

**Internship at
At Medica Super Specialty Hospital, Kolkata**

By

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MBA Hospital and Health Management

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ABSTRACT: A STUDY ON OPERATION THEATRE SCHEDULING BY USING DMAIC APPROCH

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INTRODUCTION

The operating theatre is one of the most expensive departments of any hospital and its scheduling involves an arrangement of several operating rooms to the medical surgeons in a period of time. Surgeons therefore have a responsibility to ensure that theatre facilities are utilized as fully as possible, and there should be a productive use of operating time in the theatre. In the health service sector such as government or private hospitals, the scheduling of Operating Theatre plays an important role towards achieving their goals. And their one of the main goal is to meet the patient satisfaction by minimizing his/her total waiting time before undergoing any major or minor operations.

KEY WORDS

OT Scheduling, Scheduling problem, Surgery.

BACKGROUND

Operation Theatre scheduling is a major contributing factor to enhance the efficiency of Operation Theatres. Accurate and real time scheduling assist in predicting staffing needs, ensuring availability of required equipment , supplies one and of the most important concern related to patient satisfaction. Thus, contribute to a smooth running of OT. An accurate schedule must list realistically the starting and ending time of each surgery.

OBJECTIVES

- To observe the operation theatre time schedule and to find out whether surgery is performed on schedule time or not.
- To identify the gap between scheduled time and actual time of surgeries, if any.
- To identify the reasons for delay in cases if any.

METHODOLOGY

A descriptive study was conducted in Medica Superspeciality Hospital, Kolkata for a period of 3 months from 6th February -6th May 2017 with a random sample of 400 patients was taken as a sample size and the study approach was DMAIC.

FINDINGS

- 52% of the cases got delay due to non availability of surgeon and anesthesia doctor on time.
- Out of 175 first cases 121 cases got delay from their schedule timing.
- Pre anaesthesia check up not done one day before in 57% of cases (i.e.225 cases out of 400 cases).
- OT consent form which is being filled in operation theatre are not actually happened in 55% of cases (i.e. 53 cases out of 95 cases)
- Financial clearances are not happens on actual timing as a result surgery get delay.
- TBA patients are not admitted on their schedule time.

CONCLUSION

Operation theatre is an important part of the hospital system. The proper management and efficient working of OT is hence highly essential. Scheduling of patients for surgery is an integral part of the management. The study has shown the improper scheduling of OT for a patient not only cause the wastage of resources but also cause delays in other surgeries. Due to the improper scheduling, the other patients are deprived of the OT availability , Surgeon's time and highly delay in their surgeries.

It should be the duty of the management to look into the area and frame proper scheduling model to decrease patient's waiting time.

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Ms. Doyel Roy

MBA-HM

The IIHMR University Jaipur

Profile of MSH, Kolkata.

The Institution Medica Super Speciality Hospital is India's newest, most advanced tertiary care facility. It is designed to raise India's global standing as a healthcare hub, with emphasis on excellence in clinical services, diagnostic facilities and research.

A vision to strengthen healthcare in the communities we serve and empower patients to make informed choices was at the genesis of Medica Super Speciality Hospital, Kolkata. Inaugurated in April 14, 2010, The Hospital is a significant CSR. It is designed to raise India's global standing as a healthcare hub, with emphasis on excellence in clinical services, diagnostic facilities and research activities.

The 500 bedded hospital has over 60. full-time doctors, 300. nurses and about 50. Paramedical and growing.

It represents a confluence of top-notch talent, cutting edge technology, state of art infrastructure and most important, commitment. MSH, Kolkata offers doctors and patient's cutting edge diagnostic and surgical solutions as well as the latest in IT systems. In many cases, they represent the first of their kind in the region.

MSH, Kolkata is fully geared in terms of talent, technology, structure and spirit-to reshape perceptions regarding hospitals and redefine the concept of caring. Indeed, this globally benchmarked institution marks the beginning of a new era in Indian healthcare.

Overview.

The 500 –bed Medica Super speciality Hospital, one of the largest in eastern India, is also Kolkata’s first green hospital, having applied for LEED (Leadership in Energy and Environmental Design) Certification developed by the US Green Building Council. The hospital is developed by Medica Synergie Pvt Ltd. A body of health care professionals providing integrated health care solutions along various verticals.

Medica Super Speciality Hospital at Kolkata is a tertiary care hospital with state – of – the- art facilities in Cardiology and Cardiac Surgery. Neurology and Neurosurgery, Orthopaedics (focussing on spine and joints), Gastroenterology and GI Surgery, Kidney diseases , including Nephrology, Urology and transplant Surgery, ENT and breast diseases, advanced Dialysis facilities, and a host of other services under one roof.

