

Summer Training

[April 7th -- 8 June, 2015]

In



A Report

By

Dr. Monika Sharma

MBA in Hospital and Health Management

(2014-16)



CERTIFICATE

This is to certify that **Dr. Monika Sharma** has undergone her Summer Training in **Asian Institute of Medical Sciences Faridabad**. From 7th April 2015 to 8th June 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 of 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. Rahul Sharma

Assistant Professor

IIHMR University, Jaipur

Certificate of Internship Completion

Date: 08th June'15

TO WHOM IT MAY CONCERN

This is to certify that Dr. Monika Sharma – pursuing MBA in Hospital and Health Management at IIHMR, Jaipur has successfully completed her two months internship at Asian Institute of Medical Sciences, Faridabad from April 7th, 2015 to June 8th, 2015.

She has successfully completed following projects:

- 1) Project on Employee vaccination data tracker.
- 2) Project on Discharge Planning
- 3) Clinical Audit on Dialysis Quality Indicators.
- 4) Clinical Audit on CABG over EURO SCORE.

During the period of her internship programme, she was found punctual, hardworking and inquisitive.

We wish her good luck for all her future assignments.



Dr. Ankur Kathuria

Manager – Quality & Operations

Asian Institute of Medical Sciences

ACKNOWLEDGEMENT

I am extremely indebted to all the professionals at **ASIAN INSTITUTE OF MEDICAL SCIENCES (AIMS)** for sharing generously their knowledge and precious time which inspired me to do best during summer training. I owe a great debt to **Dr. Hilal** (Medical Superintendent), **Dr.Ramesh Chandna** (Director- Quality) and **Dr. Prashant Pandey** (Director, Medical Services) for showing their interest and sharing their valuable views in spite of their busy schedule. It has been my privilege to work under their dynamic supervision in the hospital.

The data collection and my learning would have not been possible without in depth discussions with **Dr. Samir Banzal** (Senior Executive, Quality & Operations) and **Dr.Ashish Tripathi** (Senior Executive Quality &Operations) I thank them for providing timely guidance, assistance & kind support during my study.

I am highly grateful to all the departmental heads and staff for giving us time in spite of their hectic schedule. Without their active cooperation and participation it would not have been possible to accomplish my task.

Most importantly I would like to thank my mentor **Dr.Ankur Kathuria** for his unconditional support, guidance and motivation throughout the study period.

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ABBREVIATIONS

AHU	-	Air Handling Units
ALOS	-	Average Length of Stay
CCTV	-	Closed Circuit Television
CCU	-	Critical Cardiac Care
CMD	-	Chief Medical Director
CMO	-	Causality Medical Officer
CSO	-	Chief Security Officer
CSSD	-	Central Sterile and Supply Department
CTVS	-	Cardio Thoracic Vascular Surgery

DG	-	Diesel Generator
DOR	-	Discharge on Request
ECG	-	Electro Cardiogram
ENT	-	Ear Nose Throat
ETO	-	Ethylene Oxide
FDA	-	Food & Drug Administration
FOC	-	Free of Cost
GDA	-	General Duty Assistants
HAZMAT	-	Hazardous Material
HIS	-	Hospital Information System
HOD	-	Head Of Department
HRD	-	Human Resource Development
HVAC	-	Heating, Ventilation & A/C
ICD	-	International Classification of Diseases
ICU	-	Intensive care Unit
IGRT	-	Image Guided Radiotherapy
IMRT	-	Intensity Modified Radiotherapy
IPD	-	In Patient department
IT	-	Information Technology
LAMA	-	Leave Against Medical Discharge
MLC	-	Medico Legal case

MRD	-	Medical Records department
MTP	-	Medical Termination of Pregnancy
NICU	-	Neonatal Intensive Care unit
OPD	-	Out patient Department
OT	-	Operation Theatre
PET/CT	-	Positron Emission Tomography/ Computerized Tomography
PICU	-	Pediatric Intensive Care Unit
PNDT	-	Pre Natal Determination Test
RMO	-	Resident medical Officer
TPA	-	Third Party Administrator

INTRODUCTION

As an integral part of the **PGDHM course**, the summer training helps us in understanding the overall functioning of the hospitals from a managerial point of view. Keeping this factor in view, I tried to visit different hospital departments of **ASIAN INSTITUTE OF MEDICAL SCIENCES (AIMS)** with a special focus on understanding the various procedures in place. I visited different departments, met the department In-charge and interacted with the doctors, nurses and other staff.

The **Aim** of the summer training was:

“To study the administrative and managerial functioning of ASIAN INSTITUTE OF MEDICAL SCIENCES (AIMS)” with special reference to the different areas / departments of the Hospital.

The **Objectives** of summer training were:

- To learn the daily operational management of the Organization and its various departments / areas.
- To study the salient and critical features about the functioning of these departments / areas.
- To identify issues / problems associated with some specific departments / areas.
- To undertake the projects / special tasks assigned to us.

METHODS OF DATA COLLECTION

Study design-

- **Area-** ASIAN INSTITUTE OF MEDICAL SCIENCES (AIMS), Faridabad
- **Duration-** From 07-04-2015 to 08-06-2015
- **Type of study-** Analytical & Quantitative study.
- **Sample size-** Random (As per decision of management)

Type of Data collected -

- Primary data collected by visiting the different departments.
- Secondary data from the various Hospital policies, documents in various departments.

Most of the information was collected through observations. Both types of observations – participative and non participative were used in learning the function and working of various departments.

Non Participative observation was used mainly to learn the general things about the hospital like location of different departments, behavioral aspects of employee and the response time.

HOSPITAL PROFILE



Asian Institute of Medical Sciences is the vision and dream of renowned surgeon, **Dr. N.K. Pandey**, FRCS (Edinburgh), FRCS (Glasgow) FACS, FICS, a 2008 Dr. B.C. Roy National Awardee.

The institute is centrally located in Sector 21-A, Faridabad in the National Capital Region (NCR) and conveniently accessible from Delhi, NCR and other parts of Northern India.

Asian Institute of Medical Sciences (AIMS) is a 350 bedded super specialty tertiary care hospital, truly futuristic in its services and technology and brings together some of the most talented medical professionals. The institute provides preventive, diagnostic, therapeutic, rehabilitative, palliative and support services under one roof and is designed to meet patient care and research requirements of the new millennium.

The facility is planned with international quality specifications and equipped with state of the art equipment in all specialties. The institute with 11 operation theatres, 80 critical care beds, high-end diagnostics, therapeutic and preventive health facilities, is set to become a preferred destination for quality healthcare services.

All this makes AIMS not just another hospital, but a complete solution in the philosophy of healthcare.

SPECIALTIES OFFERED

Oncology, Cardiac Diseases, Renal Diseases, Neonatal, Paediatric /Medical & Cardiac Intensive care, Orthopedics, General Surgery, Nephrology, Endocrinology, Gastroenterology, General Medicine, Gynecology, Pediatrics, Laboratory Medicine, Neurology, Ophthalmology, Radiology, Pulmonology, Urology, Aesthetic & Cosmetic Surgery, Dermatology, Pulmonary Medicine, ENT, Physiotherapy, Critical care, Dental, Alternative Medicine.

ASIAN CENTRE OF EXCELLENCE

- Asian Cancer Centre
- Asian Heart Centre
- Asian Centre For Advanced Surgery
- Asian Centre For Mother And Child
- Asian Centre For Neurology & Neurosurgery
- Asian Centre For Renal Diseases
- Asian Centre For Bone & Joints
- Asian Centre For Imaging & Advanced Imaging

VISION

“To be the most trusted healthcare partner for people through our unsurpassed quality & care and by striving to provide **accessible, affordable** and best **available** healthcare services in India”.

MISSION

- To give world class patient care.
- To revolutionize our healthcare services by genuinely caring.
- To be an active participant in the local community and provide the very best medical expertise for general welfare & well being.
- To make specialized medical care available to every individual.

MOTO

Will to Serve...

.....Skill to Cure

Punch Line

Caring for what matters most

What sets AIMS apart:

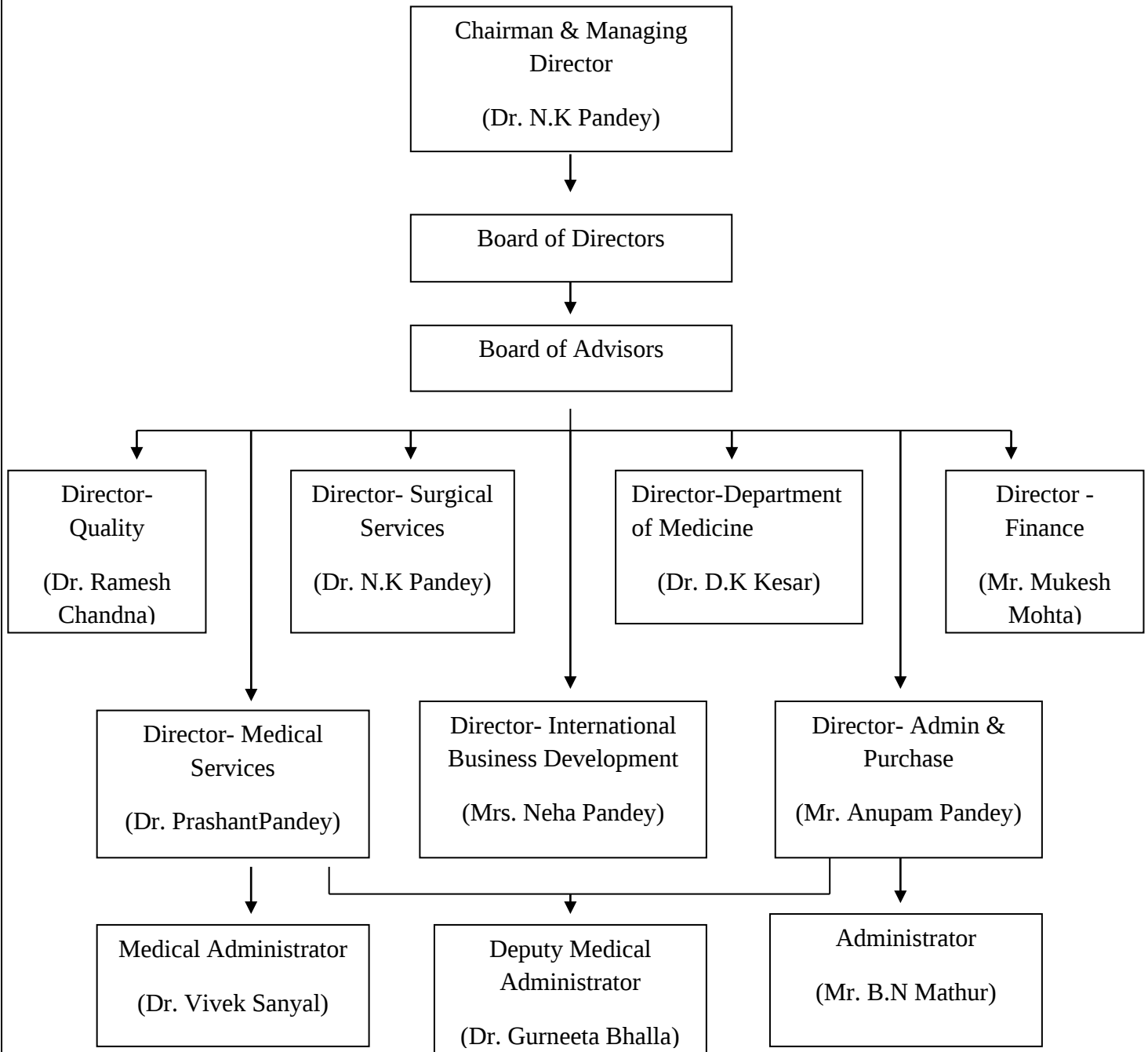
The institute is planned with international quality specifications and equipped with state-of-the-art equipment in all specialties. Some of the leading edge healthcare services that will be provided are:

- The cancer centre at Asian Institute of Medical Sciences is a state-of-the-art facility that is slated to become North India's most comprehensive Cancer Centre offering all forms of treatment from early detection to cure and palliative care.
- AIMS is the first hospital to acquire and install **Rapid Arc- IGRT & IMRT Linear Accelerator (Varian)** in North India and it is the only hospital in Haryana, with this kind of comprehensive facility.
- AIMS is equipped with the **first PET/CT** in this region. The PET/CT is one of the most advanced diagnostic equipments available today for early detection of cancer
- 11 modular modern and state of the art operation theatres equipped with LED Lights, media bridges, Laminar flow, operating microscopes, image intensifiers, laparoscopic equipment, Harmonic, RFA Laser, CUSA etc.
- Imaging department equipped with state of the art Phillips equipment including a 1.5T MRI, The first PET CT in South Delhi/Faridabad, 64 Slice CT Scan Mammography, Bone Densitometer, High end ECHO, 4D Ultrasound & Digital X-Ray.
- Comprehensive Cardiac Program including Non-invasive & Interventional Procedures and Cardiac Surgery. Centre of Excellence in Renal Care – round the clock facility for dialysis..
- Comprehensive and State of the art Laboratory & Blood Bank, with all machines in imaging and diagnostics online and results available on posting immediately on the intranet and internet
- Preventive Health Check-up facilities tailored to individual requirement.
- A comprehensive physiotherapy center and a dedicated centre for alternate medicines and treatments such as Homeopathy, Ayurveda and Reiki Spiritual healing.
- A 250-seat auditorium and amphitheatre for education, conferences, workshops and seminars. The auditorium is connected to a live stream from all operation theatres.
- Air Ambulance Service.

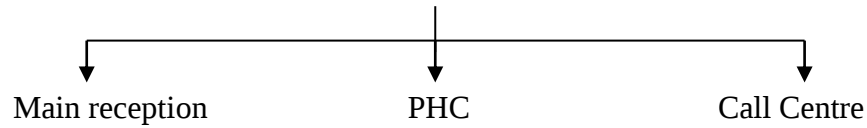
Distribution of Beds

	No. of Beds
Suit/R	10
Private Cabins	20
Semi Cabins – 1 ST Floor	20
Semi Cabins – 5 th Floor	20
Semi Cabins – 6 th Floor	20
General Wards – 1 st Floor	15
General Wards – 2 nd Floor	28
General Wards – 5 th Floor	28
Emergency Ward	11
ICU-1	15
ICU-2	10
CCU	10
IMCU	15
LDR	3
LR	12
PICU	6
NICU	6
PD	13
NUR Ward	10
CTVS	15
Recovery Room	10
Dialysis Ward	15
TOTAL	312

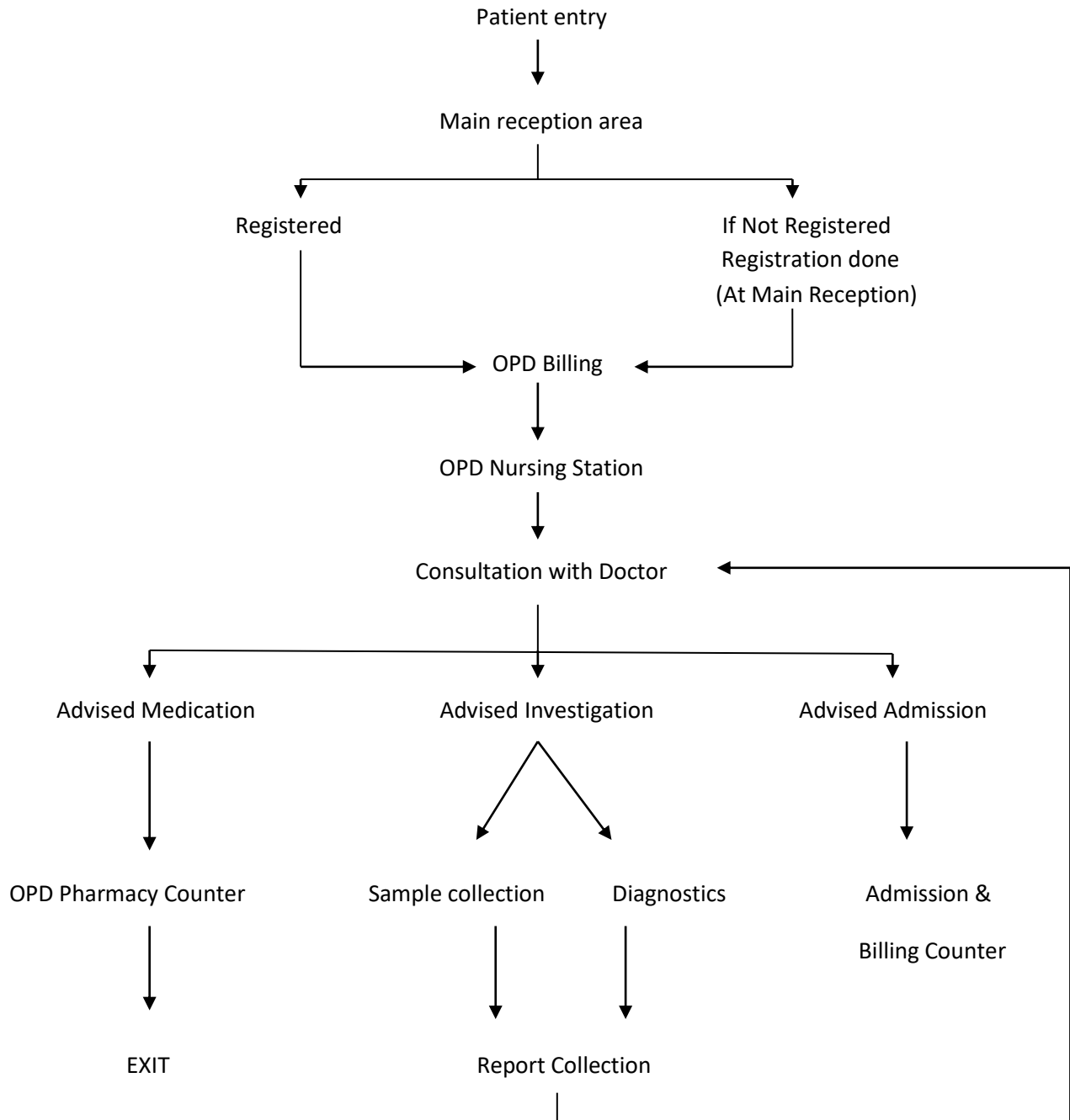
ORGANISATIONAL STRUCTURE



FRONT OFFICE



I) MAIN RECEPTION



Infrastructure:

Wheelchair : 4

Stretcher : 1

No. of OPD Billing Counters: 7

No. of Admission Billing Counters: 2

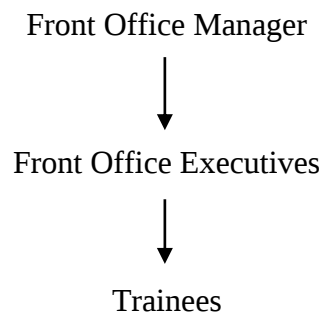
Sample Collection Room: 1

International Patient's Reception: 1

Staff:

- 1 Front Office Manager
- 4 Front Office Executives
- 1 Healthcare Executive
- 9 Trainees

Hierarchy:



II) OPD RECEPTION

OPD's are distributed amongst Ground, First & Second floor of the hospitals.

<u>Basement (-1) OPD</u>	<u>Ground Floor OPD's</u>	<u>First Floor OPD's</u>	<u>Second Floor OPD'S</u>
- Oncology	- Urology - Orthopedics - Neurology - Neurosciences - Surgery - Internal Medicine - Ophthalmology - ENT - Dietetics - Alternate Medicine - Psychiatry - Physiotherapy	- Cardiology - Gastroenterology - Dermatology - Respiratory Medicine - Dental - Psychology - Nephrology - Cardiac Surgery	- Gynecology - Pediatric

No. of OPD Counters: 7

- One for Orthopedics & Neurosciences
- One for E.N.T & Urology
- One for Eye & Surgery
- One for Cardiac Surgery, Nephrology, Respiratory Medicine, Gastroenterology & Dermatology
- One for Dental & Cardiology
- One for Gynecology & Pediatrics
- One for Oncology.

Total Manpower for OPD Counter: 15

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OT (Operation Theatre)

- ❖ **Layout** : 3rd floor
- ❖ **No. of OT's** : 10
 - General OT's – 8
 - Cardiac OT's – 2
- ❖ **No. of beds in Pre operative ward** : 7
- ❖ **No. of beds in post operative wards** : 8
- ❖ **Utility room** : 1
- ❖ **Doctor's Lounge** : 1
- ❖ **Nurse and Technician Lounge** : 1
- ❖ **Pantry** : 1
- ❖ **Sterile room** : 1
- ❖ **Changing rooms** : 4
 - Doctor (male) changing room** : 1
 - Doctor (female) changing room** : 1
 - Nurse (female) changing room** : 1
 - Technician + Nurse (male) changing room** : 1

Department Head:

Dr. Naintara Batra

(MD, Senior Consultant, HOD- Anaesthesia)

AREA SPECIFICATIONS OF EACH OT

OT NUMBER	H X L X W	Cubic Feet
OT-1	10 X 21 X 19	3990
OT-2	10 X 20 X 19	3800
OT-3	10 X 21 X 18	3780
OT-4	10 X 21 X 17	3570
OT-5	10 X 22 X 18	3960
OT-6	10 X 21 X 18	3780
OT-7	10 X 26 X 18	4680
OT-8	10 X 20 X 18	3600

INFECTION CONTROL SURVEILLANCE PROGRAMME FOR OT**Records maintained for OT Sterilization Check:****1. OT Culture File :**

- Contains culture report of each OT
- Done every **72 hrs.**
- Swabs taken from OT Floor, walls, table locations.
- Method used : **Slit Air Method**
- FORMAT : Site (OT No.)
Method
Receiving date
Reporting date
Microbiology report

2. Daily OT Cleaning File :

- Daily OT cleaning record (compiled to get monthly record) with format as :
OT No./Item name /Qty./ Date /Morning, Evening, Night with (personnel sign & ID no.)
- OT Washing date record, OT Fumigation date record.

3. Fumigation Record File

- Separate record for each OT
- Fumigation done by **2% trigene**
- Weekly reporting
- FORMAT :

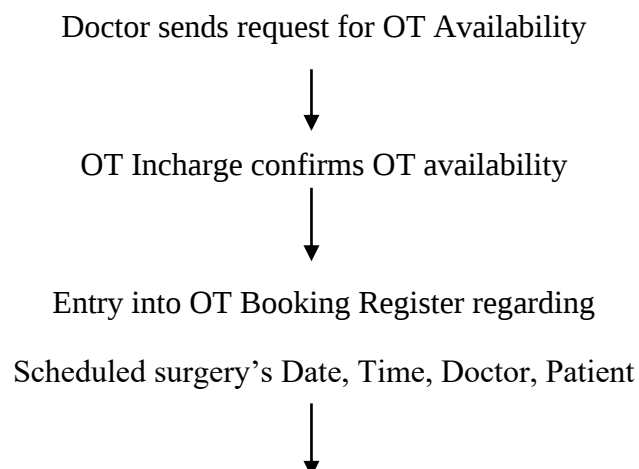
Date/ Fumigation done by/ Technician name/ Remarks

STRENGTHS:

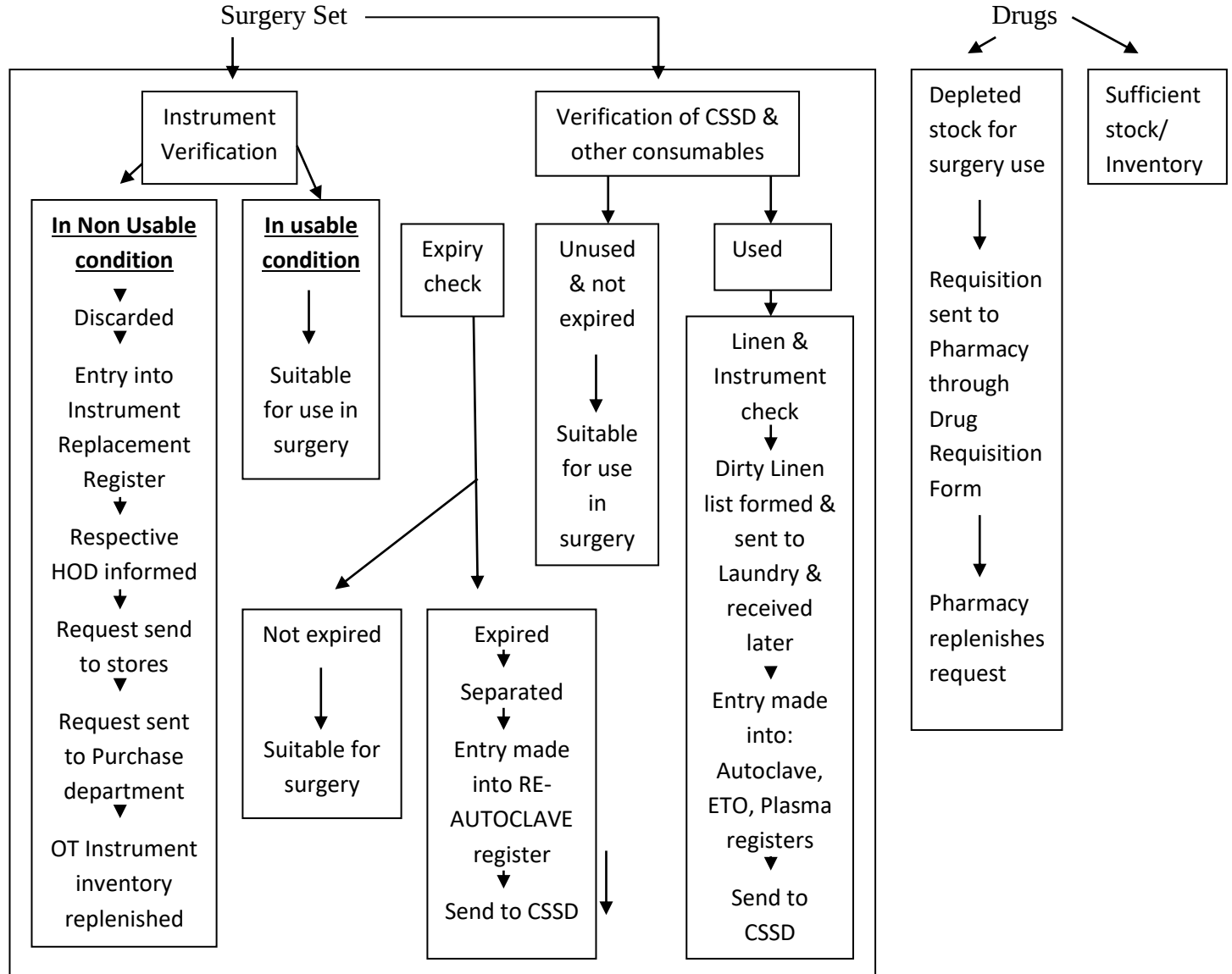
1. State of art equipments.
2. Wall mounted communication system in OT (Telephone + Intercom).
3. **Modular OT'S** fitted with state-of-the-art **LED Trilux Aurinio Lighting** and equipped with a **Trilux Media Bridge****.
4. OT's are designed with HEPA filters, Laminar airflow systems with **separate AHUs** for infection prevention.
5. Wall mounted digital temperature and humidity controller and medical gas alarm panel.
6. **AGSS** (Anaesthesia Gas Scavenger System) in OT's: First in any North India Hospital.

** The **Trilux Media Bridge system** combines lighting, media supply and clean air equipment in a perfectly matched system. The possible combination with a laminar flow air supply ceiling for turbulence free displacement current that delivers extremely high air purity.

