

**Summer Training at
Fortis Hospital,
Noida**

Analysis of Efficient patient flow in Operation Theatre

**By
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**Under the guidance of
Dr. Monika Chaudhary**

**MBA Hospital and Health Management
2015-2017**



**The IIHMR University, Jaipur
2016**

TO WHOMSOEVER MAY CONCERN

This is to certify that **Ms. Renila Rajan** student of MBA Hospital and health Management from The IIHMR University, Jaipur has undergone internship training at **Fortis Hospital, Noida** from **1st April 2016 to 31st May 2016**.

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

The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.



Col (Dr) Ashok Kaushik
Dean, Academics and Student Affairs
The IIHMR University, Jaipur



Dr. Monika Chaudhary
Associate Professor
IIHMR University, Jaipur

Manpower Development Programme

This certificate is awarded to

Renila Rajan

In recognition of having successfully completed her
Internship in the department of

Medical Administration

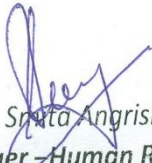
From

1st April 2016 – 31st May 2016

At Fortis Hospital, NOIDA

She comes across as a committed, sincere & diligent person who has a
strong drive & zeal for learning

We wish her all the best for future endeavors.


Smriti Angrish
Manager – Human Resources
Fortis Hospital, Noida



Acknowledgement

Any attempt of any level cannot be a success without the support and direction of learned people. A heartfelt gratitude to Mr. Gagan Seghal (Zonal Director) and Dr. Mehar Kumar Bedi(Medical Superintendent), at Fortis Hospital, Noida, for giving us the opportunity to work with the India's Leading Healthcare Provider. We would like to express our immense gratitude to our mentors (Dr. Shanu Sharma and Ms Preeti Goswami for providing support and guidance for our learning the in the hospital and for directing our goals and objectives towards the attitude that derives to achieve excellence.

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I am glad to acknowledge Dr. S.D. Gupta (Director IIHMR Jaipur), Dr. (Brig) S.K Puri (Dean and Mentor), Dr (Col.)Ashok Kaushik and my Mentor Dr. Monika Choudhary for incorporating the right attitude in us towards learning and also for supporting us whenever required. I am thankful to them for giving us an opportunity to learn administrative styles, so that we come to know how a hospital functions and provides quality care to its patients.

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Abbreviation

FOS – Fortis operating system

GRN – Goods receiving number

PCS – Patient care services

ROL – Reorder level

UHID – Unique hospital identity

ICU – Intensive care unit

HDU – High density unit

TPA – Third party administrator

PHC – Preventive health checkup

OT – Operation theatre

CSSD – Central sterile supply department

SICU – Surgical ICU

MICU – Medical ICU

NICU- Neonatal ICU

LR – Labor room

HOD – Head of department

HIS – Hospital information system

IVF – Intravenous fluid

In vitro fertilization

CTVS – Cardiothoracic vascular surgery

CCU – Cardiac care unit

OPD – Out patient department

TAT – Turnaround time

CBC – Complete blood count

ECG – Electrocardiography

TMT – Tread mill test

CXR – chest x ray

PFT – Pulmonary function test

KFT –kidney function test

LFT – liver function test

BUN – Blood urea nitrogen

USG – Ultrasonography

AEC – Acute eosinophilic count

IPD – Inpatient department

IT – Information technology

MRD – Medical record department

STEMI-ST elevated myocardial infarction

Observational Learning

1.0 Introduction

Summer training is an integral part of MBA in Health and Hospital Management. We have completed our first year and as part of the curriculum, the students are required to undergo a two months training in a hospital. The main purpose is to get oriented to the layout, operations and workflow of the hospital.

We got the golden opportunity to work in Asia's leading Healthcare provider, Fortis Group of Hospitals. We started our summer internship from 1st April in Fortis Hospital, Noida.

Objectives

1. To get an overview and develop understanding of the hospital functioning
2. To gather knowledge about the process flow of major clinical and non clinical departments in a hospital.
3. To help the management study and address some issues/problems associated with some specific operations.

1.1 Background

Fortis healthcare limited is a frontrunner healthcare service provider in India. The healthcare verticals of the company include Hospitals, Diagnostics and Daycare specialty facility.

The company has multinational presence in 54 countries like India, Sri Lanka, and Dubai and Mauritius with 10000 potential beds and 260 diagnostic centers.

Its flagship Fortis memorial research institute (FMRI) was ranked no-2 by 'Top master healthcare.com'

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

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

Fortis Hospital, Noida was inaugurated on 7th November 2004, which is centre of excellence in Neuroscience, Orthopedics, bariatric, cardiac sciences, minimally access surgery, and oncology. The Hospital is built over an area of 5.53 acres. Total Build up areas is 220,000 sq. ft with patient centric design by Kaplan Mc Laughlin Diaz (KMD), USA. This allows far flexibility to adapt and accommodate future trends of patient care.

Fortis Hospital, Noida is the Hub where some of the best medical professionals provide quality medical treatment catering to the special needs of patients and their families. The Hospital has been designed and developed to deliver patient care with maximum ease warmth and effectiveness.

Fortis Hospital Noida has also achieved many first to its name:

1. NABH Accredited Hospital In U.P
2. NABH Accredited Blood Bank in U.P
3. NABH Accredited Lab Services in U.P

Mission

- To become an integrated Healthcare delivering organization guided by quality, excellence, technology, and compassionate care.
- To establish Fortis Hospital Noida as a major corporate hospital, in healthcare delivery system in the region.

Vision

Globally Respected Health care organization recognized for clinical excellence and distinctive patient care

Values

They serve as guideline for routine conduct of each Fortisian. The core value of Fortis Healthcare are:

1. Patient Centricity
2. Integrity
3. Ownership
4. Teamwork
5. Innovation

Fortis Logo

Brand logo is a synthesis of human values of trust, ethics, service and quality healthcare.

The integration of hands (in a distinctive green with a red dot) and the human figure is representation of “Fortis” responsive approach to healthcare



1.2 Committees in the Hospital:

1. Quality steering Committee
2. Hospital Infection Control Committee
3. Safety Committee
4. Sentinel Event Committee
5. Blood Transfusion Committee
6. Code blue Committee
7. Pharmacy and therapeutic Committee
8. Medical Audit Committee
9. Research and Ethics Committee
10. OT Committee
11. MRD Committee
12. CME Committee
13. Purchase Committee
14. Condemnation Committee
15. Morbidity and Mortality Committee
16. Credentialing and Privileging Committee

2.0 Infrastructure

2.1 Super-Specialty

Anesthesia	Nephrology and Dialysis
Blood Bank	Neurology
Cardiology	Neuro Surgery
Critical Care	Oncology
Dentistry	Ophthalmology
Dermatology	Pediatrics
Emergency Medicine	Physiotherapy
ENT	Plastic Surgery
Endocrinology	Psychiatry
Gastroenterology	Psychology
General Surgery	Pulmonology
Gynecology and Obstetrics	Radiology
Internal Medicine	Rheumatology
IVF /Bloom Fertility centre	Thoracic surgery
	Urology
Music Therapy	
Neonatology	Transplant surgery