The hospital was designed keeping in mind the needs of patients and their relatives looking for specialized treatment , as an end – point in their search for excellence in clinical services, ambience, staff behaviour, and at a price affordable to all. MSH’S intension is to provide excellence in health care at the door step of Kolkata’s and make it unnecessary for them to travel to north or south India for specialised treatment. MSH strives to build strong doctor – patient relationship.

MSH, Kolkata serves as the hub for the chain of hospitals in Ranchi and Jamshedpur (Jharkhand) Siliguri and Rangapani (North Bengal) and Tinsukia (Assam).

VISION

Committed to bring the best in health care

MISSION

To deliver excellent clinical outcome with superior patient care in a transparent manner in a safe environment.

GOAL

Short term goal (MISSION) and long term goal (VISION).

VALUES

Integrity: To deal with all stakeholders – patients, partners, employees, vendors and the community – in a spirit of fairness and integrity

Transparency: To respect the patient's right to know at every touch point by providing information that is clear, concise relevant and easy to understand.

Maximum Care: To re- evaluate every hospital system, Process and procedure to ensure that patients and their loved ones receive maximum care and comfort.

Self – Improvement: To instil a process of learning and self – improvement at every level through continuous training, focused research and peer review.

Patient Dignity: To safeguard the dignity of patients by protecting their individuality and privacy at all times.

KEY STATISTICS

Accommodates over 500 in – patient beds, allows optimal utilization of resources and ensures privacy, dignity, comfort, comfort, convenience and the best healthcare to every patient. However the smooth and seamless movement of people & staff guaranteed.

Critical care unit, in MSH, Kolkata with 74 CCU beds. Special technical features in CCU including ceiling mounted, dual arm pendants which ensure that the space around the patient is not cluttered. Another unique feature is dedicated air supply that keeps the critical care free of any kind of contamination and infection.

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Critical care unit is the largest number of critical care beds in Kolkata, with 32 CCU beds & 10 Neuro ICU,18 CTVS,22 Paediatric beds. Special technical features in CCU including ceiling mounted, dual arm pendants which ensure that the space around the patient is not cluttered. Another unique feature is dedicated air supply that keeps the critical care free of any kind of contamination and infection.

Movements in the hospital is managed by 7 elevators.

DEPARTMENTS IN THE HOSPITAL

The following departments function in the hospital

Clinical and Nursing Services	Support services	Utility Services	Administrative services
Outpatient department	Laboratory Services	Communication	Personnel Management
Indoor patient department	Blood Bank	Laundry and linen service	Financial Management
Accident and Emergency Services	Radio-diagnosis and imaging dept.	Facility management and engineering service	Material Management
ICU	Pharmacy	Dietary services	Medical Social Work
Operation Theatre	CSSD	Transportation	Public Relations
Nursing Services	Medical Records	House-keeping services	
	Physical Medicine and rehabilitation	Fire and security	
	Sanitation and waste management	Emergency maintenance	

CLINICAL SERVICES

OUTPATIENT DEPARTMENT

The OPD Dept. at MSH, Kolkata consists of a Front Office, Help Desk, Visitors card desk, Report Despatch Counter, Admission Room, Pharmacy ,Imaging, Consultant suits, Emergency and Day Care,

Triage, Corporate Desk,etc.

The six centre of excellence a

re as follows:

- Centre for neurosciences
- Centre for cancer
- Centre for physical medicine and rehabilitation
- Centre for cardiac sciences
- Centre for bone and joint
- Centre for children

The specialists included are Anaesthesiology, Critical Care Medicine, accident and emergency, gynaecology and obstetrics, imaging, laboratory medicine and pathology including biochemistry, molecular biology, haematology, histopathology, microbiology, clinical pathology, transfusion medicine and blood bank, genetics, tissue and bone bank, dermatology, endocrinology, gastroenterology, clinical nutrition, internal medicine, nephrology, psychiatry, pulmonary medicine, rheumatology, geriatric medicine, surgery including dentistry, ENT, general surgery, ophthalmology, plastic and reconstructive surgery, urology, surgical oncology, cosmetology.

a) Access to OPD services:

All patients who visit MSH for the first time for consultation/ other services are issued a card which gives each patient a UHID number. This UHID card is attached to the registration form. With the help of this number, medical records of patients can be assessed. Allotment and control of UHID number is the responsibility of the admission staff desk.

b) OPD Appointment:

Appointments can be fixed over telephone to all from the call centre or personally across the reception counter. Fax and e-mail facilities are also available.

Following services are offered in the OPD

- Medical / Surgical consultations
- Preventive Health check-up packages
- Laboratory investigations
- Imaging services
- Cardiology investigations
- Neurology investigations
- Pulmonary investigations
- Pain management
- Endoscopy
- Bronchoscopy
- Urodynamic study
- Physiotherapy
- ENT
- Ophthalmology
- Dental procedures

HEALTH CHECK UP

- The executive check-up department, a part of OPD services, is a wing of this Super specialty hospital dedicates to the diagnostic and preventive side of patient care. It is a place where healthy patient come 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 investigation. It is the centre point where the potential customers come directly in contact with hospital services. This department can therefore be a point

to draw in patients to become in-patients or for them to come even for follow up OPD consultation.