OT WORKFLOW



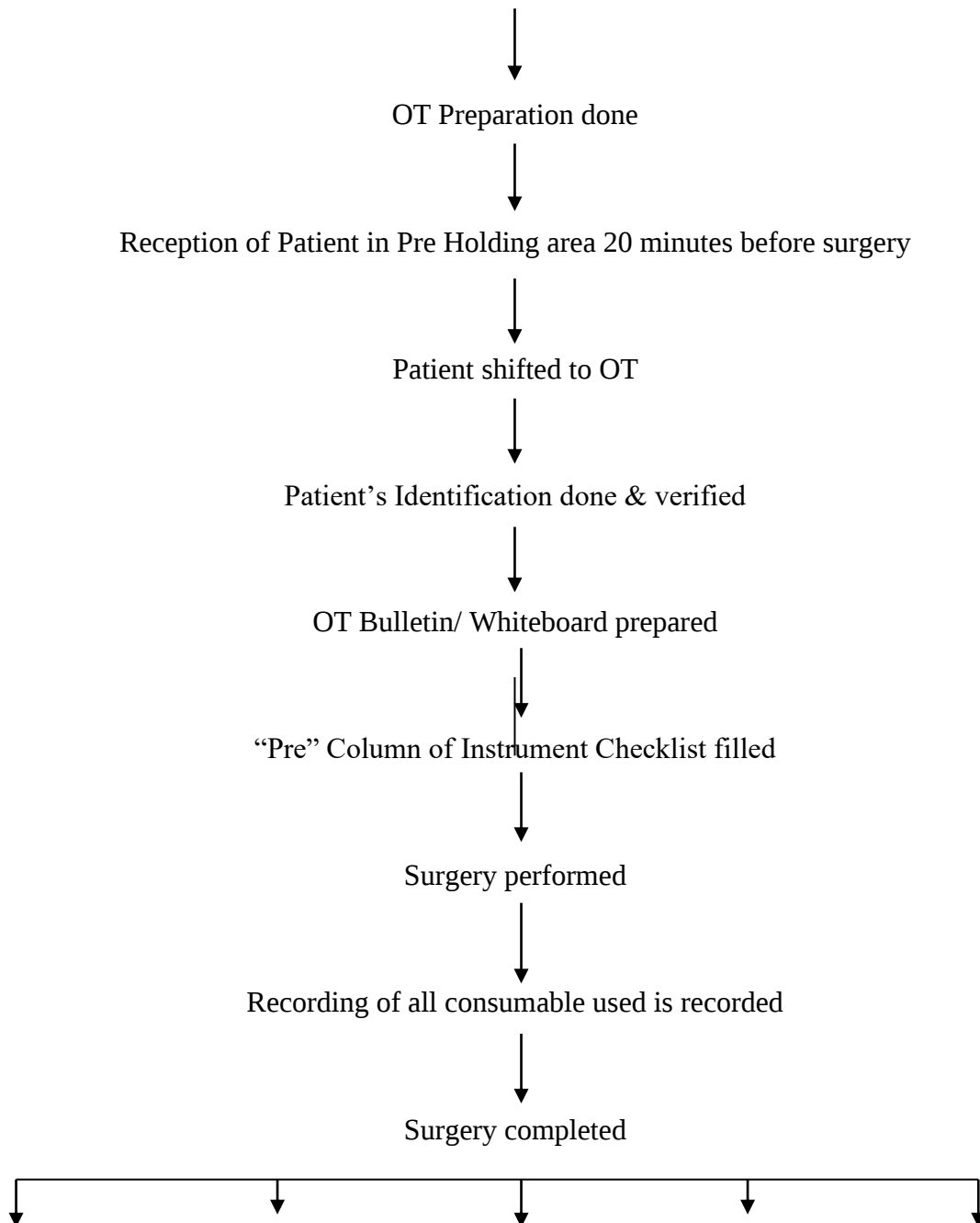
A day before surgery verification of:



Before start of surgery, Inspection of:

<u>Patient's Records</u>	<u>Medical Gas</u>	<u>Sterilization</u>	<u>Instrument checklist form</u>	<u>Electrical points in OT</u>	<u>Equipments</u>
	Pressure, Leakage	Daily OT cleaning records duly filled	Completion of "opened by" & "cross"		Transfer of equipment, specific for surgery, into

		Mopping of OT floor with Bacillocid ▼ Disinfection of OT items listed on form with 2% Trigene	checked” columns		OT
--	--	---	------------------	--	----



<u>Collection of OT Waste</u>	<u>Count of instruments</u> ↓	<u>Transfer of patient to Recovery room</u> ↓	<u>Updation of records</u> ↓	<u>OT Drug inventory checked</u> ↓
Disposal by housekeeping staff as per rules	“Post” Column of Instrument check list form completed	Patient shifted to Ward/ SICU	Operation notes & patient’s record completed ↓	Requisition send to Pharmacy ↓
			Operation Daily charge bill formed	OT Inventory replenished



OT Prepared for next surgery

Department of Critical Care

Components: ICU, IMCU

Layout: 3rd Floor

- Doctor’s Duty Room - 1
- Nurse Change Room-Female - 1
- Equipment Room - 1

ICU Beds: 12

IMCU Beds: 6

Department Head: Dr. Sandeep Bhattacharya

ICU

Infrastructure:

Desktops: 2

Printers: 1

Intercom: 1

Nursing staff: 29

Housekeeping staff: 3

Working Shifts:

Morning: 8.00 AM to 2.00 PM

Evening: 2.00 PM to 8.00 PM

Night: 8.00 PM to 8.00 AM

EQUIPMENTS:

1. Ventilator
2. Patient monitor
3. Defibrillator
4. Syringe pump
5. ECG machine
6. Pace Maker
7. ICU bed

Suggested Infection Control Surveillance Program for ICU

<u>Frequency Of Change</u>	<u>Culture/ Swab area/ Walls/ Table</u>	<u>Infection Control Mechanism</u>	<u>Records</u>
Daily	-	- All surfaces, patient cubicle (locker, cardiac table, nursing station, bed railings etc) -Floor wet mopping with Bacillocid – 4 hrly	Cleaning Records
Fumigation (once a month or once in 15 days if low patient traffic)	- Air Culture - Swabs if req. (e.g. in case of outbreak)	- Thorough cleaning with detergent & water (e.g. floor, walls, stainless steel basins for patients for sponge bath) -Disinfection with Bacillocid -Fumigation must be done with 2% Bacillocid/ Trigen.	Fumigation Records + Culture Reports

Other Cleaning Protocols:

- Equipments like ventilators & monitor to be cleaned only by nurses.
- Separate stethoscope for each bed space (used after sterilizing with spirit).
- Digital thermometers for individual patients (later given to them & patient billed).
- Suction tube to be changed at each bed after every 3 hrs.
- Catheter mount & HME filters to be changed every 72 hrs.

Nurse to patient ratio:

- Routinely: 2:1
- When the patient is on Ventilator: 1:1

Each Bed Space Contains:

1. Motorized Electric Bed
2. Multiparameter Modular Philips Monitor – mounted on wall behind the bed.
3. Chart/ Locker Trolley

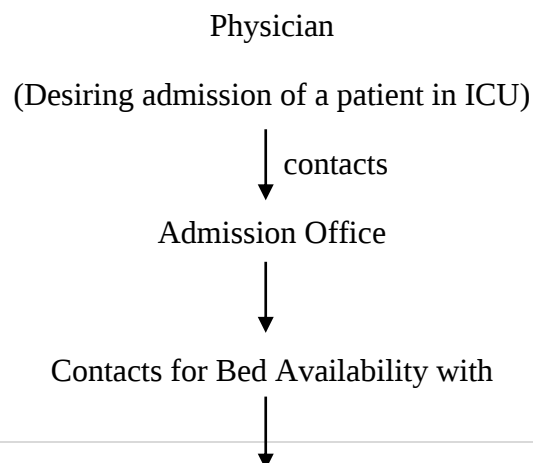
4. Independent wall mounted panel housing 2 each of Oxygen, Air & Vacuum outlets (all connected to central manifold by concealed pipelines)
 - Each bedside monitor is hooked to CENTRAL NURSING STATION MONITOR.
 - Other Equipments (common to all beds):
 - Mechanical ventilators
 - Syringe pumps
 - Feeding pumps
 - Nebulizer
 - 2 beds have access to piped RO water & can be used for bed-side dialysis.

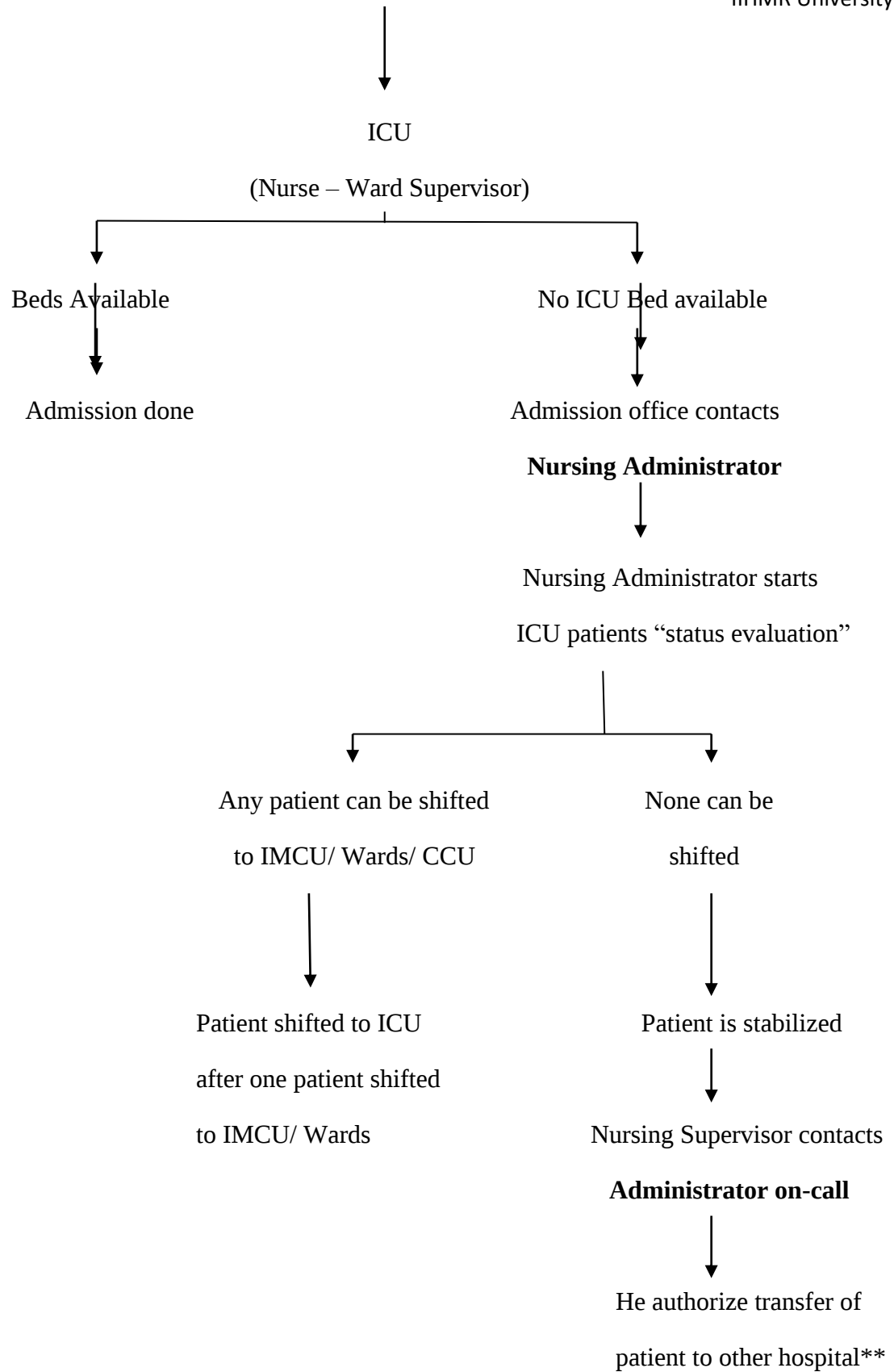
ICU ADMISSIONS

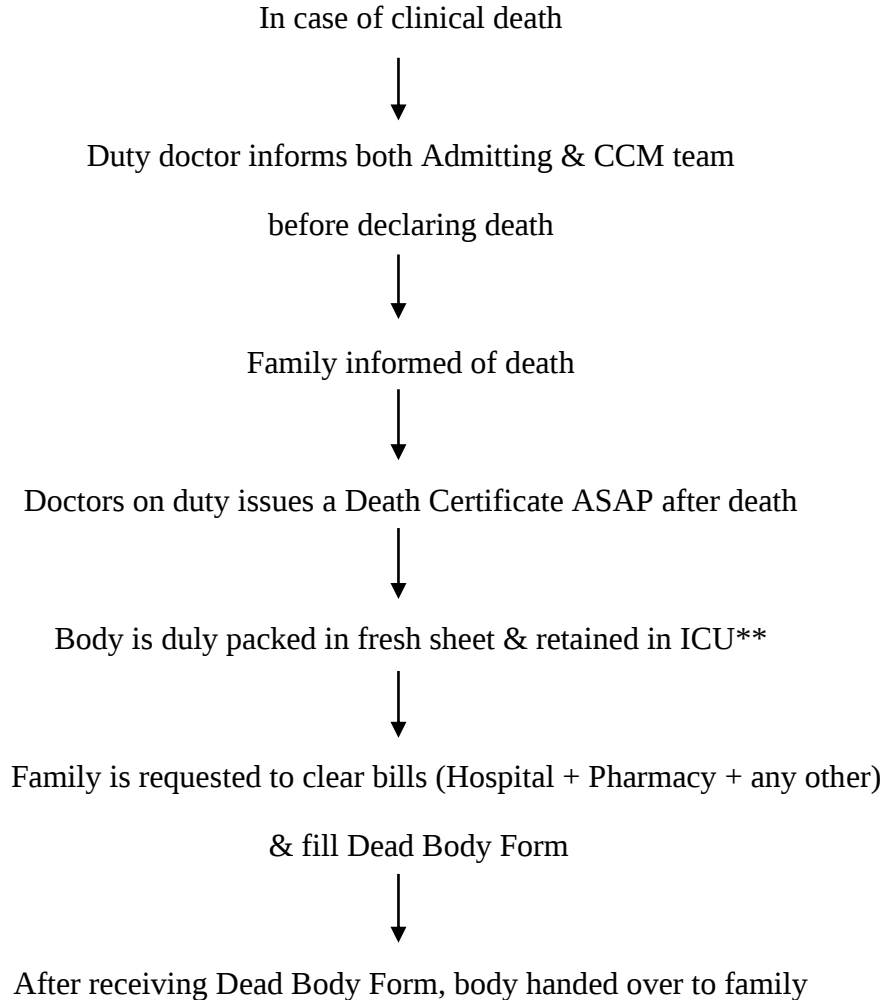
Admission in ICU can occur from:

- Inpatient wing of the hospital
- OT
- Emergency complex
- From other hospitals
- Transfer from IMCU
- Sometimes directly from OPD
- Rarely from Bronchoscopy, Endoscopy, Dialysis unit

Patient admission procedure in ICU





DEATH PROTOCOL

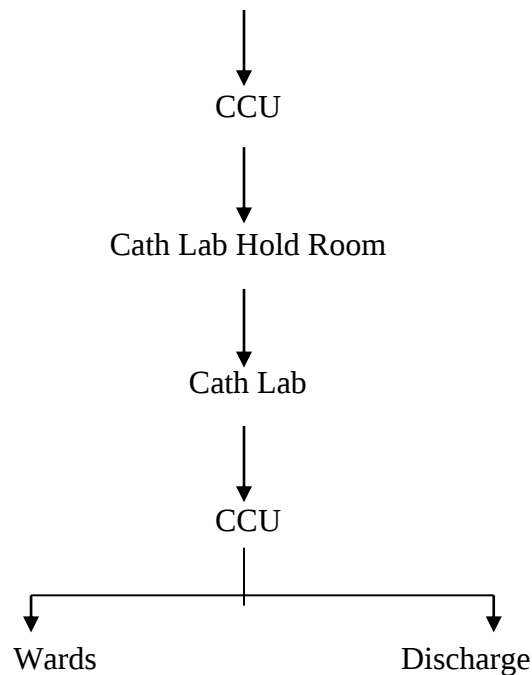
** Body retained in ICU for a maximum of 1 hr. after death and upto 4 hrs in exceptional situation on orders of Duty Doctor & beyond that on orders of GM (Admin). Thereafter body is sent to Mortuary and security is informed.

If MLC case, packed body is sent to mortuary & handed over to police by security.

Cath Lab

- **Layout:** 6th floor
- **Department Head:** Dr. Rishi
- **Workflow:**

Patient from Cardiac OPD/ Emergency/ Wards (rarely)



- **Common procedures in Cath Lab:**
 - Coronary Angiography (CAG)
 - Coronary Angioplasty (PTCA)
 - Balloon Mitral Valve Valvoplasty
 - Permanent Pacemaker
 - Single chamber
 - Dual chamber

- Bivent
 - Combo device
 - AICD
 - Peripheral Angiography
 - Peripheral Angioplasty
 - Renal Angioplasty
 - Electrophysiology study- Radiofrequency Ablation (EPS-RFA)
- **EQUIPMENT:**
 - PHILIPS FD-20 Flat panel (for coronary & vascular intervention)

CCU

Beds: 16

Store: 1

Clean utility room: 1

Dirty utility room: 1

Daily Checks & Checklist:

- Inventory & Expiry Check Reg.
 - CCU Crash Cart Inventory
 - CCU Fridge Inventory
 - CCU Medicine Trolley I & II
 - CCU Capital Item
 - CCU Cup Board Inventory
 - CCU Laundry
- Equipments daily working checks.

CTVS

- **Layout:** 3rd floor
- **Beds:** 6
- **Store room:** 1
- **Doctor's room:** 1
- **Clean utility room:** 1
- **Dirty utility room:** 1

Department Head:

Dr. Mukesh Goel

(HOD)



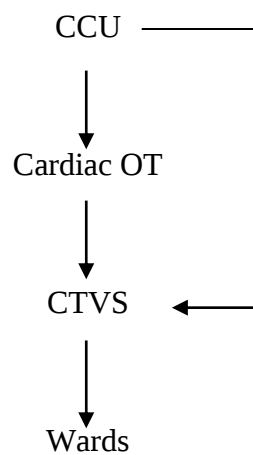
Dr. Jamshid Ali

(Cardiac Anaesthetic)

Nursing staff: 15

GDA's: 5

Workflow:



EMERGENCY COMPLEX

Layout: -1 Basement

- Nurse Station
- Emergency OT: 1
- Store room: 1
- Isolation Room: 1
- X-Ray Room: 1
- Ultrasound Room: 1
- Doctor's Duty Room: 2
- POP Room: 1
- Day Care Ward/ Casualty Ward

Infrastructure:

- Beds: Total: 22
 - In Day Care Ward: 11
 - For Casualty: 6
 - For Triage: 5
- Desktops: 2
- Intercoms: 2
- X-Ray Viewer: 3
- Printer: 1 (connected with Billing)
- Fridge: 1
- Fire extinguisher: 1
- Wheelchairs: 2
- Stretchers: 3
- Ambulances: 3 ALS Ambulances + 1 Van Ambulance

N:P Ratio: 1:1

Staff & Hierarchy:

Doctors: CMO – 2

RMO'S – 5

Nursing and other staff: 24**AMBULANCE SERVICE FLOW**

Call centre executive attends the emergency call



Transfer the call to Emergency's CMO



Notes down necessary details like:

- Place/address
- Time of call received
- Details of call
- Name & contact no of caller



Informs Casualty Nurse incharge



2 male nurse + 2 wardboys + 1 RMO (if required)

get ready

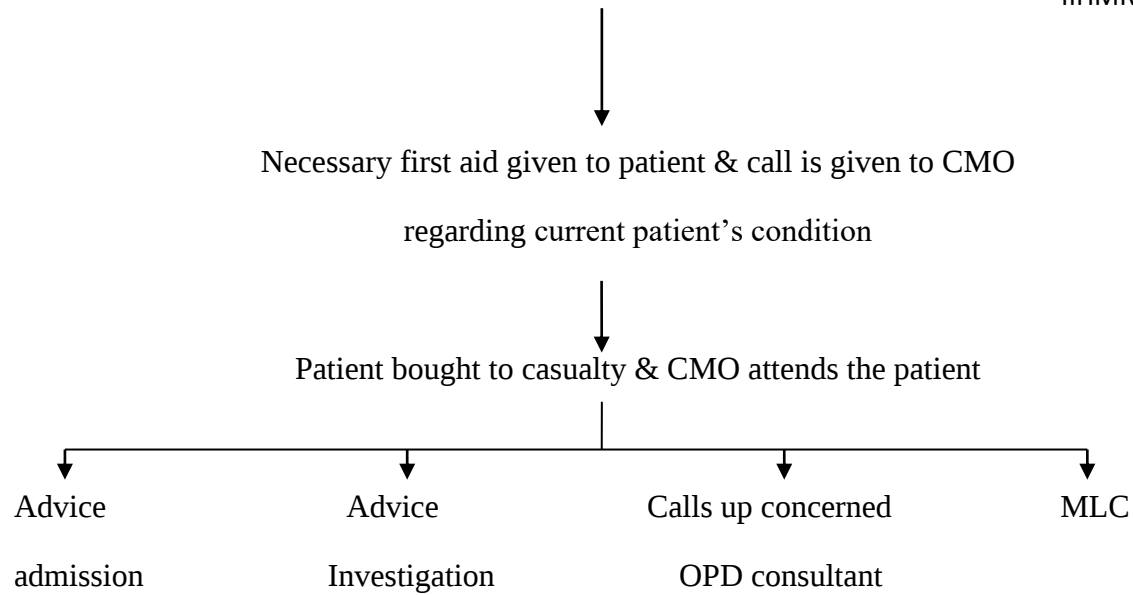


Ambulance dispatched within 5 mins.



Ambulance picks up patient





CSSD

(Central Sterile Supply Department)

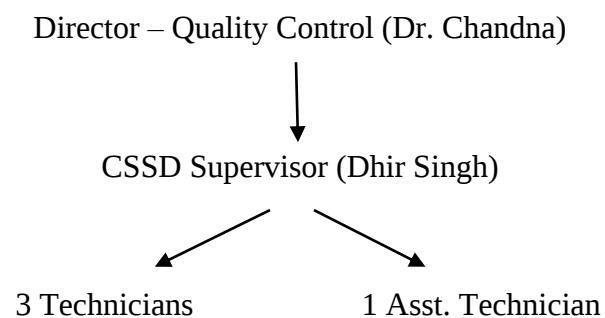
Layout: 4th floor (“U” shaped layout)

Staffing: 1 Supervisor

3 Technicians

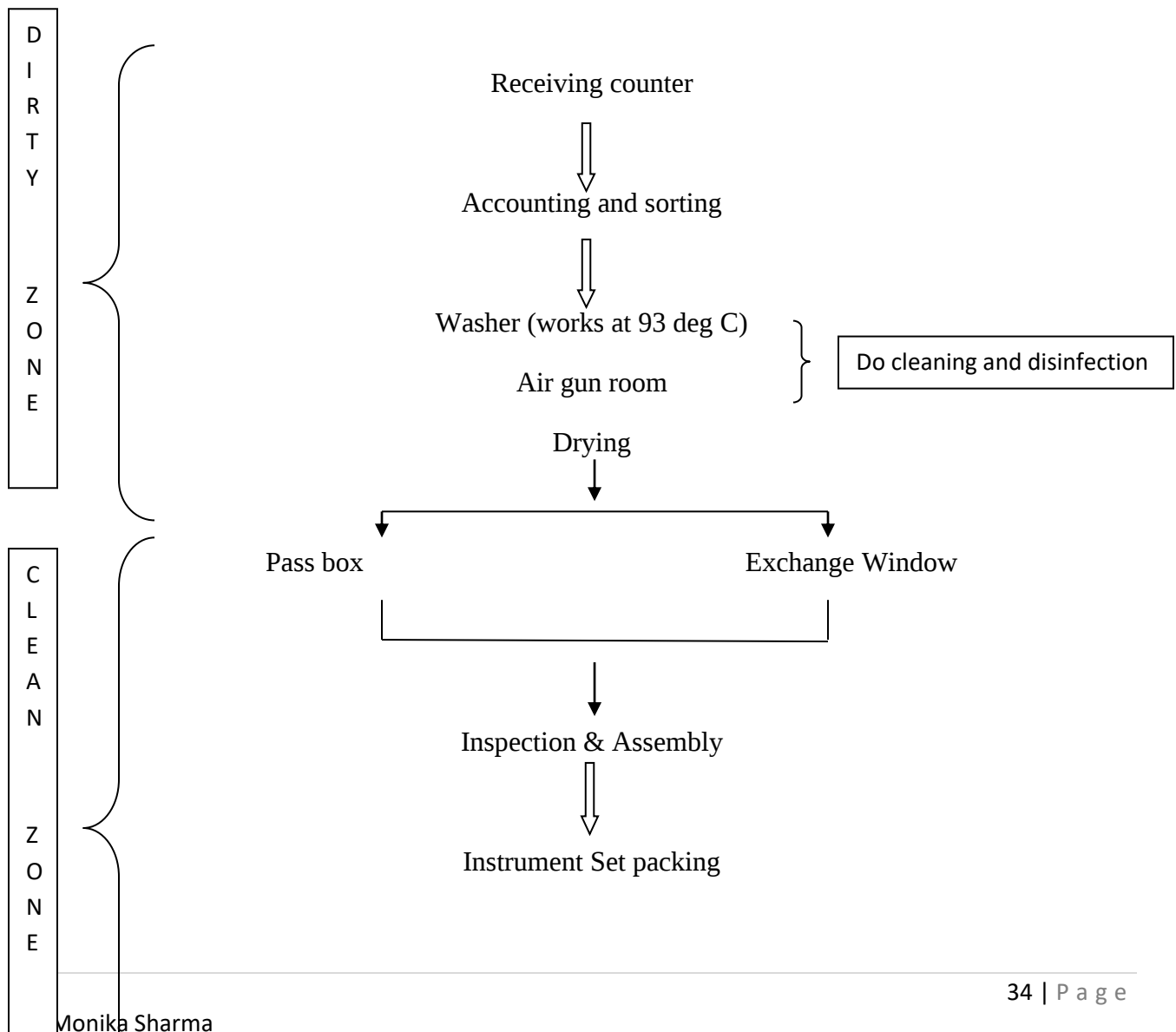
1 Asst. technician

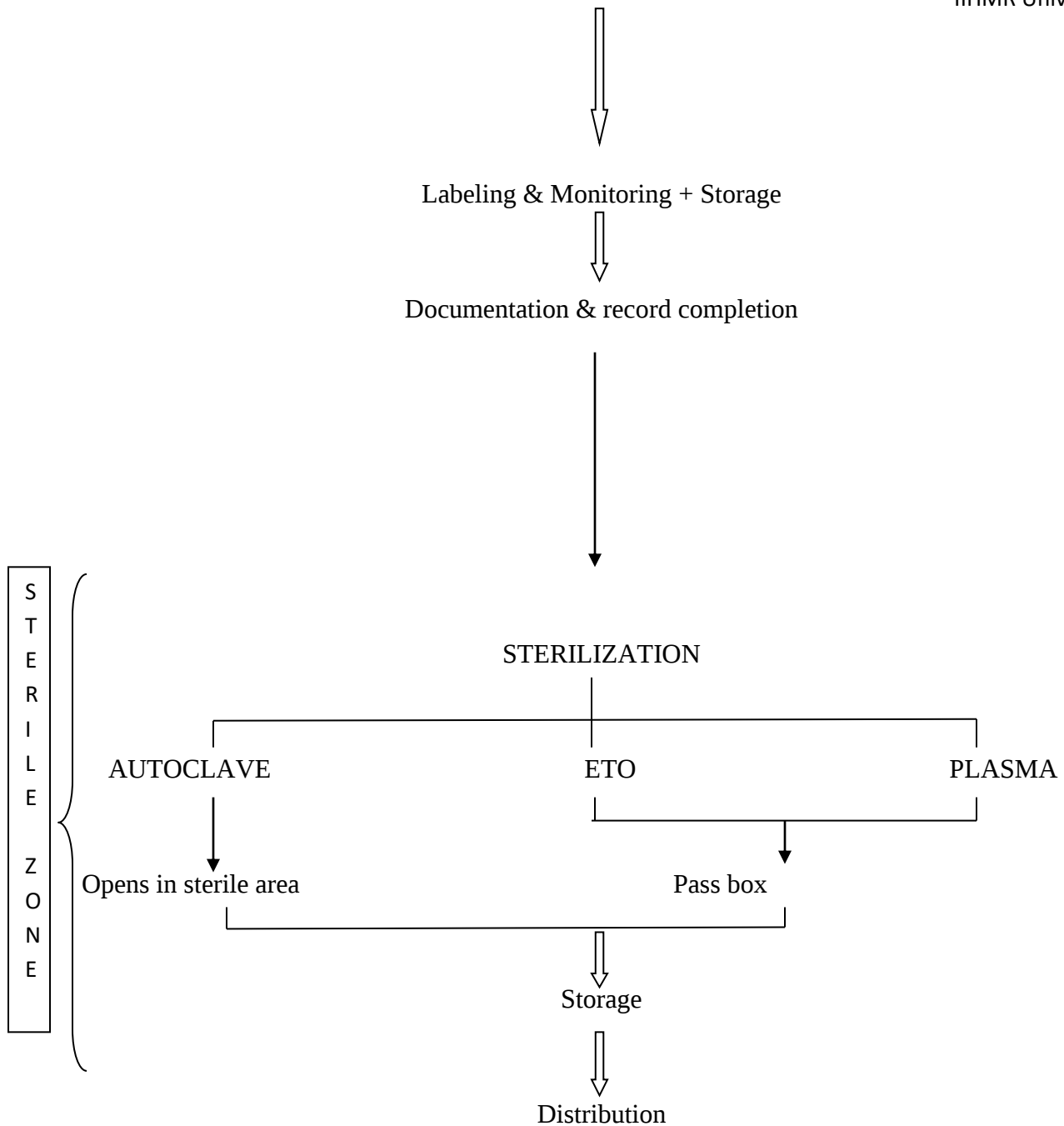
Organogram:



Infrastructure:

- Desktop -1
- Intercom -1
- Printer -1
- Autoclaves (Pulse vacuum type) -2
- ETO -1
- Plasma sterilizer -1
- Steam boiler -3
- Auto sealer -1
- Loader -2

DEPARTMENT WORK FLOW:



METHODS OF STERILIZATION USED:

<u>AUTOCLAVE</u> <u>(Steam sterilization)</u>	<u>ETO</u>	<u>PLASMA</u>
- No. of autoclaves – 2 - Type – Pulse vacuum type - No of cycles per day – Acc. to load. <u>Temp/time/pressure.</u> 121 deg C/ 15 mins/ 1.2 kg 134 deg C/ 4 mins/ 2.2 kg STERILIZATION CHECK : <u>Bowie Dick Indicator</u> (<u>Chemical Indicator</u>) Once a day <u>Biological Indicator :</u> <u>G. Stereothermophilus</u> Once a week	- Number – 1 - No of cycles – usually 1 / day (But can vary acc. to load) <u>Temp</u> – 54 deg C 12 hour cycle STERILIZATION CHECK : ✓ <u>Biological indicator</u> <u>Bacillus atrophaeus</u> : Each load.	- Number – 1. - Not regularly used. Used in case of emergency; when ETO not in use. <u>Temp</u> – 45 deg C 50 min cycle. STERILIZATION CHECK : ✓ As such no biological indicator available. ✓ Therefore, its use is limited and only for emergency purpose. ✓ But <i>Bacillus atrophaeus</i> can be used.

MONITORING:**PHYSICAL MONITORING**

- Gauges
- Graphs
- Process Logic Controller (PLC)

CHEMICAL MONITORING

- Class I Indicator :
Interlocking Tape applied on packs.
- Class II Indicator : Bowie Dick + Batch Monitor
- Class VI Indicator : To be put in packs.

BIOLOGICAL MONITORING

- G.stereothermophilus*
- B.atrophaeus*

Packing paper used :

1. Linen
2. Medical grade paper: - Used for ETO
- Lasts up to 6 months
3. Tyvec paper: - Used for plasma
Expensive
4. SMS paper : - Zig-zag concept
- Holes which seal themselves at a particular temperature
- Costly
- Not usable if any moisture present

Labeling:

Autoclave I/II, Process No/ Date of Sterilization/ Date of Expiry/ Indicator Slip/ Contents

STRENGTHS

- State of art equipments.
- Experienced staff
- Dumb waiter (under construction) – for efficient and improved exchange of sterilized items.
- Strong focus on sterilization, its monitoring and thus quality through continuous physical, chemical, biological monitoring.
- Goal: To become Class 10,000 CSSD.