2.2 Hospital Layout

S.NO.	LOCATION	AREA
1	Atrium area	Main Reception, Billing, Cashier, Travel Desk, Counselor Office, TPA cell, Telemedicine
2	Basement	Administration, Blood Bank, IP pharmacy, SRL lab, IVF Centre, Staff Cafeteria, CSSD, Purchase, Nutrition, Mortuary, Security, I.T, Engineering, Kitchen, Housekeeping, Store.
3	IPD Block- Ground Floor	International patient services, Diagnostic Appointment Desk, Radiology (MRI, 64 Slice CT, PET CT, X-Ray, Ultrasound, Mammography, DEXA Bone Densitometry), Report Collection Room
4	IPD- First Floor	Chief of Nursing, Patient rooms, HDU, Sleep Lab, Video EEG
5	IPD- Second Floor	Intensive Care Unit-NSICU, MICU, Liver Transplant ICU, CTVS ICU
6	IPD- Third Floor	Patient Rooms, Labor Room, Neonatal ICU, SICU, Pediatric ICU
7	IPD- Fourth Floor	Patient Rooms, Cardiac Care Unit (CCU), Cardiac Cath Lab
8	IPD- Fifth Floor	Presidential suite, deluxe suite, Patient Rooms, Liver Transplant ICU, Bone Marrow Transplant UNIT
9	OPD Block- Ground Floor	Patient Care Services, OPD Billing, Pharmacy, New Ward, CCD, Sample collection Room, General Surgery, Cardiology, Cardiac Procedure, Physiotherapy, Preventive Health Check up desk
10	OPD Block- First Floor	Dialysis, EMG, EEG, TCD, Endoscopy Room, Patient Welfare Department, Audiometry, ECHS help desk, oncology day care ward
11	OPD Block- Second Floor	PAC Room, Operation Theatres, Neuro Cath Lab, Library, Human Resource Department, Auditorium

3.0 Data Collection

Data collection method involves 2 types of sources –

- a. Primary source
- b. Secondary source

Primary sources of data –

1. Through interaction with HOD, Incharge, Executives and other members of the staff.
2. Through direct observation.

Secondary sources of data –

1. Through various records of hospital.
2. Through online website “www.fortishealthcare.com”
3. Through various written documents of hospital like pamphlets, booklets and other documents.
4. Through internet.

4.0 Bed Layout

Breakup of Beds-

1. Single Room
2. Twin Sharing
3. Deluxe Suite
4. Ward

- **Census Bed**

An official count of patients admitted to the hospital facility by midnight

Number of Census Bed-191

- **Non Census Bed**

Beds which are not counted in the census

- New Ward-4
- Neonatal ICU
- Oncology-Day Care-17
- Dialysis-12
- Cath lab

- Labor Room
- CSICU-9
- Neurosurgical ICU-15
- Medical ICU-17
- Surgical ICU-6
- CCU-4
- Paediatric ICU-4

5.0 Good Practices followed in Fortis

1. Lakshya Tracker

- ICU and OT communication Records
- Patient Satisfaction Score Sheet
- Multi-Disciplinary Team Meetings

2. Patient Centricity

3. Clinical Excellence

4. Community Participation

Through various Outreach programmes like Traffic, Anti-Tobacco day, Preventive Health Check-ups for Women etc.

5. Investigation Compliance

5.1 Monthly Data For performance evaluation

- CPR analysis
- FOS Data (Fortis Operating System)
Performance Evaluated in Various Department using certain parameter for efficient functioning
- MOS (Medical Operating System)
- NSI(Needle Stick Indicator) Reporting
- Quality Indicators
- Code STEMI/Code Fast (Clinical pathway)

6.0 Department Profile:

6.1 Operation Theatre

Functions

- To perform surgery in a sterilized environment
- To Take care of the patient pre and post surgery.
- Follows WHO Checklist to ensure patient safety
- Operation Theatre Booking
- Scheduling of booked cases

Location:- 2nd Floor (Near to ICUs and Triage area)

Number of OTs-8 (7 Major + 1 Minor)

Types of OTs

- Orthopedics
- Cardiac
- Neurology
- Transplant
- General surgery
- Obstetrics and gynecology

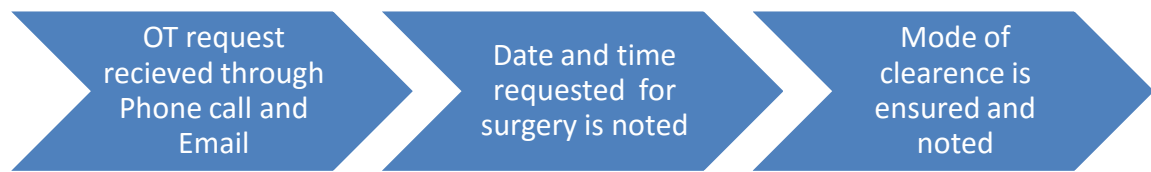
Zoning

- Protective Zone- Pantry, Transfer Corridor
- Clean Zone- Reception, Recovery
- Sterile Zone-Scrubbing and Gowning, Operating Room, Store, Sterilizer
- Disposable Zone-Disposal of waste, washing o equipments

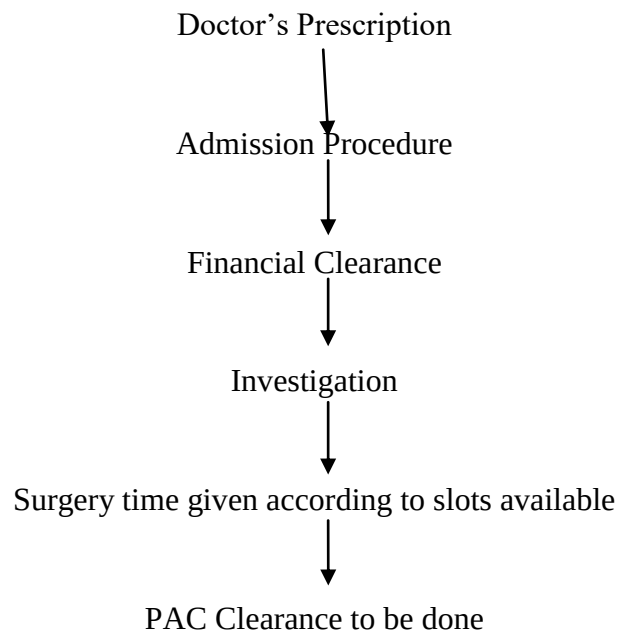
Daily and weekly volumes of special equipment

- C-arm
- Laser

OT Booking(First come First Basis)



OT Process for OPD



6.2 Intensive Care Unit

- Close observation and monitoring of critically ill patients.
- Specialized care for specialized cases round the clock
- Advanced respiratory support alone or basic respiratory support together with support of at least two organ systems.
- Administration of Life saving and High risk drugs under close monitoring.
- Multi Disciplinary treatment for Critical case

