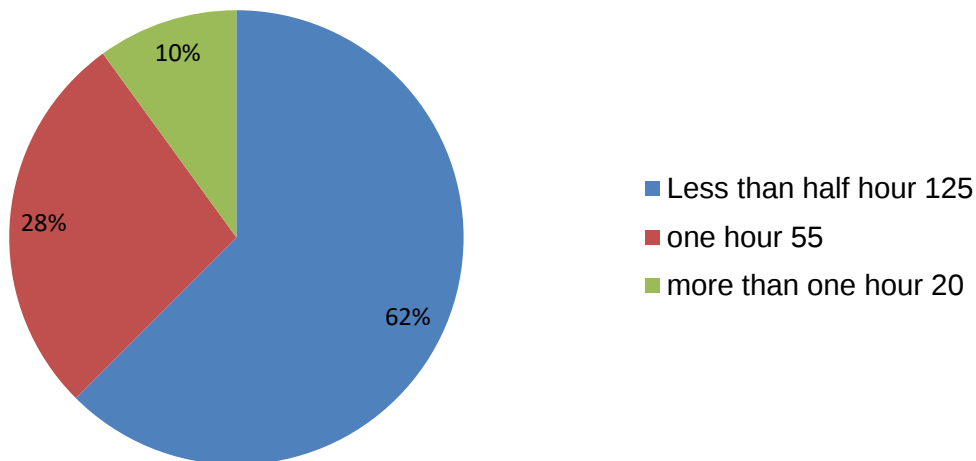
The food services were rated by 18 % patients as average as they find the food spicy and of low quality (Figure No.34)

Security & lift services

18 % of patients were dissatisfied with the security & lift services as the number of lifts available is less and the patients have to wait for long time while 82%(46%-good and 36%-excellent) were satisfied with security and lift services.(Figure No.35)

Maintenance

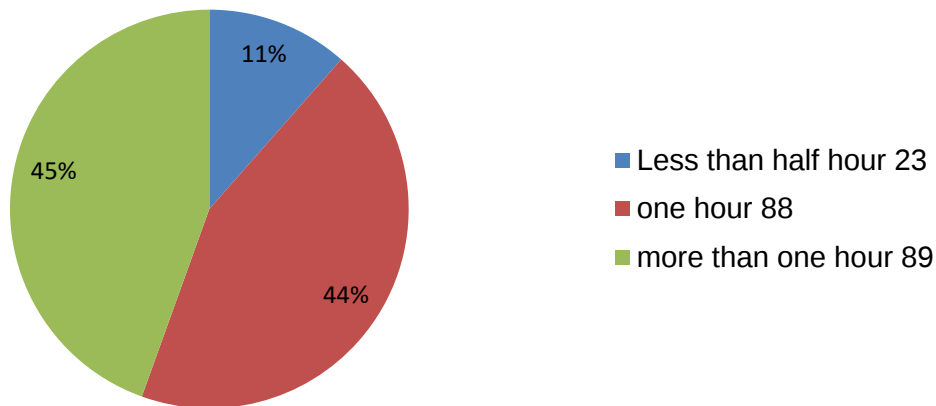
As shown in the (figure 36), about 11 % of patients were unhappy with the maintenance as in most of the rooms switch board were broken and there is non-functional call bell.