- The packages in the program have been developed by a team of highly qualified and experienced medical personnel and are designed to offer a complete medical checkup and within their limitations detect any latent health problems. In additions, these packages are offered at special discounted rates that make them truly worthwhile. At the end of the day, candidates leave the hospital with all their reports.
- This department is dependent on various other hospital departments and consultants to ensure a smooth process flow. Therefore co-ordination is a key factor in smoothly running the department. The departments in co-ordination are: pathology, radiology, cardiology, ENT, ophthalmology, dental etc. the visiting consultants are from following department; medicine, surgery and gynecology.

ACCIDENT AND EMERGENCY DEPARTMENT

An Emergency Department (ED) is also known as Accident & Emergency (A & E), Emergency Room (ER), Emergency Ward (EW), or Casualty Department is a medical treatment facility, specializing in acute care of patients who present without prior appointment, either by their own means or by ambulance. 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.

Layout

- 11 bedded (6+3 triage + 2 isolation)
- Each bed is separated with curtains to maintain patient privacy and is equipped with the following:
 - ✓ Oxygen supply
 - ✓ Suction Pump
 - ✓ Syringe pump
 - ✓ Cardiac monitor

Minor Operation theatre

- Machines in minor OT are as follows:

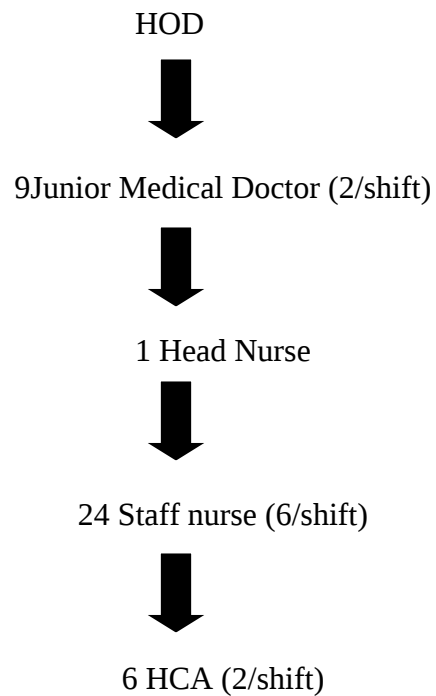
- ✓ Anaesthesia machine
- ✓ ETCO2 machine
- ✓ Cautery machine
- ✓ OT table

- Procedures done in minor OT

- ✓ Lumbar puncture
- ✓ Biopsy
- ✓ Bone marrow aspiration
- ✓ Suturing

This department has got its own billing and discharge counter.

Staff



Equipment:

- Defibrillator-2
- Portable ECG – 2
- Nebulisation machine -2
- Portable sonography machine-1
- Trolleys :
 - ✓ Procedure trolley
 - ✓ Induction trolley
 - ✓ Adult crash cart
 - ✓ Dressing trolley

Ambulance:

There are 2 types of ambulance:

- a) Non-cardiac ambulance
- b) Cardiac Ambulance

Equipment in the ambulance are as follows:

- Ambulance cot
- Portable Ventilator (cardiac ambulance)
- Portable oxygen unit
- Portable suction unit
- First aid kits
- Traction splint
- Auxiliary Stretcher
- Transfer sheet
- Airways (nasal, oropharyngeal)
- Obstetrical Kit
- Sphygmomanometer
- Stethoscope

- Fire Extinguishers
- Burn Kit
- Others
 - ✓ Sterile and non-sterile gloves
 - ✓ Face mask
 - ✓ Blankets
 - ✓ Towels
 - ✓ Bed pan
 - ✓ Tongue depressors
 - ✓ Cold packs instant chemical type
- 1 HCA in non-cardiac ambulance
- 1 HCA + 1 nurse + 1 cardiac consultant in cardiac ambulance

OPERATION THEATRE:

The aim of department of anaesthesiology and OT facility is to provide the highest quality of care to patients undergoing various types of surgeries. The OT facility is positioned as a tertiary care centre of excellence providing complete services for various surgical specialties. The department is staffed with highly experienced and trained anaesthesiologist, surgeons, technicians, nurses and other support staff. Their services have state-of-the-art technology and equipment with highest level environment and quality controls. For each OT there are two scrub nurses and one circulating nurse. Protocols based on approach for quality pre-operative, intra-operative and post-operative and follow up care of the patients. The complex is divided into three zones: sterile, semi sterile and non-sterile zones. Complete services to the following surgical specialties are provided.