Location- 2nd Floor

Types of ICUs

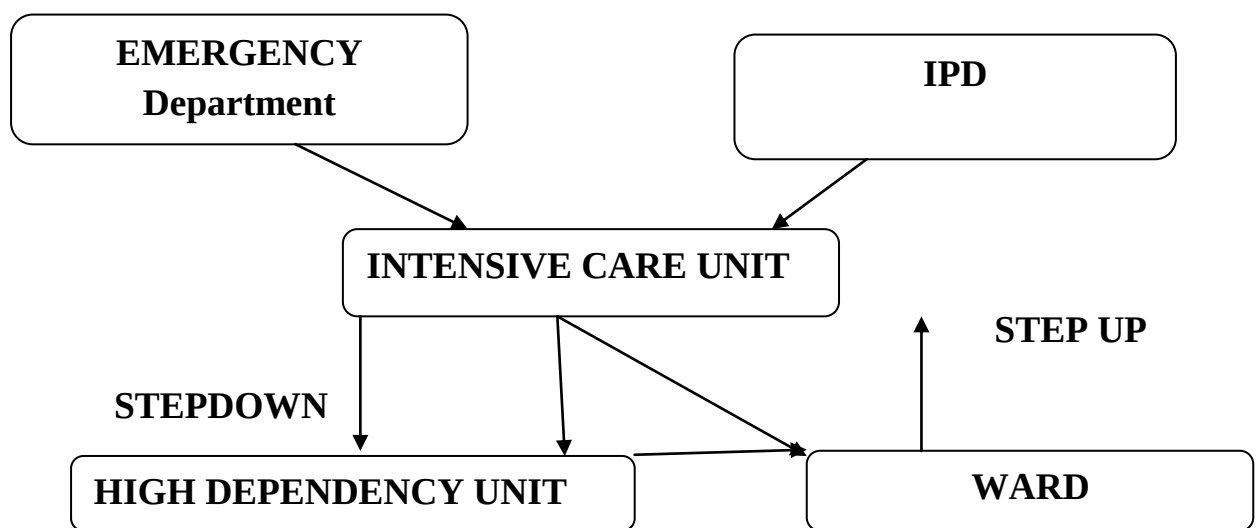
1. Cardiac Care Unit
2. Neurosurgical ICU
3. Medical ICU
4. Transplant ICU
5. Pediatric ICU

6. Cardiothoracic ICU
7. Neonatal ICU
8. Surgical ICU

Quality Indicators

- **CLEBSI**(Central line blood stream infection)
- **CAUTI**(Catheter associated UTI)
- **VAP**(Ventilator associated pneumonia)

Patient flow in ICU



6.3 Marketing Department

- Branding and promotion of the Hospital
- Online Marketing through Website
- Corporate Liasoning
- Preparing Brochures and pamphlets
- Conducting health awareness programmes in the Hospital
- Interview and Press Conferences of Experts

6.4 Dietary and Nutrition

- Following Food and Beverages standards
- Outpatient diet counseling
- Customizing patient diet
- Checking the quality of grocery items as per standard specification
- Procuring food items lasting 3 weeks
- Providing Room service to attendants
- To educate all inpatients during Hospitalization and at time of discharge for therapeutic diet.
- Extending Service during guest visit, workshop, and important meeting

Kitchen

Area-4000 sqft

- Chamber for management
- Separate washing Area
- Main Kitchen Area
 1. Bulk Area- preparation of food in large amount
 2. Patient Meal preparation Area
 3. Baking Area
 4. Packing Area- food is packed and assembled in trolley
- Vegetable Cutting Area
- Refrigerator (4-8 c)
- Store- Daily stock of fresh fruits and vegetable
10-15 days storage of perishable items

6.5 Housekeeping

- Undertakes following departments
- Consumables
- Housekeeping manpower
- Horticulture
- Patient linen
- Laundry
- Cleaning and Biomedical Waste Management

6.6 CSSD

- To make sterilized articles available throughout the patient care areas
- Ensure proper functioning of sterilizers using various quality indicators
- Processing and Sterilizing syringes, rubber goods, surgical instruments, trays, sets and dressings etc.
- Temperature for Sterilization
ETO (37,55) C
Steam (134,121) F

Quality Indicators

1. Biological Indicator Test

Spores are kept in:

ETO- each load

Steam sterilizer-each week

In every implant

2. Physical

134 F, Dry sterilization

3. Chemical

Autoclaving

Steam 1. Linen(7 days shelf life)

2. Surgical instruments(1 month)

3. Medical grade paper (3 months)

ETO items(1 year)

6.7 TPA

- Gets pre authorization from the insurance companies for approval of the estimate given for client specific treatment.
- Facilitates the insurance claims for the client.

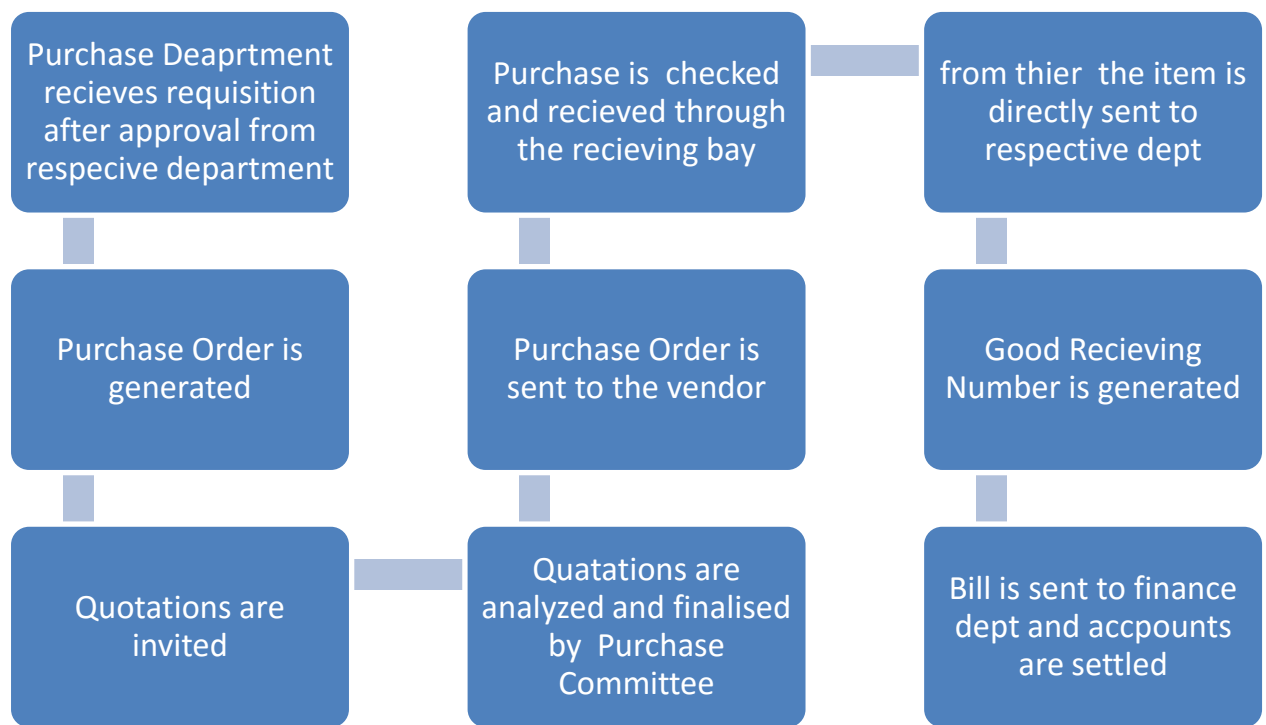
6.8 Store and Purchase

Functions

- Store receives all equipments, instruments, and raw materials, consumable, stationary, medicines, and other essential goods required by the hospital.
- Movement of store through ABC AND FIFO
- Procurement of stores through vendors
- Negotiating contracts from vendors
- Issuing purchase order
- Quotation for new purchase
- Repairing of faulty equipments
- Serving as an information centre for material management

3 Purchase Heads:

1. Drugs
2. Consumables
3. Others(Including all machinery)



6.9 Engineering and Maintenance

Functions-

- ❖ Maintaining electrical and water supply
- ❖ Air Conditioning
- ❖ Storage and supply of Medical Gases
- ❖ Treatment of waste water.
- ❖ 3 monthly checking of pipelines
- **Medical Gases are stored in cylinders color coded as-**

