Summer Training at
Fortis Escorts Heart Institute, New Delhi
(April 1–June 1, 2014)

Comprehensive Study on the Cath Lab Fortis Escorts Heart Institute New Delhi

By
Kriti Tripathi

Under the guidance of
Dr. Susmit Jain

MBA- Hospital & Health Management (MBA-HM)
2013-2015

The IIHMR University, Jaipur
2014

INSTITUTE OF HEALTH MANAGEMENT RESEARCH
1, Prabhu Dayal Marg
Sanganer Airport, JAIPUR - 302 029, INDIA
Tel. : 3924700, 2791431-32
Fax : 91-141-3924738
E-mail : iihmr@iihmr.org
URL : http://www.iihmr.org
Gram : HEALTHINST

CERTIFICATE

This is to certify that Dr. Kriti tripathi has undergone her summer training in FORTIS ESCORTS HEART INSTITUTE ,NEW DELHI from 1st April, 2014 to 31may, 2014.The candidate herself carried out all the studies related to her summer training. Her approach to the study has been scientific and analytical. This summer training is partial fulfilment of course requirement is recommended for the award of post graduate diploma in hospital management.

I wish her success in all her future endeavours.

Dr. Ashok Kaushik

Dean(Academic & Student Affairs)

IIHMR Jaipur

Dr. Susmit jain

Assistant Professor

IIHMR Jaipur

Fortis Escorts
HEART INSTITUTE

ESCORTS HEART INSTITUTE AND RESEARCH CENTRE LIMITED
Okhla Road, New Delhi - 110025 (INDIA)
Phone : +91 11 4713 5000
Direct : +91 11 4162 8429
Fax : +91 11 2682 5012, 2682 5013
Mobile : +91 98 1859 0060
E-mail : vibhu.gupta@fortishealthcare.com
Website : www.fortisescorts.in

DR. V.R. GUPTA
MEDICAL DIRECTOR

30th May 2014

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Kriti Tripathi** a student of Institute of Health Management Research (IIHMR), Jaipur has completed her project under my guidance from Fortis Escorts Heart Institute & Research Centre, New Delhi from 1st April, 2014 to 30th May, 2014.

She undertook elaborative project on –

CATH LAB UTILIZATION & DELAY IN DISPATCH REPORT

She was sincere, hardworking and cooperating with hospital staff.

I wish her all the success in her career.

(DR V R GUPTA)
MEDICAL DIRECTOR

Dr. V.R. GUPTA
Medical Director
Fortis Escorts Heart Institute
Okhla Road, New Delhi-110 025

NABH Accredited

ACKNOWLEDGEMENT

I would like to express my sincere thanks and gratitude to Escorts Heart Institute & Research Centre, New Delhi, for allowing me to complete my project in the facility.

I would like to thank **Dr. V.R Gupta**, Medical Superintendent for giving me opportunity to do my project at **FEHI**.
I wish my heartfelt gratitude to **Dr.suman Bhandari**, director of **cath lab department**

Foremost, I would like to thank **dr.nancy Chugh administrator cath lab** FEHI, New Delhi, who was kind enough to spare his valuable time and provided several important suggestions at every stage of my study. His impeccable suggestions have added loads of value to my knowledge base.

Sincere thanks to all the staff at all levels for helping me at each and every step of my work. Heartiest gratitude to them for making my stay and work at this place a memorable one. Last, but not the least, I am thankful to **Dr. Sunil Kapoor**, director FEHI for involving me in some of new initiatives and designing of future plans for the hospital.

Thanks to one and all

Dr.kriti tripathi

Table of content

RESEARCH OBJECTIVE

- To study the **process flow of cath lab** department.
- To understand the past and present patterns of **utilization of facility** and suggest ways of enhancing facilities
- To study the **patient scheduling** process presently being followed in the lab and suggest ways of
    - Improving and regulating patient flow in the lab
    - Reducing patient patient waiting time
- To study **delay in dispatched reports in cath lab** department. to find out reasons for delay and suggest recommendations

Study tenure-

April-may2014

Place of study -

FORTIS ESCORTS HEART INSTITUETE

Okhla road,

New Delhi-110025

Executive Summary

Cardiac catheterization labs are typically stressful places to work where days can be hectic and unpredictable as the staff constantly juggles‘ schedules one often leading to delay of cases between the scheduled ones often leading to delay of cases, leaving patients and doctors perplexed .cardiologist also dislike the unpredictability and the long time spent in the cath lab waiting for their cases

This study is aimed at analyzing the various aspects of managing the basic processes of a cath lab such as patient scheduling ,ensuring effective utilization of the lab ,at the same time ensuring effective utilization of the lab, at the same time ensuring good quality of care . in the efforts to quickly wrap up and close the cases for the day. this study is meant to understand the gaps and find soulution for the same

I started my project with orientation of cath lab and tried to familiarize myself with the working of the department. I proceeded by observing and interviewing the staff there to get the required data .

I have tried my best to find out the possible bottlenecks and have given my suggestions for the same.

Reason for choosing this project

This study will help the department assess the existing workload as well as identify means of optimizing the facility functioning and patient scheduling while ensuring quality care for patient undergoing cath procedures .Better utilization of the time taken in providing care in such critical areas.

From the administrative point of view, construction of cath lab is very significant for a hospital as it saves the time, manpower and other important resources which might be consumed on these types of surgeries if it had been performed in operation theaters.

Though this project I. as a management expect to gain hands on experience of the non-clinical aspects of management of a department, as critical as cath lab

Literature review

- According to **Carl vetch & Carolyn pexton,** university of Pittsburgh medical center, healthcare organization are increasingly targeting the working of critical areas such as the cardiac catheterization lab, which is generally a high-volume ,challenge and complex environment within any healthcare facility ,to find ways of cutting cost while ensuring same or better quality of service.
- According to **tom long,** MBA,RT(R),CCVT,CCPT,the cost of providing high quality service within the healthcare organization has increased significantly over the past one &two decades , primarily due to decreased payments and the increased cost of doing business
- **Don salvey's** study on **medical device reprocessing- is it good for your organization?**-mentions that according to **general** accounting office reports entitled –single-use medical device: little available evidence of harm from reuse, but oversight warranted"june2000- if just 1 or 2% of all the disposable medical devices used in the US today were reprocessed , the healthcare industry would save billion dollars every year.
- In the **international society of technology assessment in health care meeting (1992), Ottawa, Canada on reuse of medical products:** the cases of cardiac catheters, according to comis j,there does not appear to be ‗clear-out' evidence that reuse of catheters causes an increase in the incidence of side effect like infection .however there is concern in the field that current cleaning and sterilizing techniques do not guarantee a safe product for reuse. If reuse is to take place, there must be written guidelines and procedure for cleaning and sterilizing, and appropriate documentation of these processes whenever they occur.
- Implementation of effective, integrated practices can lead to many benefits .patient benefit from safer and more efficient work environment .medical staff benefits from improved workflow and more satisfied patients. Employees win as a result of the elimination of wasteful work, resulting in a less-stressful work experience and improved productivity .Finally ,the values benefits all hospital stakeholders ,from staff who enjoy a better working environment to physicians who can plan for their procedure to start gains the capacity to deliver care to more people

INTRODUCTION

INTRODUCTION TO FEHI

Fortis Escorts Heart Institute, formerly known as Escorts Heart Institute and research center, a pioneer in the field of fully dedicated cardiac care facility in India is a Fortis (Fortis Healthcare (India) Ltd.) network hospital. Fortis Healthcare is the fastest growing hospital network in India.