- Cardiac surgery
- Neuro surgery
- Onco surgery
- Orthopaedic surgery
- General surgery

- Gynaecology and obstetrics surgery
- Paediatric surgery
- GI surgery
- Uro surgery
- Plastic surgery
- ophthalmic and ENT surgery
- Transplantation surgeries

The OT complex has a pre and post-operative monitoring room for continuous monitoring of patients (recovery rooms).

IN PATIENT DEPARTMENT

The IPD provides the detailed pre-procedure needs their completion and coordination with the diagnostic to arrive at the diagnosis and completion of treatment regimens, comprehensive care in the pre-operative and follow up care, rehabilitative, and nutritional regimen and their scientific amalgamation as per the progressive patient care need. IPD wards are located on floor numbers 4,5 & 6. The IPD rooms are of the following types: single room, twin sharing, deluxe room and suits and each wing has a separate nursing station. The various types of rooms with their features as follows:

- **GENERAL WARDS**
 - Air conditioned
 - Bed head panels with medical gasses
 - Nurse call systems with 2 way communication
- **SINGLE ROOMS**
 - Separate patient zone and attendant zone
 - Nurse call system with two way communication
 - Television Set.
 - Extra bed for patient attendant.

- **Twin Sharing**

Bed head panels with medical gasses

- Television sets
- Couch for each patient relative
- Nurse call system with two way communication

- **Suits and Delux**

- Exclusive visitor area and guest rooms
- Nurse call system with two way communication
- Drawing room
- Office desk.

The nurse: bed ratio is 1:5 for general ward, 1:2 for single rooms, 1:3 for twin sharing, 1:1 for suits. The various other rooms are clean utility, dirty utility, janitor room, AHU (air handling unit), sluice room, I.T. room, and service elevator.

INTENSIVE CARE UNIT

The CCU cater to patients with most severe and life-threatening illnesses and injuries requiring constant close monitoring and support from specialist equipment and medication to ensure normal bodily functions. There is CCU consisting of SICU & MICU, Paediatric ICU, Neonatal CCU, Transplant CCU and Paediatric Cardiac ICU. The nurse patient ratio for critical patients is 1:1 and for stable patients is 1:2. The CCU co-ordinates with CSSD, Laboratory and the Radiology department. Strict aseptic techniques are used. Pressure zones are created to control infection rate.

The CCU has highly dedicated and trained medical, nursing and allied staff.

Human resource of the ICU

- Intensive care doctors
 - ✓ 1 Director
 - ✓ 8 Junior consultants (4 hour shift)
 - ✓ Clinical registrars (24 hours shift)

- Intensive care nursing staff
 - ✓ 1 Director General Manager for ICU
 - Nurse in charge (8 hours shift)
 - ✓ Team leader (8 hours shift)
 - ✓ 2 Senior nurse (6 hours shift)
 - ✓ 25 Junior nurse (6 hours shift)

- Allied staff
 - ✓ Physiotherapists
 - ✓ Dieticians
 - ✓ Biomedical Engineers

Shift timings:

For doctors

- ✓ Morning : 8 am - 4 pm (Team Leader)
- ✓ Evening : 2 pm - 8 am
- ✓ Night : 8 pm - 8 am

For nurses, and housekeeping staff

- ✓ Morning : 8 am - 2 pm
- ✓ Evening : 2 pm - 8 pm
- ✓ Night : 8 pm - 8 am

Visiting hours:

Morning: 8:30 am – 9 pm

Evening: 4 pm – 5 pm

- ✓ Only 1 relative at a time is allowed

Records and Registers

- Admission and discharge register
- Handing and Taking over/Team leader sheet
- Assignment book
- Leave book
- Critical care flow sheet
- Narcotic drug register.

Equipment's:

MONITORING EQUIPMENT	CARDIOVASCULAR THERAPHY	RESPIRATORY THERAPY	LABORATORY EQUIPMENT
Bed side and Central Monitors ECG Recorder Pulse Oximeter Spirometer ECG Monitor Temperature Monitors Blood Glucose Meter	Defibrillators Infusion Pumps and Syringes	Ventilators Intubation/ Tracheostomy Trolley Nebulisers	Blood gas Analyser

Miscellaneous Equipment

- Crash Cart
- Dressing trolley
- Procedure trolley

CENTRE FOR REHABILITATION

- The department is located on 1st floor of hospital.\
- It has got its own billing desk.
- **Staff of the department consist of**

HOD



30 physiotherapists

- **Following therapy services are available :**
 1. Neurological Rehabilitation
 2. Musculoskeletal rehabilitation
 3. Cardiac Rehabilitation services
 4. Pulmonary Rehabilitation
 5. Paediatric Rehabilitation
 6. Cancer Rehabilitation
 7. Pain management
 8. Women's health
 9. Geriatric Rehabilitation