O₂- White

N₂- Black

CO₂- Silver

- **Manifold Room**

Pipelines are also color coded according to the gases-

Nitrous oxide-French Blue

Medical Air-White

Yellow-Vacuum

Daily Oxygen Consumption- 1200 Liters

- **Compressor Room**

Air compressors-3

Vaccum Compressors-3

- **Water Treatment Plant**

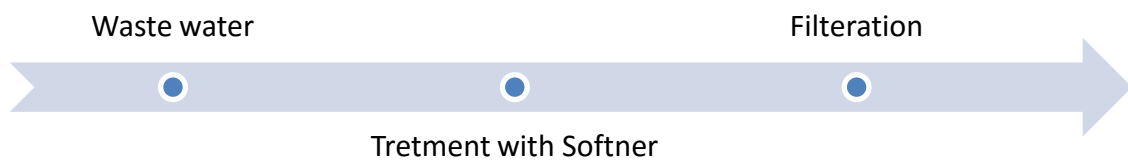
There are:-

- 6 tanks with 1 lac litre and 2 with 5 lac litre capacity
- Two tanks for Raw water supplied from Noida Authority
- Two tanks for soft water

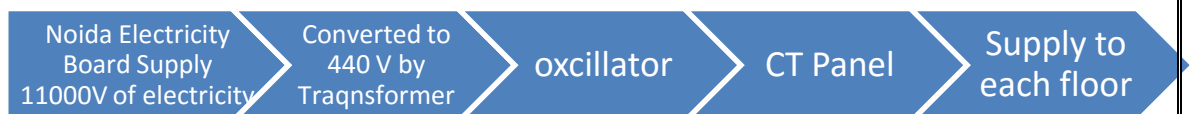
- **Filters used:**

- ❖ MGF(Multigrade Filter)
- ❖ ACF(Activated Carbon Filter)
- ❖ Softeners

- **Waste water Treatment**



- **Electricity Supply**



- Electricity Backup- Generator (750 kv)
- Each department has its own UPS supply

- **High Ventilation Air-conditioning**

3 Chillers- 300 TR, 200 TR, 400 TR(Capacity)

Condenser chills water

Pumps push the cool air

Maintenance:

- Electricity Panels are checked every month
- Pumps, motors, Ups are checked quarterly

6.10 Medical Record Department

- Storage and Maintenance of medical records by following standard SOPs
- Obtaining missing patient files
- Maintaining integrity and confidentiality of medical records
- Classifying the medical files as per ICD-10 and arranging and storing them according to IPID
- Submitting required data (Notifiable disease, death, birth etc.) to government.

Shelf Life of Medical Records

Normal Cases-6years

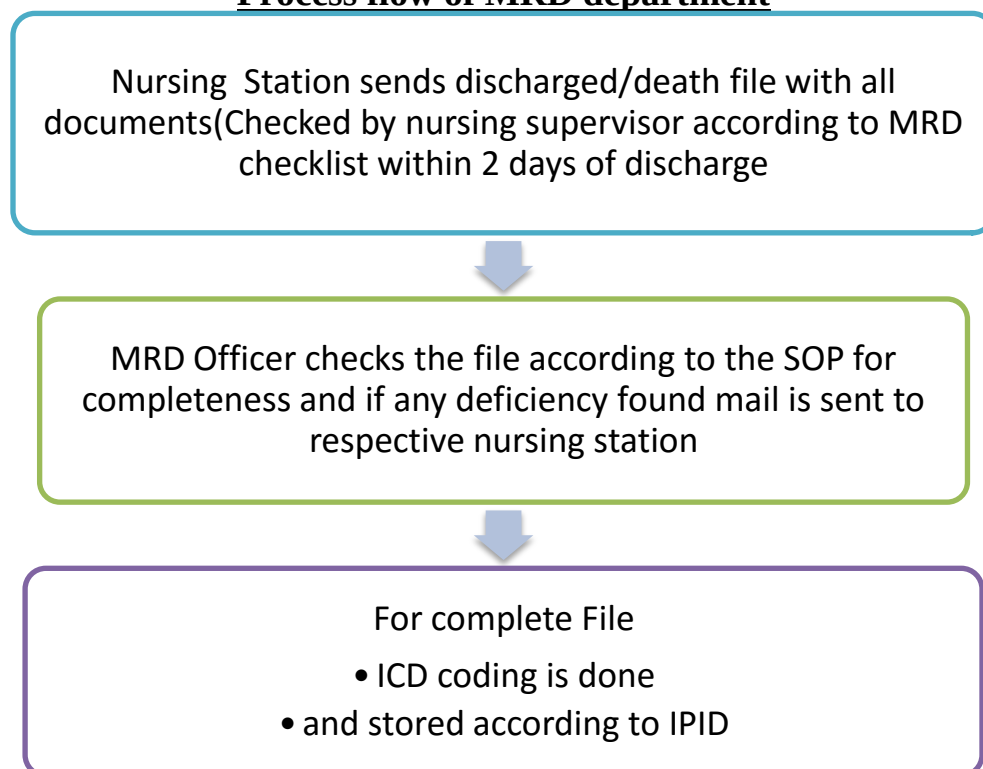
MLC/Death-10 years

Pediatric-Up to 21years of age

Transplant cases- 15 years

Court case-Until the Case is settled in court + 3 years

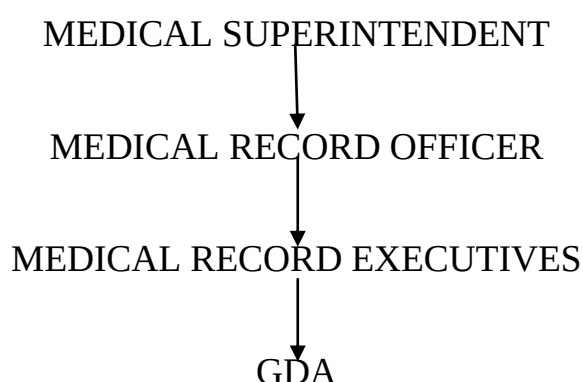
Process flow of MRD department



Retrieval Policy

- **Proper Requisition format is to be filled**
- **Requisition should be signed by MS/MRD officer**
- **File to be returned within 7 days**

ORGANOGRAM



6.11 Blood Bank

- Functions under licenses given by the Locality (Noida) and State (Lucknow)
- Conducts counseling and Physical examination for Donors.
- Collection, Processing and Storage of Blood and Blood Products.
- Issuing and Transportation of Blood

6.12 Pharmacy

- Controlling and dispensing of drugs
- Communication with physician, nurses, and other clinical staff
- Quality and stock out management of drugs
- Storage of drugs and expiry management
- Procurement and Inventory management
- Ensuring rational and safe drug use.
- Types of Pharmacy Indents
 1. Stat Indent(to be dispensed within 30 mins)
 2. IP Indent

6.13 Preventive Health Check Up

- Reception of patient and counseling regarding various health packages.
- Billing of health check up package
- Guidance and coordination of patient to various departments
- Collection and assembling of all investigation reports
- Facilitation of physician consultation for discussion on findings of report.
- Addressing Grievances regarding PHC department

6.14 IT Department

Deal with hardware, software, network and telecom

- Hardware-CCTV cameras, TV, telephone, Computers, printers.etc
- Software-HIS (Hospital Information System-25 Modules/applications)
- Network-Intranet
- Telecom-Intercom

6.15 Admission Department

Functions

- Counseling before admission.
- Admission of patient
- Coordination with bed manager
- Coordination with doctors about allocation of code of surgeries and other queries.
- Running bill counseling and top up payments.