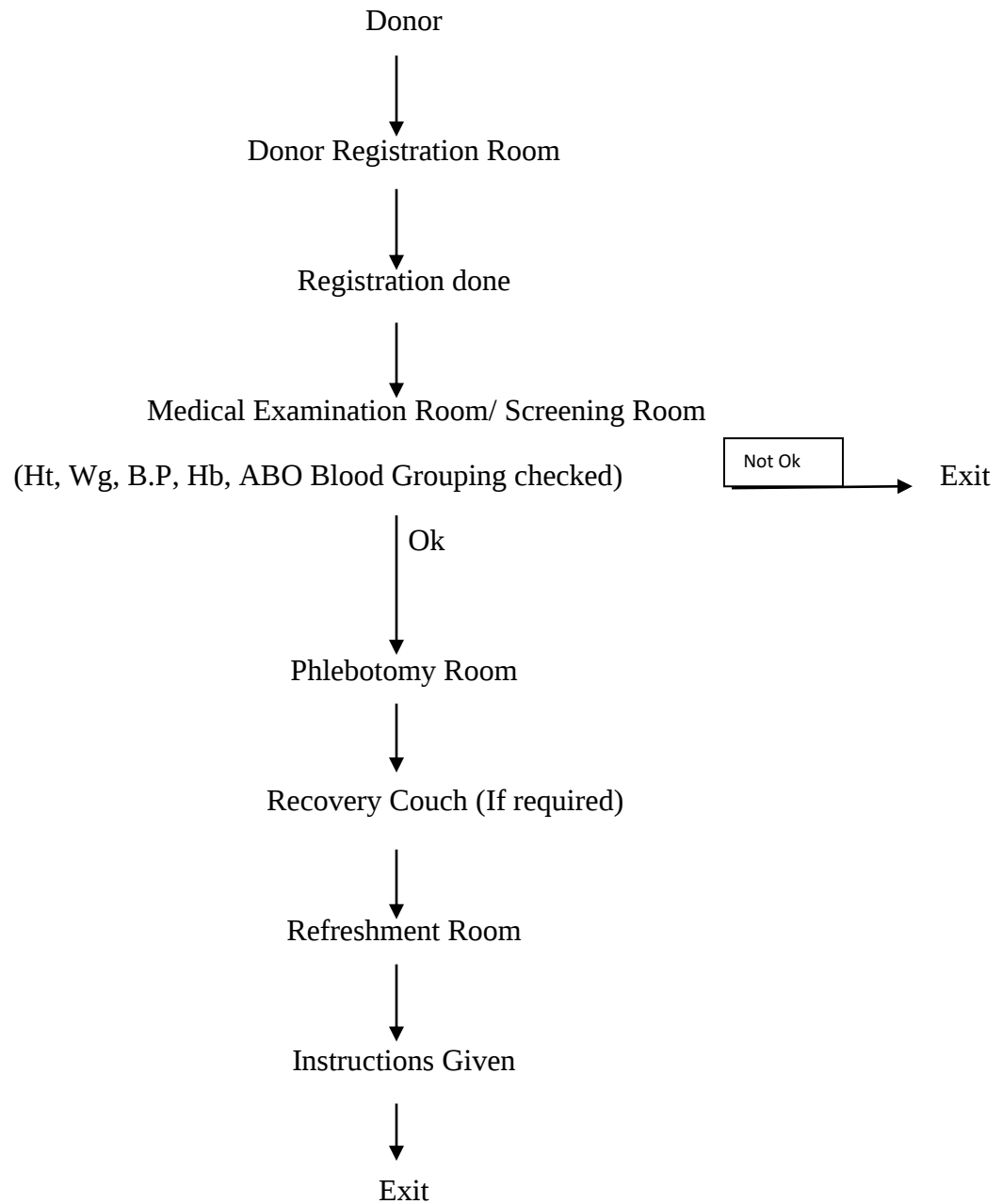
BLOOD BANK

Layout: 4th Floor

Total staff: 5

Department Head: Dr. Ramesh Chandna (Director-Quality)

FLOW OF DONOR:



Label Colour codes to be used -

- | | |
|----------|------|
| - Yellow | - A |
| - Pink | - B |
| - Blue | - O |
| - White | - AB |

EQUIPMENTS:**Equipments In Apheresis Room:**

- Multi Component Cell Separator

Equipments in Phlebotomy Room:

- Blood collection monitor
- Blood Bank Refrigerator
- Electric Tube Sealer

Equipments in Component Room:

- Manual Plasma Expressor
- Donor Tube Stripper
- Refrigerated Centrifuge
- Platelet incubator & Agitator
- Cryoprecipitate Bath
- Revolutionary Microprocessor
- Plasma freezer Remi make (RPFV-240)
- Ultra Low Deep Freezer
- Optipress- 2
- Ph meter

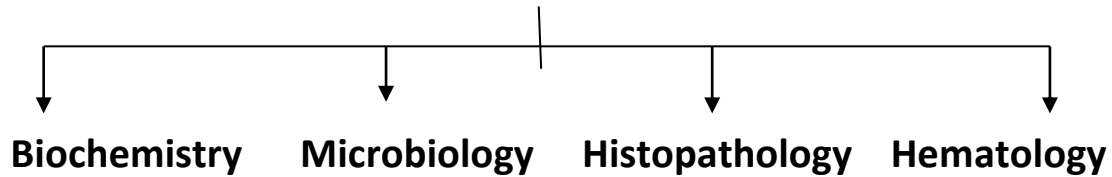
Equipments in TTI Room:

- Revolutionary Microprocessor
- Rotary Shaker
- Architect i1000 SR(immunoassay system)

Equipments in Cross Matching Room

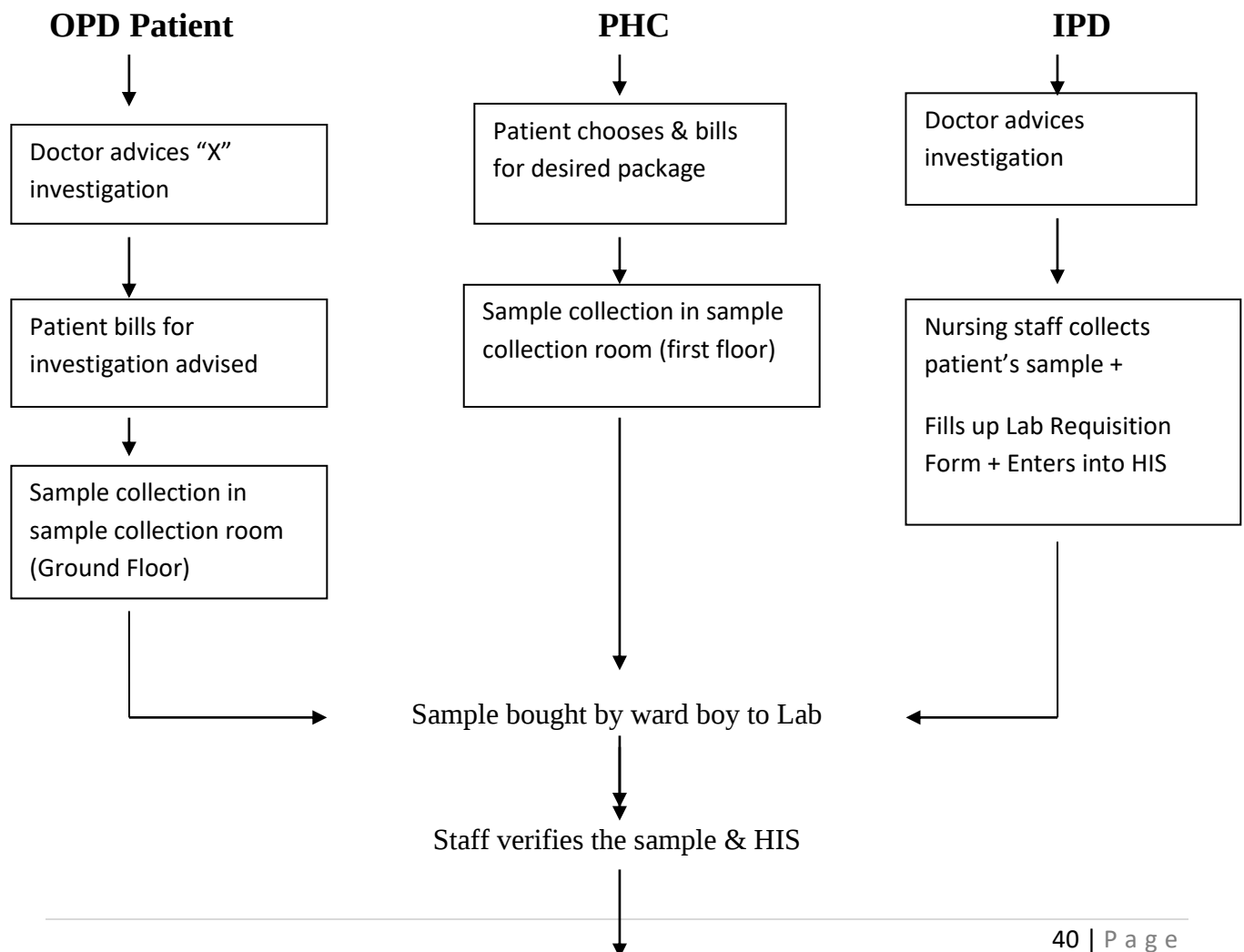
- Diamed's Grouping & X-Matching Gel System.

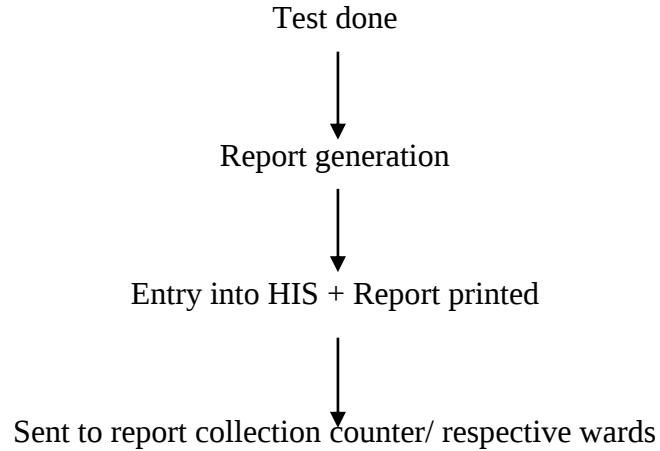
Laboratory Services



Layout: 4th floor

Workflow:





Equipments:

- Synchron CX 5- Pro (Beckman Coulter) – Fully Automatic Chemistry Analyser with Random Axis
- Vitek 2 compact – For Automated identification & Sensitivity Testing
- Bact Alert 3D- Blood Culture Machine
- Sysmex XT- 2000i
- Sysmex KX- 21
- Cytocentrifuge.

IMAGING & RADIOLOGY

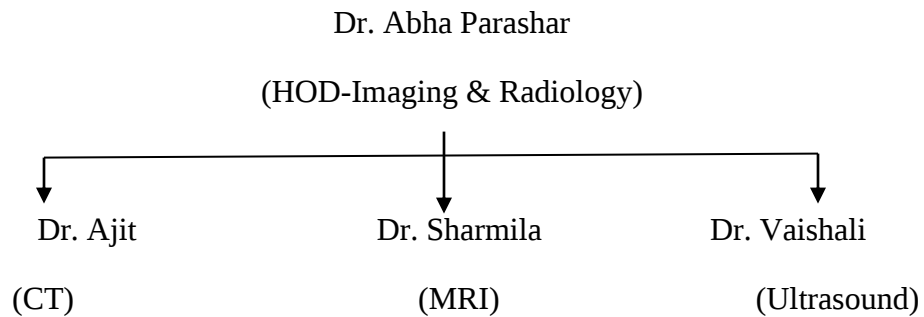
Services provided:

- CT
- ULTRASOUND
- X-RAY
- MRI
- MAMMOGRAPHY

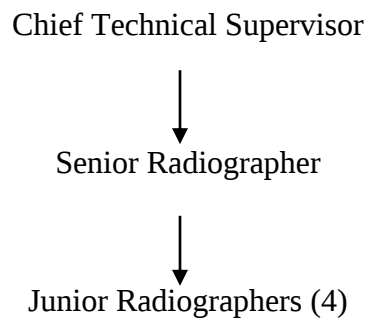
- BONE DENSITOMETRY

Staff & Hierarchy:

Doctors: 4



Radiographers: 6



MRI Technician: 1

Typist: 1

GDA's: 3

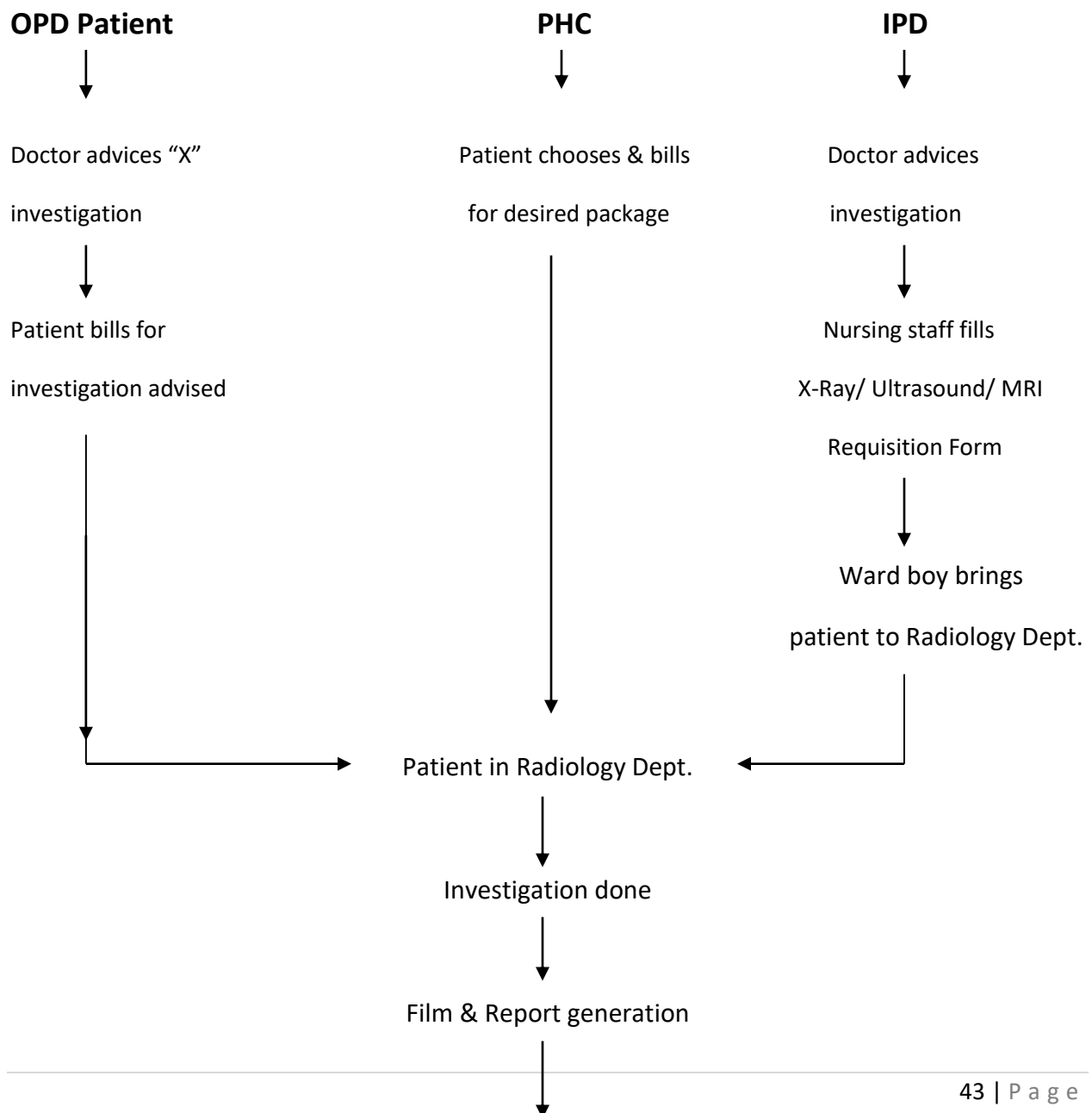
Equipments:

- High End Digital X-Ray machine
- Mammography machine
- 1.5 T MRI Machine
- PET/CT Scan*

- 3D & 4D Ultrasound Machine
- Bone Densitometry Machine

*AIMS is equipped with the first PET/CT in this region. The PET/CT is one of the most advanced diagnostic equipments available today for early detection of cancer.

WORKFLOW:



Film & Report sent to Radiology Reception
desk/ respective ward.

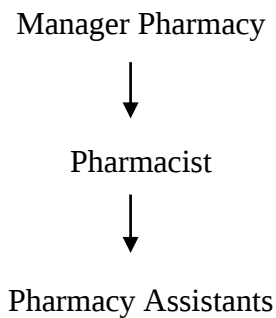
IPD PHARMACY

Layout: -2 Basement

Status: Outsourced

Staff: 13

Hierarchy:



Infrastructure:

- Desktops: 4
- Printers: 3
- Refrigerator: 1 Small & 1 Walk in Refrigerator.

Work Flow:

In-Patient Wards, All ICU's, OT, Emergency, CTVS, Cath Lab



Ward boy/Nurse brings Request for Drug indentation through “**Indoor Patient Drug Requisition Form**”



IPD Pharmacy



Issues drugs



Ward boy/ nurse take drugs to respective ward/OT/ICU

MEDICAL RECORD DEPARTMENT

Layout: -1 Basement

Staff: 3

Infrastructure:

- Desktop: 1
- Printer: 1

Organogram: Mr. Amit Kumar_Jha

Functions of MRD

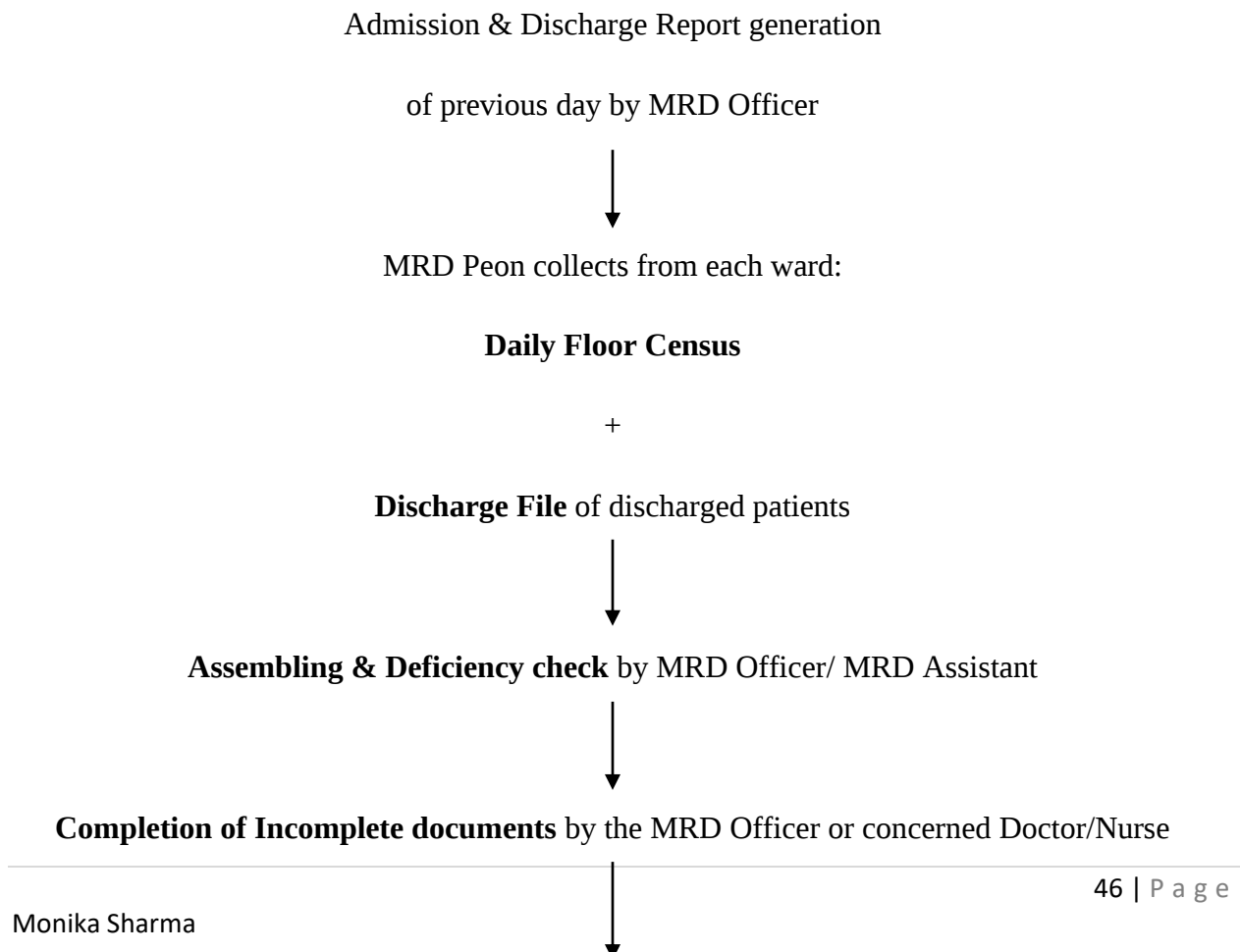
- To ensure that the AIMS Hospital has complete & accurate medical record for every patient.
- Public dealings wrt. to TPA queries, **Bill verification, MLC cases and dealing with Summons to the doctors, hospital.**
- To maintain high level of confidentiality as far as patient's records are concerned.

- To ensure that the records are Identified and stored safely to prevent unauthorized changes and easily retrieved whenever required.
- Issuing **Emergency, Medical, Birth & Death certificates**.
- To generate **Bed Occupancy reports** (daily & monthly), **P.N.D.T, M.T.P** reports (monthly).

Record Retention Periods:

- IP Record : 05 years
- Emergency Register : 02 years
- MLC Records : Not to be destroyed
- Birth/Death Register : Not to be destroyed
- OPD documents : Handed over to the pati

WORKFLOW:



Daily Admission & Discharge analysis



Coding (acc. To ICD-10) & Indexing



Filing

SPECIAL STUDIES:

- Employee Vaccination Data Evaluation.
- Project on Streamlining Discharge Process.
- Clinical Audit on Dialysis Quality Indicators.
- Clinical Audit on CABG over EURO Score.

Employee Vaccination Data Evaluation

INTRODUCTION:

Hepatitis B virus is highly infectious and causes serious health problems worldwide.

Approximately one third of the world's population has been infected, and 400 million have become chronic carriers. The infection results in a wide spectrum of diseases, ranging from hyper acute fulminant hepatitis to refractory cirrhosis and hepatocellular carcinoma. Infections that occur at a younger age frequently result in chronic carriage of the virus. In contrast, only a small proportion of patients become chronic carriers if they contract the infection in adolescence or adulthood. Once the infection becomes chronic, HBV or part of the viral genome persists in the liver for the carrier's life time. The carriers are not only reservoirs of the virus but also victims of chronic liver diseases themselves. Thus control of HBV infection especially in terms of preventing chronic carriage of the virus, is extremely important.

Initial follow up studies indicated that 5 yrs after the primary course of vaccination a significant proportion of the recipients had a level of antibody (anti-HBs) to hepatitis B surface antigen (HBsAg) below that believed to be required for protection (10mIU/ml). On this basis the National Advisory Committee on Immunization (NACI) recommended that a booster be given 5 yrs after completion of the primary series but acknowledged that the need for and timing of booster doses were not known with certainty. Thereafter many studies were carried out throughout the world regarding this with varied results. Health care professionals are a high risk group for Hepatitis B and are advised vaccination against hepatitis B.

Vaccinated individuals having an anti-HBs level 10 mIU/ml are generally considered protective. However, the protective antibodies induced by Hepatitis B vaccination wane gradually over time and may reach very low or even undetectable levels.

What is the hepatitis B surface antibody?

The hepatitis B surface antibody (anti-HBs) is the antibody that is produced in response to hepatitis B surface antigen (HbsAg), a protein present on the surface of the hepatitis B virus. Anti-HBs appears after convalescence from acute infection and lasts for many years. It can also be produced in response to hepatitis B vaccination.

Other hepatitis B antibodies (eg, antibodies against the hepatitis B core and B e antigens) are not produced in response to vaccination. This is because these antigens are not in the vaccine.

The levels of anti-HBs titer were grouped as follows:

1. <10 mIU/mL
2. 10-100 mIU/mL
3. 100-1000 mIU/ml
4. >1000 mIU/mL

Titer ≥ 10 mIU/mL was considered to be seroprotective. Individuals with titer <10 mIU/mL were advised full three doses of vaccine.

Benefits of Pre Employment Checkup

- **To Maintain Safety at Workplace:-** The new candidate should be free from medical conditions that could result in harming other people (colleagues or customers), especially in health and safety sensitive jobs such as driving, piloting, working in automation etc.
- **Health Record Compilation:-** A Pre employment health checkup establishes baseline health related data against which the future health status of an employee can be compared. It identifies existing medical conditions, including lifestyle and contagious diseases which could get adversely affected by occupational exposure.

- **Ascertain Productivity and Efficiency:** - These tests establish that the new employee is free from medical conditions which can affect his productivity post employed. Companies understand the importance of a healthy employee as his health is going to be directly proportional to his productivity and efficacy towards work.

REVIEW OF LITERATURE:-

CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Post exposure Management, Recommendations and Reports , December 20, 2013 / 62(RR10);1-19

This report contains CDC guidance that augments the 2011 recommendations of the Advisory Committee on Immunization Practices (ACIP) for evaluating hepatitis B protection among health-care personnel (HCP) and administering post-exposure prophylaxis. Explicit guidance is provided for persons working, training, or volunteering in health-care settings who have documented hepatitis B (HepB) vaccination years before hire or matriculation (e.g., when HepB vaccination was received as part of routine infant [recommended since 1991] or catch-up adolescent [recommended since 1995] vaccination).

ACIP recommends HepB vaccination for unvaccinated or incompletely vaccinated HCP with reasonably anticipated risk for blood or body fluid exposure. ACIP also recommends that vaccinated HCP receive post vaccination serologic testing (antibody to hepatitis B surface antigen [anti-HBs]) 1–2 months after the final dose of vaccine is administered (CDC.

Immunization of health-care personnel: recommendations of the Advisory Committee on Immunization Practices [ACIP]. Certain institutions test vaccinated HCP by measuring anti-HBs upon hire or matriculation, even when anti-HBs testing occur greater than 2 months after vaccination. This guidance can assist clinicians, occupational health and student health providers, infection-control specialists, hospital and health-care training program administrators, and others in selection of an approach for assessing HBV protection for vaccinated HCP.

Efficacy of Hepatitis B Surface Antigen Vaccination of Japanese Healthcare Workers and the Importance of Immunosurveillance.

Yukihiro Ikeda* , Junko Noda, Yumiko Inoue And Noritaka Isogai Center For Occupational Safety And Health Management, Kinki University Hospital, 377-2 Oono-Higashi Osakasayama Osaka Japan

This study was performed to assess the efficacy with HBV surface antigen (HBsAg) of booster vaccinations after primary immunization in Japanese healthcare workers. We determined the anti-HBV surface antigen (HBs) levels of 469 Japanese healthcare workers who had received three or more booster vaccinations with HBsAg vaccine and had become immunized. These subjects were followed up for two years. At follow-up, anti-HBs levels less than the consensus seroprotective dose of 10 mIU/ml were observed in 54 subjects. Fifty-one subjects received booster vaccinations and their anti-HBs levels rose to at least 10mIU/ml after one month. Although the efficacy of the HBsAg vaccine was approximately 90% following a full course of immunization, immunity can be restored with another booster vaccination in the other 10%. These results indicate the importance of immune surveillance of healthcare workers at appropriate times following HBsAg vaccination.

Prevalence of non-responsiveness to an indigenous recombinant hepatitis B vaccine: A study among South Indian health care workers in a tertiary hospital.

RJ Thomas, GJ Fletcher, H Kirupakaran, MP Chacko, S Thenmozhi, CE Eapen, G Chandy, P Abraham

Health care workers (HCW) are at higher risk of contracting HBV infection. Non-response to HBV vaccine is one of the major impediments to prevent healthcare associated HBV infection (HAHI). We estimated the prevalence of non-responsiveness to initial 3-dose regimen of an indigenous recombinant HBV vaccine (GeneVac-B) among South Indian HCWs and typed the HLA in non-responders. Study Design and Method: Of the 778 subjects screened over 1 year, 454 completed all three doses of the hepatitis B vaccination. Results: The overall seroconversion

rate (anti-HBs > 10 mIU/mL) was 98.89% wherein 90.8% had titers >1000mIU/mL, 7.6% had titers 100-1000mIU/mL, 0.43% had titers < 100 mIU/mL and 1.1% were non-responsive (<10 mIU/mL) to the initial 3-dose regimen. Antibody titers <1000 mIU/mL were significantly associated with the highest quartile of body mass index (BMI) ($P < 0.001$). We found no significant difference in seroprotection rate between gender ($P = 0.088$).

AIM:

- To Create Employee Vaccination Data Tracker.

OBJECTIVES:-

- To Categorize Employees as per their Titer value.
- To identify Employees who have not undergone Health Checkup since joining.
- To identify Employees who need Anti HbS Quantitative for the upcoming year.
- Create an IT based Module to generate yearly report for Booster dose & Anti HbS Quantitative
- Cost Benefit for Organization by conducting Anti HBs Quantitative only for those who requires Booster dose and titer.

RESEARCH METHODOLOGY:-

➤ **Research Design:** -Research design for this project is Quantitative Research.