Admission services

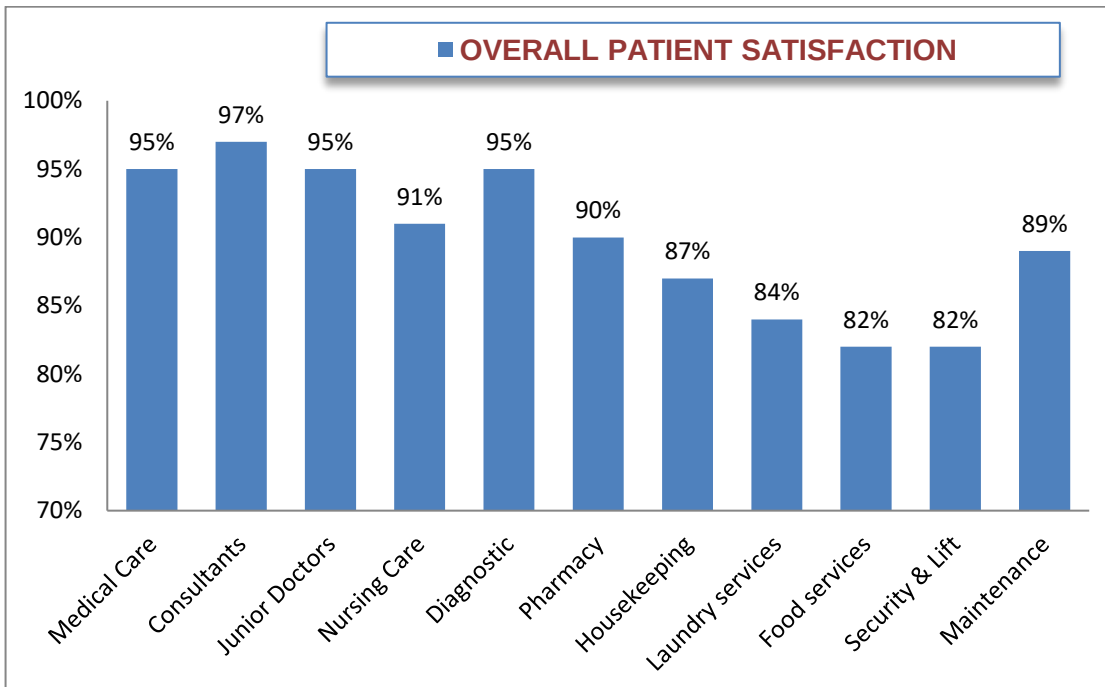
10 % of patients took more than one hour for admission which can be due to documentation policies like general consent for admission, TPA declaration, declaration for valuable and signing for patient guidelines.

(Figure No.37)

Discharge Services



The above figure about 89%(45%-more than one hour and 44%-one hour) of patients took either one hour or more than one hour for discharge services which may be due to documentation and delay in discharge summary. (Figure No.38)



Maximum patient satisfaction is achieved with care provided by the consultants (97%) and minimum satisfaction with food services and security and Lift services (82%). Average patient satisfaction achieved is 89.7% and Bombay Hospital is able to satisfy its patient's up to a very good level. (Figure No.39)

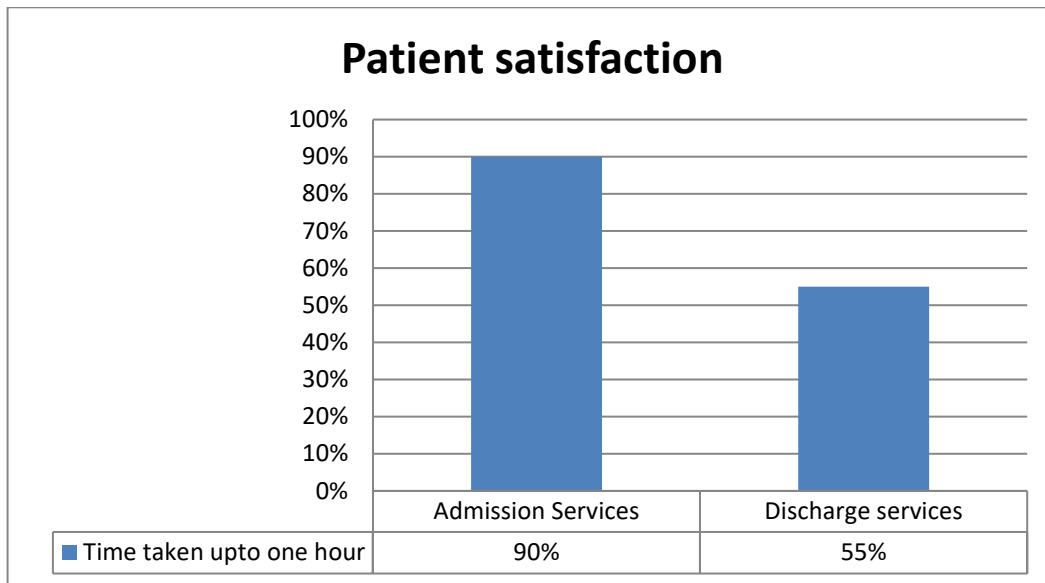


Figure 40

Patient who took time up to one hour (less than half hour and one hour) for admission services -90% and discharge services -55%. This shows that discharge services should be improved to raise the patient satisfaction level.