- Coordination with TPA departments

Types of Admission:

1. TPA
2. CASH
3. ECHS/CGHS/NTPC
4. Credit

6.16 Dialysis

- OPD and IPD facility for dialysis
- OPD Timings- 6:30am to 8pm
- IPD Timings- From 8pm or Whenever required

Infrastructure

1. RO room/Water Treatment room
2. Training room
3. Wash room
4. Store

Number of Dialysis Units- 15

Number of Beds-16

Average number of dialysis per day (OPD) - 45

Project Learning

Topic of the Project:

**Analysis of Efficient patient flow in
Operation Theatre**

1.0 Introduction

Optimizing Patient Flow is essential to deal with the impediments to timely and efficient flow of patients through acute care settings.

Operating theatre (OT) services represents a significant proportion of hospital costs. The smooth running of an OT encompasses efficient and effective management of resources, while ensuring staff and patient safety and providing quality evidenced-based patient care. A structured approach to planning service delivery in the OT is required to optimize processes that impact on the whole of surgery pathway.

It is common to encounter delays and cancellation in healthcare and most patients and hospital staff believe that those problems are just an inescapable part of the care process. Very often, struggling hospitals have the tendency to turn to quick fixes, such as downsizing or adding more resources such as bed or equipment to address such issues, whereas smooth and timely flow of patient, information and materials can avoid delays and cancellation

1.1 OT Performance Indicators

Efficiency improvements in the OT, even in small amounts, can improve productivity and yield considerable savings of resources. It allows more surgery to be delivered within constrained existing resources, in particular elective surgery

The efficient production of surgical cases requires

1. Maximizing the use of time
 2. Minimizing wasted time
3. Minimizing unused time.

Numerous factors in the peri-operative setting influence the utilization of time in the OT:

1. Surgical scheduling accuracy
2. Starting on time
3. Minimizing procedure time variation (but taking in procedure complexity),
4. Turnover time, inter-operative delays and bed management

Performance indicator (PI) is a type of performance measure. It can be compared against acceptable standards, past performance or targets. Performance indicators are therefore tied to goals and objectives and serve simply as ‘yardsticks’ by which to measure the degree to which you are achieving your goals. They are quantitative tools and are usually expressed as a rate, ratio or percentage. For example, the percentage of day of surgery admissions (DOSA) per week

1.2 Patient Type

Each patient belongs to a particular discipline (e.g. neurosurgery, cardiac surgery, and orthopedics) dependent on the type of surgery they require and are admitted under the same.

1.2.1 Elective patients

The Journey of majority of elective patient’s starts when they see their surgeon and surgery is agreed upon. From there, they are requested to complete the admission formality and get their PAC (Pre Anesthesia Checkup) done. Depending on the type of surgery they are admitted.

1.2.1.1 Type Of Surgery

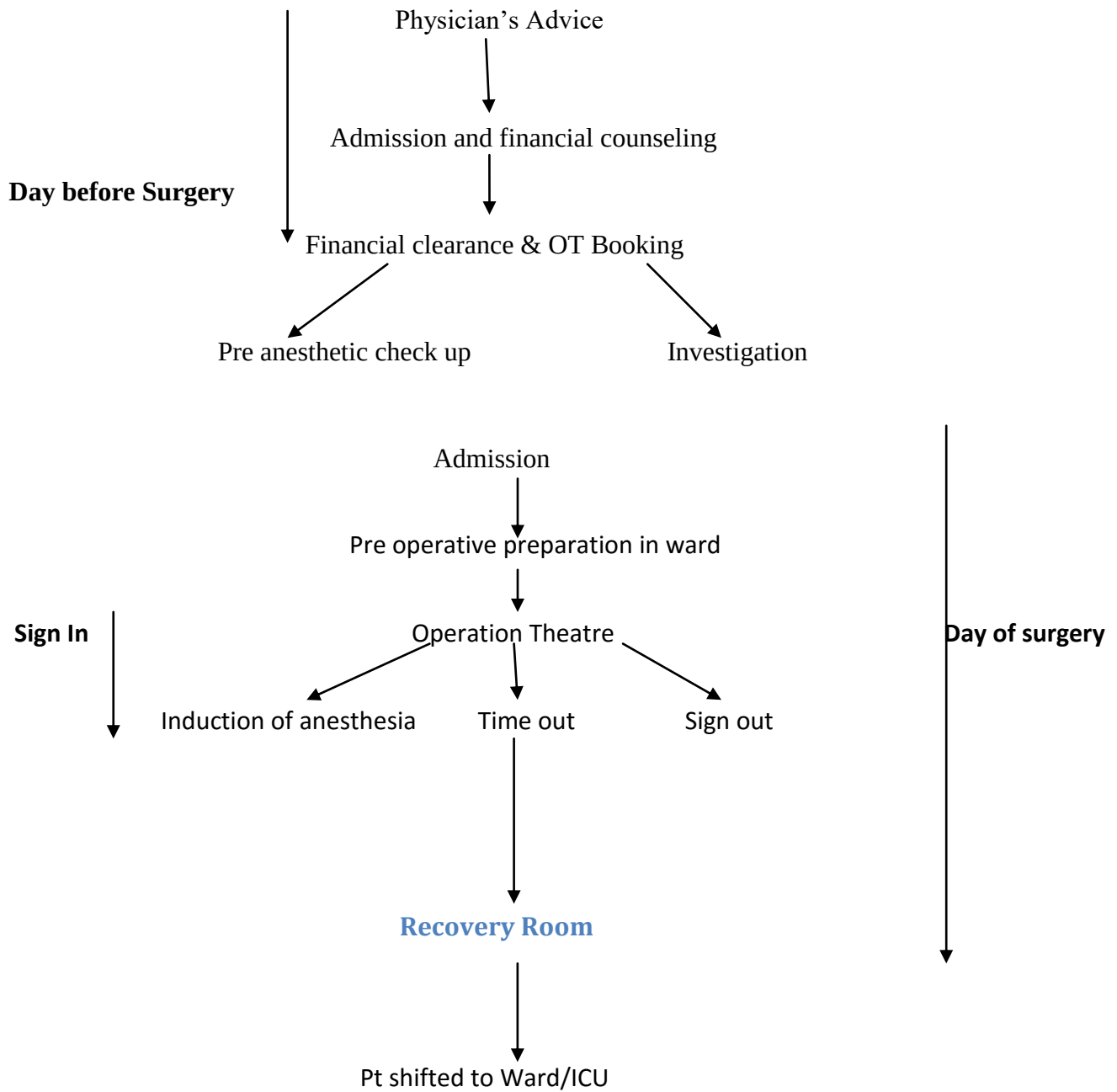
1. Major surgery is any invasive operative procedure in which a more extensive resection is performed e.g. a body cavity is entered, organs are removed, or normal anatomy is altered. In general, if a mesenchymal barrier is opened (pleural cavity, peritoneum, meninges), the surgery is considered major e.g. CABG

Patient is advised to get admitted at least a day before the surgery or as per physician’s advise.