Fortis Healthcare led by the vision of late Dr. Parvinder Singh of creating an integrated healthcare delivery system in India acquired Escorts Heart Institute and Research Centre Ltd. in 2005. Established in 1988, Escorts celebrated 22 years of Cardiac excellence last year.

Fortis Escorts Heart Institute has set benchmarks in cardiac care with its path breaking work over the past 22 years. Today, it is recognized world over as a centre of excellence providing the latest technology in Cardiac Bypass Surgery, Minimally Invasive Surgery (Robotics), and Interventional Cardiology, Non-invasive Cardiology, Pediatric Cardiology and Pediatric Cardiac surgery.

The hospital is backed by the most advanced laboratories performing complete range of investigative tests in the field of Nuclear Medicine, Radiology, Biochemistry, Hematology, Transfusion Medicine and Microbiology.

Fortis Escorts Heart Institute has a vast pool of talented and experienced team of doctors, who are further supported by a team of highly qualified, experienced and dedicated support staff and cutting edge technology like the recently installed Dual CT Scan.

Currently, more than 200 cardiac doctors and 1600 employees work together to manage over 14,500 admissions and 7,200 emergency cases in a year.

The hospital today has an infrastructure comprising of around 310 beds (it currently enjoys 100% occupancy rate), 6 Cath Labs besides a host of other world-class facilities.

FEHI has a capacity of 310 beds, 9 Operation Theatres, 2 Heart Command Centers, and 1 Heart Station besides an array of other world-class facilities. EHIRC provides top end services in areas of acute care, invasive and non-invasive cardiology and state-of-the-art surgical procedures, besides playing a leading role in prevention and the reversal of heart disease.

MISSION:

Our Mission is to improve the quality of health care and become the most revered healthcare service provider in India.

VISION:

"To create a world-class integrated healthcare delivery system in India, entailing the finest medical skills combined with compassionate patient care."

ACCREDITATIONS

- **Joint Commission International, USA**
- **National Accreditation Board Hospitals and Healthcare Providers (NABH)**
- NABH (Blood Bank) Accreditation
- International Organization For Standardization (ISO) 9001:2000 Certification
- **SUPERBRAND 2008 Award**
- **NABL**

VALUES

- **Vision:** Imbibe and share the vision.
- **Integrity:** Lead through honesty and integrity.
- **Respect:** Earn respect.
- **Trust:** Gain patient trust.
- **Understanding:** Commit to compassion, care and understanding.
- **Own:** Own quality excellence.
- **Share:** Develop and share success.

Departments:

- Cardiothoracic and Vascular Surgery
- Cardiology
- Preventive and Rehabilitative Cardiology
- Pediatric and Congenital Cardiology and Surgery
- Pediatric Cardiac Care
- Anesthesiology and Critical Care
- Critical Care Medicine
- Radio Imaging
- Hematology
- Biochemistry
- Microbiology
- Internal Medicine and Diabetology
- Orthopedics
- Pulmonology
- Nephrology
- Neurology
- Dental Surgery
- General Surgery, Adult and Pediatric
- ENT
- Ophthalmology
- Physiotherapy
- Gastroenterology
- Thoracic Surgery and Thoracic Surgical Oncology
- Nuclear Medicine

SERVICES:

- Diagnostic Services
- Treatment Services
- Pediatric Heart Care
- Escorts Heart Alert Services
- Preventive Cardiology and Rehabilitation Services
- Emergency services
- Community Outreach
- Critinext

Treatment Services:

- Coronary Artery Bypass Surgery(Standard)
- Coronary Bypass Surgery(MIDCAB)
- OFF PUMP Coronary Artery Bypass Surgery(OPCAB)
- Trans Myocardial Laser Revascularization(TMLR)
- Heart Port Surgery
- Robotic Surgery
- Aortic Aneurysms and Dissections
- Carotid Endarterectomy
- Valve Surgery
- Peripheral Vascular Disease(PVD)

SERVICES OFFERED

- Cardiac Bypass Surgery
- Minimally Invasive Surgery
- Interventional Cardiology
- Non-Invasive Cardiology
- Pediatric Cardiology
- Multi-Specialty Care for Cardiac Patients

VALUE ADDED SERVICES

- Dedicated patient care coordinators to assist patient/attendant
- Travel/ti8cketing arrangements for patients and relatives
- Receive the patient from Airport-Car/Ambulance
- Arranging sightseeing/shopping/prayer
- Local travel needs for patient‘s relatives
- Prepaid cell phone card
- Interpreters
- Internet
- Foreign exchange
- All finance related matters under single window

Fortis Escorts Heart Institute is on panel of imminent corporate, PSU, TPA, CGHS, and ECHS for indoor treatment and medical services. We have designed package of corporate health services to ensure that employees of its corporate clients stay healthy and productive. The aim is to impart expert health advice and ensure that medical support is available to the employees of client organizations, whenever they need it. Apart from indoor hospitalization, OPD services, preventive care and treatment for common health related problems are also made accessible to employees and dependants as per corporate policy.

Corporate Services:

- Executive health checkups
- On site health checkups
- Emergency services
- Health education and awareness talks
- Outpatient and Hospitalization Services
- First aid and BLS training
- Sick bay/Medical room facility
- Relationship Manage

Fortis Escorts Heart Institute (FEHI) is a renowned name in the field of cardiac surgery, interventional cardiology and cardiac diagnostics. The institute formally came in to existence in October 1988; FEHI was set up as a dedicated cardiac hospital to bring to India the best cardiac care, training of cardiac surgeons and cardiologists and also to conduct research of international standards. The Fortis group took over the hospital on 10th September 2005.

FEHI draws a benchmark in healthcare sector by:

- Providing state-of-the-art world standard healthcare that exceeds expectations of patients and families.
- Pursuing independent as well as collaborative research in all aspects of cardiothoracic medicine and surgery.
- By establishing a network of joint ventures and satellite centers to extend the availability of quality health care to the population at their doorstep.
- Providing expert training for medical, paramedical, nursing and other professionals in the field of heart care.