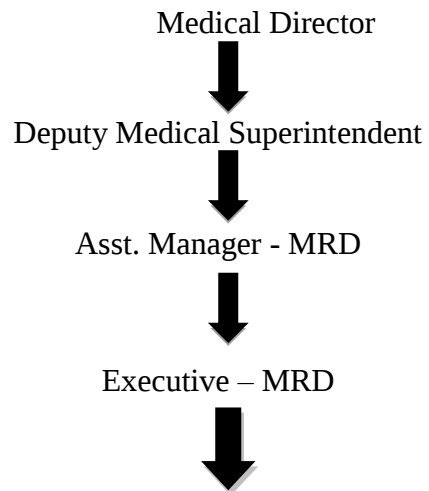
The therapy services offered in the department :

- 1) Physical therapy
- 2) Occupational therapy
- 3) Electrotherapy
- 4) Speech and language pathology
- 5) Exercise physiology
- 6) Psychology
- 7) Rehabilitation nursing
- 8) Orthosis and prosthesis

CLINICAL SUPPORT SERVICES

MEDICAL RECORD DEPARTMENT

- The main functions of the department are :
 - 1) Storing file for future reference.
 - 2) Research.
- Staff:



- Close audit is done of all files before keeping them storage.
- 20% of total discharge in previous month.

- The arrangement of files is done in following ways-

PRN wise

Normal Discharge

DAMA.

Month wise

Expired

MLC

Both comes Under Lock and key.

Daily

H1N1

Tubercu.losis

Dengue, Malaria , Chikunguniya cases

Weekly

Vector Borne diseases

Dangerous diseases

Notifiable diseases

Death Report form

Birth Report form.

Monthly

PNDT , MTP, Delivery Detail, Letter mentioning total number of deaths and cause of death.

Complete Hospital Statistics.

DAMA list along with its causes.

- All files are stored in the department for the following time period:
- MLC and Expired files life long
- Normal discharge and DAMA 10 yrs.

- ICD-10 coding is done for storing files:
- This department has to notify Kolkata Municipal Corporation(KMC) about following things on regular basis:
 - ✓ Birth and death report (once in a week).
 - ✓ Notifiable disease which includes cholera, dengue, plague, yellow fever, TB, polio, meningococcal meningitis, leptospirosis, viral encephalitis (once in a week).
 - ✓ Maternal mortality (once in a month)
 - ✓ MTP &PNDT (once in a month)

LABORATORY

The salient features of the department are as follows-

- NABL
- Central processing laboratory is spread over 4,000sq. Ft. which follows strict internal quality compliance for all analyzer.
- Excellent laboratory management system which handles both pre-analytical and post-analytical aspects.
- Dedicated courier and logistic services
- 14 hrs. sample collection facility for OP dept and 24 hrs for IP dept.
- Stringent quality control monitoring which satisfy the quality assurance elements and readily available documented evidence of quality assurance and quality proficiency schemes.
- Constant improvisation and technology innovation using over 150 state of the art equipment.
- Quality control and quality assurance executive that monitors pre-analytical and post-analytical processing of the samples.
- Customized management report (MIS-management information system)

BLOOD BANK

Transfusion medicine is a multi-disciplinary area concerned with the appropriate use of blood and blood components in the treatment of human disease. The mission of MSH is to make available appropriate adequate quantity and high quality of safe blood and blood component to “anyone, anytime, anywhere” in community. MSH adheres to quality norms and focus on the donor satisfaction standards and technique and quality control are precisely and meticulously maintained as per norms given in the Drugs and Cosmetics Acts, by the Regulatory Authority, Director Drug Controller (India), Ministry of Health and Family Welfare, Govt. of India, and also internationally recommended methods. The department runs round the clock and blood and its products are supplied as and when requested. Blood donation is accepted from voluntary blood donors and relatives and friends of the patient. Autologous blood donation (blood donation for one’s own use) is also accepted. The blood donors are informed and counselled about the infections transmitted by transfusion of blood components 100% of collected blood is processed into component like Packed Red Cells Concentrate, Platelet Concentrate, Fresh Frozen Plasma (FFP) and Cryoprecipitate. The use of the components is better and cost effective. The blood bank at MSH is equipped with state of art equipment, which enables use of advanced techniques for processing/screening of blood and its components. All the mandatory screening for the transfusion transmissible disease like HIV, HBV, and HCV is done with the more sensitive and specific ECI methods. All units are screened for VDRL and malaria parasite. Red cells in an additive solution (RCA) like, SAGM is a product which is used in variety of indication like surgeries, anemia, trauma.