Conclusions:

On the basis of patient feedback and observations, it can be concluded that maximum patients are satisfied with the services provided in the hospital especially medical care and consultants and junior doctors. Only some patients were dissatisfied with supportive services like food services, security and lift services and admission and discharge services. Therefore, by improving these services overall patient satisfaction can be improved.

Recommendations:

1. Medical Care can be improved by directly enhancing the nursing care.
2. Appoint a clerical person for doing non-medical file work so that nurses can utilize their energy and time for clinical care.

3. Periodic training for nurses should be conducted periodically with special emphasis on behaviour towards patients.
4. Waiting time for reports should be reduced by increasing the coordination between the nursing staff and technicians to manage the workload.
5. Pharmacy should be shifted to same building for easy accessibility of medicines.
6. Random auditing should be done in order to monitor the work of housekeeping staff with periodic training and briefing.
7. Proper supervision on housekeeping staff so as to ensure that linen and patients dress are changed regularly.
8. Quality check audit should be conducted periodically for food services and the staff should be trained accordingly.
9. Lift men and security staff should be given proper training for conducting work smoothly.
10. Regular maintenance audit should be done and the problems should be resolved within a defined time period.
11. Proper guidance to the patients/attendants should be given to ensure that waiting time for admission is reduced.
12. Strict guidelines should be there for RMO's for completing the discharge summary of patients timely.

ANNEXURES

CODE BLUE CRASH CART Layout Diagram

Top

(NS 100 ml 1, NS 500 ml 1, RL 500 ml 1, 25% Dex. 100ml 1, 50% Dex. 100ml 1)

1 Eftcorin-5	2 AVIL -2	3 Soda bicarb -5	4	5 Xyloceine spray	6 Needle No. 16 -5
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Defibrillator platform

R	L
<u>3 & 4</u> Venflown No.18 -5, Venflown No.22 (Paed.) -2, Extension 10 cm -5, IV SET -2.	Keep Locked <u>High Risk (2 & 16)</u> Adrenalin - 5, Calcium Gluconet -5, KCL -5, Xylocard -1, Heparin -1, Cordorone -4, Magnesium Sulphate (Mgso4) -5
<u>5</u> Syring 20 cc -5, Syring 10 cc -5, Syring 5 cc -5, Syring 2 cc -5	<u>7, 8 & 17</u> E.T. Tubes No.7 -1, E.T. Tubes No.7.5 -1, E.T. Tubes No.8 -1, E.T. Tubes No.8.5 -1, Air Way No.3 -1, Stilet -1.
<u>6</u> Gluco meter with 1 touch strip -1, Micropore 5" -1, Sterile gloves (No. 7) -5	<u>13 & 14</u> Suction Catheter No.12 & 14 - 2 each, Suction connecting tube -1

Emergency Kit (10, 11 & 12)

Ambu Bag with oxygen connecting tube, Ambu mask adult/ medium,

Ambu Bag with mask paed, Laryngoscope with blade paed. Laryngoscope with blade No.3 & 4.

BOMBAY HOSPITAL, INDORE CODE BLUE CHECK LIST

☐ DRILL ☐ ACTUAL CODE BLUE

Floor: -

Time event began: -

Date: _____

Time floor cleared: -

Sr.	Critical performance steps	YES	NO	N/A	COMMENTS
1	Was staff able to identify cardiac arrest?				
2	Was CPR begun when the cardiac arrest was identified?				
3	Was code properly announced?				
4	PA system clear				
5	Correct location announced				
6	Correct extension dialed				
7	Did nurse lead the resuscitation effort until code team arrived?				
8	Was an airway established and ventilation maintained until code team arrived? (circle one) rebreathable mask ambu bag				
9	Was a pulse obtainable prior to the initiation cardiac compression?				
10	Was cardiac compression performed uninterrupted until code team arrived?				
11	Was a pulse obtainable after defibrillation				
12	Was correct breathing and compression ratio utilized?				
13	Was correct hand position utilized?				
14	Was correct head position utilized?				
15	Did code team arrive in a reasonable time?				Circle one: 1 minute - appropriate - yes 3 minutes - acceptable - yes over 3 minutes - unacceptable - no
16	Did registered nurse/designee call 9 appropriately?				
17	Was the identity of the physician in charge of code clear to others team members?				
18	Staff was able to readily locate /operate the following:				
	• Ambu-bag and mask				
	• AED machine				
	• Emergency cart				
	• Oxygen tank with nasal mask				
19	Was proper documentation completed?				