Networking with other organizations to promote health and well being in society through education, preventive checkups and community outreach programs.

Moreover, the hospital has some of the latest and most advanced high-technology systems for imaging, radiology and pathology testing in its laboratories.

Some of which are:

- Dual Slice Somatom CT
- MRI-1.5 tesla Cardiovascular
- Da Vinci Robotic Surgery
- Advanced SPECT gamma camera

Adding with an efficient and robust information technology system enables better efficiency and greater patient convenience at the institute.

Fortis Escorts Heart Institute has been setting standards for excellence in healthcare for over 22 years. it is one of the pioneer stands-alone Cardiac Care Hospital to receive JCI(Patient Care & Safety), NABH(Hospital & Bloods Bank) & ISO accreditation. It is also one of the hospitals to be awarded as super brands.

It has more than 200 cardiac doctors and 1,600 employees who work in tandem to manage over 14,500 admissions and 7,200 emergency cases in a year.

Fortis Escorts Heart Institute is the only cardiac hospital in India to have a dedicated pediatric department with a specialized, highly trained multi-disciplinary team of pediatric cardiologists, pediatric surgeons, anesthesiologists and pediatric intensivists.

Some of the key milestones:

- By March 2010, the hospital has conducted over 131,939 Angiographies, 33,958 Angioplasties and 72,820 cardiac surgical procedures with a success rate over 99.7%.
- Fortis Escorts Heart Institute created a world record in 2001 by performing 4000cardiac surgeries in a single year.
- In twenty years since its inception Fortis Escorts Heart Institute has treated more than 2 million patients.
- Fortis Escorts Heart Institute is counted among the first to introduce robotic cardiac surgery in Asia, were also the first to introduce YAG laser in India, which is considered a breakthrough in the treatment of coronary artery diseases.

- The Prucka IT version 6.5 is the latest, high-end electrophysiology laboratory equipment for the detection and treatment of complex arrhythmia.
- Fortis Escorts Heart Institute introduced the Fortis escorts Heart Alert Service that has revolutionized cardiac care in India by providing an expert ECG interpretation over telephone within minutes of any chest complaint/symptoms. Patients in India as well as abroad can be benefited by this service.

1.1 PROCEDURES

List of procedure done in the cath lab as follows:

DIAGNOSTIC PROCEDURES

- **ANGIOGRAMS**
  --BRONCHOGRAM
  --CARDIAC CATHETERIZATION
  --CAROTID ANGIOGRAPHY
  --RENAL ANGIOGRAPHY
  --PERIPHERAL ANGIOGRAPHY
- TPI
- CARDIOVERSION
- FLUROSCOPY
- EPS(ELECTRO PHYSIOLOGY STUDY)
- **THERAPEUTIC PROCEDURES**
- CORONARY INTERVENTION
- PTCA
- NON-CORONARY INTERVENTION
- PTA
- AAA
- BALLON VALVOTOMY
  (BPV, BMV, BAV)
  - DEVICE CLOSURE(ASD,VSD,PDA)
  - BIV
  - SEPTOSTOMY
  - CARTO
  - RFA

- SEPTAL ABLATION
- REPOSITIONING/REPLACEMENT
- EXPLANTATION
- PERICARDIAL TAPPING
- COIL EMBOLATION
- ICD
- IVC
- COMBO
- PPI
- COA

CARDIAC CATHETERIZATION LAB

INTRODUCTION–

This study was conducted on the cath lab department –an integral part of **FORTIS ESCORTS HEART INSTITUTE** which offers super specialized care in the disciplines of cardiology and cardio –thoracic & vascular surgery.

This technologically advanced, state-of-the-art facility has all the process and systems which are geared to ensure that the patient‘s care and comfort takes precedence over everything else

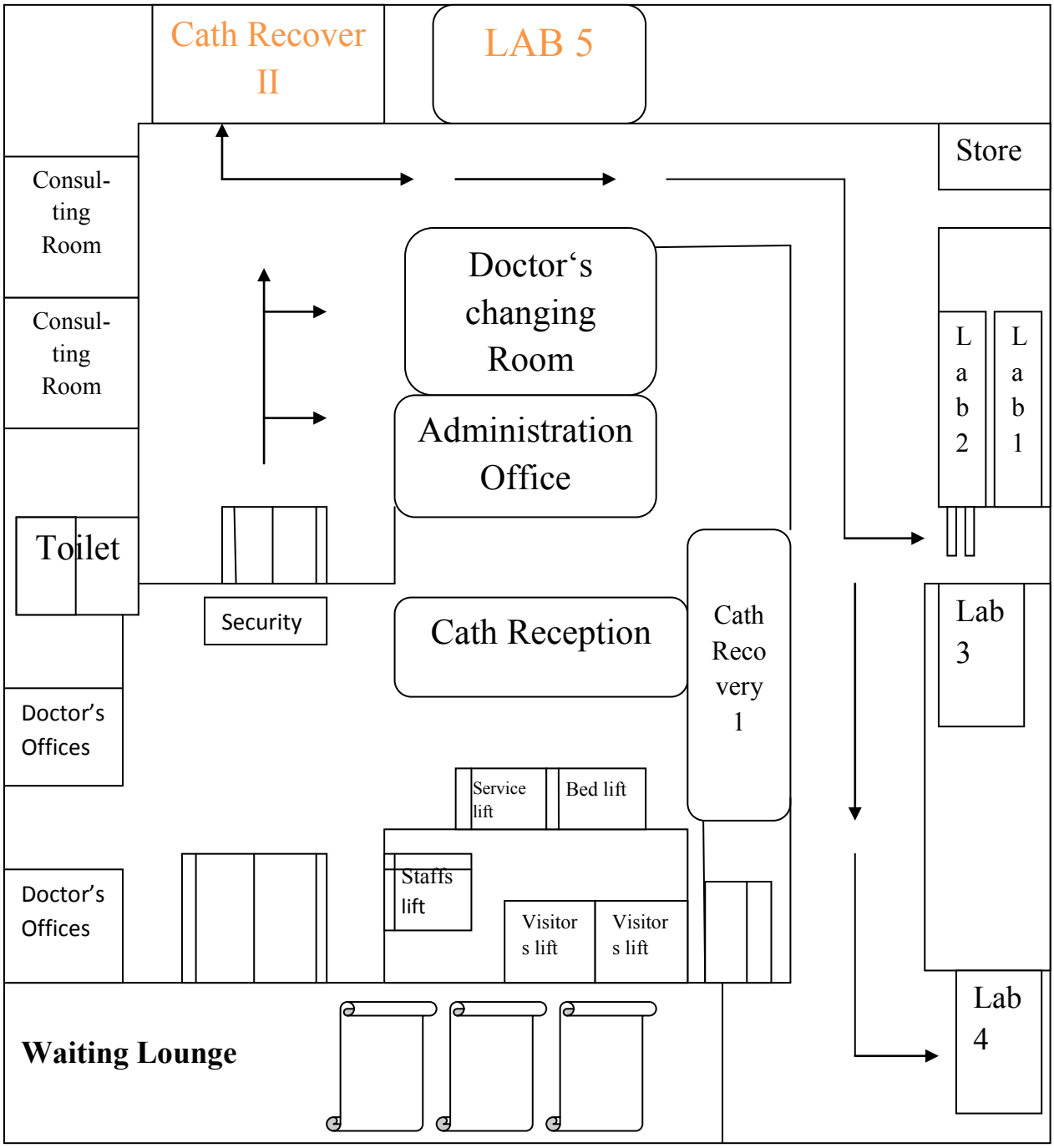
INFRASTRUCTURE-Escorts Cardiac Catheterization Laboratory is one of the largest and most advanced cardiac labs in Asia. The institute

Has been functioned since october1988 and cardiologist here performs more then 12,000 procedure annually.