2. Minor surgery is any invasive operative procedure in which only skin or mucus membranes and connective tissue is resected e.g. PHACO

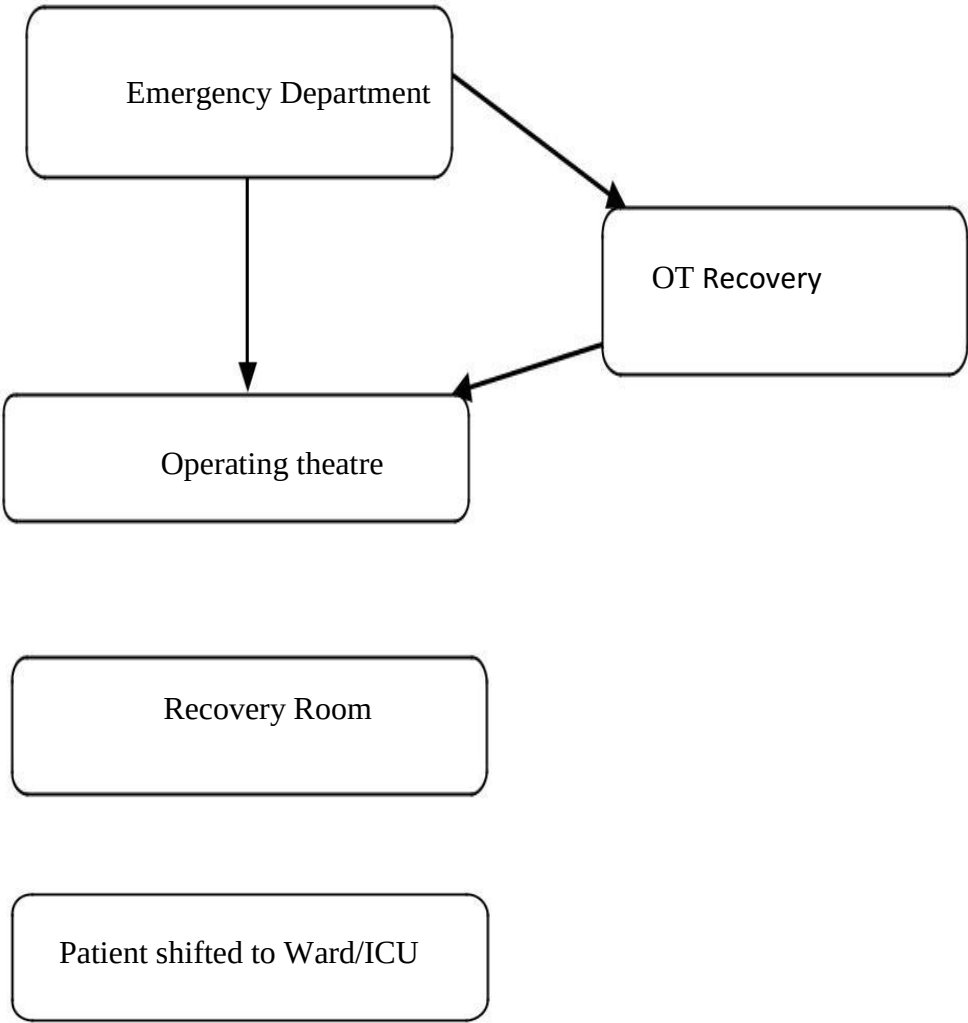
Patient is advised to get admitted on the same day of surgery or as preferred

Patient flow in Operation Theatre



1.2.2 Emergency Patients

The journey for the majority of emergency patients starts at the Emergency department except for some cesarean cases. From there, depending on their criticality, patient will be sent to pre operative unit/ recovery before they go to OT or they are directly taken to OT. After that they take the same path as any elective patient.



Flow of Emergency Patient

2.0 Project

To analyze the efficiency of flow of patient in Operation Theatre

2.1 Objective

General Objective:

To assess the efficiency of operation theatre functioning

Specific Objective:

To assess the general OT functioning, track delays and cancellation and to make recommendations for future improvement in maximizing output

2.2 Review of Literature

The efficiency of an OT is influenced by several factors, including:

- **Management factors** such as OT governance, operational management and leadership
- **Internal factors** such as the availability of staff and OT infrastructure
- **External factors** such as pre-and post-operative processes.

Factors affecting patient flow:

1. OT Scheduling
2. Pre-Operative Delays
3. Discharge from recovery

4. Resources

5. Communication

6. Accumulation of Delays

According to Operating Theatre efficiency guidelines unanticipated cancellation of **Elective surgery** decreases operating theatre efficiency especially when the operating theatre is not utilized as a consequence. Cancelled surgery is also inconvenient, distressing and costly to patients, physicians and staff with evidence of emotional impacts on patients and care givers

Under-running operating lists results in the under-utilization of the total available, staffed OT time and thus is both inefficient and costly. Common reasons for under runs in the planned OT time is inadequate scheduling, late starts, cancellations and prolonged turnover times. unit.

According to Adam Bloomberg Streamlining the pre-admission testing process reduces same-day cancellations because day-of surgery cancellations cost hospitals and insurance companies millions each year

Rationale

Efficiency improvements in the OT, even in small amounts, can improve productivity and yield considerable savings of resources.

So it is necessary to track delays and cancellations, also measuring patient waiting time can be a key element in enhancing patient satisfaction

2.3 Research Methodology

2.3.1 Study design

It is a Prospective Non Interventional Descriptive study as only observation and analysis of patient flow was done

2.3.2 Study Area

Operation Theatre- Fortis Hospital, Noida

2.3.3 Sampling Method

Non Probability purposive sampling was done, by considering only the planned surgeries so that delays can be tracked when compared to the scheduled time.

2.3.4 Sampling Size

Month	Number of Sample (Planned cases)
15 th April-30 th April	233
2 nd May-26 th May	327
Total	560

2.3.5 Procedure

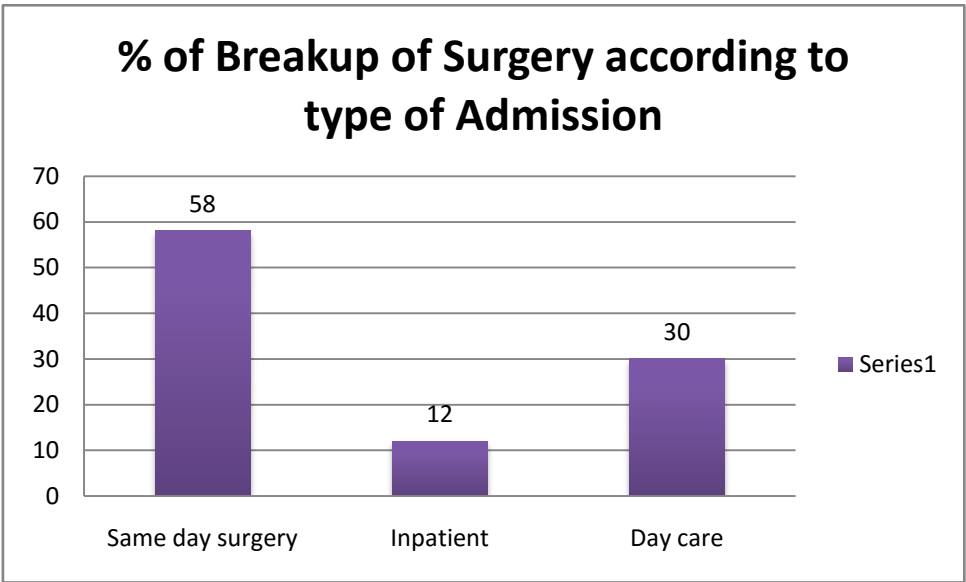
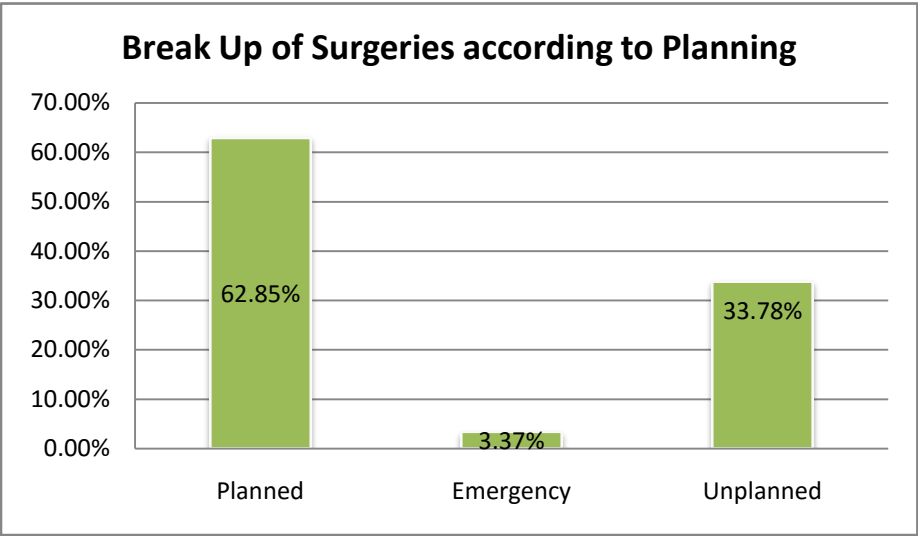
- To analyze the efficiency of patient flow in operation theatre, planned cases were taken as the sample to find the delays and bottlenecks in the flow.
- Patient time in recovery and time taken to move the patient to OT was noted. For this Purposive Sampling was done by considering only planned cases.
- Recommend OT Turnover time- 30 mins (For cleaning and preparation for the next case) If the turnover time is more than 30 mins, then the cases falls into delay.