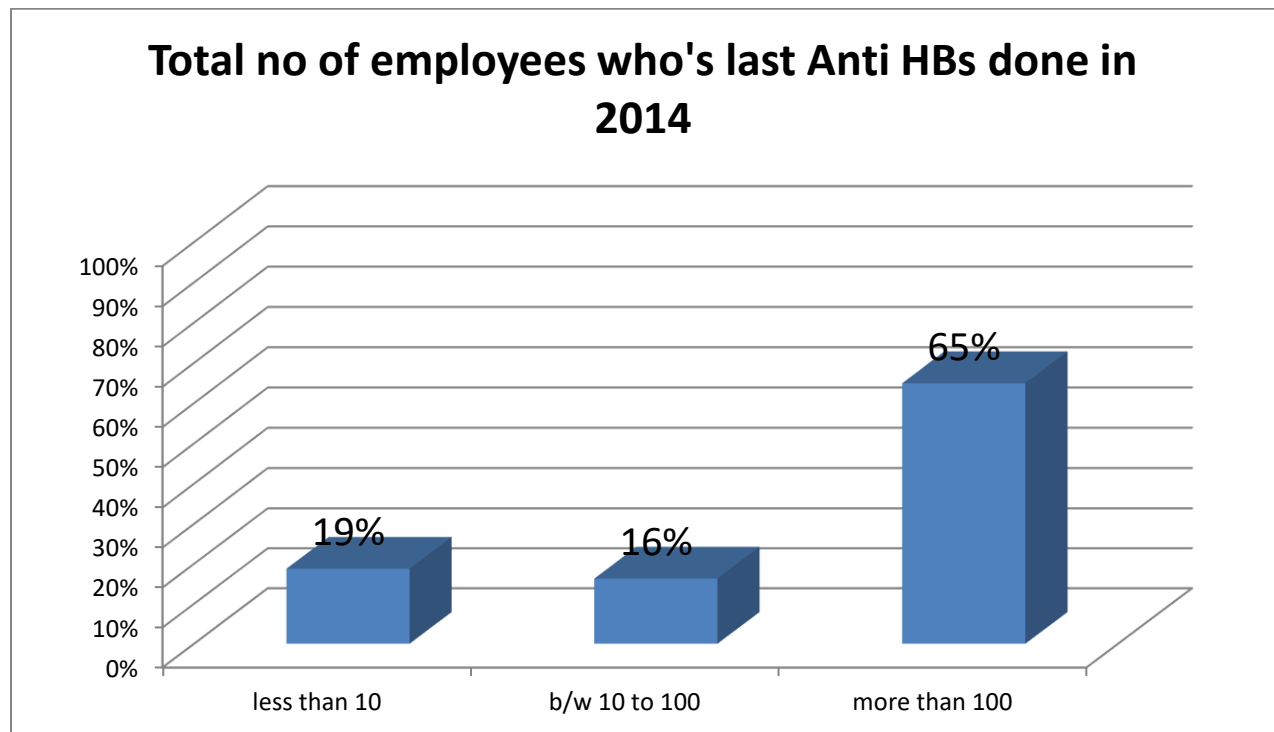
➤ **Data Collection:** -Data Type is Secondary Data.

Data is collected through the Employees Documentation Files of the Organization.

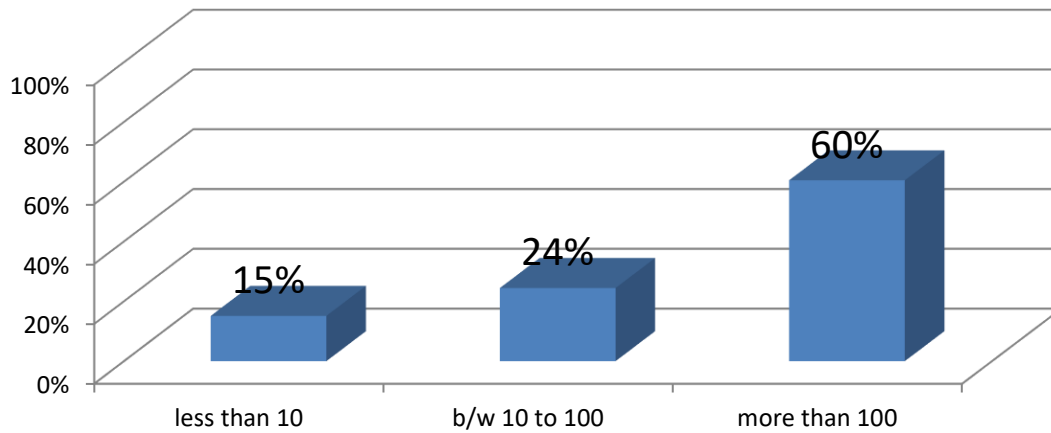
➤ **Research Sample:-**

- **Sampling Unit:-**Employees of Asian Hospital working in Clinical Areas.
- **Sample Technique:** - Stratified Sampling.
- **Study Type:** - Retrospective & Analytical study.
- **Location:** Asian Institute of Medical Sciences, Faridabad.

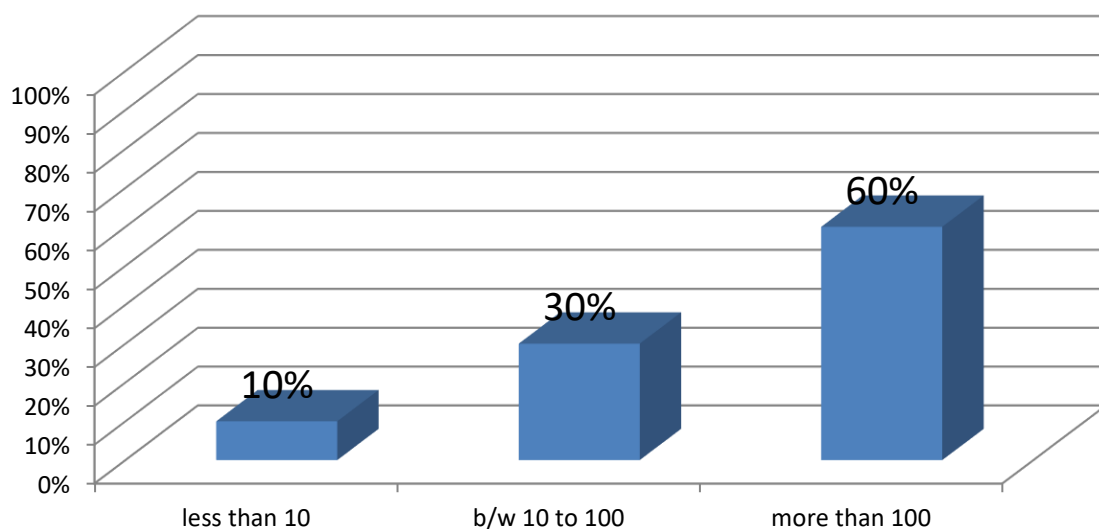
DATA ANALYSIS:-



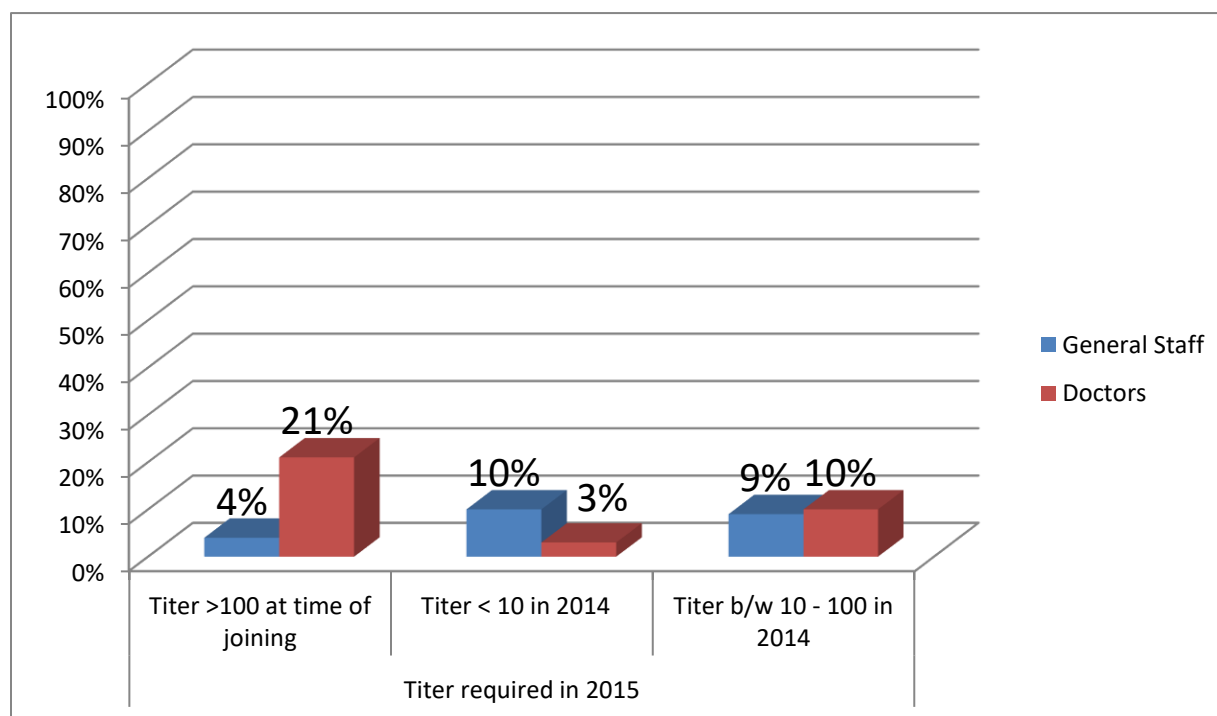
Total no of doctors & DNB whos Anti HBs was done at the time of joining



Total no of doctors who's last Anti HBs done in 2014



Titer required in 2015



Titer required in 2015			
	Titer >100 at time of joining	Titer < 10 in 2014	Titer b/w 10 - 100 in 2014
General Staff	4%	10%	9%
Doctors	21%	3%	10%

DATA INTERPRETATION:-

A total of 680 files were reviewed for Anti HbS Quantitative. All employees were those working in the clinical departments of Asian Institute of Medical Sciences. Of the total files reviewed 594 were of general clinical staff and 86 files were of Doctors and DNB students.

As per the records present in the file it was found that of the 663 general employees who joined the organization 90% had their Anti HbS Quantitative was done i.e. 594 employees. Of the total

105 Doctors who joined the organization only 82% got their Anti HbS Quantitative was done i.e. 86 doctors.

Of the 90% general employees it was found that 19% employees had their titer value less than 10 & 16% had titer value between the range of 10 to 100, the rest 65% were reported be more than 100.

Of the 82% doctors with Anti HbS Quantitative it was found that 15% doctors had their titer value less than 10 & 24% had titer value between the range of 10 to 100, the rest 60% were reported be more than 100.

As per NABH mandatory health checkup for clinical staff it was observed that in 2014 only 29% got their Anti HbS Quantitative done of which 10% were found to have their titer value less than 10 whereas 30% were found to have their titer value between 10 and 100 rest 60% were found to have titer value more than 100.

Annual Health Checkup for general clinical staff conducted in 2014 it was found that 49% employees got their Anti HbS quantitative done of whom 19% were found to have titer value less than 10 and 16% had titer value between 10 to 100 the rest 65% were found to have titer value more than 100.

As per the vaccination tracker it was observed that for the year 2015, 3% of the employees need to have their Anti HbS Quantitative done after 5 years of joining who had their titer value above 100, 9% of the employees who had their titer below 10 and 8% employees who had their titer between 10 and 100 for Anti Quantitative conducted in the year 2014.

Similarly for the doctors it was found that 17% of doctors required Anti HbS Quantitative to be done post 5 years of joining, 15% doctors who had titer less than 10 and 29% of doctors who had titer between 10 and 100 for Anti Quantitative conducted in the year 2014.

DISCUSSION:-

HBV remains a worldwide major pathogenic factor for chronic liver disease. In order to protect the health care personnel including the medical students and residents (as the future physicians), it is necessary to be certain about their immune response in vaccination era.

As per the study it was found that of the 663 general employees who joined the organization 90% had their Anti HbS Quantitative was done i.e. 594 employees. Of the total 105 Doctors who joined the organization only 82% got their Anti HbS Quantitative was done i.e. 86 doctors.

As per NABH mandatory health checkup for the General Clinical staff it was observed that for the year 2015, 3% of the employees need to have their Anti HbS Quantitative done after 5 years of joining who had their titer value above 100, 9% of the employees who had their titer below 10 and 8% employees who had their titer between 10 and 100 for Anti Quantitative conducted in the year 2014.

Similarly for the doctors it was found that 17% of doctors required Anti HbS Quantitative to be done post 5 years of joining, 15% doctors who had titer less than 10 and 29% of doctors who had titer between 10 and 100 for Anti Quantitative conducted in the year 2014.

As per the study it was found that 25 employees (Doctors & general Clinical staff) have not undergone Health Checkup since joining.

CONCLUSION:-

According to the above mentioned results, for a high risk group population such as Doctors, General Clinical staff & DNB students and residents, who are at continuous exposure to HBV, it is reasonable to determine the anti HBsAb response at one month post vaccination. However, in order to confirm the persistence of immune protection, we strongly suggest detection of the anti-HBsAb titer at 5 years after the last inoculation. So, the revaccination schedule could be arranged on the basis of personal need without incurring the cost of revaccination for the whole target

population. To further enhance the process an IT based module should be created by the Organization to generate yearly report for Booster & Anti Hbs Quantitative.

RECOMMENDATIONS:-

- The organization should conduct Anti Hbs Quantitative test for employees who have titer value above 100 only after 5 years.
- Organization should develop an IT based Vaccination tracker for all employees to generate an annual report regarding Anti Hbs Quantitative of employees.
- The responsibility to maintain the Tracker Module should lie with the HR Department of the organization for regular update.

Project on Streamlining Discharge Process

Introduction:

Organizations have to closely monitor the environment and continuously plan to gain a competition advantage due to exceeding intensity of the competition in today's market and business environment. Organizations need to adjust their operations and reorganize structure to retain customer and maintain profitability and survive competitiveness, especially when the competitive market associated with cost and unsatisfied customers.

Likewise, being one of the largest service sector, hospitals often encounter situations where the available resources fail to deliver desired output, resulting in the exceeding bed demand against the capacity. As a resultant there will be an undesirable delay, Post pone of the treatment or cancellation of admission, Patient dissatisfaction and damage to the loyalty, Loss of the hospital revenue and competitive edge.

Although, efficient utilization of the existing beds in a hospital is one of the effective strategies in achieving the demand and supply gap, hospital encounter a potential challenge in achieving the efficiency and effective management of the existing beds.

Available beds are a hospital's most important resource and the length of stay in hospital is an important factor in its efficiency. The unnecessary occupation of hospital beds and rooms and consequent low hospital bed turnover rate represent a waste in health care resources, and result in heavy associated organizational costs (Porhasani 1995).

To maintain a competitive edge, a major focus of hospitals today is to increase bed capacity without the need to build and staff additional beds.

One of the prime process by which a hospital can improvise the availability of the beds in the hospital is patient discharge process. A good discharge process is a vital for a hospital to ensure patient satisfaction, bed availability, quality process towards patient care, customer loyalty.

A fast discharge process can ensure early availability of patient beds, which in turn, can reduce the waiting time of patient admissions or even reduce the incidence of patient rejection due to unavailability of beds (Nagaraju 2005).

Turnaround time is the period for completing a process cycle or time taken to deliver output once the process is submit to operate, often turnaround time tool is used to evaluate whether the processes are economically advantageous, making the most efficient use of time and materials.

Discharge turnaround time can be defined as the interval from the time the consultant orders for discharge of the patient to the time physical walkout of the patient from the floor.

Monitoring discharge turnaround time allows hospital to measure the efficiency of bed management and effectiveness of the operating process within the hospital.

Literature review:

Cohen n et al., (1980) states the Operational definition of hospital as “A hospital can be described as a network of service units with finite capacity through which patients are flowing”

“An ‘inpatient’ is a person who has been admitted to a hospital for bed occupancy for purposes of receiving inpatient hospital services. A person is considered an inpatient if formally admitted as an inpatient with the expectation of remaining at least overnight and occupying a bed, even if it later develops that discharge or transfer to another hospital is possible and a hospital bed actually is not used overnight”-as defined by Health Law Professional Series

Nagaraju.D. (2005) defines the discharge process as “patient discharge process is ‘the final step of the treatment procedure during patient’s length of stay’, and timely discharge as ‘when the

patient is discharged home or transferred to an appropriate level of care as soon as they are clinically stable and fit for discharge”

Levesque and McDougall (1996) defines customer Satisfaction as an “overall customer attitude towards a service provider”¹⁰ and “When customers are satisfied, they are more likely to return, while dissatisfied customers are more likely to go elsewhere” Heskett et al., 1994; Strauss et al., 2001; Zairi, 2000 ¹¹ Satisfied customers are more inclined to be loyal, producing several benefits for organizations (Asif and Sargeant, 2000; Hansemark and Albinsson, 2004; Reichheld and Sasser, 1990)

According to (Gholipor & Ghomry 2003) “The discharge process represents the final contact between the patient and the hospital health professionals, and the outcomes of all procedures undergone by the patient are recorded at this stage. Improving the quality of the discharge process should therefore lead to an increase in patient satisfaction. As a result patients are likely to return to a health centre where they have experienced an efficient discharge process when they next seek treatment. In turn, efficiency and productivity are increased at the hospital”.

Sima Ajami and Saeedeh Ketabi (2004) analyzed the average waiting time during the patient discharge process at Kashani Hospital in Esfahan, Iran as-the average waiting time in the discharge process in Kashani Hospital was 4.93 hours. The personnel at the hospital had the opinion that the factors affecting waiting time in the discharge process, based on their importance from most to least, is as follows: physicians do not visit patients on time, delay by interns in completing the documentation summary sheet (Discharge Summary) in the medical record absence of networked Hospital Information Systems, absence of guidelines for personnel involved in the discharge process. Same study is performed at ASIAN Institute of Medical Sciences from January to May 2015.

Discharge process at Asian Institute of Medical Sciences

- Start point: consultant advice discharge of the patient.
- Important Interface point: Billing of patients

- End point: physical walkout of the patient from the hospital.
- Departments directly involved in discharge process:
 - ✓ Admitted ward
 - ✓ Nursing stations
 - ✓ Inpatient billing department
 - ✓ Insurance desk

Aim:

To assess the discharge process of Asian Institute of Medical Sciences. Monitoring turnaround time (TAT) for different categories of Discharges. It allows hospital to measure the efficiency of bed management and effectiveness of the operating process within the hospital.

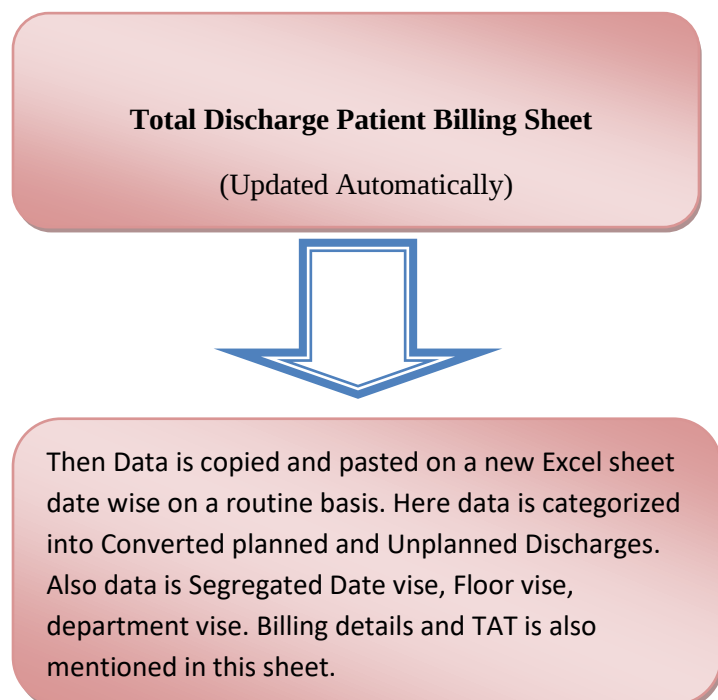
Objectives:

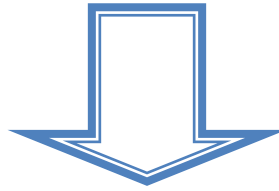
- To compare the TAT for different categories of discharges.
- To analyze the % of planned discharges out of total discharges for two months (April and May)
- To analyze the % of converted planned discharges out of total planned discharges for two months.
- To analyze the % of both unplanned and converted planned discharges (Floor wise) for two months.
- To analyze the % of both planned and converted planned discharges (Department wise) for two months.
- To analyze the % of billing status of converted planned and unplanned discharges for two months.

Research Methodology

- ✓ **Data collection period:** The data collected from January to May 2015.
- ✓ **Data collection: Primary data** collected from April to May.
Secondary data taken from January to March.
- ✓ **Type:** Retrospective, Prospective, Comparative and Analytical study
- ✓ **Sample Size:** Total Discharges of the hospital from January to May, 2015.
- ✓ **Sampling Technique:** Convenience Sampling.
- ✓ **Location:** Asian Institute of Medical Sciences, Faridabad.
- ✓ **Inclusion:** All the inpatient discharges.
- ✓ **Exclusion:** Sunday & Monday Discharges, LAMA, DOR, Death, Day-care.

Data Collection Process:





Planned discharges are reported by NO/MOD on a routine basis.

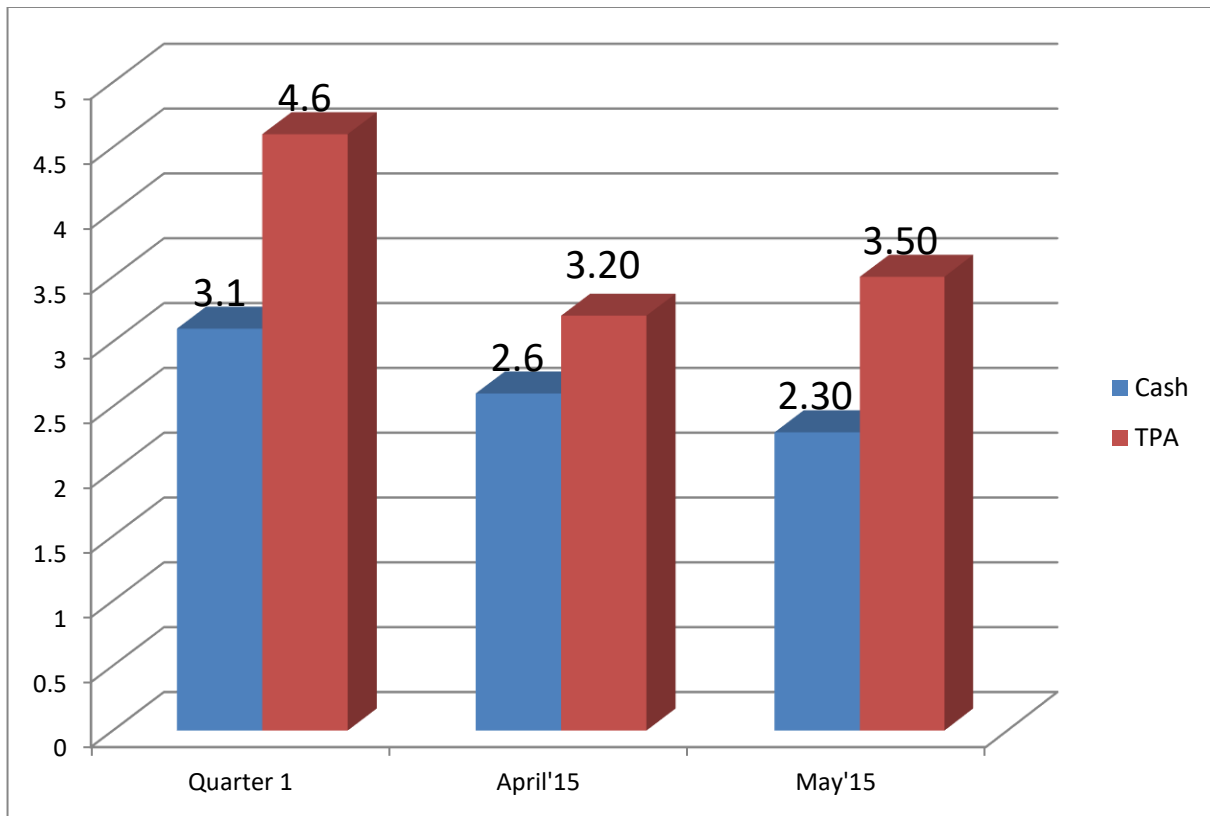


All these data is entered into Master Excel sheet and through this sheet Data is analyzed.

Data Analysis:

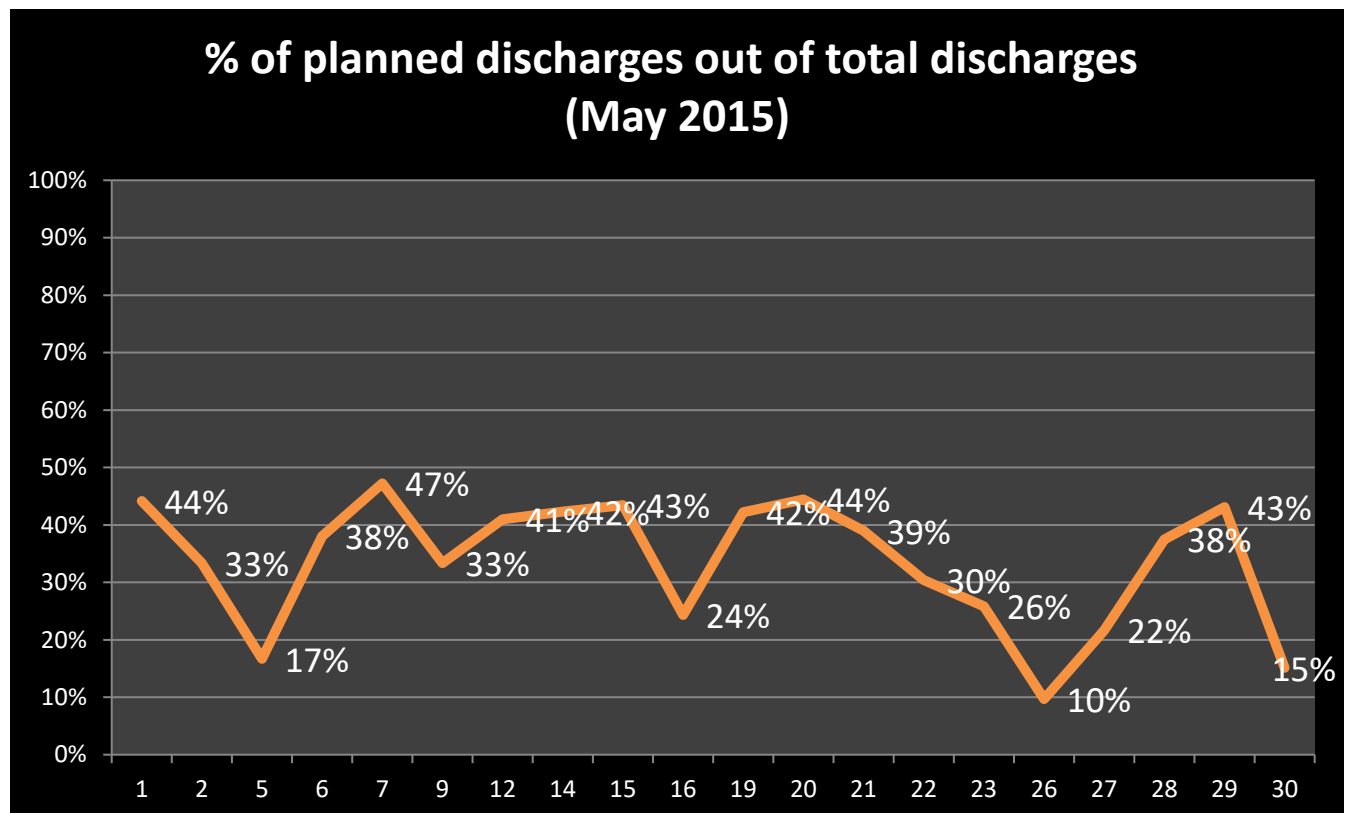
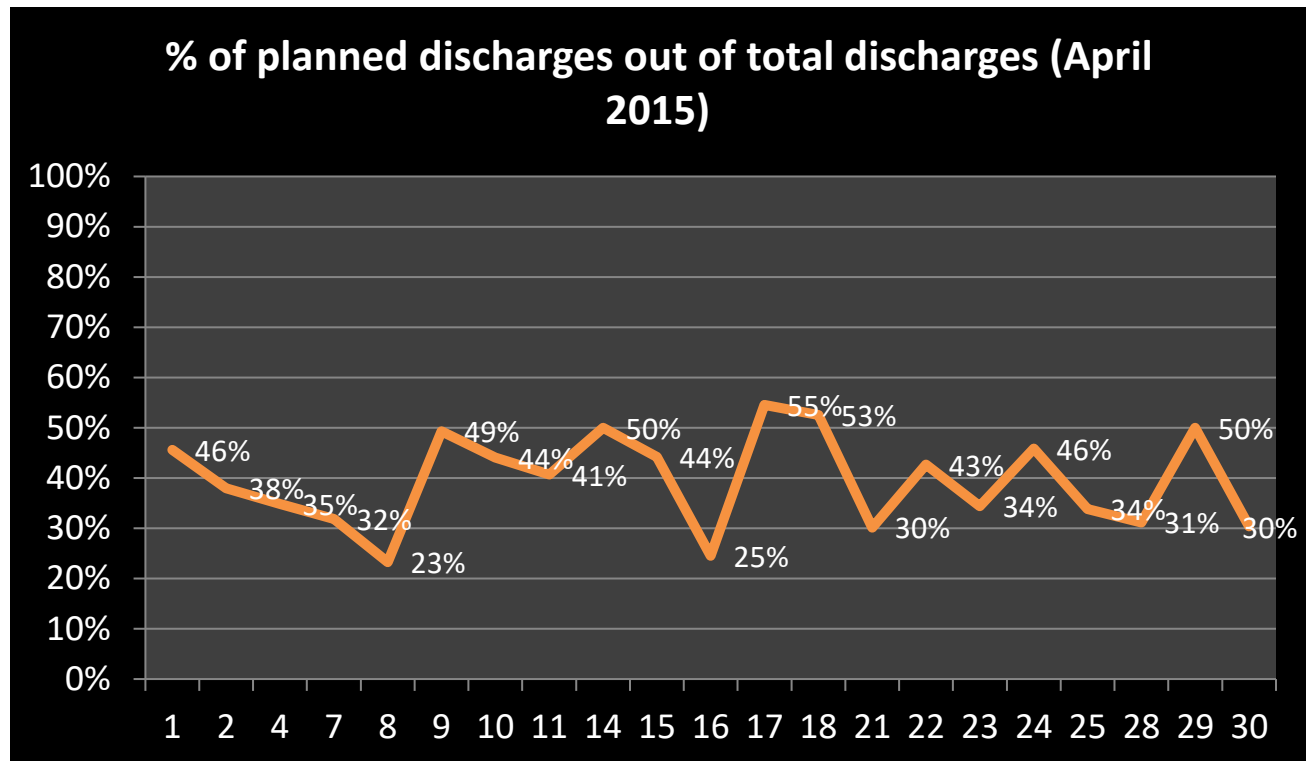
- **Comparative Analysis of TAT for Cash and TPA patient from January to May 2015.**