They have four state of the art and most advanced flat panel cardiac cath labs. Three labs are being used for adult procedure as well as pediatric intervention. one lab is functioning as electrophysiology lab. Doctors are well qualified and leader in their field. The staffs are friendly and dedicated to their work. Escort is

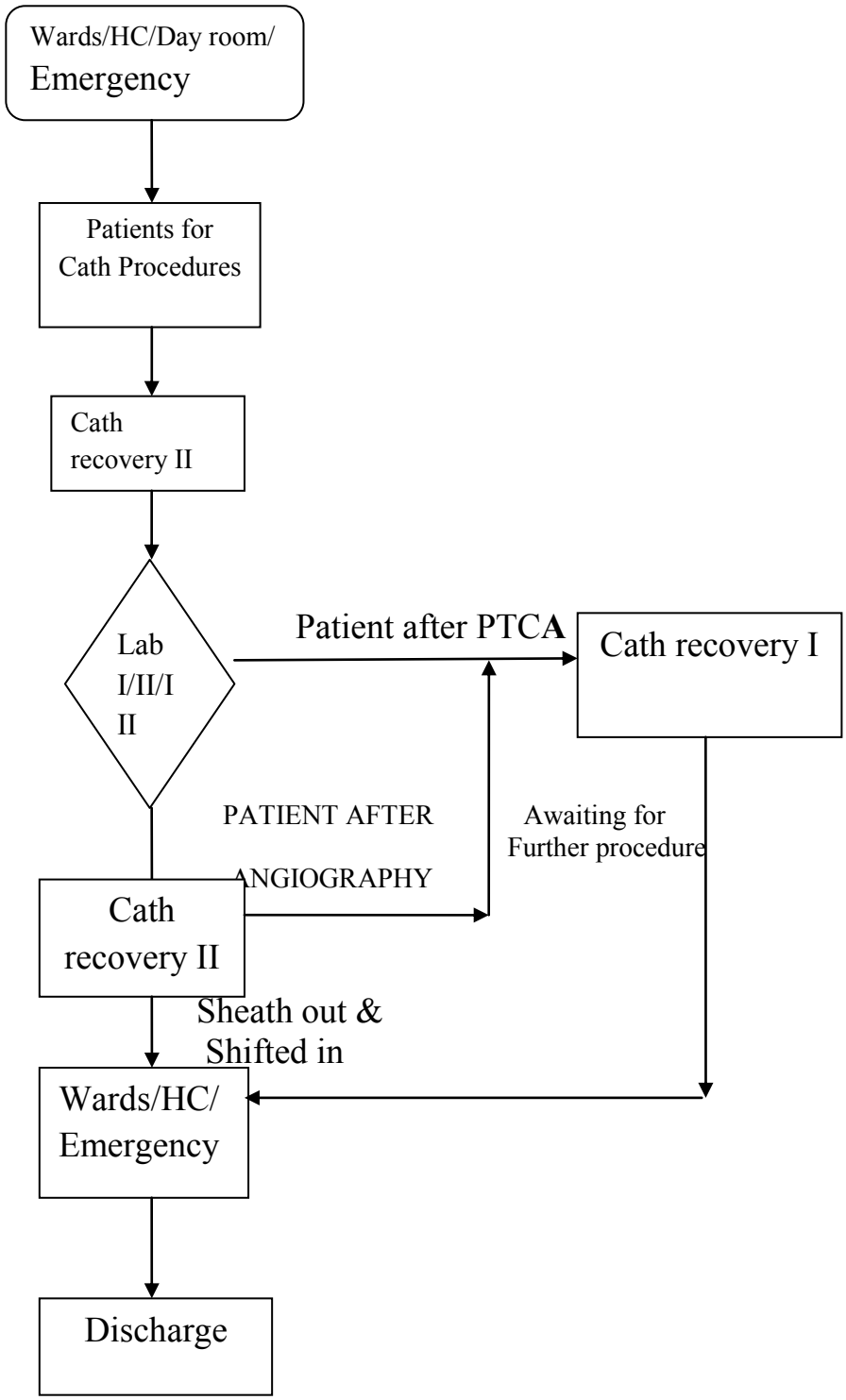
considered as Training center for whole North India for intervention cardiology. The interdisciplinary team at Escorts is consulted to preserving the utmost quality of patient care by using latest technique in the diagnosis and treatment of coronary artery disease since past 20 years.