IMAGING

The imaging department consists of radiology services. The investigations performed in these departments include:

- CT Scan
- MRI
- X-Ray
- Ultrasonography

- Mammography

Register maintained for appointment scheduling for each of these investigations. The appointments are given by GRE. There are 4 X-ray portable machines, 3 ultrasonography machines, 1 mammography machine, 1 CT Scan machine, 123 slices, and 1 MRI machine of which one is 1.5 Tesla located in the radiology department and the other is 1.5 Tesla IMRIS (intraoperative magnetic resonance imaging suit) is a movable machine attached to the ceiling that is located in the OT. It is basically used for MRI scanning during a surgery. They are working on its complete utilization.

CENTRAL STERILE SUPPLY DEPARTMENT

The central sterile supply department (CSSD) plays a key role in providing the items required to deliver quality patient care. Centralizing the reprocessing of reusable devices helps ensure uniform standards of practice, while also providing for improved workflow (cleaning, sterilising, packing, distributing). This also facilitates the training and education of skilled technicians who must be aware about the standards, complexities, challenges, risks and technicians associated with the CSSD function. Every CSSD task must be performed for the welfare and safety of patients, co-workers and the community.

CSSD is the heart of hospital infection control and the most important unit of clinical support services. CSSD's main functions are cleaning and drying, assembly, packing, sterilizing, storing and distributing instruments (both multi use and single use devices), as per well delineated protocols and standardized procedures.

INFRASTRUCTURE

It is divided into 3 zones

1. Decontamination area
2. Assembly area
3. Sterile storage area
4. Distribution area.

STAFF

1 manager / department head

1 executive

1 senior technical officer

4 technical officers

6 junior technical officers

10 trainees

16 health care attendants

MAJOR TECHNOLOGIES

Ultrasonic cleaner

Washer disinfectant/dryer

Steam prevac sterilizers

Plasma sterilizer

ETO(ethylene oxide gas sterilizer)

Dry heat sterilizer.

RECORD MAINTAINED:

- Manual issue and receiving in OT - 24 x 7
- Manual issue and receiving all departments
Morning: 9 am – 11 am.
Evening: 4 pm – 6 pm.
- Sterilization records

PHARMACY

Situated on ground floor indents to OP SCOPE OF INVENTORY MANAGEMENT:

From 3rd Floor to all wards.

- INDENTATION
- RECEIVING
- STORING
- DISTRIBUTION

The staff consists of:

- 2 Pharmacists
- 1 executive
- 6 Pharmacy aids

HOUSE KEEPING:

The objective of housekeeping is exceptional standards of cleanliness, sanitation and hygiene of the entire hospital. Housekeeping services are outsourced to Super Shine System Laundry ltd.

The staffs include:

- Housekeeping Manager
- Housekeeping Executives
- Supervisors
- House Boys & House Girls

Functions of housekeeping department are:

- General facility cleaning
 - ✓ Routine cleaning of patient's rooms
 - ✓ Patient's common areas
 - ✓ Washrooms
 - ✓ OT
 - ✓ Laboratory
 - ✓ Consultant's office

- ✓ Glass windows and doors
- ✓ Ceiling etc.
- Handling of biomedical waste.
- Pest control-It includes spraying every 24 hours for mosquitoes, cockroaches, flies, rats, lizards and termites.
- Garbage disposal- The housekeeping staff collects garbage collected in specified color Coded bags from all garbage bins existing inside the hospital premises and disposes the garbage in the designated area within the hospital, which is the biomedical waste room. The general waste is sold to the junk dealer and healthcare waste is handed over to government approved vendor
- Horticulture- It is responsible for maintenance of in house plants, flower arrangement during hospital functions.

The performance indicators are B.M.W. color code compliance, B.M.W. collection, pest control efficiency and sanitization of the hospital premises.

CLINICAL ADMINISTRATIVE SERVICES

STORES

Material stores functions in order to supply the right material in right quintiles at the right time at the right price. The IP departments put up requests for the required materials by uploading indents in the HIS. The store manager raises a purchase order to be sent at the central procurement stores. The supplies received are inspected on the basis of quantity and expiry in the incoming material inspection area. The items are stored as per the storage norms. Departmental issues are made for non – medical consumables as per requirement. Stock is reviewed periodically for non-moving items and short expiry items. Stock audits are carried out twice/year. Any variance is reported to the higher management. For inventory control, ABC and VED analysis is carried out. FEFO (first expiry first out) is followed. The staff includes:

- Assistant Manager
- Executive store
- Assistants
- 2 Health care assistants

The key performance indicators are no stock outs, zero errors in maintenance of accounts, zero error in billing processing, maintain minimum inventory maximum efficiency, maintaining stores as per the NABH standards, submission of bills accounts within 4 working days, expired items on the shelves should be zero, minimize emergency purchase, TAT suture and lab kits (19 days), instruments (8 weeks) and other items (2 days)

BIOMEDICAL ENGINEERING DEPARTMENT

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

The department maintains an updated asset register of the hospital equipment, conduct daily rounds to ensure that the equipment is functioning smoothly, responsible for facilitation and identification of equipment requirements, planning technical comparison, ordering installation

and deployment units and new projects, conduct regular preventive maintenance servicing for all the equipment at regular intervals, facilitating equipment replacements and condemnation, whenever required, conducting regular training programs for hospital staff, on usage of hospital equipments. The staff consists of HOD, 1 Deputy Manager, 1 Senior Biomedical engineer, 1 Junior Biomedical engineer and 4 medical gas technicians.