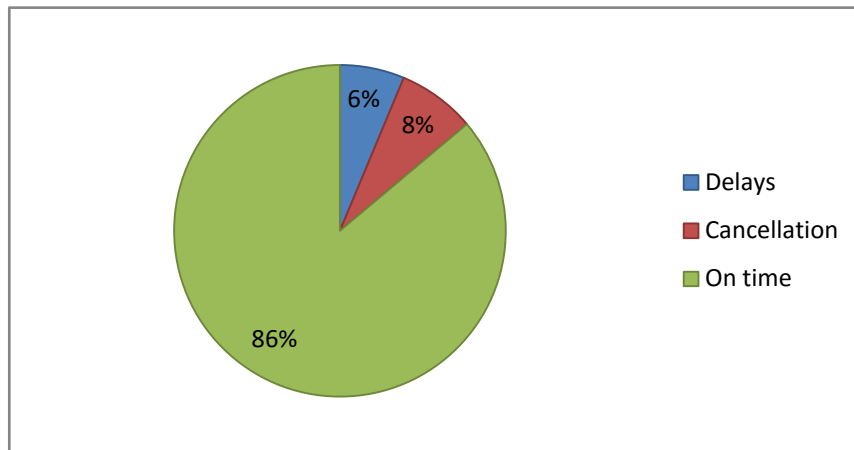
2.3.6 Data collection

The type of data collected was primary using the scheduled OT list of the respective date. The approach used for this data collection was both quantitative and qualitative. A systematic tool was used to track time.

2.3.7 Data Analysis

From 15th April-25th May 2016





- **Pan Fortis** has certain norms for Calculating delays and Cancellation. Reasons which are beyond management of the organization are not taken into consideration and are counted as outlier
- **Outliers-** Reasons for Delays and cancellations which are beyond the organizations control are considered outlier and are not included when calculating delays and cancellations.

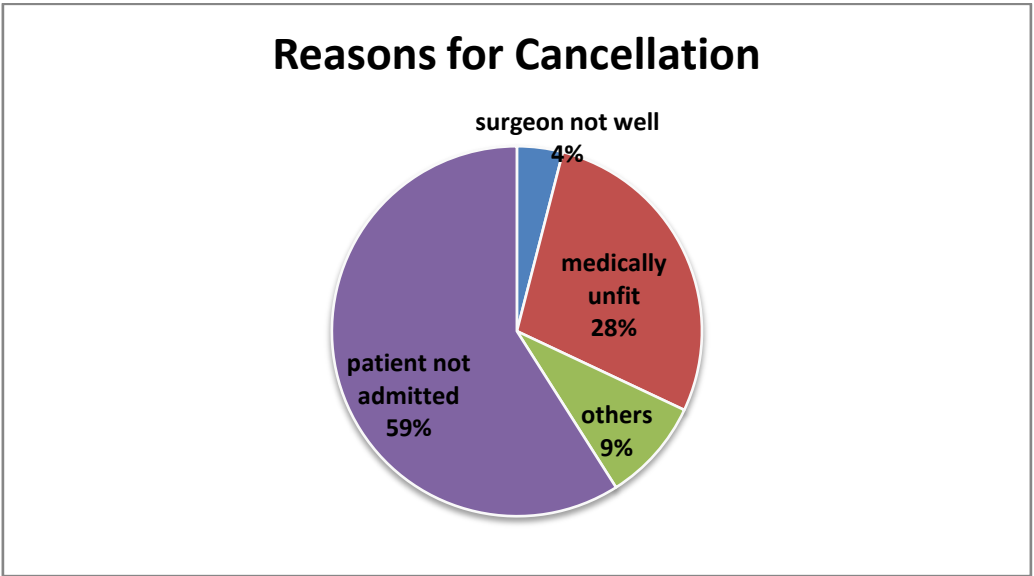
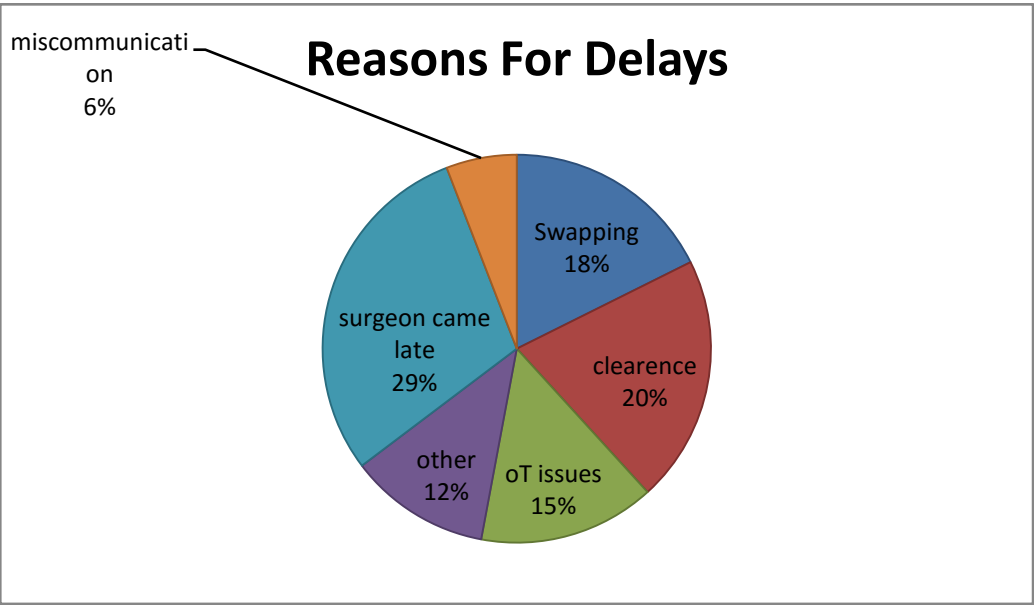
Outliers for Delays