CATH LAB PHYSICAL LAYOUT

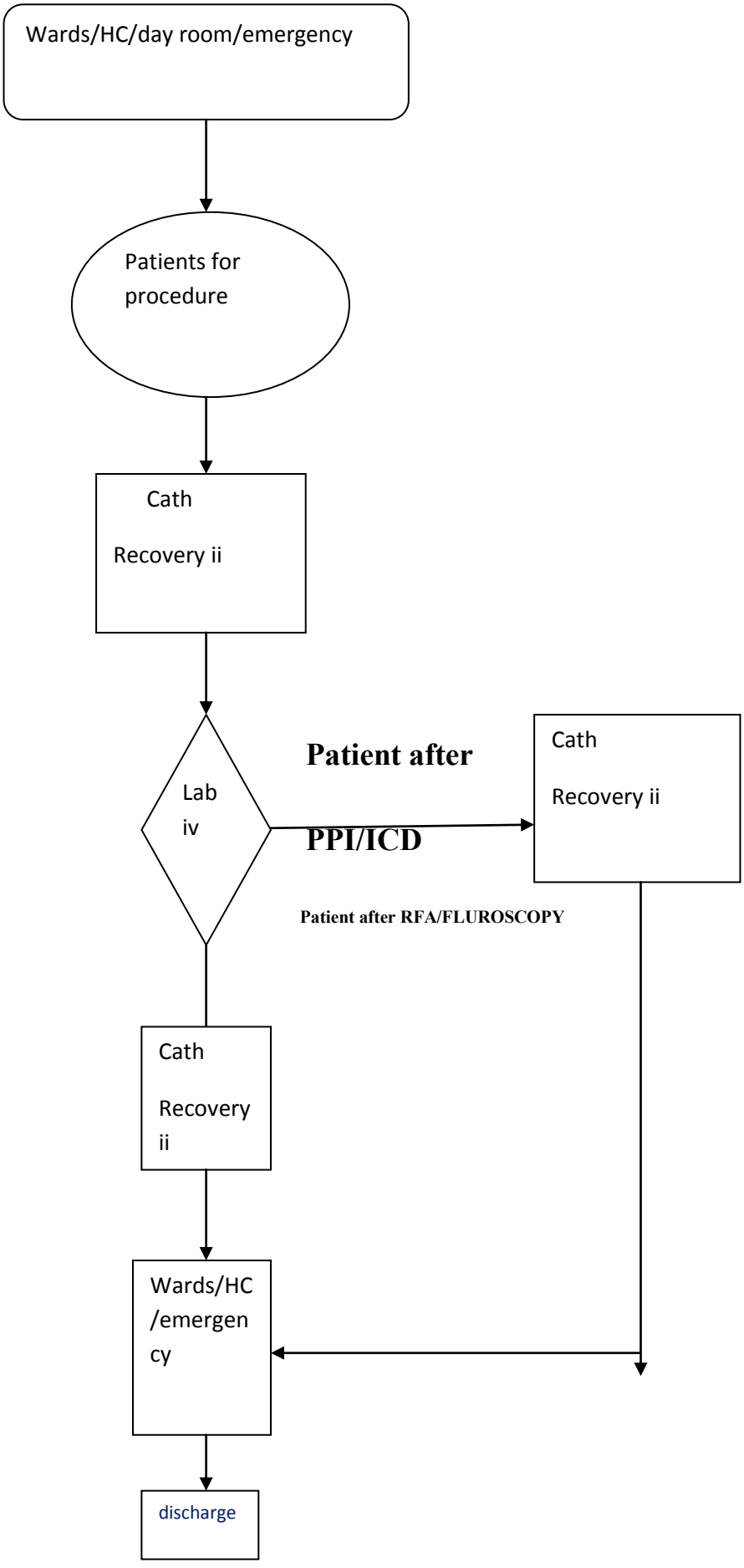


Study of work flow process in the cath lab

Patient flow in cath lab



Patient flow in EP lab



Process:

Cardiac Catheterization is a procedure usually performed by an interventional cardiologist, a heart specialist who specializes in inserting a catheter either into the chamber of the heart or into the artery feeding the heart. This test is frequently performed prior to heart surgery to determine if surgery is necessary and if so what surgery is to be performed .The interventional cardiologist may also carry out additional interventions such as balloon angioplasty and stenting.

Cardiac Catheterization is performed to further diagnose coronary artery disease; valvular heart disease, congestive heart failure, and/or certain congenital (present at birth) Heart condition, such as atrial septal defect Or ventricular septal defect.

Elective or planned procedure

1. Patient will be registered at FO. The moment a patient is registered for cath lab floor plan will be displayed and patient will be displayed in wait list area.
2. After registration and admission takes place , patient will be sent to ward or directly to recovery room for checkup. For day cath procedure , patient may get all the investigation done in OPD and get admitted on day of procedure also
3. For OPD, doctor assesses patient, books the patient into stipulated day‘s list for doctors, patient goes to financial counselor and makes payment. The financial counselor conforms the booking in system. A list is prepared for same, which is seen by cath lab staff when they log in.

4. The ward nurse will order pre-cath processes like CBC,BUN, creatinine, electrolytes and ECG(all compulsory pre cath investigation) for patient to prepare for cath lab procedure using system. The moment an order is placed, billing detail will get updated
5. The S.R will get signature of the patient/attendant on the consent form after explaining the procedure and its accompanying Risks
6. The Cath lab nurse will maintain a pre-cath checklist form and fills it. This list will be available in system as questionnaire
7. Ward nurse will inform cath lab coordinator about procedure which is being advised by doctor to patient
8. In meantime cath lab coordinator will inform anesthetist (if required) and manages slot for patient according to availability of Doctors and cath lab
9. Ward nurse will transfer patient to cath lab as per slot assigned for respective doctor in cath lab. This will be done through scheduling
10. Patient will be shifted to recovery unit after procedure. If result of test are normal, patient is shifted to respective wards and subsequently discharged
11. If patient will be advised any further intervention (cath , surgical) and if he gives consent for same then he will preferably undergo procedure in the same setting .if planned for later dates, will be either shifted to recovery /wards
12. Doctors and nurses regularly will monitor the patient in recovery unit. When patient is stabilized, he will be transferred to respective wards. In case of angioplasties the patient is shifted to the HCC‘s/ICU‘
13. The patient is downshifted to the wards from the critical care area
14. In case of electrophysiological procedures, (provided the patient is stable after procedure like pacemaker/ICD implantation, etc)he is shifted to wards otherwise to the critical area‘s as above

EMERGENCY or Non-ELECTIVE Procedure

According to the criticality, patient is transferred from emergency to coronary care unit (CCU) (sometimes to any other wards) and then to Catheterization lab for necessary investigations

Doctor will do an initial counseling and place a request for booking in system for all patients on whom some procedure to be done. A provisional booking list of patient will be visible (upon financial counseling and clearance,final booking done

Note: This is an emergency /Non-elective patient but in planned procedures, if complete amount, gets his investigation done and wants to do CAG as day procedures, facility can always book him finally for the next day /planned day

In Emergency, booking for cath lab procedures may not be possible.

In Emergency and other instances where the patient cannot pay required, an undertaking is taken from attendant by consultant . This will also be considered for financial clearance.

1. Once patient will be admitted, cath lab doctor instantly will start medical processes while simultaneously ordering of investigation in system is managed by wards nursing. The cardiac anesthetist is informed

2. After initial procedure (angiography) patient will be transferred to CCU and if further intervention is planned then procedure and costs are explained to patient‘s attendant who are asked to deposit a percentage of that amount before treatment and same is updated in system .once this information will be updated in system, same will be reflected in billing module as well

3. Patient‘s attendant would be requested to deposit the total billing amount within a stipulated time

4.after the procedure ,patient will be kept in CCU/recovery room .This movement will be recorded in system as a transfer (with no financial aspects involved) .once stable ,he will be shifted to ward or discharged at discretion of duty doctor or consultant cardiologist

STUDY ON CATH LAB UTILIZATION

The primary objective of this study is

- To find the utilization of each lab in percentage per day
  - day utilization(8am-8pm)
  - night utilization (8pm-8am)
- To find the number of procedure being carried out per lab per week
- Pre-procedure length of stay(in min)

METHODOLOGY:

DESCRIPTIVE research is to be carried out in order to study the process involved and conformation to the norms by the hospitals as per NABH rules and regulation. For carrying out the project works, both primary and secondary data sources had been utilized .Recorded facts and data from registers were used to collect the necessary information, which were the sources of primary data in the cath lab department.