FOOD AND BEVERAGES

The objectives of food and beverages department are to deliver healthy and nutritious meals coupled with a wonderful experience of hospitality services to all IP, OP and staff. The cafeteria is outsourced to Rozzana.. The main functions of the department are as follows:

- Inpatient meal management
- Purchase of fruits, vegetables, milk, pulses, whole grain and other dietary consumables
- FIFO is followed

The purchased items are unloaded in the receiving area, where they are inspected and then washed with water and anti-bacterial liquid before bringing it in the kitchen premises. It is followed by storage of perishable and non-perishable items in refrigerator and dry storage area respectively. Diet planning and counselling is done by the dietician according to the patient's condition, food allergy and taste and general preference. The diet summary is handed over to the supervisor in the form of meal sheet cum ticket. According to this, the food is prepared and laid out on trays. The meals are served in the patients' rooms and clearance is carried out after 2 hours. Food/meal/diet for a patient admitted in the hospital is decided by the doctor admitting the patient depending on his/her medical condition. On doctor's recommendations, the dieticians plan the meal that is best for the patient's speedy recovery. The staff includes:

- Regional head of support function
- F&B manager cum chef
- Assistant manager F&B
- Executives
- Senior Dietician

- Other F&B staff

SECURITY

Services rendered by security department are surveillance and patrolling of the infrastructure and material, access control (in restricted areas like IT, MRD, Mortuary, Pharmacy, Electric control panels), control of movement of traffic in premises, reception and conduct of visitors and attendants, assistance in fire control and emergency plan, vigilance and intelligence, liaison with sensitive areas, carry out verification, hold records, issue passes, and generate reports on security matters. It is equipped with modern equipment like CCTV's metal and explosive detectors, alarms, security, lighting and walkie-talkies, etc. The staff members are:

- HOD
- Senior officer
- Security supervisor
- Sr. security assistant
- Security guards

The performance indicators are TAT, theft percent, code related incidents.

ADMINISTRATIVE SERVICES

ADMISSION AND BILLING:

The admission and billing staff includes 1 H.O.D. and 8 GRES and 1 incharge. The services offered by the department are registration of a new patient, bed booking, bed transfer, admission, counselling, billing.

Front office:

The front office is the first point of contact at MSH. It is managed by HOD – Incharge executive, GRES.

Functions:

- Respond and answer telephone calls from patients and clients .
- Registration of outpatients, in patients and executive health checkup patients for various investigations (registration counter).
- Direct the patients and their relatives to the outpatient services and the inpatient wards (helpdesk and welcome desk).
- Report receiving and handling over to the patient (dispatch counter).

Third Party Administrator Desk:

T.P.A. staff includes one Medical Officer and 4 Customer care officer.

Functions:

- Counselling.
- Pre-Authorization – request send
- Query handling & resolving
- Follow up at Pre - Authorization
- Final approval.

INFORMATION TECHNOLOGY DEPARTMENT:

It is implied that there is central database for hospital. Services rendered by the IT department are as follows:

- IT support to users for hardware and software as per SLA (service level agreement).
- Installation of new IT equipment and data entered into medical devices / equipment.

- Helping biomedical department in interfacing the medical equipment with HIS system for data handshaking.
- Installation of appointment scheduling programs.
- Utilization of resources provided other departments.

The IT staffs include:

- Chief Information Officer
- Manager IT
- Executive IT engineers.

The performance indicators are calls resolutions within a time limit, strict data security, zero percent variance, in hardware and software variance, minimal occupational hazard and proper e-waste disposal.

ENGINEERING DAPARTMENT:

Engineering and maintenance department is manned for 24 hours for keeping round the clock vigil on proper functioning of plant engineering equipment coming under the purview of department. This covers maintenance of major supplies to the hospital such as power, water, which form the life line to the hospital's activities. The responsibilities of the department include operation and maintenance of plant equipment installed and various other areas to support the normal functioning of the hospital and repair work of equipment related to the department's responsibility. The policy of the department is to serve well with safety and it time, continuous improvement, cost saving, optimum utilization of manpower and equipment, optimum utilization of inventory and teamwork.