(First Quarter- Jan, Feb and March)



- **Data Analysis of % of planned discharges out of total discharges for two months (April and May)**

$$\text{\% of Planned Discharges} = \frac{\text{Total Converted Planned Discharges}}{\text{Total Discharges}}$$

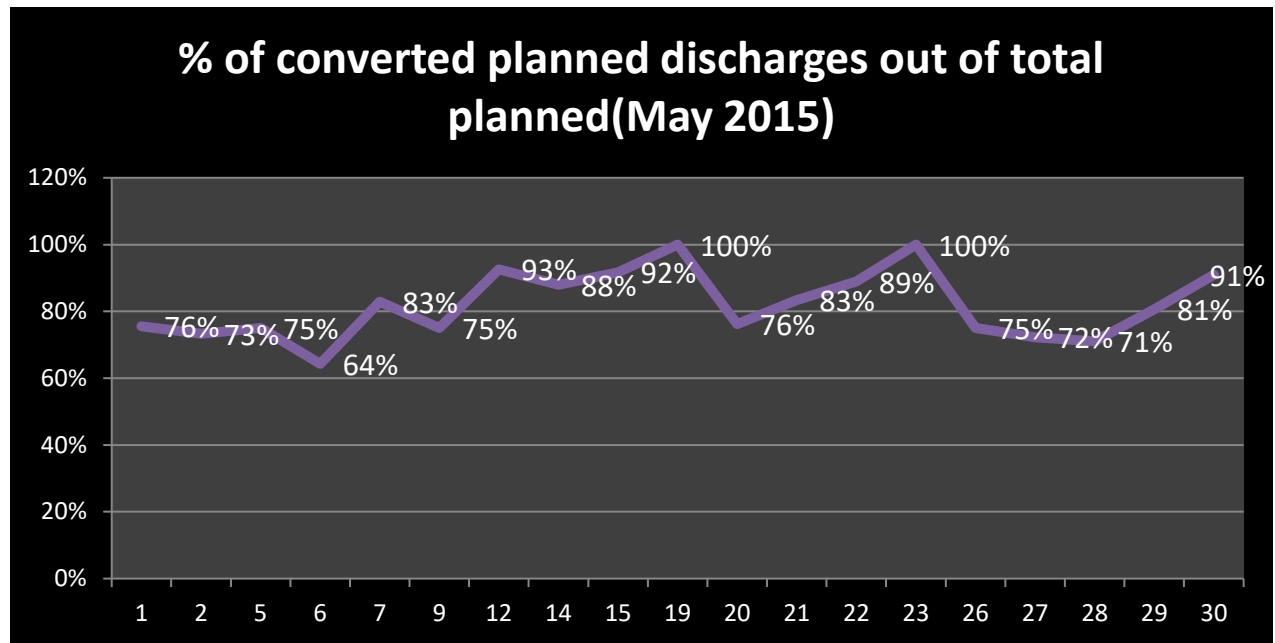


% of Overall planning status & Comparative Analysis

Month	Average	Max	Min
Quarter 1	52%	69%	35%
April,15	40%	55%	23%
May,15	34%	47%	10%

- **Data Analysis of % of converted planned discharges out of total planned discharges for two months.**

$$\text{\% of Converted Planned Discharges} = \frac{\text{Total Converted Planned Discharges}}{\text{Total Planned Discharges}}$$

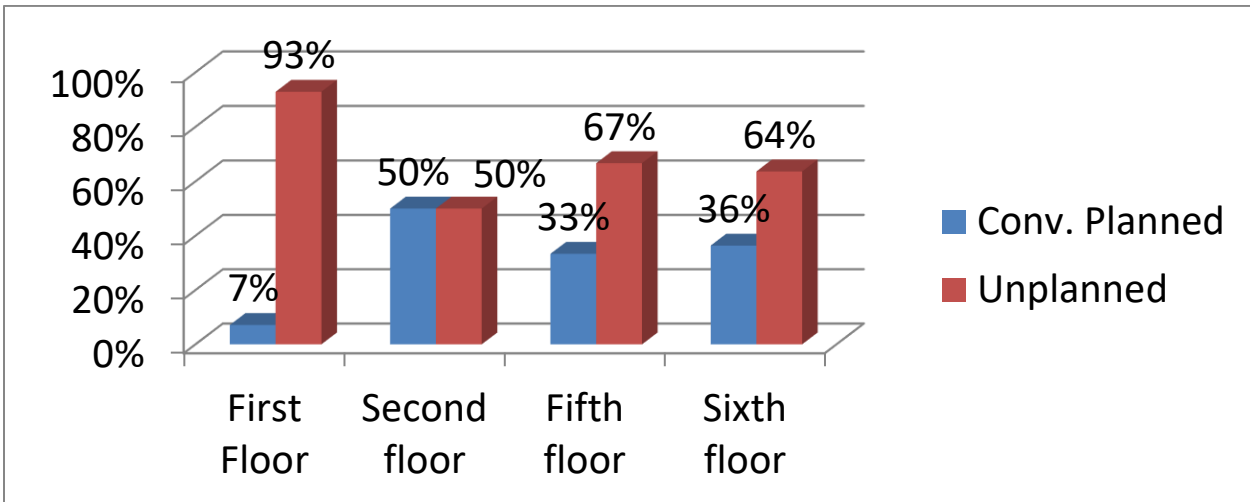


% of Converted Planned Discharges out of Total Planned & Comparative Analysis

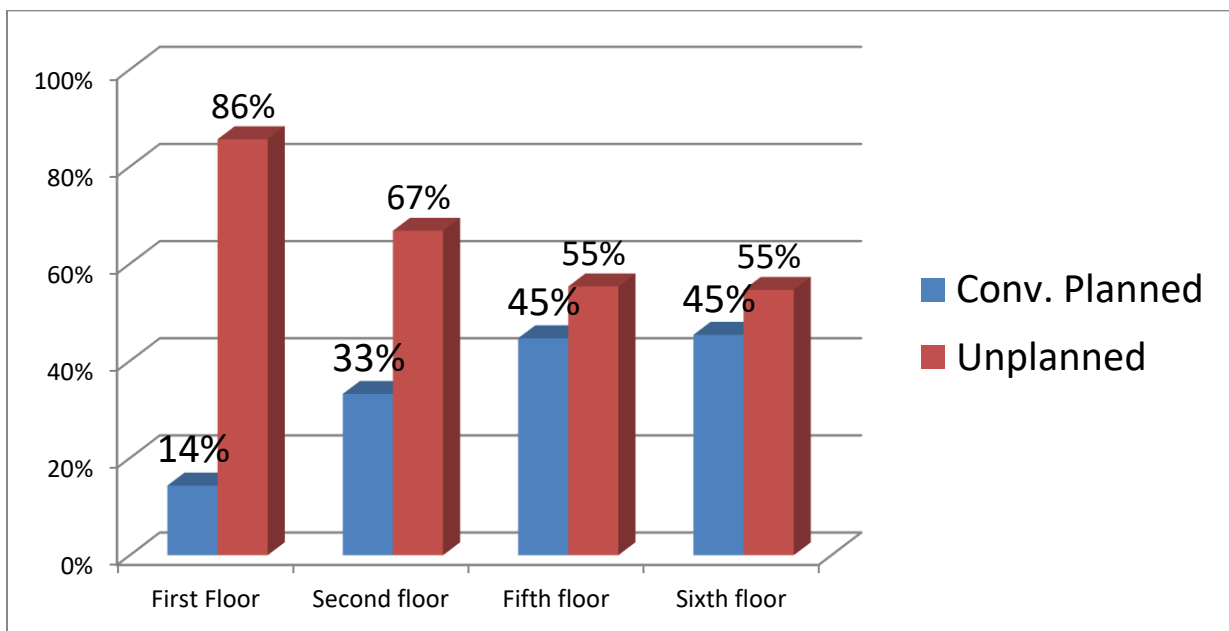
Month	Average	Max	Min
Quarter 1	79%	95%	67%
April,15	76%	96%	45%
May,15	82%	100%	64%

- **Data Analysis of % of both unplanned and converted planned discharges (Floor wise) for two months.**

Floor wise – Planned discharges April'15

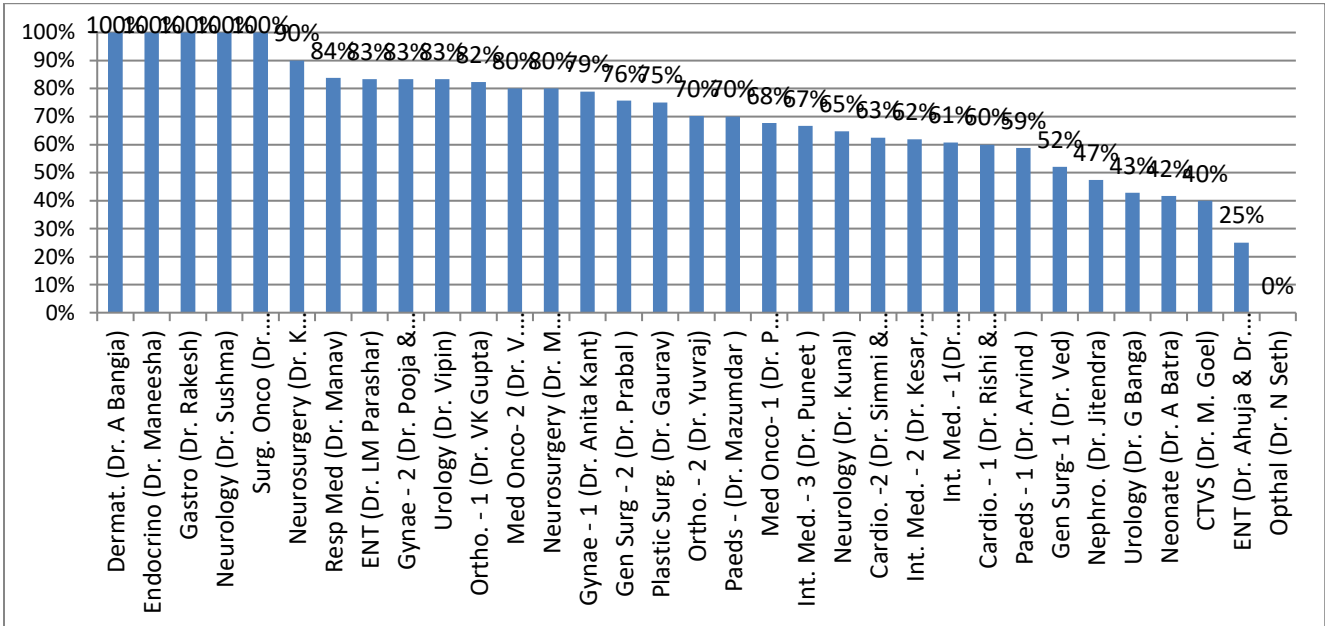


Floor wise – Planned discharges May'15

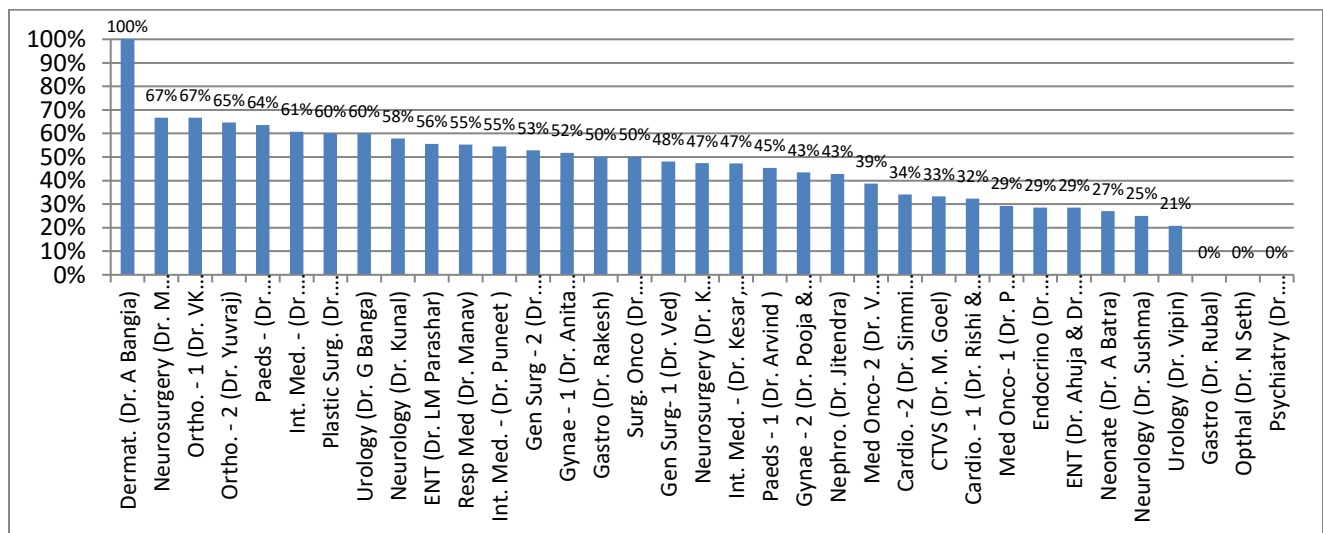


- Data Analysis of % of both planned and converted planned discharges (Department wise) for two months.

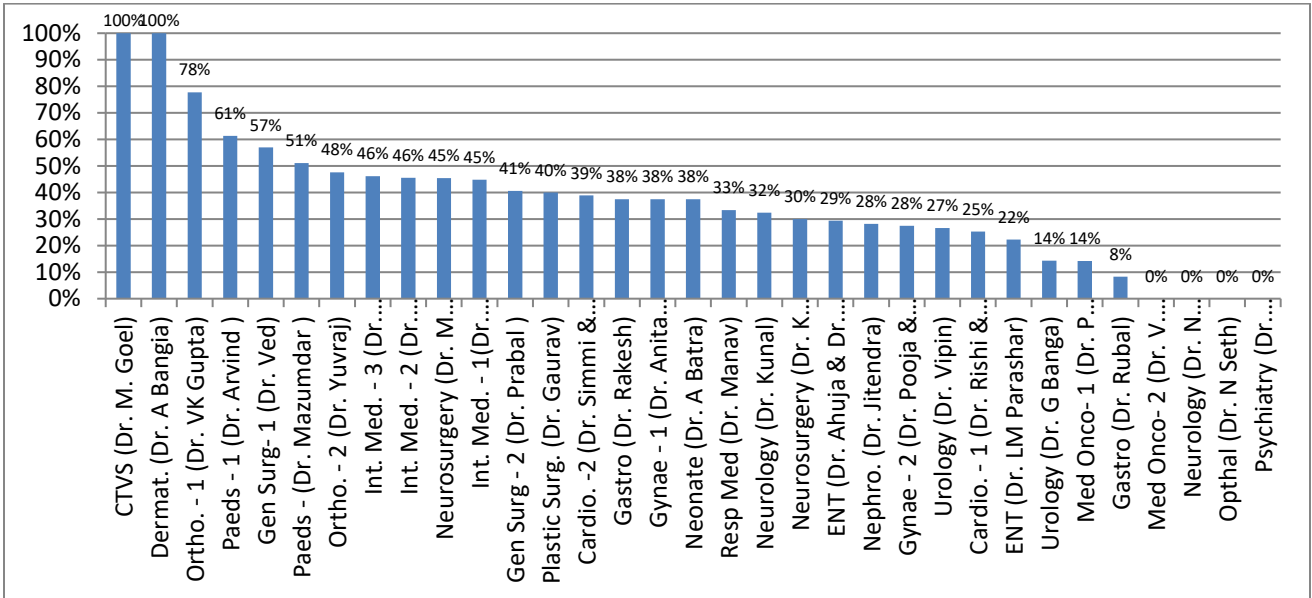
Dept. wise Planned Discharges April'15



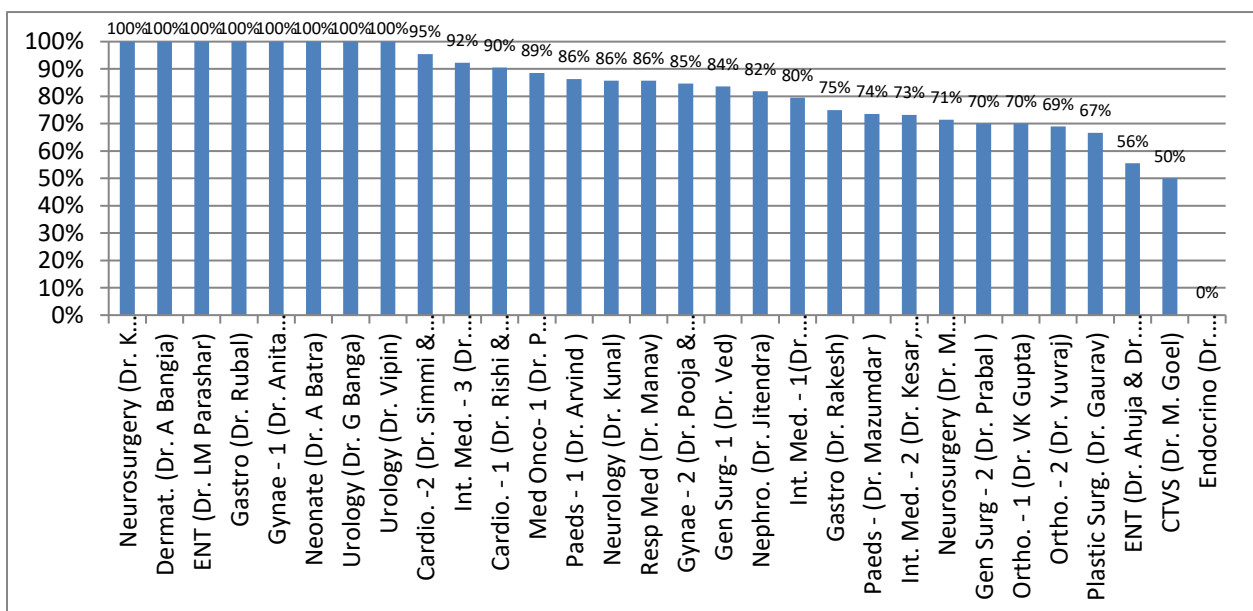
Dept. wise Converted Planned Discharges- April'15



Dept. wise Planned Discharges May'15

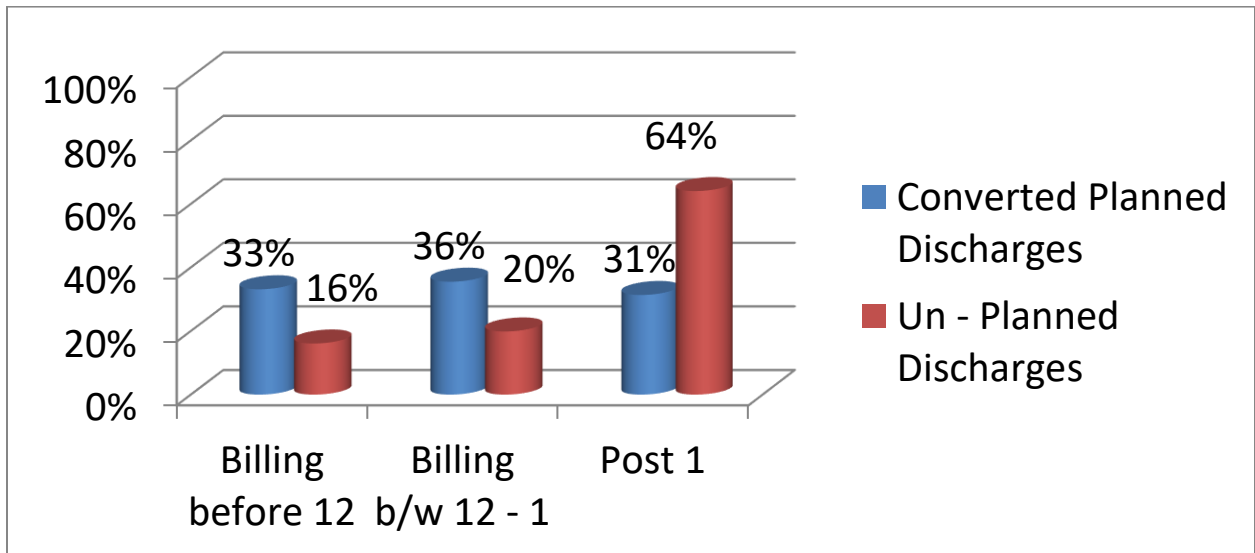


Dept. wise Converted Planned Discharges- May'15

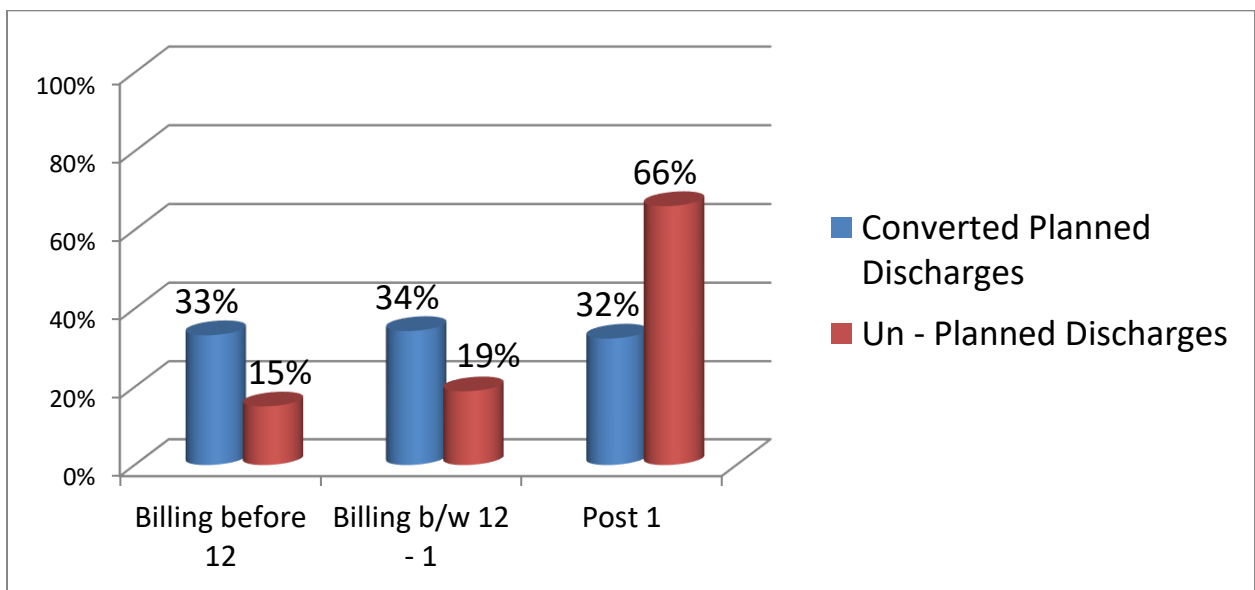


- **Data analysis of % of billing status of converted planned and unplanned discharges for two months.**

Billing status- April'15



Billing status – May'15



Data Interpretation:

The following study shows that before the Implementation of Discharge process planning the condition of discharges in the hospital was very poor but after the implementation of this Discharge process planning the condition of discharges gradually improved.

By comparing the data of TAT for different categories of discharges from January to May 2015 the study found that initially when this discharge planning was not used, the TAT for cash patient is around 4 to 5 hours and for TPA patient is around 7 to 8 hours but after the implementation of this planning it gradually reduces, similarly for the TPA patients also the TAT reduces.

Comparative analysis of TAT of different categories of discharges:

MONTH	CASH	TPA
Quarter 1 (January to March 2015)	3 hour 1 min	4 hour 6 min
April 2015	2 hour 6 min	3 hour 20 min
May 2015	2 hour 30 min	3 hour 50 min

By analyzing the data of April & May 2015 the study shows that after the implementation of this planning all the parameters of discharge process has been improved in the month of April but because of lack of training of staff and also due to less strictness the improvement has started deteriorating in the month of May.

Recommendations:

1. Meeting on Discharge planning should be conducted on a regular basis.
2. Doctors who are performing better must be rewarded by the organization.
3. One Medical Transcriptionist should be placed on 5th floor so that the discharges will be done on time.
4. Discharge planning must be IT based.

Clinic Audit on Dialysis Quality Indicators

Introduction:

Dialysis department on a sample of 49 patients.

An analytical study has been done to recheck the compliance of the quality indicators of dialysis. The burden of end stage kidney disease (ESKD) patients requiring renal replacement therapy (RRT) is increasing day by day. Hemodialysis is one form of RRT which is popular among nephrologists. Many patients are undergoing hemodialysis twice/ thrice a week each for four hours. However, the dialysis procedure is not without risk and it is absolutely important to monitor few parameters for monitoring of dialysis treatment to minimize the risk to kidney patients. Such monitoring is endorsed by **National kidney foundation, Kidney disease outcome quality initiative (NKD-KDOQI 2000) Guidelines.**

Dialysis Department is the Centre of Excellence of the Hospital.

To assess the quality of the dialysis care given to the patients, an audit was conducted in May last year on a sample of 55 patients. On the basis of the findings, Following recommendations were given to the dialysis department-

- Post audit, training should be given to the staff regarding importance of pre-dialysis patient evaluation and post dialysis patient assessment.
- Staff was instructed to comply with all the parameters of pre-dialysis patient evaluation and post dialysis patient assessment.

To reassess the impact of the previous study, a clinical audit has been reconducted in the

To review the impact or results of the previous study, a PDCA Cycle is performed.

Parameters:

In this study, mandatory parameters are being evaluated to check the efficacy of dialysis treatment. Following are the parameters:

1. Viral Marker check (documented) at the time of 1st Dialysis / Quarterly
2. Pre dialysis weight measurement
3. Post dialysis weight measurement
4. Weight gain measurement
5. UF rate calculated in each dialysis
6. Dose of Heparin calculated
7. Pre HD event – BP taken or not
8. Post HD event – BP taken or not
9. Consent Taken or Not
10. Doctor's Sign on Consent Form
11. Patient's Sign on Consent Form

Review of Literature:

According to “Integrated Vital Sign Monitoring of Hemodialysis Patients: Pilot Study” done by Sutherland, S1. and Hills, L1., in collaboration with Meredith, D1., Borhani, Y2., Clifton, D2., Fleming, S2., Mosson, A1., Thornley, A1., Tarassenko, L2. And Pugh, C1. Oxford Kidney Unit1, Oxford Biomedical Research Centre2,

It is thought that the use of vital sign monitoring can identify those who are unstable on dialysis and would benefit from frequent monitoring to prevent such common hypotensive episodes.

Studies such as Mancini et al. (2007) are promising in adding to potential technical advancements in preventing hypotension by using blood pressure monitoring as a key parameter in automatic systems.

Also, according to an article on “Patient information: Hemodialysis (Beyond the Basics)” by Jeffrey S Berns, MD, Body weight monitoring is important because kidneys that are failing cannot remove enough fluid from the body, dialysis must perform this task. Accumulation of

fluid between hemodialysis treatments can lead to complications. Most patients will be weighed before and after dialysis, and will be asked to monitor their weight on a daily basis at home.

Aim:

To study whether the dialysis unit is adhering to the protocols to reduce the risk of dialysis complications.

Objective:

- To Reassess the compliance of pre and post dialysis patient evaluation
- To Follow up the previous study and reassess the measures taken for the improvement on the basis of PDCA Cycle.
- To improve patient satisfaction by providing safer dialysis treatment.
- To prevent patient related complications, that are :

Hypotension	Central Venous Catheter Infection	Anaphylaxis
Hypertension	Catheter Thrombosis	Pruritis
Muscle Cramps	Cardiac Dysrhythmia	Steal Syndrome
Headache	Pericarditis, pericardial effusion, cardiac tamponade	Cardiac Arrest
Nausea & Vomiting	Dialysis Disequilibrium Syndrome	Dialysis Encephalopathy (Al ⁺)
Fever &/or Chills	First Use Syndrome	Seizures
Fistula/Graft Infection, Thrombosis	Angina	Fistula Aneurysm, Psuedoaneurysm

Methodology:

- **Period of Study:** April 2015 – May 2015 (2 months)
- **Study Design:** Retrospective and Analytical Study
- **Sampling Technique :** Random Sampling
- **Sample Size :** 49 patients undergoing hemodialysis treatment
- **Sampling Units:** OPD/IPD Patients
- **Location:** The study was done in the Dialysis department of the ASIAN Institute of Medical Sciences.
- **Study Tool:** A Checklist was designed to carry out the study & PDCA cycle.