1. TPA clearance awaited- A third party is involved
2. Patient admitted late
3. Patient not admitted
4. Delayed for emergency cases
5. Patient not fasting

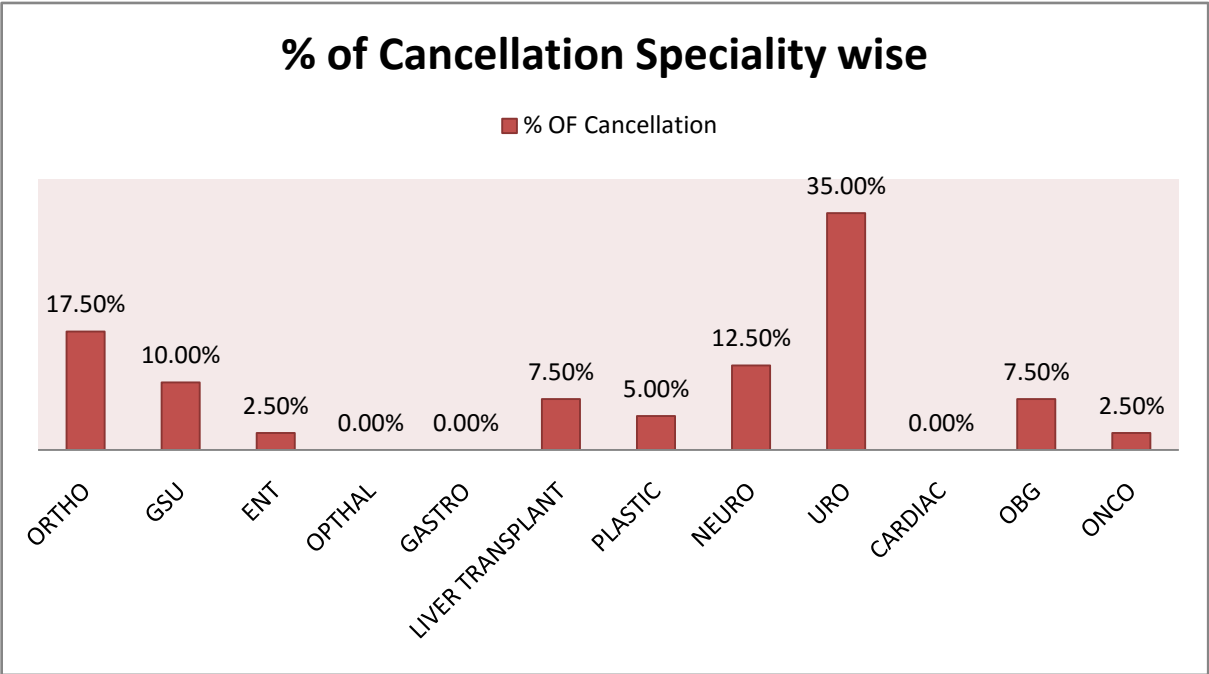
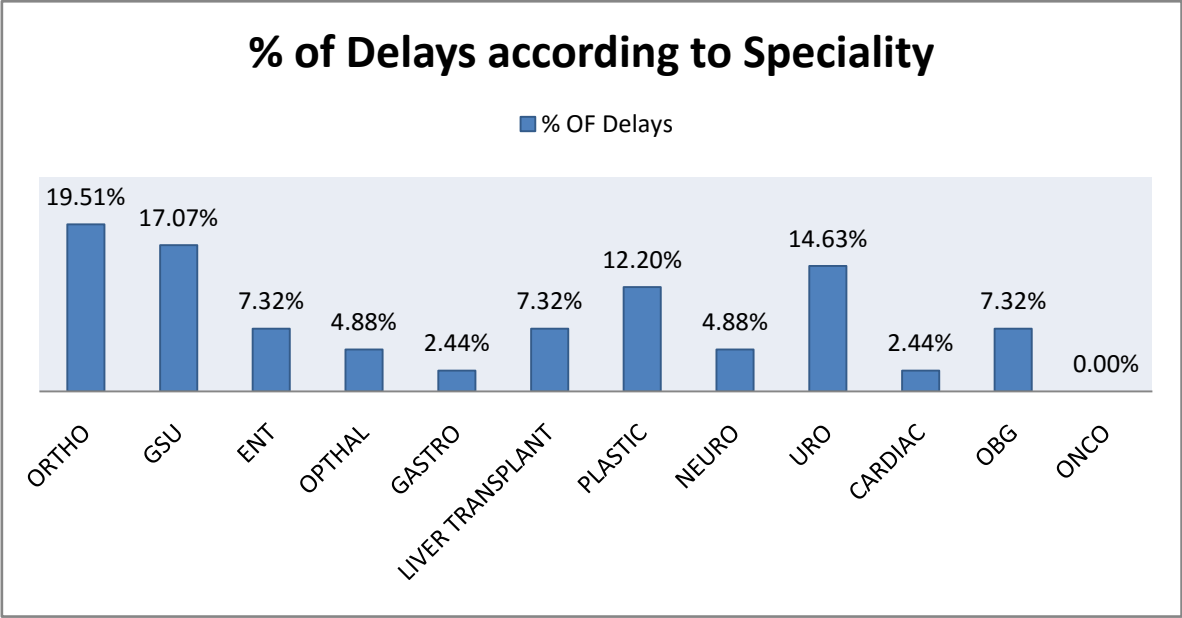
Outliers for Cancellation:

1. TPA clearance awaited

From April 15th-May 26th 2016



Delays and Cancellation Specialty wise



2.4 Inferences:

Most of the reasons analyzed as the cause for delay and cancellation are avoidable

1. Maximum number of delays are because of Surgeon is not on time
2. Maximum number of cancellations is because of patient not admitted on time.
3. Maximum number of Delays are seen in Orthopedics discipline
4. Maximum Number of cancellations are seen in Urology Unit

2.5 Recommendation

Specific

1. Preoperative clearance for orthopedic cases should be attained prior to the scheduling of surgery to avoid delays
2. Surgeons should be briefed and informed to reach OT at least half an hour before the scheduled time
3. Patient centric approach should be taken by taking his/her medical history into account and suggesting investigations accordingly.
4. Urology unit should counsel patient wisely plan the surgery to avoid cancellations
5. Patients should be communicated well about the Pre-operative requirements to avoid any Miscommunication and confusion.

General

- To avoid reasons of delays and cancellation pertaining to patient an OT checklist can be given to the patient which includes all the pre-operative guidelines which needs to be followed.
- Minimize unnecessary cancellations and poor utilization. It is often much more efficient to allow an overrun to ensure an additional case is completed rather than cancelling the case and the remaining theatre time being underutilized
- Streamlining processes with wards and other units for smoothening patient flow and its coordination
- Efficient patient reception and communication should be done
- Continuous process improvement
- A pre admission testing program should proper communication of the guidelines

2.6 Annexure

Observation Tool: Delay and Cancellations in a Day

S.No.	NAME	SURGERY	SCHEDULED TIME	PT. IN RR	PT TAKEN TO OT	DURATION OF PT STAY IN RECOVERY	DEALY FROM SCHEDULED TIME	REASON OF DELAYS	CANCEL/POSTPONED	REASON FOR CANCELLATION

DATE	TOTAL NO. OF SURGERIES	DEPARTMENT	PLANNED CASES	EMERGENCY CASES	DELAYS	CANCELLATIONS