- Sample consists of all cases conducted in each lab in month of april-may2014
- The method of sampling is random, without replacement
- Calculate:
  - Average
  - Utilization percentage
  - Comparative study

Analysis of the study-

The weekly metrics which has been tracked from each the cath lab are measured through various processes which are as follows:-

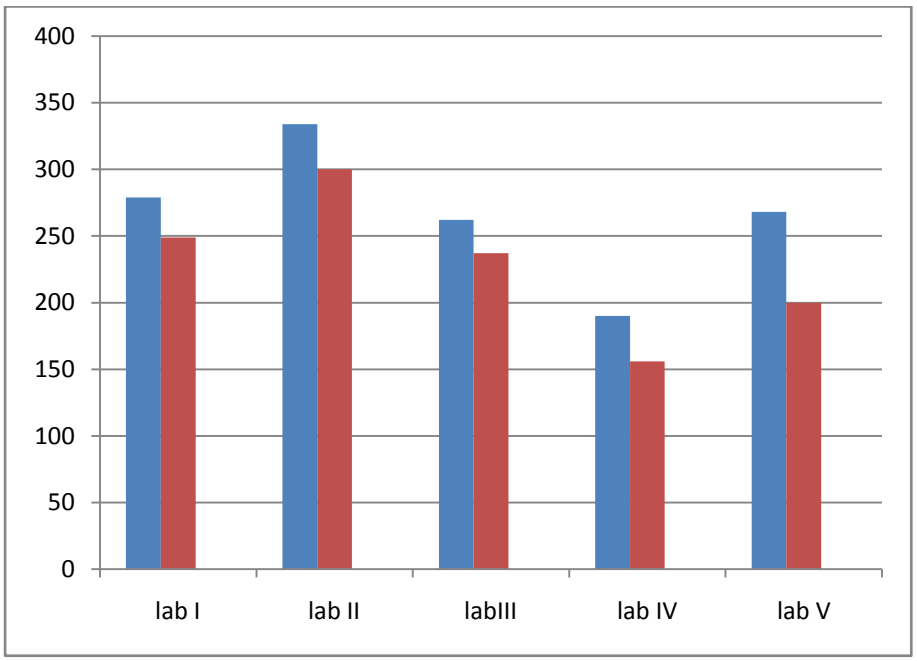
The weekly matrices measured in the cath labs are

1. Average number of cases carried out in 5 cath labs per month (april-may2014)
2. The total waiting time of patients before the procedure (per lab per month)
3. The cath lab utilization during the day from 8:00 am to 8:pm
    - Average number of hours utilized by labs per month(april-may2014)

4. The cath lab utilization during the night from 8:00pm to 8:00am.
    - Average number of hours utilized by labs per month (april-may2014)

COMPARATIVE Analysis of the functioning of labs based on utilization (1 April-18 may)

1) Average number of cases carried out in cath labs per month

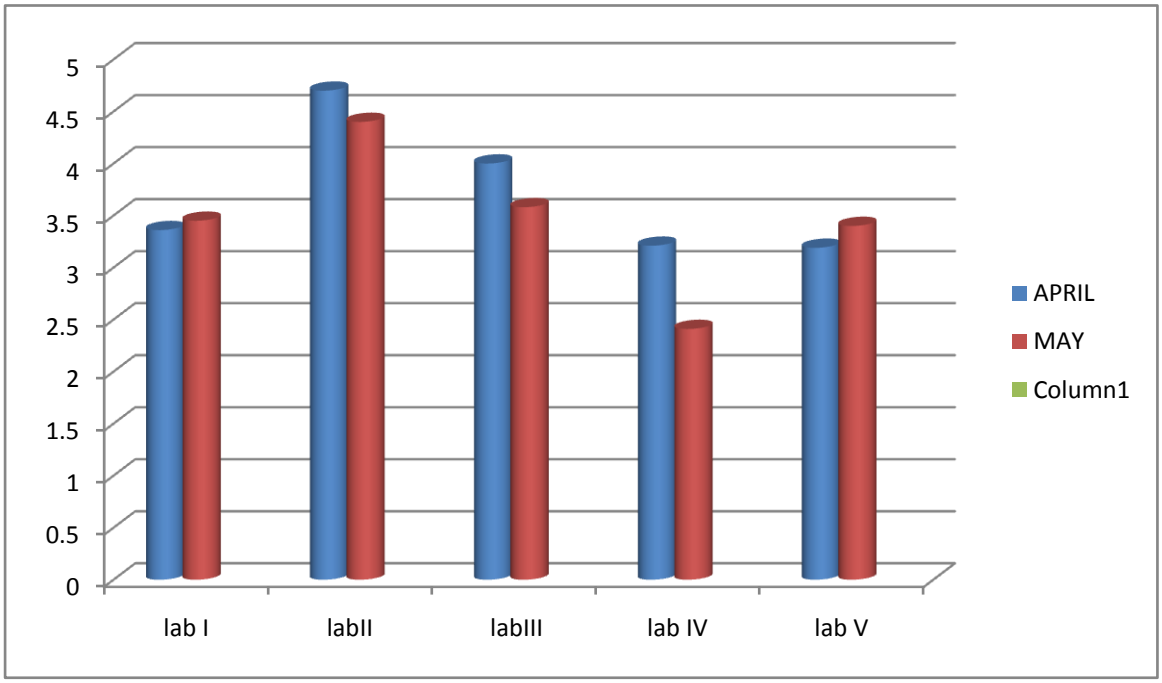


APRIL	=14	279	334	262	190	249
MAY	=14	249	300	237	156	200

This is weekly helps us to know the number of procedure done by doctors per week. Here the

- Highest number of procedure done in lab II i.e 634
- That is 32% of the total number of procedures
- The average number of procedure done 252 by per lab per month during the 1st April to 18 may is calculated from the total number of procedure i.e2007

2) The total waiting time of patient before the procedure (per lab per month)