Clinical Audit Check list					
	UHID No.				
	Patient Name				
1	Viral Marker check at the time of 1st Dialysis				
2	Pre dialysis Wt. measurement				
3	Post Dialysis Wt. Measurement				
4	Wt. Gain Measured				
5	UF rate Calculated in each dialysis				
6	Dose of Calculated Heparin				
7	Pre HD event -BP taken or not				
8	Post HD event -BP taken or not				
9	Consent taken				
10	Doctor's sign				

Discussion:

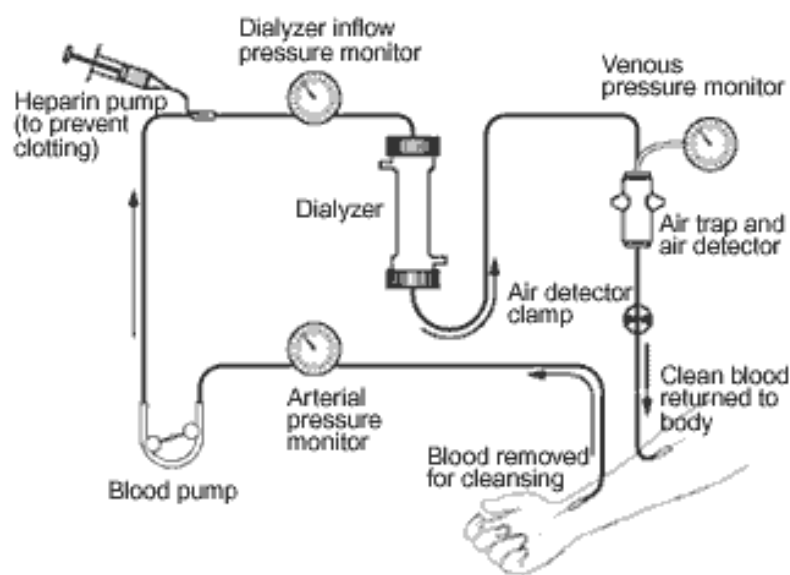
Healthy kidneys clean your blood and remove extra fluid in the form of urine. They also make substances that keep your body healthy. Dialysis replaces some of these functions when your kidneys no longer work

Dialysis is a process for removing waste and excess water from the [blood](#), and is used primarily as an [artificial replacement](#) for lost kidney in people with [renal failure](#). Dialysis may be used for those with an acute disturbance in kidney function ([acute kidney injury](#), previously acute renal failure), or progressive but chronically worsening kidney function—a state known as [chronic kidney disease](#) stage 5 (previously chronic renal failure or end-stage renal disease).

It is needed when you develop end stage kidney failure --usually by the time you lose about 85 to 90 percent of your kidney function and have a GFR of <15.

When your kidneys fail, dialysis keeps your body in balance by:

- removing waste, salt and extra water to prevent them from building up in the body
- keeping a safe level of certain chemicals in your blood, such as potassium, sodium and bicarbonate
- helping to control blood pressure



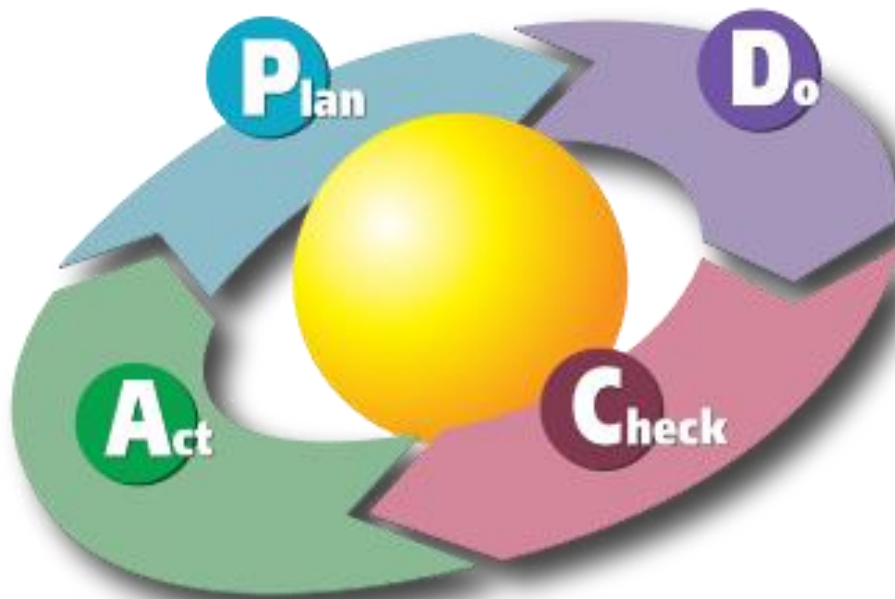
There are two types - Hemodialysis and Peritoneal dialysis

The Focus of the Clinical Audit done in the Dialysis Department of ASIAN Institute of Medical Sciences is Hemodialysis.

Tool used to attain the Objective is PDCA cycle.

PDCA Cycle

The **PDCA Cycle** is a systematic series of steps for gaining valuable learning and knowledge for the continual improvement of a product or process.



PLAN

- To impart training to the staff (post audit) regarding the importance of pre dialysis patient evaluation and post dialysis patient assessment.
- To give instructions to the staff to comply with all the parameters of pre dialysis patient evaluation and post dialysis patient assessment.

DO

Training is a learning experience that seeks a relatively permanent change in an individual that will improve his ability to perform on the job.

Training plays an important role in manpower development. Employees need training to perform their duties effectively, eliminate wastage and reduce accident.

Training imparted and instructions were given to adhere to protocols to all the staff members.

TRAINING CONDUCTED

Serial No.	Date	Topic
1.	10-6-2014	Dialysis- Patient Monitoring and Care
2.	29-10-2014	File documentation of Dialysis Patient
3.	19-11-2014	Dialysis- Patient Monitoring and Care
4.	17-2-2015	Vital Monitoring
5.	5-5-2015	Patient Monitoring Care

Post Audit, only one training session was conducted in 10-6-2014.

Total staff strength at that time was 26. Out of those 26 staff members, only 12 attended the training.

The next training session was conducted after a wide gap of 4 months.

Attrition rate from dialysis department- 12 members have left the department since last clinical audit. (46%)

9 new members have joined the department since last audit and all of these members have attended the last training session.

Total Staff Strength of Dialysis Department presently- 26

Out of those 26 members, 13 staff members attended the last training session.

CHECK

This part will be mentioned in the finding and analysis part of the audit.

ACT

This part will be mentioned in the suggestions and recommendation part of the audit.

Findings:

S.NO	PARAMETERS	2014		2015	
		COMPLIANCE (%)	NON-COMPLIANCE (%)	COMPLIANCE (%)	NON-COMPLIANCE (%)
1	Viral Marker checked, documented in Face sheet at the time of 1st Dialysis	100	0	73	27
2	Pre dialysis Wt. measurement	100	0	82	16
3	Post Dialysis Wt. Measurement	85	15	39	59
4	Wt. Gain Measured	85	15	53	45
5	UF rate Calculated in each dialysis	100	0	100	0
6	Dose of Calculated Heparin	100	0	94	6
7	Pre HD event -BP taken or not	100	0	100	0
8	Post HD event -BP taken or not	78	22	94	6

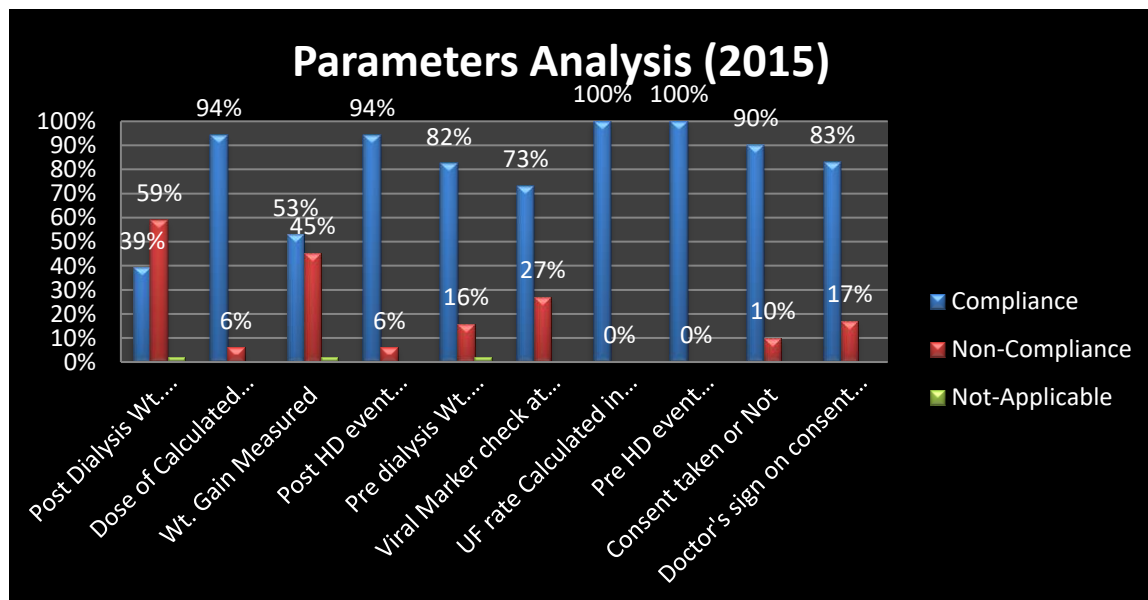
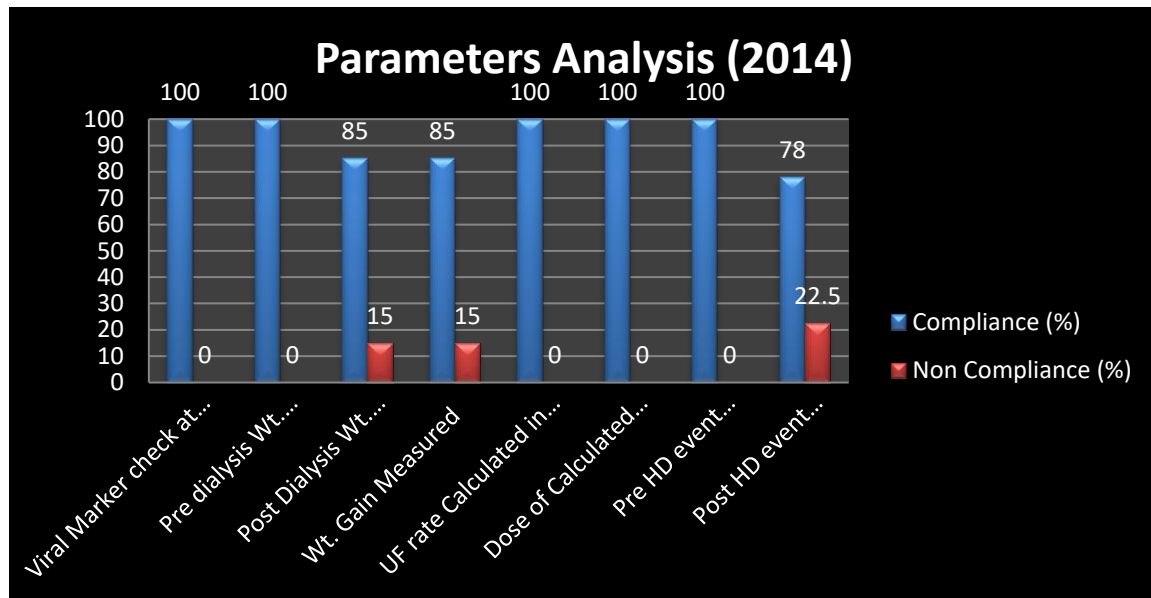
- 2015 audit analysis- In 2% cases, wt. measurement was not applicable due to physical condition of patients.

A new Parameter introduced for the study i.e. **Consent Form**

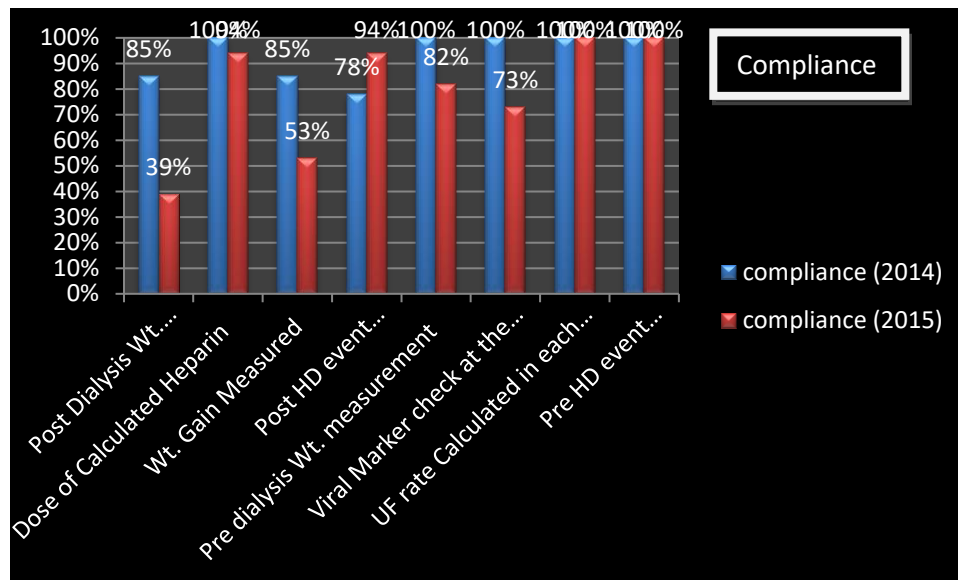
		COMPLIANCE (%)	NON-COMPLIANCE (%)
9	Consent Taken or Not	90	10
10	Doctor's Sign Present or Not	83	17
11	Patient's Sign Present or Not	100	0

ANALYSIS OF THE STUDY

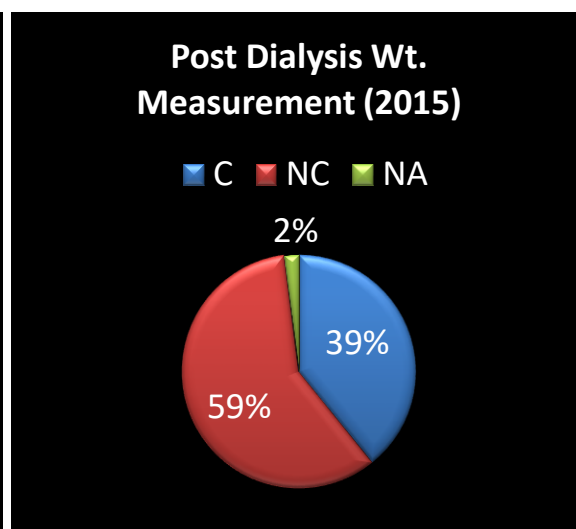
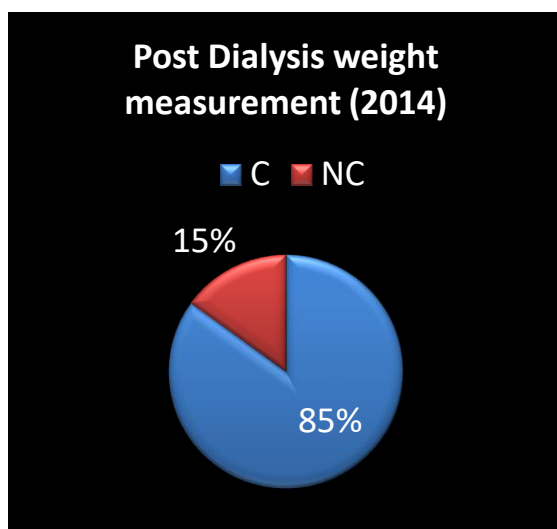
Comparative Analysis of Parameters

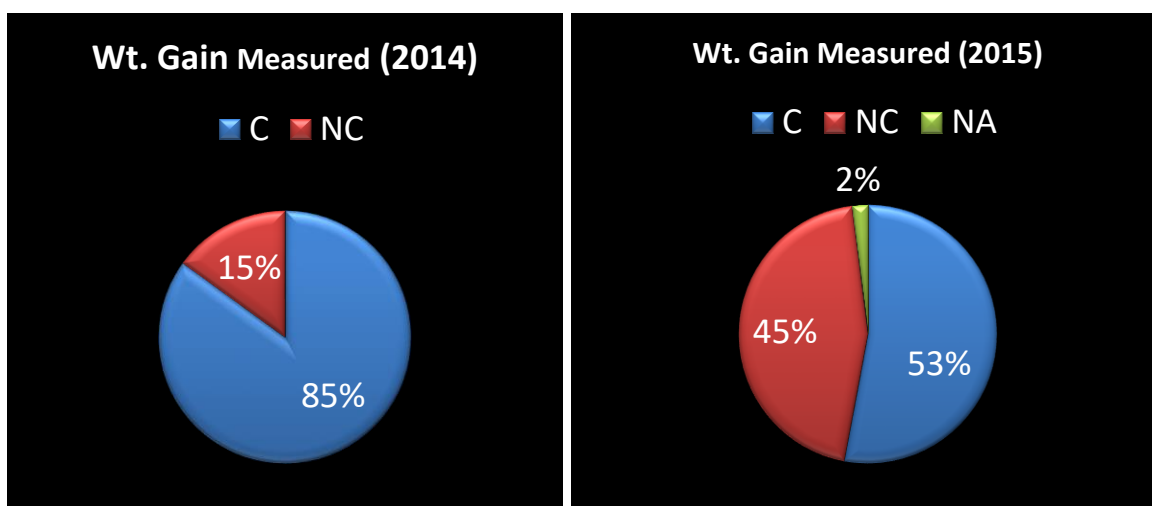
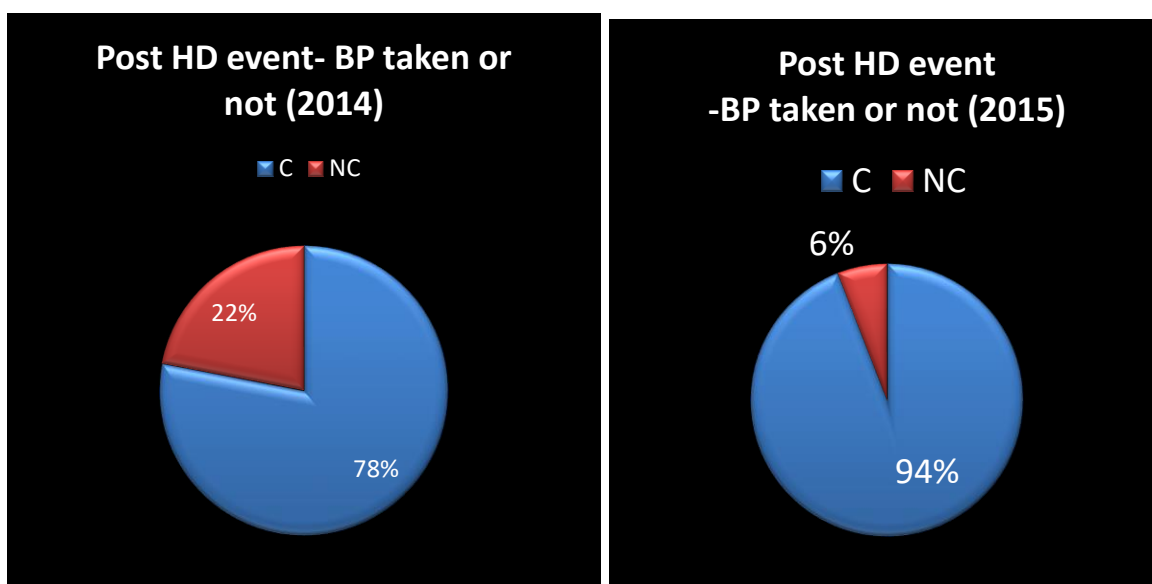


- Comparing compliance and non-compliance of both audits

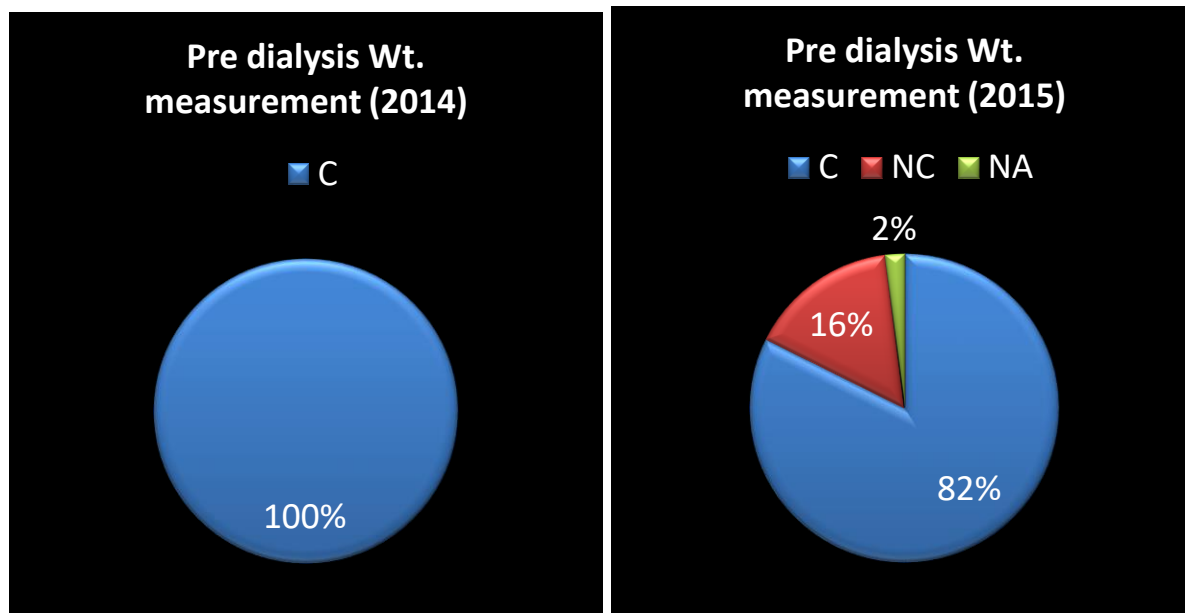


Post Dialysis Weight Measurement

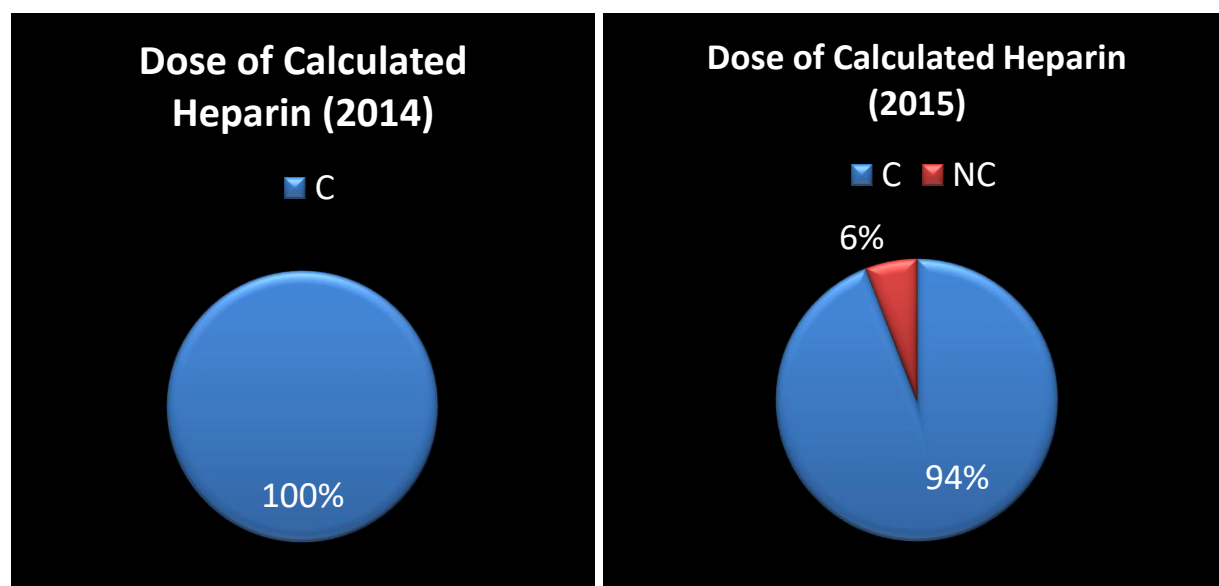


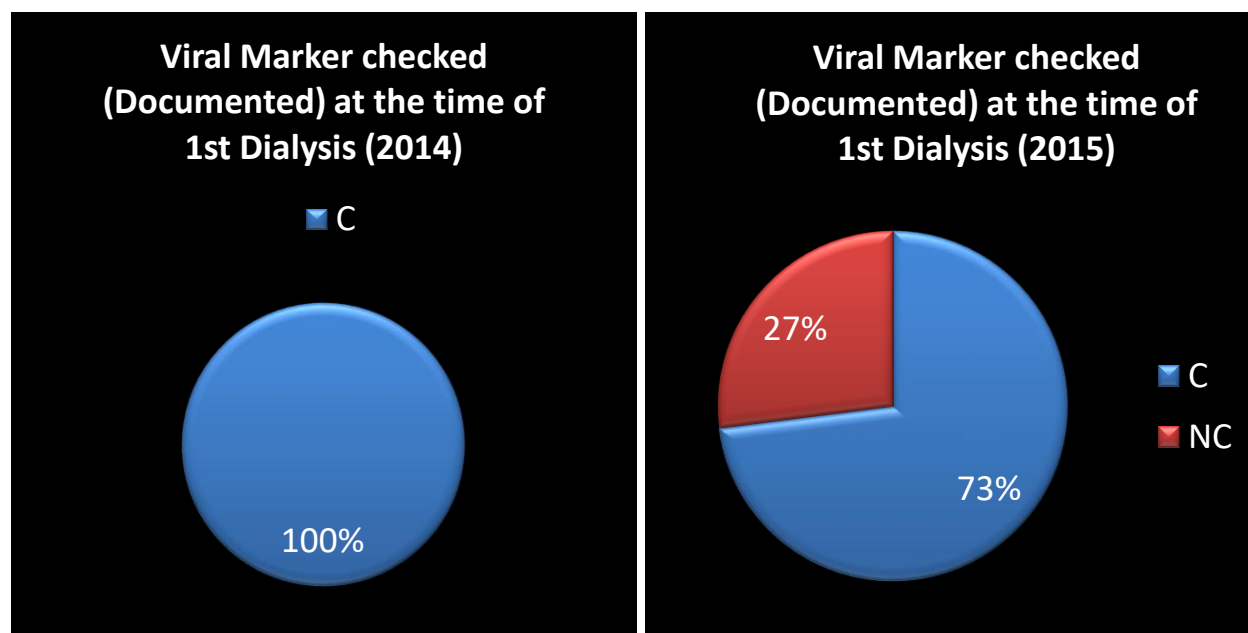
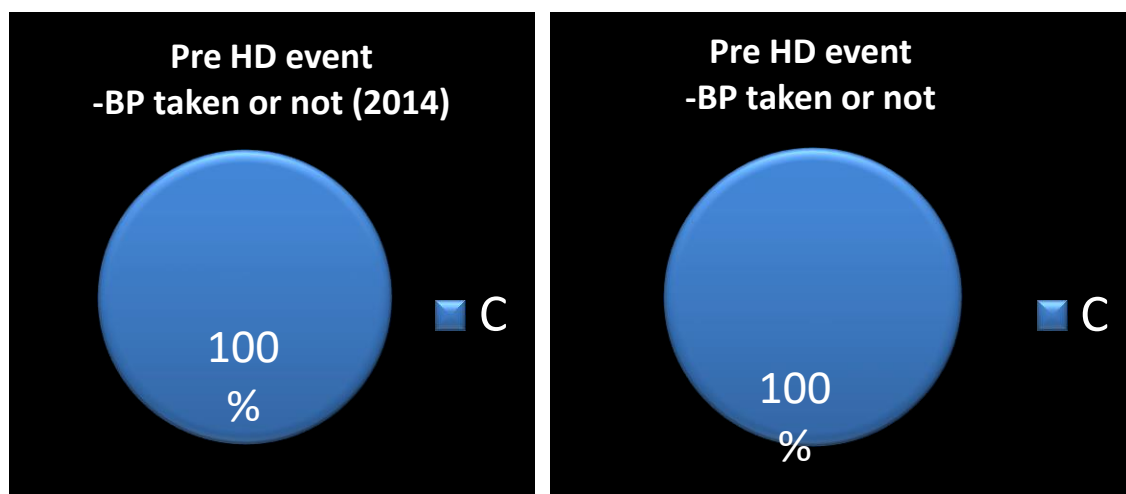
Weight Gain Measured**Post HD event – BP taken or not ?**