Auditor 's name and title: 1. _____
2. _____

Hand Hygiene Checklist



Bombay Hospital Indore- Hand Hygiene Monitoring

Content		Doctor					Nursing Staff					Physiotherapist					Rare Staff					Patient Attender				
S.No.		D1	D2	D3	D4	D5	N1	N2	N3	N4	N5	P1	P2	P3	P4	P5	R1	R2	R3	R4	R5	A1	A2	A3	A4	A5
1	Before patient contact																									
2	After patient contact																									
3	After body fluid exposure																									
4	After contact with equipment																									
5	Before shift from one patient to another patient																									
6	Before handling patient feed																									
7	Gloves worn during NI/I procedure																									
8	After leaving patient room																									
9	All steps of hand washing followed																									
Total																										
Observed Compliance																										
Total Compliance																										
Calculation-Observed																										

Ratings

Excellent-5

Very good-4

Good-3

Fair-2

Average-1

Poor-0

S.No.	Staff Name	Analysis	CAPA
1	Doctor		
2	Nursing Staff		
3	Physiotherapist		
4	Rare Staff		
5	Attender		

Auditor Name:

Date:

Signature:

Time:

BHI / FM / 51 / 2012



Bombay Hospital - Indore

Ring Road, Indore-452010 Phone : 0731-4077000

Patient Feed Back / Suggestion Form

IP No. : _____ Patient Name : _____

Bed No. : _____ Doctor Name : _____

Admission Date : _____ Date of Discharge : _____

Dear Friend.

We thank you for choosing Bombay Hospital for providing services to you. This questionnaire is an on going survey conducted by us to solicit your opinion about hospital. Kindly spare some time to complete this questionnaire, as it will give us invaluable feedback to improve the services. After you finish kindly tick the same and hand it over to the sister incharge on the floor.

Kindly tick (✓) against the box you consider most appropriate.

Details	Excellent	Good	Average	Remarks
Medical Care				
Consultants				
Jr. Doctors				
Nursing Care				
Diagnostic Dept				
Pharmacy				
Housekeeping (Ayah / Ward boy)				
Laundry Services				
Food Services				
Security & Lift Services				
Maintenance				
Admission Services	Less than 1/2 hr ☐	1 hr ☐	more than 1 hr ☐	
Discharge Services	Less than 1/2 hr ☐	1 hr ☐	more than 1 hr ☐	

SUGGESTIONS : _____



Bombay Hospital - Indore

BHI / FM / 51 / 2014

Ring Road, Indore-452010 Phone : 0731-4077000

मरीज का अभिप्राय एवं सुझाव

आय.पी. नं. : _____ मरीज का नाम : _____

बेड नं. : _____ चिकित्सक नाम : _____

भर्ती दिनांक : _____ डिस्चार्ज दिनांक : _____

प्रिय मित्र

आपकी स्वास्थ्य सेवाओं के लिए बम्बई अस्पताल चुनने के लिए हम आपके आभारी हैं। आपके सुझाव हमें सुविधाओं को बेहतर बनाने में मदद करेंगे। कृपया कुछ समय निकालकर इसे भरने की कृपा करें। इस पत्र को भरने के बाद सिस्टर इनचार्ज को सौंप दें।

नीचे कृपया (✓) करें।

विवरण	उत्तम	अच्छा	सामान्य	टिप्पणियाँ
स्वास्थ्य की देख-रेख				
वरिष्ठ चिकित्सक				
कनिष्ठ चिकित्सक				
उपचारिका / नर्स देख - रेख				
जाँच विभाग				
दवाईयाँ				
आया / वॉर्ड बॉय सेवाएँ				
लॉन्जी सेवाएँ				
खाद्य सेवाएँ				
सुरक्षा एवं लिफ्ट सेवाएँ				
रख - रखाव				
भर्ती सेवाएँ (भर्ती के लिए लिया गया समय)	आधा घंटे से कम []	एक घंटा []	एक घंटे से ज्यादा []	
डिस्चार्ज सेवाएँ (डिस्चार्ज के लिए लिया गया समय)	आधा घंटे से कम []	एक घंटा []	एक घंटे से ज्यादा []	

सुझाव

दिनांक : _____

हस्ताक्षर : _____