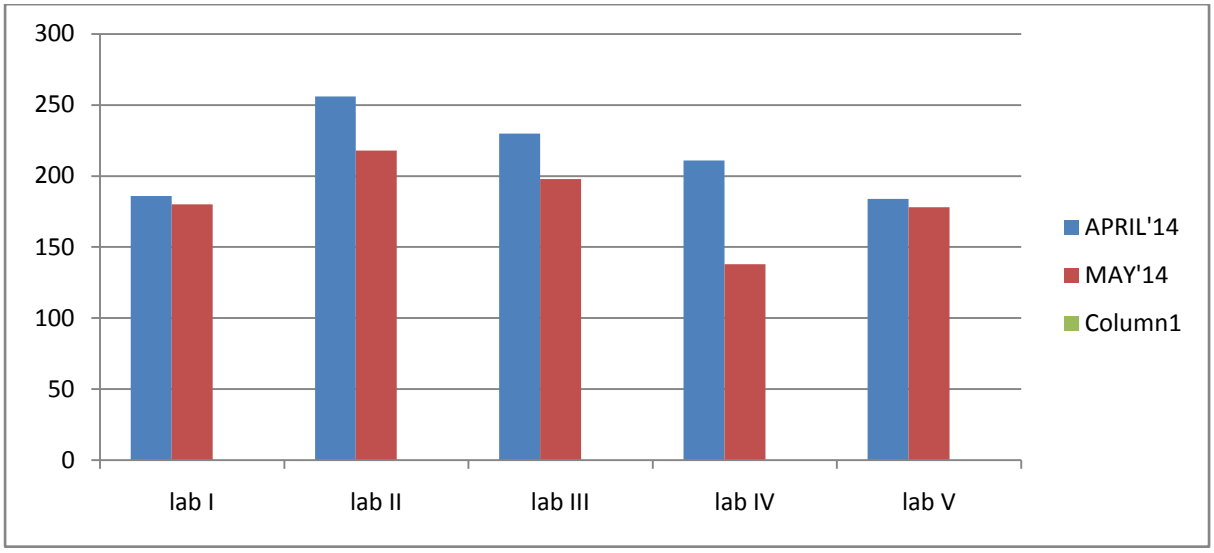
April'14	3.36	4.7	4	3.21	3.35
May'14	3.45	4.4	3.58	2.41	3.41

30 hr is the total waiting time calculated from the above monitored 8weeks pre procedure waiting time. Here the

- Highest pre-procedure waiting time for lab II i.e 9hr 1st april to 19 may
- That is 30% of pre procedure waiting time
- The average waiting time for lab II is 1hr 10min
- Average waiting time for all labs is 1 hr.

3)The cath lab utilization during the day from 8:00am to 8:00 pm

a)average number of hours are utilized by labs per month



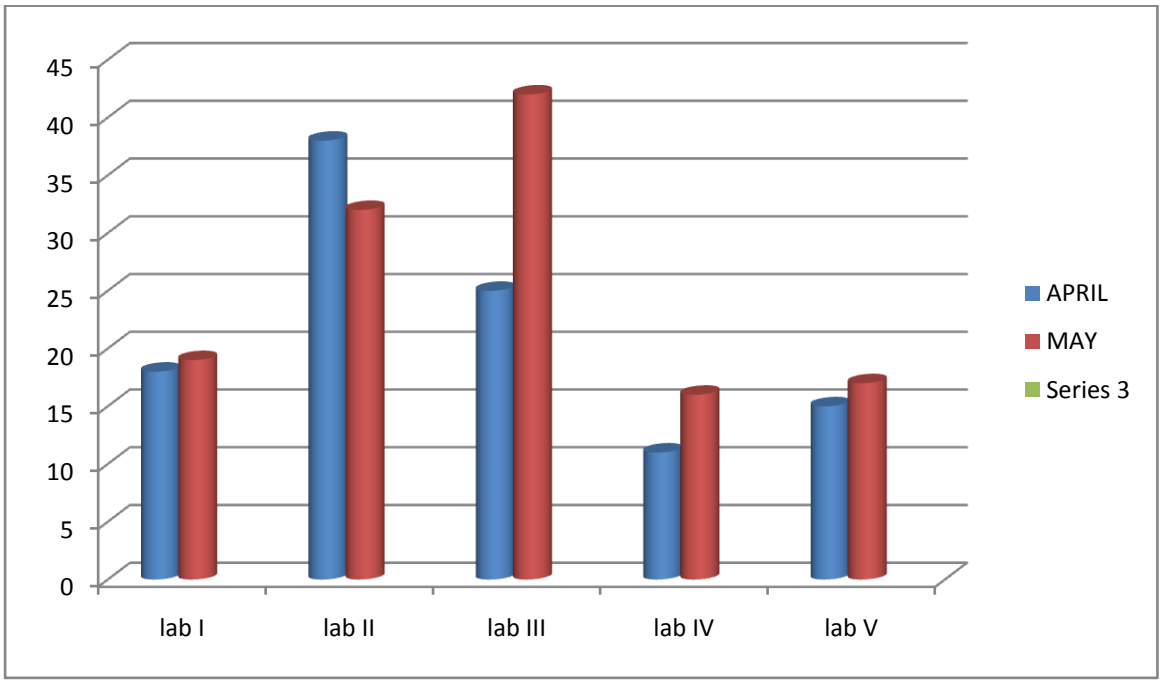
April _14	186	256	230	211	184
May‘14	180	218	198	138	178

This help us to know the cath lab utilization during the day from 8:00a.m to 8:00p.m here,

- The maximum utilization of lab II is 474 hrs of the day utilization of 1617 hours
- The average utilization of lab II is 60 hrs per week
- The average utilization of labs is 202 hours per lab per month i.e 74% of total day utilization

4) The cath lab utilization during the night from 8:00 pm to 8:00am.

a)average number of hours utilized by labs per month (april-may‘14)



APRIL‘14	18	38	25	11	16
MAY‘14	19	32	42	16	18

This helps us to know the cath lab utilization during night from 8:00 pm to 8;00 am. Here,

- ✓ The maximum utilization of lab II was 70 hours of the total night utilization of 201 hours
- ✓ The average utilization of lab II is 9 hours per week i.e. 15% of the total night utilization of lab II
- ✓ THE average utilization of all labs is 25 hours per lab per month

Conclusion-

All the parameters studied above show that **cath lab 2** is utilized more efficiently as the percentage utilization of lab 2 is more ,the average number of cases being conducted in lab 2 per week are also more as well as number of hours for which cath2 is utilized per day is higher.

Discussions and findings

- The patient who are coming from wards /heart command/day room for the procedure in the cath lab have to wait an hour on an average
- If the procedure like angiography is going on and patient needs a further procedure like PTCA or any other procedure is done only after finance clearance so this increases waiting time for further procedure.
- When inpatient beds were in short supply, the cath lab patients were boarded in admission/recovery until bed is available
- Delay in discharges of patient from wards makes another patient to remain in the recovery until the rooms is not vacant.
- The attendant of patient has to wait for the long if the patient is not shifted in the room which makes the attendant of the patient to wait or collect it by next day which is ultimately leads a delay in discharge
- Sometimes cath reports being send to floors are not delivered to patient hence cath lab staff has to rewrite it.