Pre-Dialysis Wt. Measurement

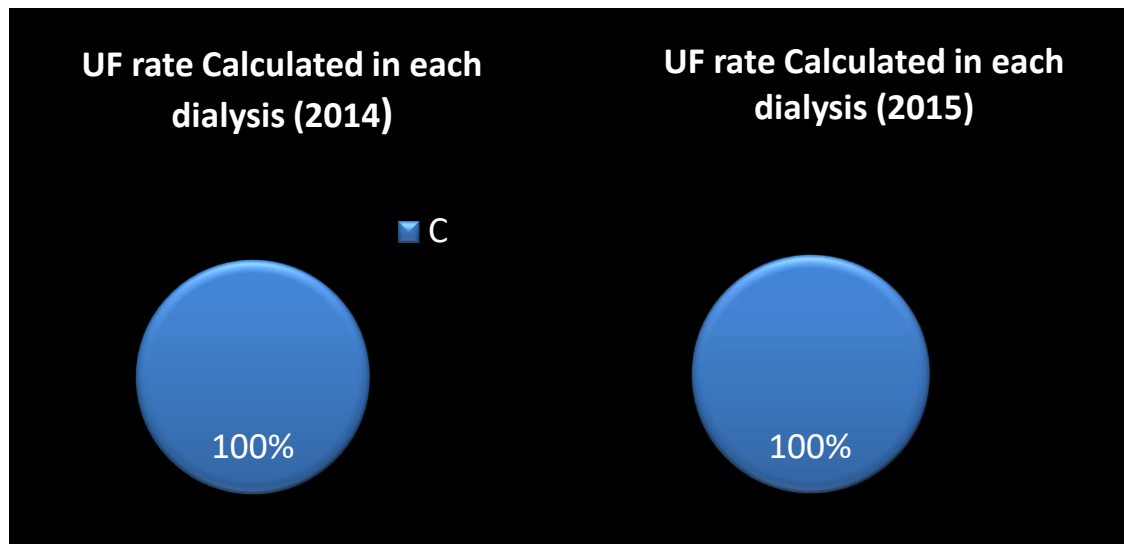


Dose of Calculated Heparin

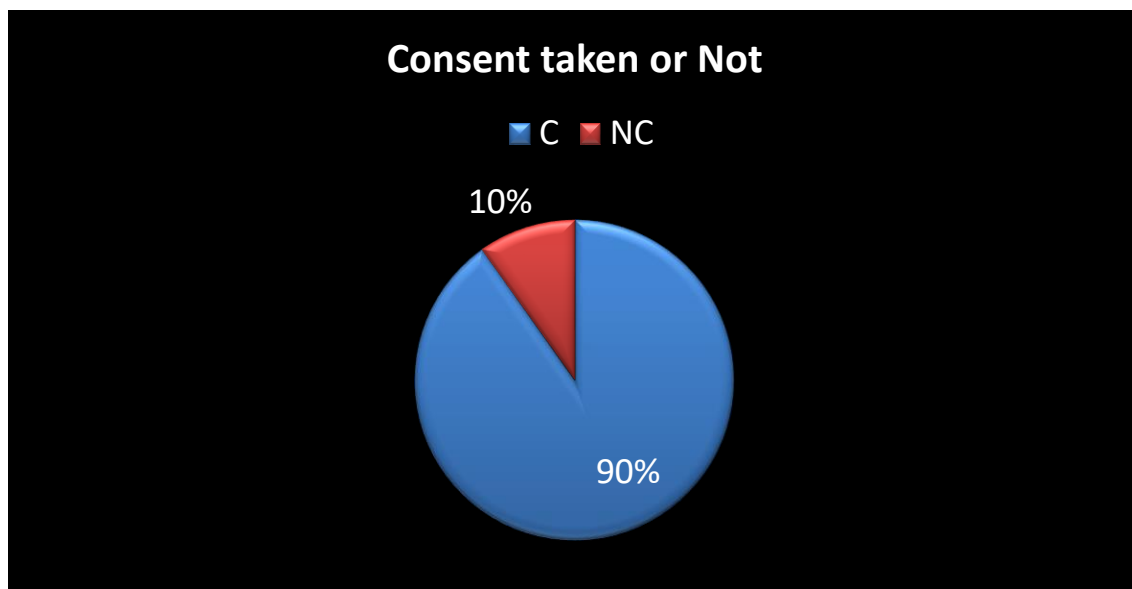


Viral Marker checked (Documented) at the time of 1st Dialysis**Pre HD Event – BP taken or not**

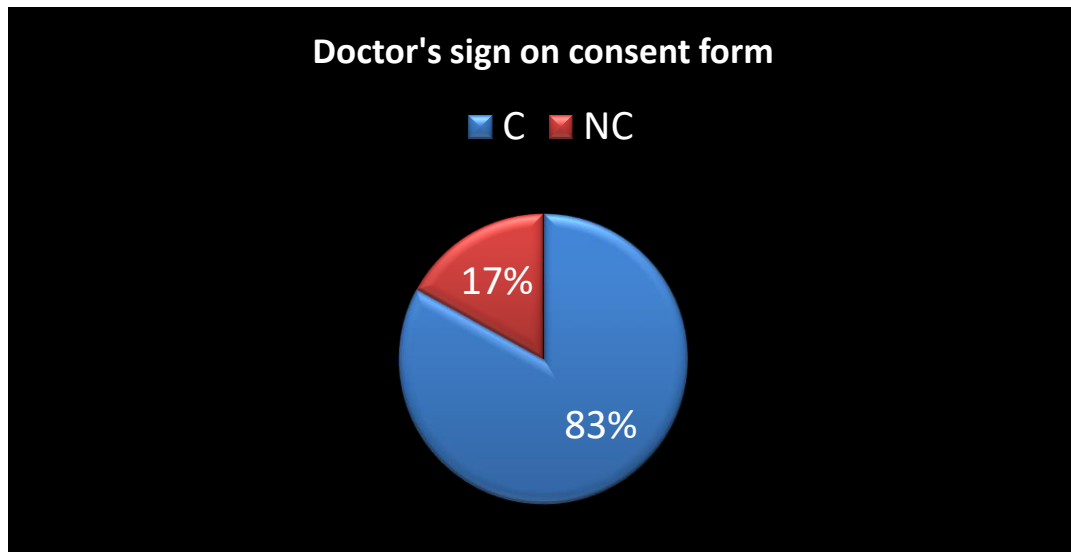
UF Rate Calculated in each dialysis



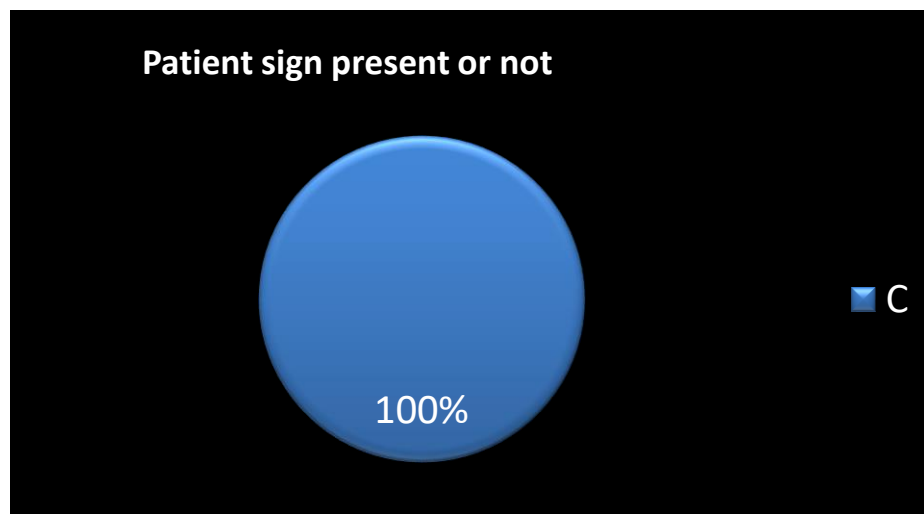
Consent taken or Not



Doctor's Sign on Consent form



Patient Sign present or not



Data Interpretation:

In 2014, Out of 8 parameters, 5 parameters showed 100 % compliance whereas in 2015, only 2 Parameters are showing 100% compliance. The compliance of three parameters i.e. Viral Marker check at the time of first dialysis, Measurement of weight gain and Post Dialysis weight measurement has significantly reduced in 2015 as compared to 2014. Ideally, the compliance should have increased.

As compared to the year 2014, the compliance of only one parameter has increased in the year 2015 i.e. Post Dialysis BP measurement.

As far as the new parameter, Compliance to contents of Consent Form is concerned; it's not up to the mark, ideally the compliance should be 100% to avoid any legal hassles in future.

Measurement of weight is integral part of hemodialysis to prevent under- or over hydration, both of which have been demonstrated to have significant effects on intradialytic morbidity and long-term cardiovascular complications. Fluid removal to achieve fluid balance is an important component of hemodialysis (HD) treatment for end-stage renal disease (ESRD), as both under- or over hydration is associated with deleterious consequences. So, it is essential to measure weight post dialysis and to calculate weight gain to offer effective dialysis to the patient.

Blood pressure (BP) varies significantly in hemodialysis patients depending upon the time taken: predialysis, post dialysis, or interdialytic. Hypertension is associated with increased cardiovascular mortality and morbidity, and that its control can reduce these adverse consequences.

Hence, it is concluded that all the patients undergoing dialysis should be assessed by post dialysis weight, weight gain and post HD – BP measurement.

Recommendations:

- Topic of Training suggested by the clinical audit should be incorporated in the Training Calendar of the department.
- Each and every employee must attend the training sessions at least once in each quarter.
- Staff must be strictly instructed to comply with all the parameters of pre-dialysis patient evaluation and post dialysis patient assessment.

Clinic Audit on CABG over EURO SCORE

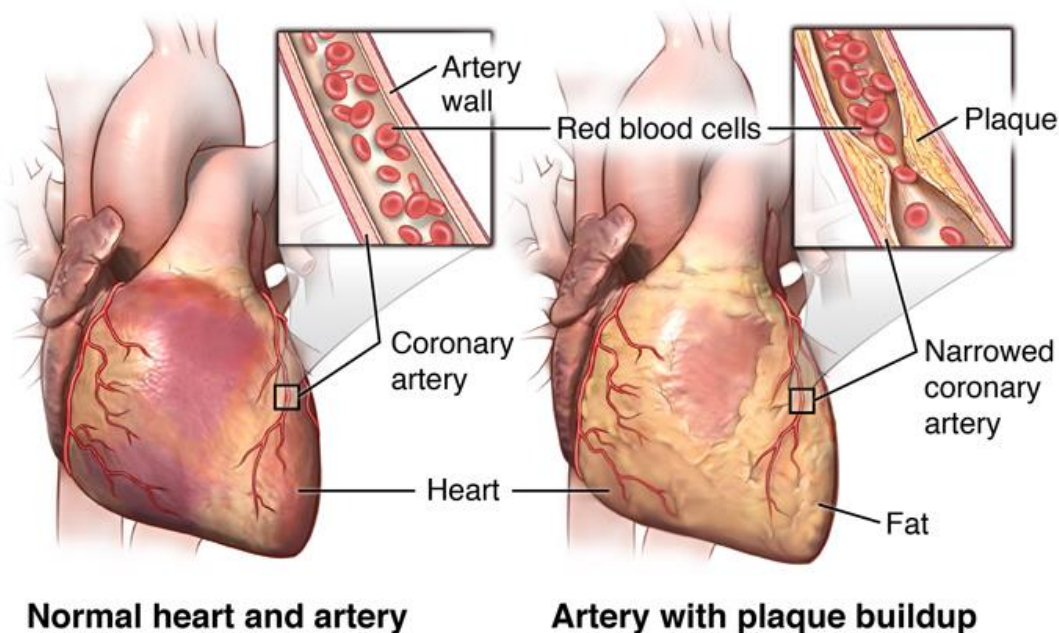
INTRODUCTION:

(CABG Coronary Artery Bypass Graft)

What is coronary artery bypass graft (CABG) surgery?

According to the **American Heart Association**, coronary artery bypass graft (CABG) surgeries are among the most commonly performed major operations.

Coronary artery bypass graft surgery (CABG) is a procedure used to treat coronary artery disease in certain circumstances. Coronary artery disease (CAD) is the narrowing of the coronary arteries (the blood vessels that supply oxygen and nutrients to the heart muscle), caused by a buildup of fatty material within the walls of the arteries. This buildup causes the inside of the arteries to become narrowed, limiting the supply of oxygen-rich blood to the heart muscle.



CABG surgery creates new routes around narrowed and blocked arteries, allowing sufficient blood flow to deliver oxygen and nutrients to the heart muscle.

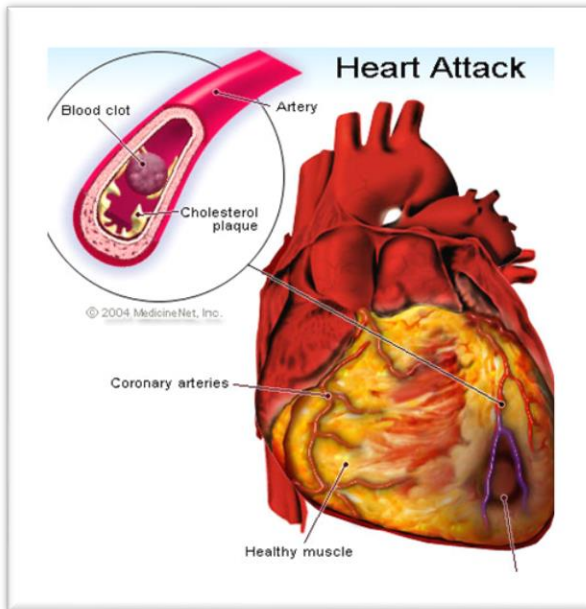
How does coronary artery disease develop?

Coronary artery disease (CAD) occurs when atherosclerotic plaque (hardening of the arteries) builds up in the wall of the arteries that supply the heart. This plaque is primarily made of cholesterol. Plaque accumulation can be accelerated by smoking, high blood pressure, elevated cholesterol, and diabetes. Patients are also at higher risk for plaque development if they are older (greater than 45 years for men and 55 years for women), or if they have a positive family history for early heart artery disease.

The atherosclerotic process causes significant narrowing in one or more coronary arteries. When coronary arteries narrow more than 50 to 70%, the blood supply beyond the plaque becomes inadequate to meet the increased oxygen demand during exercise.

The heart muscle in the territory of these arteries becomes starved of oxygen (ischemic). Patients often experience chest pain (angina) when the blood oxygen supply cannot keep up with demand. Up to 25% of patients experience no chest pain at all despite documented lack of adequate blood and oxygen supply. These patients have "silent" angina, and have the same risk of heart attack as those with angina.

When a blood clot (thrombus) forms on top of this plaque, the artery becomes completely blocked causing a heart attack.



EURO SCORE

It stands for **E**uropean **S**ystem for **C**ardiac **O**perative **R**isk **E**valuation. Operative mortality is a good measure of quality of cardiac surgical care, as long as patient risk factors are taken into consideration. It is a method of calculating predicted operative mortality for patients undergoing cardiac surgery.

If a risk factor is present in a patient, a weight or number is assigned. The weights are added to give an approximate percent predicted mortality.

SCORING SYSTEM

ADDITIVE EUROSCORE

<i>Patient-related factors</i>		<i>Score</i>
Age	(per 5 years or part thereof over 60 years)	1
Sex	female	1
Chronic pulmonary disease	long-term use of bronchodilators or steroids for lung disease	1
Extra cardiac arteriopathy	any one or more of the following: claudication, carotid occlusion or >50% stenosis, previous or planned intervention on the abdominal aorta, limb arteries or carotids	2
Neurological dysfunction disease	severely affecting ambulation or day-to-day functioning	2
Previous cardiac surgery	requiring opening of the pericardium	3
Serum creatinine	>200m micromole/L preoperatively	2
Active endocarditis	patient still under antibiotic treatment for endocarditis at the time of surgery	3
Critical preoperative state	any one or more of the following: ventricular tachycardia or fibrillation or aborted sudden death, preoperative cardiac massage, preoperative ventilation before arrival in the anesthetic room, preoperative inotropic support, intraaortic balloon counter pulsation or preoperative acute	3

renal failure (anuria or oliguria <10 ml/hour)

CARDIAC RELATED FACTORS		SCORE
--------------------------------	--	--------------

Unstable angina	rest angina requiring iv nitrates until arrival in the anesthetic room	2
------------------------	--	----------

LV dysfunction	moderate or LVEF 30-50%	1
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	poor or LVEF <30	3
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Recent myocardial infarct	(<90 days)	2
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Pulmonary hypertension	Systolic PA pressure >60 mmHg	2
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OPERATION RELATED FACTORS		SCORE
----------------------------------	--	--------------

Emergency	carried out on referral before the beginning of the next working day	2
------------------	--	----------

Other than isolated CABG	major cardiac procedure other than or in addition to CABG	2
---------------------------------	---	----------

Surgery on thoracic aorta	for disorder of ascending, arch or descending aorta	3
----------------------------------	---	----------

Post infarct septal rupture		4
------------------------------------	--	----------

LOGISTIC EUROSORE:

For a given patient, the “logistic Euro SCORE” is the predicted mortality according to the logistic regression equation.

The Asian Institute of Medical Sciences follows the same set of parameters to calculate the EURO Score.

But, now days a new model is used c/d as EUROSCORE II³. It was launched at 2011 EACTS meeting in Lisbon. Its scoring system is as follows-

PATIENT RELATED FACTORS

CARDIAC RELATED FACTORS

Age ¹ (years)			NYHA		
Gender			CCS class 4 angina ⁸		
Renal impairment ² <i>See calculator below for creatinine clearance</i>			LV function		
Extra cardiac arteriopathy ³			Recent MI ⁹		
Poor mobility ⁴			Pulmonary hypertension ¹⁰		
Previous cardiac surgery			OPERATION RELATED FACTORS		
Chronic lung disease ⁵					
Active endocarditis ⁶			Urgency ¹¹		
Critical preoperative state ⁷			Weight of the intervention ¹²		
Diabetes on insulin			Surgery on thoracic aorta		

Euro SCORE II

REVIEW OF LITERATURE:

- According to the study “Euro SCORE Predicts Immediate and Late Outcome After Coronary Artery Bypass Surgery” by Fausto Biancari, MD, PhD, Olli-Pekka Kangasniemi, MS, Johannes Luukkonen, MS, MD, Sailaritta Vuorisalo, MD, PhD, Jari Satta, MD, PhD, Risto Pokela, MD, PhD, Tatu Juvonen, MD, PhD, Euro SCORE is a relevant predictor of immediate and late outcome after on-pump CABG.
- According to “The performance of the Euro SCORE and the Society of Thoracic Surgeons mortality risk score: the gender factor” by Niv Ad*, Scott D. Barnett and Alan M. Speir, The utilization of preoperative mortality risk algorithms to determine the best treatment modality for a given patient with cardiovascular disease is a common practice among cardiac surgeons and cardiologists. The Euro SCORE has gained increasing popularity due to its format, and is now used quite extensively.

AIM:

To assess the Quality of the Surgical Care given to the Cardiac patients undergoing CABG in the hospital.

OBJECTIVES:

1. To assess the Quality of cardiac surgery with respect to European system for cardiac operative risk evaluation (EURO Score).
2. To assess the morbidity factors in cardiac surgeries (Readmission within 30 days).
3. To assess the mortality factors in cardiac surgeries.

STUDY DESIGN AND METHODOLOGY:

PERIOD OF STUDY

First three quarters of 2014

TYPE OF STUDY

Retrospective and Exploratory

SETTING

The study was conducted in the Medical Records Department of The ASIAN Institute of Medical Sciences.

SAMPLING TECHNIQUE

Selective Sampling

To capture the maximum data of cardiac surgery, selective sampling has been used.

SAMPLING UNITS

IPD patients

SAMPLE SIZE

94 Patients who underwent CABG in 2014 and 2015

TOOL USED

A Checklist was prepared to use as a tool for collection of data.

S. No.	UHID No.	IPD No.	D.O.A	EURO Score Additive	EURO Score Logistic	D.O.S	ALOS	Post Surgery ALOS	Re- ad within 30 days	Mortality within 30 days	Out- come

DATA ANALYSIS AND INTERPRETATION

Some protocols were used in the Analysis. These are -

➤ CATEGORY OF PATIENTS

Based on the score of European system for cardiac operative risk evaluation, all the cases have been divided into 3 categories.

<u>Category</u>	<u>Euro Score</u>
<u>Low Risk</u>	<u>0-3</u>
<u>Medium Risk</u>	<u>3-6</u>
<u>High Risk</u>	<u>6-10</u>

➤ LENGTH OF STAY

Normal length of stay- 7 days post surgery

Extended length of stay- More than 7 days post surgery

Data Analysis:

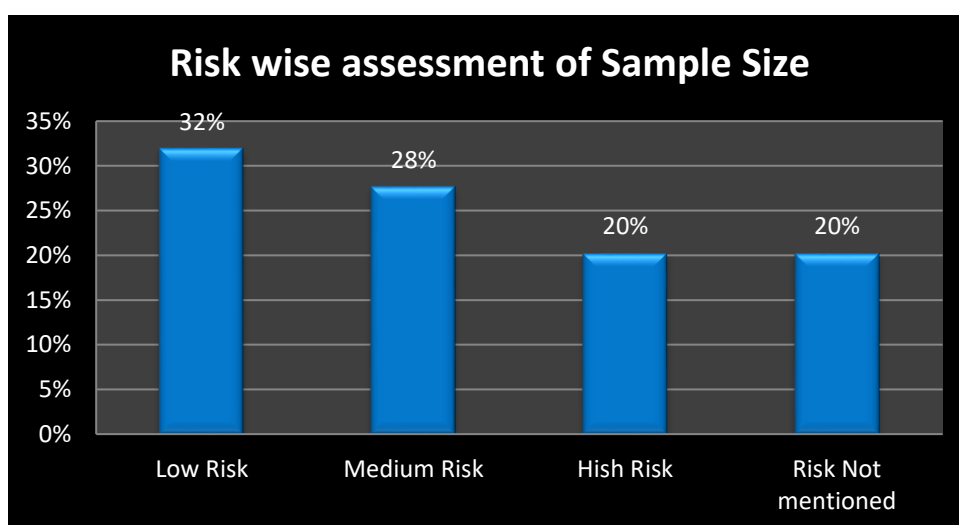
- No. of patients in each category (As per EURO Score)

- Low Risk Category - 30
- Medium Risk Category - 26
- High Risk Category- 19
- Risk Not Mentioned category- 19

Total no. of Patients- 94

% of Patient in a particular risk = $\frac{\text{No. of Patients in the risk}}{\text{Total No. of Patients}}$

Category	In %
Low Risk	32%
Medium Risk	28%
High Risk	20%
Risk Not mentioned	20%

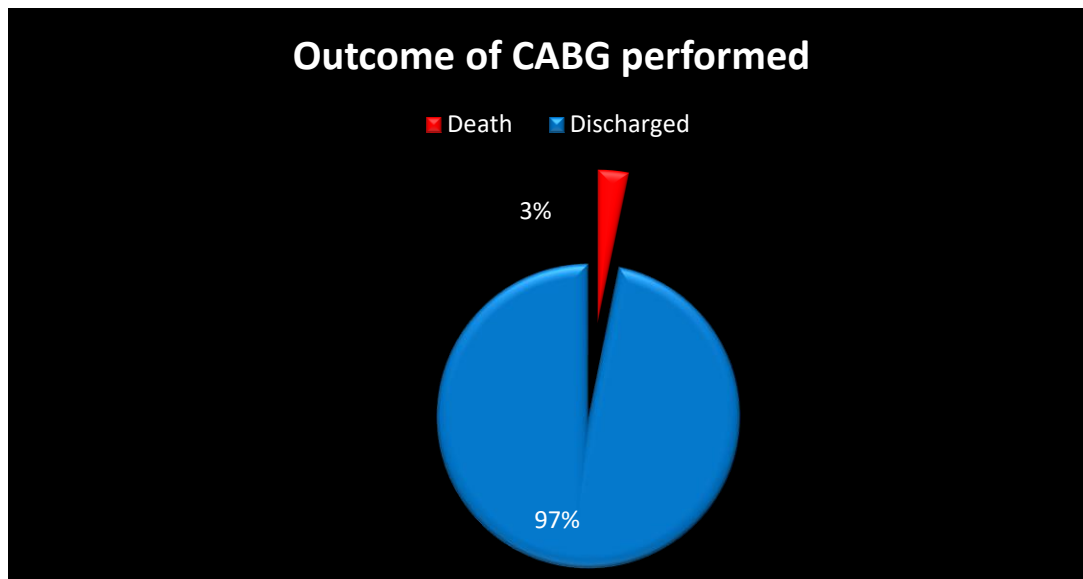


- Outcome of CABG Performed

Out of 94 patient's undergone CABG procedure, 91 patients were discharged and 3 cases of mortality were reported.

% of Discharged or death = $\frac{\text{No. of Discharges or Death}}{\text{Total No. of patients}}$

Outcome	In %	No. of Patients	Total Sample size
Death	3.19%	3	94
Discharged	96.81%	91	94



- Readmission Cases out of Total Discharges

Total sample- 94

Mortality- 3

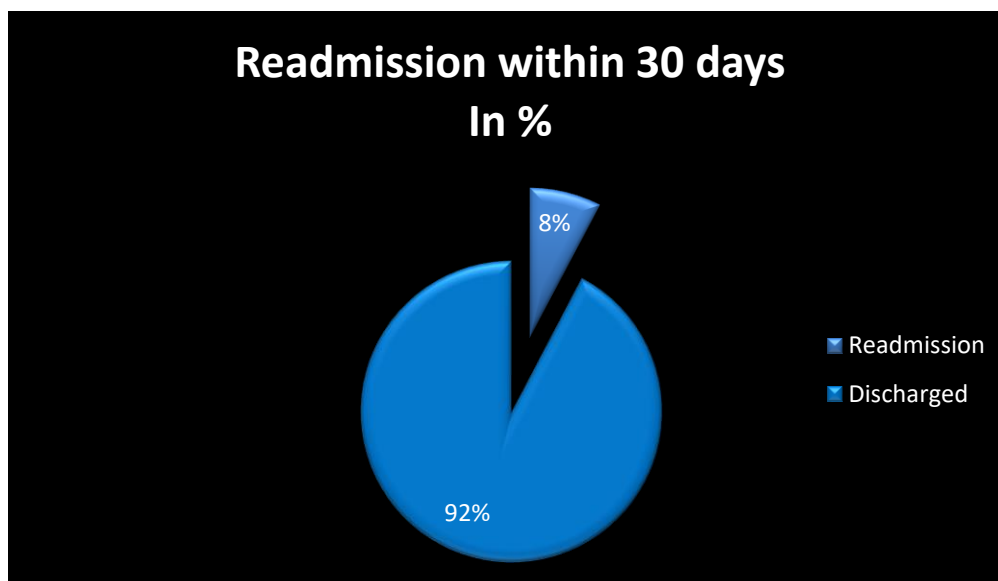
Total Discharges – 91

Out of total discharges, 7 patients got readmitted.

Readmissions – 7

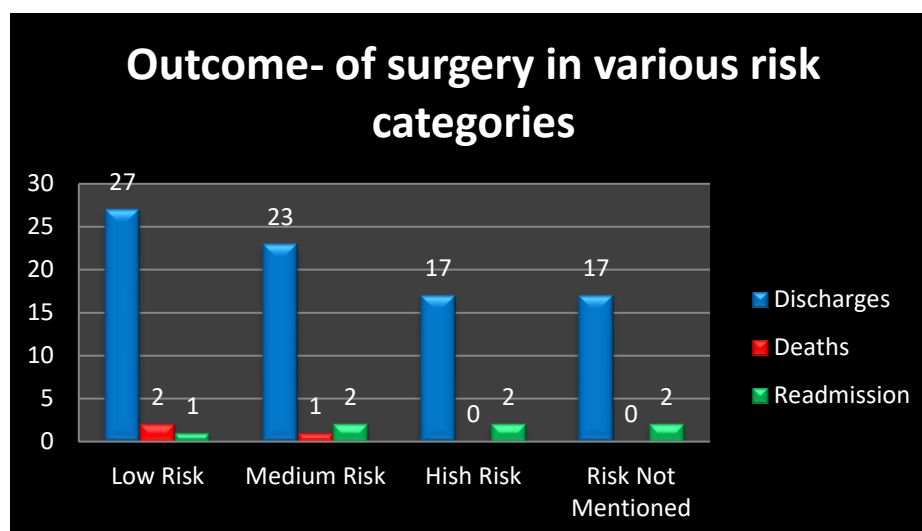
% of Readmissions = $\frac{\text{No. of patients Readmitted}}{\text{Total No. of Patients Discharged}}$

Outcome of Discharge	In %	No. Of patients	Total Discharges
Readmission	8%	7	91
Discharged	92%	84	91



- Outcome of Surgery in various Risk Categories

Risk Category	Discharges	Deaths	Readmission	Total
Low Risk	27	2	1	30
Medium Risk	23	1	2	26
High Risk	17	0	2	19
Risk Not Mentioned	17	0	2	19

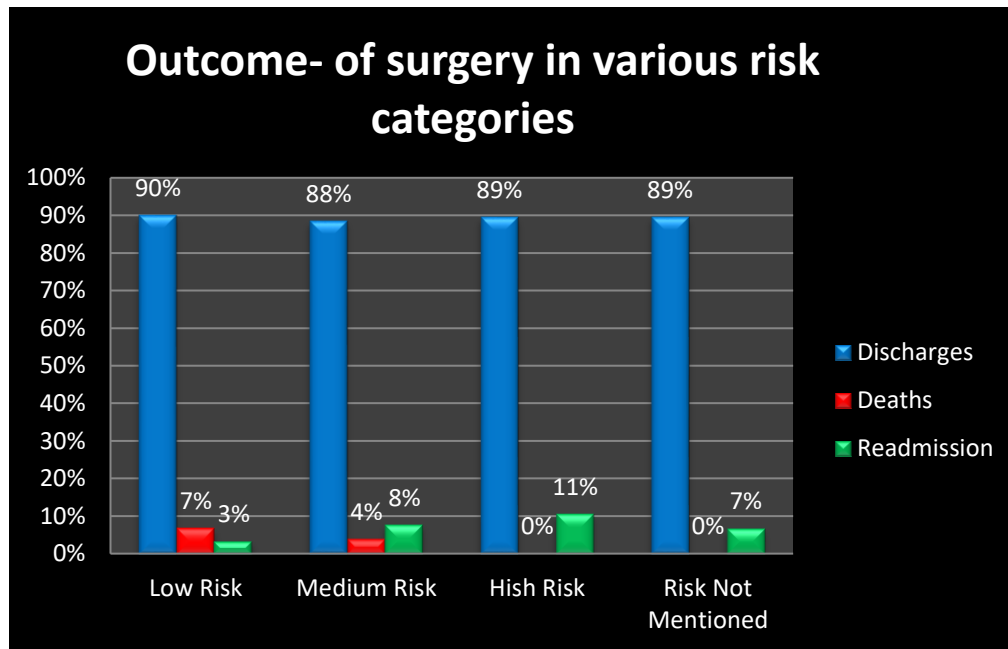


In a particular Risk Category-

% of Patients discharged/ Readmitted/ Mortality = $\frac{\text{No. of patients Discharged/Mortality/Readmit}}{\text{Total No. of Patients in that risk category}}$

Total No. of Patients in that risk category

Risk Category	Discharges	Deaths	Readmission
Low Risk	90%	7%	3%
Medium Risk	88%	4%	8%
High Risk	89%	0%	11%
Risk Not Mentioned	89%	0%	7%



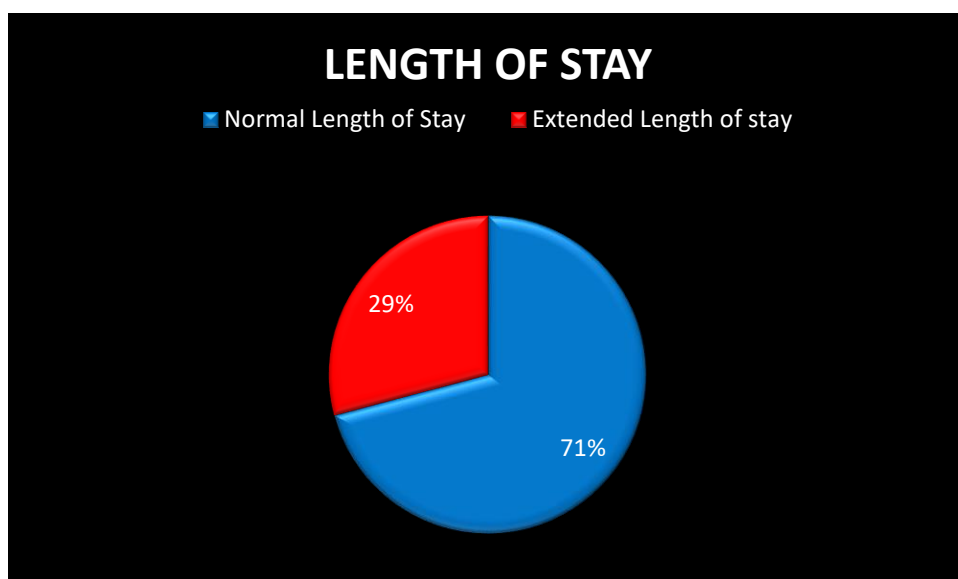
- Length of Stay in Patients

Out of total 91 patients (Discharged), 27 patients had extended length of stay (more than 7 days); whereas 66 patients had normal length of stay (less than 7 days).