The major engineering services are:

- Electrical power supply- normal and emergency
- Air conditioning, ventilation and refrigeration.
- Steam and hot water supply.
- Water stations and cold water supplies- filtration system.
- Medical gases supplies

- Fire detection alarms and fighting system.
- Internal and external plumbing system.
- Civil works-Masonry, carpentry, glasswork, upholstery, painting, etc.
- PNG and LPG supply.
- Safety assessment of facilities.

MARKETING AND SALES

Marketing and sales department is concerned with business development, branding, promotions and advertisement of MSH healthcare services. Marketing deals with organizing health check-up camps and awareness talks for corporate or PSU's and RWA, designing all the brochures and signage, conducting CME's/seminars. The sales department deals with PSU's and corporate tie-ups, pitching referral sales from nearby general practitioners and nursing homes, liaison with TPAs and managing the international patients (medical tourism).

FINANCE

The scope of services includes the entire hospital cash handling and cash disbursement in the form of salaries and vendor payment for stores, pharmacy and biomedical department. All the cash collected is deposited on daily basis in the bank. The TPA payment is collected through lump sum amount in the form of cheque at the end of the month. The staffs include :

- HOD
- Asst. Manager
- Senior executives
- Junior executives
- 2 cashiers

PURCHASING DEPARTMENT

Purchasing department is responsible for the procurement of function of the hospital the primary functions of the purchasing department are to:

- Procure the rights and services from the right suppliers at the right time for the right place.
- Receive, warehouse, issue & distribute stocks to hospital departments in accordance with MSH procedure.
- Hospital users and clinicians actively participate in product evaluation processes. The purchasing department is actively involved in cost analysis and supplier performance management. It is through all of these activities that the department manages the chain process.

HUMAN RESOURCE DEPARTMENT

The functions of HR department at MS hospital are:

- Hiring
- Physician and nurse recruitment
- Employee orientation
- Personal management
- Benefits and compensation management
- Counselling
- Claims handling
- Training and performance monitoring
- Professional development programs
- State and federal regulations education
- Work place safety and sanitation
- Administration – employee meetings
- Staff morale and retention

Recruitment /selection:

- Identifying the key requirements areas(KRA)
- Drafting job description
- Recruitment through job portals and internal references
- Selection
- Medical examination of the candidate
- Offering letter to the selected ones

QUALITY CONTROL DEPARTMENT

The Functions of the department are:

- To analyze patient feedback forms.
- To analyze different parameters from different departments and compare them.
- Infection control of the hospital.
- Induction and training of hospital staff.
- Accreditations (1. NABH, 2. NABL).

This department also maintains few quality indicators for hospital:

- Medication Errors
- Return of patient within 72hours.
- Return of patient to OT within 48hours.
- Return of patient to ICU within 48hours.
- Number of Needle sticks Injuries.
- Number of blood transfusion reaction.
- Number of Adverse Drug reaction.

Staff:

This department consists of one quality manager who reports directly to the director of hospital.

INTRODUCTION TO INTENSIVE CARE UNIT

ICU is highly specified and sophisticated area of a hospital which is specifically designed, staffed, located, furnished and equipped, dedicated to management of critically sick patient, injuries or complications. It is a department with dedicated medical, nursing and allied staff. It operates with defined policies; protocols and procedures should have its own quality control, education, training and research programmes. It is emerging as a separate specialty and can no longer be regarded purely as part of an anaesthesia, Medicine, surgery or any other speciality.¹

An intensive care unit (ICU), also known as a critical care unit (CCU), intensive therapy unit or intensive treatment unit (ITU).

HISTORY OF ICU

In 1854, during the Crimean war, Florence Nightingale created a dedicated care area for soldiers wounded in the battle. She recommended establishing separate post surgical areas in hospitals. It was reported that Nightingale reduced mortality from 40% to 2% on the battlefield. Although this was not the case, her experiences during the war formed the foundation for her later discovery of the importance of sanitary conditions in hospitals, a critical component of intensive care. In 1950, concept of “Advanced Support of Life,” was introduced by the anesthesiologist Peter Safar, keeping the patients ventilated and sedated in an intensive care environment. ICU readmission is defined as admission of a patient to the ICU within 48 hours of shift out from the previous ICU during the same hospitalisation period.

PROCESS FLOW

Patient comes from

OT/ Wards/ Cathlab

A & E

Bed Preparation

Transfer-in

Admission

Patient handed over to the ICU team

Registrar takes the patient history and inpatient case records assessment completed by nurse in 60 minutes.

INITIATING ICU TREATMENT	• Ventilated patient treated as per ICU protocols • Patient connected to monitors and organising requested lines and tubes
BED SIDE MONITORING AS PER PROTOCOLS	• Hemodynamic parameters • Respiratory parameters • Temperature • Urine Output • Drainage (from tubes) • Blood sugar
TRASNFER OUT/ DISCHARGE/ DEATH/ DAMA	• Based on discharge criteria and ICU protocols.