% of Patients with ALOS = $\frac{\text{Total no. of Patients with ALOS (less or more than 7)}}{\text{Total no. of Patients Discharged}}$

(Less than or more than 7)

	No. Of cases	Total Discharged patients	%
Normal Length of Stay	66	91	71%
Extended Length of stay	27	91	29%



- Normal/Extended Length of Stay in various Risk Categories

	Post surgery ALOS less than or equal to 7	Post surgery ALOS more than 7	Deaths
Low Risk	21	7	2
Medium Risk	19	6	1
High Risk	11	8	0
Risk Not Mentioned	13	6	0
Total	64	27	3

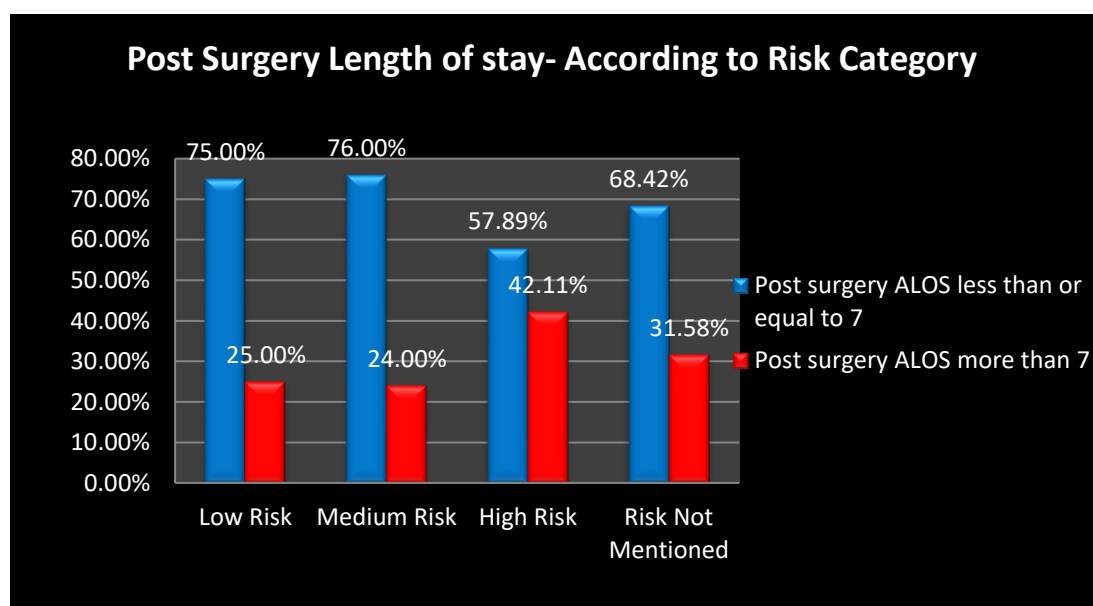
In a particular Risk Category,

% of patients with ALOS = No. of patients with ALOS (less or more than 7)

(Less or more than 7)

Total No. of Discharges

	Post surgery ALOS less than or equal to 7	Post surgery ALOS more than 7	Total Discharges
Low Risk	75.00%	25.00%	28
Medium Risk	76.00%	24.00%	25
High Risk	57.89%	42.11%	19
Risk Not Mentioned	68.42%	31.58%	19



Data Interpretation:

- Successes Rate of Cardiac Surgery – 97%.
 - No death occurred in High risk cases.
 - 2 deaths occurred in low risk category.
 - 1 death occurred in Medium risk category.
 - Morbidity percentage (Readmission within 30 days)- 8%
 - Average length of stay in all the discharged cases was- 7.64%
- ✚ The files showing mortality were given to the H.O.D CTVS for further clinical audit.
These are the findings--

Reasons for Death of the Patients**Death 1st**

Category- Low Risk Patient

Diagnosis-

- Mesenteric Ischemia
- Unstable Angina
- Triple Vessel Disease
- QLD Post PTCA

Death 2nd

Category- Medium Risk Patient

Diagnosis-

- Septic Shock with VAP with single vessel disease.
- Coarctation of Aorta, Severe AR, Severe LVD (EF-15-20%)

Death 3rd

Category- low risk Patient

Diagnosis—

- Ischemic Heart Disease
- Recent Anterior Wall MI (STK+)
- Post MI Angina
- Moderate LV Dysfunction
- Triple Vessel Disease
- Preoperative MI and Cardiogenic Shock

 The patient details cannot be mentioned because it is a confidential data of the hospital.

LIMITATIONS OF THE STUDY:

1. The study was limited to a period of three months only.
2. Only one tool has been used i.e. Checklist.
3. Old calculator was being used to calculate the risk while new calculator of EURO score is available i.e. EURO Score II.
4. In 20% (19 files) cases EURO score risk assessment has not been done. Ideally the compliance should be 100%.

SUGGESTIONS:

1. New model of EURO Score i.e. EURO Score II must be used.
2. Strict compliance for EURO Score needs to be followed.

Annexure-1

Total Discharge patient Billing sheet

	A	B	C	D	E	F	G	H
	Name of Patient	Doctor Name	Category	Discharge Date	Bed Code	Column1	Column2	
481	Sushila Rani	Dr. Manav Manchanda		31/05/2015 17:28	IC17	17:28:27	09:52:39	
482	SHIKSHA DEVI	Dr. Praveen Bansal	Medsave Healthcare Pvt.Ltd.	31/05/2015 16:48	102/3	16:48:43	13:07:39	
483	Nomita Kindra	Dr. Prabal Roy	ICICI Lombard General Insurance Co.Ltd.	31/05/2015 16:15	534-A	16:15:40	16:11:30	
484	Parveen	Dr. Yuvraj Kumar	ESI, Okhala	31/05/2015 14:39	201/3	14:39:00	17:58:49	
485	Sunita	Dr. Kuldeep Jain		31/05/2015 14:36	GY001	14:36:58	09:35:24	
486	BHOJDUIT SHARMA	Dr. Manav Manchanda	Haryana Government Employees	31/05/2015 14:21	205/7	14:21:10	13:41:26	
487	Vaishali	Dr. Anita Kant		31/05/2015 14:12	538-B	14:12:37	17:28:30	
488	SAKET ANAND	Dr. Jitendra Kumar	FHPL (Family Health Plan Ltd.)	31/05/2015 13:47	611	13:47:25	13:14:47	
489	BRAHAM PRAKASH	Dr. Yuvraj Kumar	ESI, Okhala	31/05/2015 13:39	201/11	13:39:37	00:00:00	
490	Mayank Hans	Dr. Ved Prakash	Raksha TPA	31/05/2015 12:57	501/3	12:57:02	23:25:03	
491	Bharti Jha	Dr. Jitendra Kumar	E-meditek	31/05/2015 12:55	D023	12:55:55	07:28:30	
492	Sarwan Kumar Gupta	Dr. Jitendra Kumar	FHPL (Family Health Plan Ltd.)	31/05/2015 12:52	D11	12:52:21	12:16:15	
493	Samay Singh	Dr. Subrat Akhoury	CGHS (Pensioners)	31/05/2015 12:51	BILL2	12:51:11	00:00:00	
494	Suman Devi	Dr. Praveen Bansal	ESI, Okhala	31/05/2015 12:49	103/3	12:49:44	10:57:33	
495	ASHU KATHURIA	Dr. Rishi Gupta		31/05/2015 12:40	641A	12:40:25	16:37:00	
496	MAIMTA DEVI	Dr. Rajesh Budhiraja	Raksha TPA	31/05/2015 12:27	203/5	12:27:00	20:23:49	
497	MUKESH SHARMA	Dr. Prabal Roy	DHS	31/05/2015 12:24	501/10	12:24:37	00:00:00	
498	Naveen	Dr. Prabal Roy		31/05/2015 12:16	202/2	12:16:17	15:00:05	
499	Kamlesh	Dr. Rajesh Budhiraja	E-meditek	31/05/2015 12:15	203/6	12:15:46	20:48:25	
500	Sudesh Dhawan	Dr. Simmi Manocha		31/05/2015 12:09	CW01	12:09:25	12:09:04	
501	Abhishek Sharma	Dr. Suneel R. Ahuja	DHS	31/05/2015 12:05	535-B	12:05:26	00:00:00	
502	HAZI KADEER KHAN	Dr. Mukesh Goel		31/05/2015 11:58	CW03	11:58:20	13:48:55	
503	Kavla	Dr. (Brig) Arvind Gupta	UHC	31/05/2015 11:57	510	11:57:15	00:00:00	
504	Irra Sardana	Dr. (Brig) Arvind Gupta	Star Healthcare	31/05/2015 11:50	PI02	11:50:02	23:34:38	
505	Dr. IPS Mazumdar			31/05/2015 11:45	202/1A	11:45:50	05:00:00	

Annexure-2

New Excel sheet (Data categorized, segregated, TAT and billing details also noted)

filterman report updated.xlsx - Microsoft Excel

	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1														
2	Dr. Praveen Bansal	CGHS (Pensioners)	30/05/2015 19:10	BILL6		18:00	22:30			TOTAL	PLANNED	UNPLANNED		
3	Dr. Mukesh Pandey		30/05/2015 18:10	514		17:00	20:00		FIRST	12	1	11		
4	Dr. Kamal Verma	Mediassist	30/05/2015 17:55	508		17:00	20:00		SECOND	11	0	11		
5	Dr. Praveen Bansal		30/05/2015 17:29	536-B	p	16:30	18:30		FIFTH	23	4	19		
6	Dr. Praveen Bansal	Vipul Medcorp TPA Pvt. Ltd.	30/05/2015 17:06	101/3		16:00	21:00		SIXTH	13	5	8		
7	Dr. Praveen Bansal		30/05/2015 16:59	101/7		16:00	18:00		MIS	7	0	7		
8	Dr. Praveen Bansal	ESI, Okhala	30/05/2015 16:58	101/4		16:00	22:00							
9	Dr. Praveen Bansal		30/05/2015 16:58	101/6		16:00	19:00							
10	Dr. Yuvraj Kumar	ESI, Okhala	30/05/2015 16:51	201/6		15:30	22:30							
11	Dr. Praveen Bansal	ESI, Okhala	30/05/2015 16:02	103/11		15:00	21:30		Billing before 12	15				
12	Dr. Jitendra Kumar	Northern Coal Field Ltd., Singrauli	30/05/2015 16:01	203/2		15:00	22:30		Billing b/w 12 and 1	19				
13	Dr. Rishi Gupta	Star Healthcare	30/05/2015 15:59	BILL1		15:00	22:30		Billing after 1	32				
14	Dr. Kunal Bahrani	Raksha TPA	30/05/2015 15:58	549-B		15:00	21:30							
15	Dr. Naveen Sanchety	ESI, Okhala	30/05/2015 15:53	BILL3		15:00	22:00							
16	Dr. Rubal Gupta	Park	30/05/2015 15:53	204/3		15:00	21:30							
17	Dr. Praveen Bansal	Mediassist	30/05/2015 15:42	103/15		15:00	20:30							
18	Dr. Praveen Bansal	Vipul Medcorp TPA Pvt. Ltd.	30/05/2015 15:36	102/6		14:00	21:30							
19	Dr. Rajesh Budhiraja		30/05/2015 15:01	205/4		14:00	16:30							
20	Dr. Vipin Gupta		30/05/2015 14:51	BILL1		14:00	17:00							
21	Dr. Praveen Bansal	Vipul Medcorp TPA Pvt. Ltd.	30/05/2015 14:44	102/7		13:30	19:45							
22	Dr. Praveen Bansal	Paramount Health Services (TPA) Pvt. Ltd.	30/05/2015 14:38	102/4		13:00	20:45							
23	Dr. Pranjit Bhowmik	Park	30/05/2015 13:39	138B	p	12:00	19:05							
24	Dr. Pranjit Bhowmik	Vipul Medcorp TPA Pvt. Ltd.	30/05/2015 13:21	647B	p	12:00	19:05							
25	Dr. Rishi Gupta	Haryana Government Employees	30/05/2015 13:19	642A	p	12:00	18:45							
26	Dr. Praveen Bansal	ESI, Okhala	30/05/2015 12:11	102/18		12:00	21:05							

Ready | 30th may | 29th may | 28th may | 27th may | 26th may | 23rd may | 22nd may | 21st may | 20TH MAY | 19TH MAY | 18TH MAY | 17TH MAY | 16TH MAY | 15TH MAY | 14TH MAY | 13TH MAY | 12TH MAY | 11TH MAY | 10TH MAY | 9TH MAY | 8TH MAY | 7TH MAY | 6TH MAY | 5TH MAY | 4TH MAY | 3TH MAY | 2TH MAY | 1ST MAY

start | Sent Items - Microsof... | CRM, OPD Billing, IPD... | New Microsoft Office ... | Filterman | Microsoft Excel - filter...

Annexure-3

Excel sheet mailed by NO/MOD

New Planned discharges - reporting for May.xlsx - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J	K
1	Month:										
2	Date	Day	Total (excluding Day Care, DOR, LAMA, Critical Areas, Deaths)	Planned	Converted Planned discharges	% of converted planned discharges out of total planned	% of planned discharges out of total discharges	Unplanned	% of unplanned out of total		
3	1	Friday	45		34	#DIV/0!	76%	11	24%		
4	2	Saturday	30		22	#DIV/0!	73%	8	27%		
5	5	Tuesday			9	#DIV/0!	#DIV/0!	-9	#DIV/0!		
6	6	Wednesday	42		27	#DIV/0!	64%	15	36%		
7	7	Thursday	41		34	#DIV/0!	83%	7	17%		
8	8	Friday				#DIV/0!	#DIV/0!	0	#DIV/0!		
9	9	Saturday			21	#DIV/0!	#DIV/0!	-21	#DIV/0!		
10	12	Tuesday			25	#DIV/0!	#DIV/0!	-25	#DIV/0!		
11	13	Wednesday				#DIV/0!	#DIV/0!	-22	#DIV/0!		
12	14	Thursday	25		22	#DIV/0!	132%	-8	-32%		
13	15	Friday	36		33	#DIV/0!	50%	18	50%		
14	16	Saturday			18	#DIV/0!	#DIV/0!	-28	#DIV/0!		
15	19	Tuesday			28	#REF!	#REF!	#REF!	#REF!		
16	20	Wednesday			32	#DIV/0!	#DIV/0!	-32	#DIV/0!		
17	21	Thursday			30	#DIV/0!	#DIV/0!	-30	#DIV/0!		
18	22	Friday			24	#DIV/0!	#DIV/0!	-24	#DIV/0!		
19	23	Saturday			25	#DIV/0!	#DIV/0!	-25	#DIV/0!		
20	26	Tuesday			6	#DIV/0!	#DIV/0!	-6	#DIV/0!		
21	27	Wednesday			13	#DIV/0!	#DIV/0!	-13	#DIV/0!		
22	28	Thursday	38		27	#DIV/0!	71%		0%		
23	29	Friday			25	#DIV/0!	#DIV/0!		#DIV/0!		
24	30	Saturday	257	0	155			#REF!			

Ready

start Sent Items - Microsof... CRM, OPD Billing, IPD... New Microsoft Office ... filterman report upds... Planned discharge Re... New Planned dischar...

Annexure-4

Master Excel sheet

New Planned discharges - reporting for May.xlsx - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J	K
1	Month:										
2	Date	Day	Total (excluding Day Care, DOR, LAMA, Critical Areas, Deaths)	Planned	Converted Planned discharges	% of converted planned discharges out of total planned	% of planned discharges out of total discharges	Unplanned	% of unplanned out of total		
3	1	Friday	45		34	#DIV/0!	76%	11	24%		
4	2	Saturday	30		22	#DIV/0!	73%	8	27%		
5	5	Tuesday			9	#DIV/0!	#DIV/0!	-9	#DIV/0!		
6	6	Wednesday	42		27	#DIV/0!	64%	15	36%		
7	7	Thursday	41		34	#DIV/0!	83%	7	17%		
8	8	Friday				#DIV/0!	#DIV/0!	0	#DIV/0!		
9	9	Saturday			21	#DIV/0!	#DIV/0!	-21	#DIV/0!		
10	12	Tuesday			25	#DIV/0!	#DIV/0!	-25	#DIV/0!		
11	13	Wednesday				#DIV/0!	#DIV/0!	-22	#DIV/0!		
12	14	Thursday	25		22	#DIV/0!	132%	-8	-32%		
13	15	Friday	36		33	#DIV/0!	50%	18	50%		
14	16	Saturday			18	#DIV/0!	#DIV/0!	-28	#DIV/0!		
15	19	Tuesday			28	#REF!	#REF!	#REF!	#REF!		
16	20	Wednesday			32	#DIV/0!	#DIV/0!	-32	#DIV/0!		
17	21	Thursday			30	#DIV/0!	#DIV/0!	-30	#DIV/0!		
18	22	Friday			24	#DIV/0!	#DIV/0!	-24	#DIV/0!		
19	23	Saturday			25	#DIV/0!	#DIV/0!	-25	#DIV/0!		
20	26	Tuesday			6	#DIV/0!	#DIV/0!	-6	#DIV/0!		
21	27	Wednesday			13	#DIV/0!	#DIV/0!	-13	#DIV/0!		
22	28	Thursday	38		27	#DIV/0!	71%		0%		
23	29	Friday			25	#DIV/0!	#DIV/0!		#DIV/0!		
24	30	Saturday	257	0	155			#REF!			

Ready

start Sent Items - Microsof... CRM, OPD Billing, IPD... New Microsoft Office ... filterman report upds... Planned discharge Re... New Planned dischar...

The screenshot shows the Microsoft Excel 2010 interface. The title bar indicates the file is 'New Planned discharges - reporting for May.xlsx'. The ribbon includes Home, Insert, Page Layout, Formulas, Data, Review, and View. The main worksheet displays a table with columns for dates, planned/unplanned status, and various room types (Conv, Billing, Post 1, Left room, Post 1.30). The table is color-coded: yellow for planned, green for unplanned, and red for other categories. A small chart is visible on the right side of the table.

Annexure-5

Department wise details in Master Sheet

New Planned discharges - reporting for May.xlsx - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1																					
2																					
3																					
4																					
5																					
6																					
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23																					
24																					
25																					
26																					

Ready

start Sent Items - Microsof... CRM, OPD Billing, IPD... New Microsoft Office ... filerman report upda... Planned discharge Re... New Planned dischar...

Annexure-6

Employees Vaccination Data

S.No	Emp. No		Name of Employees	Designation	Department	DOJ	TETER VALUE	LAST TITER DONE	REMARKS
1	10430	Mr.	RAJ KUMAR SHARMA	SENIOR TECHNICIAN	CSSD	03-Mar-10	0	not done	in 2012 HC was done but titre was not taken
2	20227	Dr.	SUNIL KUMAR	SR.RESIDENT	GENERAL SURGERY	01-Oct-11	0	-----	HC never done
3	10597	Mr.	JIBY MATHEW JOY	STAFF NURSE	NURSING	15-Jun-10	0	-----	in 2012 only HC was done
4	10858	Ms.	NEENU MOL PETER	STAFF NURSE	NURSING	20-May-11	0	-----	in 2012 only HC was done but not titre
5	12207	Mr.	AAKASH BHARDWAJ	SUPERVISOR	HOUSE KEEPING	13-Nov-13	0	-----	HC never done
6	10501	Mr.	RANJAN KUMAR SINGH	SUPERVISOR	HOUSEKEEPING	01-Apr-10	0	-----	HC never done
7	10193		SMITHA P SINU	CHIEF OPTOMETRIST	OPHTHALMOLOGY	01-Jan-10	0	-----	in 2010 and 12 only HC was done not titre
8	10444	Mr.	BALAM SINGH	SENIOR OT TECHNICIAN	OPHTHALMOLOGY	09-Mar-10	0	-----	in 2010 and 12 only HC was done not titre
9	10679	Mr.	GUDAL SINGH RAWAT	SALES SUPERVISOR	OPHTHALMOLOGY	04-Oct-10	0	-----	in 2010 and 12 only HC was done not titre
10	11417	Ms.	MAIBAM KUNJARANI DEVI	SENIOR STAFF NURSE	NURSING	13-Jun-12	0	-----	HC never done
11	11955	Ms.	KIRAN	STAFF NURSE	NURSING	01-Jun-13	0	-----	HC was never done
12	12104	Ms.	RINU . S. MARIA	STAFF NURSE	NURSING	07-Oct-13	0	-----	in 2013 only HC was done titre was not taken
13	12105	Ms.	RINJU ANTONY	STAFF NURSE	NURSING	07-Oct-13	0	-----	in 2013 only HC was done titre was not taken
14	12106	Ms.	REMYA JOY	STAFF NURSE	NURSING	07-Oct-13	0	-----	in 2013 only HC was done titre was not taken
15	12316	Ms.	RESMI R	STAFF NURSE	NURSING	27-Dec-13	0	-----	titre was done in 2013 but report was not present
16	12395	Ms.	RENJU R	STAFF NURSE	NURSING	13-May-14	0	-----	in 2014 only HC was done titre was not taken
17	12397	Ms.	REMYA SOMAN	STAFF NURSE	NURSING	13-May-14	0	-----	in 2014 only HC was done titre was not taken
18	12441	Ms.	SOUMYA K G	STAFF NURSE	NURSING	23-Jun-14	0	-----	in 2014 only HC was done titre was not taken
19	12713	M/s.	LEENA BABU	STAFF NURSE	NURSING	01-Dec-14	0	-----	HC not done for titer

Annexure-7

Emp. No		Name of Employees	Designation	Department	DOJ	TITER VALUE	LAST TITER DONE	Next Titre Date
10183	Mr.	BISWAJIT SARKAR	SENIOR TECHNICAL SUPERVISOR	BLOOD BANK	01-Jan-10	more than 1000	16.12.2010	16.12.2015
10389	Mr.	DEEPA MEHRA	SR. TECHNOLOGIST	BLOOD BANK	05-Feb-10	more than 1000	28.10.2010	28.10.2015
10534	Mr.	DEVENDER SINGH	SR. TECHNOLOGIST	BLOOD BANK	06-May-10	more than 1000	8.11.2010	8.11.2015
10670	Mr.	TARUN GUPTA	TECHONOLOGIST	BLOOD BANK	21-Sep-10	134.16	23.11.2010	23.11.2015
10246	Mr.	LAKSHMAN SWARUP	SENIOR MANAGER-CATHLAB	CARDIOLOGY & CATH LAB	12-Jan-10	more than 1000	1.12.2010	1.12.2015
10471	Mr.	KRISHAN KUMAR	JR. TECHNICIAN NON INVASIVE - CARDIOLO	CARDIOLOGY & CATH LAB	22-Mar-10	more than 1000	9.12.2010	9.12.2015
10550	Mr.	ASHISH KUMAR SHARMA	TEAM MANAGER	CARDIOLOGY & CATH LAB	11-May-10	more than 1000	3.12.2010	3.12.2015
10728	Ms.	HIMANSHU RANI	DIETICIAN	DIETETICS	12-Nov-10	more than 1000	25.11.2010	25.11.2015
10365	Mr.	DEEPAK SHARMA	ASSISTANT MANAGER	GASTROENTROLOGY	01-Feb-10	595.2	30.11.2010	30.11.2015
10192	Ms.	SHWETA SHARMA	SR. COORDINATOR ULTRASOUND	IMAGING & RADIOLOGY	01-Jan-10	more than 1000	16.11.2010	16.11.2015
10221	Mr.	MANISH SOLANKI	TECHNOLOGIST	IMAGING & RADIOLOGY	05-Jan-10	922.52	12.10.2010	12.10.2015
10036	Ms.	ANITHA P.C.	WARD SUPERVISOR	NURSING	01-Oct-09	288.82	7.4.2010	7.4.2015
10042	Ms.	SUJI JOMON	WARD SUPERVISOR	NURSING	01-Oct-09	more than 1000	13.4.2010	13.4.2015
10114		MINI P. ANTONY	WARD SUPERVISOR	NURSING	16-Dec-09	more than 200	20.7.2010	20.7.2015
10120		DENISH KOTTIYANIL JOHN	TEAM MANAGER	NURSING	17-Dec-09	more than 1000	13.8.2010	13.8.2015
10143	Mr.	AMAL RAJ K.R.	SHIFT SUPERVISOR	NURSING	19-Dec-09	125	28.6.2010	28.6.2015
10396	M/s.	SOSAMMA STANLEY	WARD SUPERVISOR	NURSING	11-Feb-10	more than 1000	4.7.10	4.7.2015
10432	Ms.	TISSY P. MATHEW	SURGICAL ASSISTANT	NURSING	03-Mar-10	896.23	2.7.2010	2.7.2015
10529	Ms.	GURPREET KAUR	STAFF NURSE	NURSING	27-Apr-10	more than 1000	7.5.10	7.5.2015
10586	Mr.	MATHEW JOHN	SURGICAL ASSISTANT	NURSING	14-Jun-10	more than 1000	14.7.10	14.7.2015
10624	Ms.	SHUJI MOL JOSEPH	SR. STAFF NURSE	NURSING	12-Jul-10	more than 1000	28.7.2010	28.7.2015
10057	Mr.	SANJEEV KUMAR	OT SUPERVISOR	OPERATION THEATRE	16-Nov-09	more than 1000	27.11.10	27.11.2015
10419	Mr.	SURESH KUMAR	TECHNICIAN GRADE I	OPERATION THEATRE	23-Feb-10	327.12	27.11.10	27.11.2015

Annexure-8

Emp.No.	Name	Designation	Department	DOJ	TITER VALUE	LAST TITER	Next Titre date
20005	Dr. Naintara Batra	Head & Senior Consultant	Anesthesia	1Dec'09	247.04	2.12.10	2.12.2015
20015	Dr. Anil Batra	Consultant	Pediatrics	1 Jan'10	more than 1000	7.12.10	7.12.2015
20016	Dr. Divesh Arora	Sr. Consultant & Head OT Services	Anesthesia	1Jan'10	830.87	6.12.10	6.12.2015
20021	Dr. (Wg Cdr) V K Gupta	HOD	Orthopedics	8Jan'10	more than 1000	31.3.10	31.3.2015
20043	Dr. Anita Kant	Director - Gynae. & Obs.	Gynaecology	1Feb'10	229.82	27.11.10	27.11.2015
20046	Dr. Gunjan Bhola	Associate Consultant	Gynaecology	1Feb'10	479.98	31.3.10	31.3.2015
20050	Dr.Nikhil Seth	Consultant	Ophthalmology	1Feb'10	more than 1000	7.12.10	7.12.2015
20088	Dr. Jitendra Kumar	Director - Nephrology & Transplant Medicine	Nephrology	16-Feb-10	176.06	9.12.10	9.12.2015
20093	Dr. Amit Kumar Kochhar	Sr.Consultant	Anesthesia	22-Mar-10	567.29	7.12.10	7.12.2015
20119	Dr. Niti Gulati	Sr.Consultant	Anesthesia	28-Jun-10	more than 1000	1.12.10	1.12.2015
20139	Dr. Swapnil Brajpuriya	Consultant	ENT	29-Sep-10	more than 1000	27.11.10	27.11.2015
20147	Dr. Rajesh Kumar Budhiraja	Consultant	Internal Medicine	1-Nov-10	287.00	21.13.10	21.3.2015
20150	Dr. (Brig) Arvind Gupta	Director Paediatrics	Pediatrics	1-Nov-10	460.55	3.12.10	3.12.2015
20157	Dr. Ajit Kumar Thakur	Consultant	Critical care	15-Dec-10	251.90	16.12.10	16.12.2015
11436	Dr. Punit Kumar Pruthi	Senior Consultant	Internal Medicine	14-Jun-12	992.50	3.12.10	3.12.2015
20052	Dr.Usha Priyambada	Associate Consultant	Gynaecology	1-Feb-10	672.75	7.4.10	7.4.2015
20109	Dr. Prateek Bajaj	Assistant Consultant	Cardiology & Cath Lab	10-May-10	more than 1000	2.12.10	2.12.2015
20083	Dr. Divya Kumar	Assistant Consultant	Gynaecology	6-Mar-10	more than 1000	2.12.10	2.12.2015