Sometimes difficulties arising due to unavailability of labs-

a) The patient waiting time has been increased; many times procedures have to be done after 10pm.
b) Pediatric cases are also being done in the same given time frame, which is not sufficient for them.
c) There is loss of trust amongst patient as doctor is unable to commit a time about when the procedure will be done,sometimes doctors has to turn the patient away.

Suggestions/recommendations

- ✓ **The** number of beds should be increased so that the patient are shifted from cath recovery /wards immediately after procedure
- ✓ **The** doctor and nurses should call the patients 15min prior the procedure ,which would reduce the pre procedure waiting time.
- ✓ **Finance** clearance should be done the day before the procedure only for planned cases,in order to avoid delays.
- ✓ **There** should be rescheduling of cath slots ,so that the lab will be easily available to the cardiologists for doing their procedure.
- ✓ Proper flow of information has to be maintained between staff and attendant regarding any delay in procedure
- ✓ Patient /attendant should be informed immediately in case of any delay to avoid anxiety and dis-satisfaction
- ✓ The doctor and nurses should assure that the patient is cared for immediately without concern for completing the proper paper work first
- ✓ The time and errors can be reduced rather than entering data into multiple systems in the cath lab.
- ✓ Assuring the correct patient demographic and procedure code information.
- ✓ The doctor should given time to make their report on time.
- ✓ Maintaining the status of the procedures real time, so that cath lab co-coordinator will better utilize the facilities.
- ✓ Providing cath lab reports more readily to other care team members within and outside the hospital or office network.
- ✓ The last and foremost important is that the **fifth lab .**it would help in rescheduling of cath slots and speeding up the procedures

- ✓ **Another lab** will also help in giving more slots for pediatric team and consultant who at present are given only two hours in aday.more hours can help in more conservation because sometimes due to unavailability of lab the doctor has to just give up.
    - At present 19 interventional cardiologist are using the lab (15 in cardiology and 4 in pediatric cardiology)
- ✓ Finally all services should be made better and available for increasing the satisfaction of patient.
- ✓ The hospital ,at present has almost all states of the art features but due to increasing pressures ,competition and constant improvement with new technique coming fast , a better co-ordination may be worked out between M.S,CMO,experts,administrators and doctors.

Study on dispatched status of reports in cath lab

THE PRIMARY OBJECTIVE of this study is

To know the cause of delay in dispatch of reports in the cath lab and suggest recommendation

Study tenure----30 days [5 April -5 may]

Sample size-----100 patient reports

Type of study-------observational study

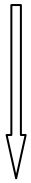
Methodology-----process of mapping and analysis was done by interaction and practical observation in FEHI.

Limitation of study…..

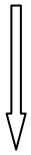
- Sample size is less
- Study has been conducted with the help of few assumption
- Observed the reason of delay
- Doctors are too busy to get any information

Layout of preparation of reports

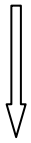
Reports prepared by team doctor after examination



Reports typed by typist



Signed by Doctor



Dispatched by receptionist

Total 4 copies of report are prepared by typist:

- One copy of report is dispatched to floor where patient is shifted after procedure
- Patient copy
- To MRD
- For ALERT Card

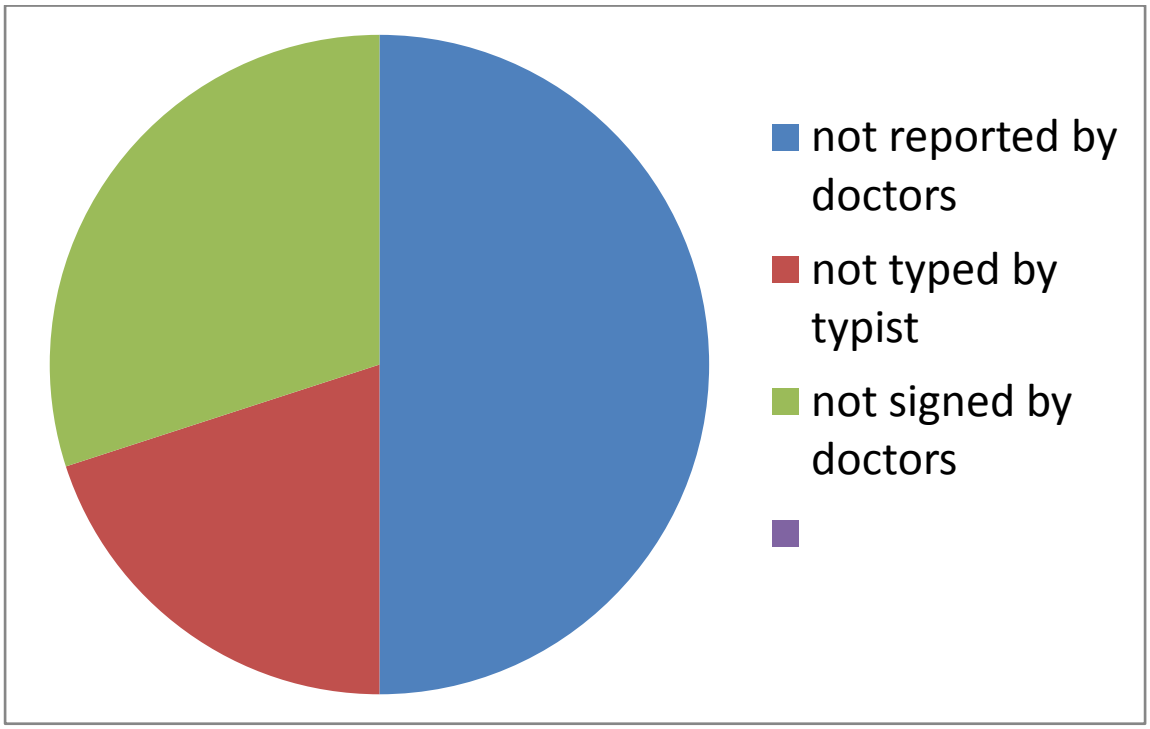
Problems due to delay

Patients are dis-satisfied with delay of receiving reports.

- Many cases patient did not get reports after discharge
- Patient is to summit reports to TPA or their own insurance sector while not receiving reports they face trouble
- Many patients reports are misplaced if reports are not reached in time in floors

Reports are most important for a patient attendant for their satisfaction

Cause of delay



Finding-

50% not prepared by doctors

20%by typist

30%not signed by typist

Recommendations—

Doctors should try to summit report to typist on the same day of procedure

Reports should be signed by team doctor after preparation

Typist should type report ASAP after receiving reports from doctors

Recommendation

- Patient should be informed prior procedure that after 24 hr reports is dispatched.
- Reception of cath lab should keep accurate status of reports where it is dispatched or given to patient at which date and time
- Reports should be dispatched to all floor before 11 am at morning to avoid any delay in discharge of patient due to reports delay
- Receptionist should hand over every misllaneous reports to report room should not keep that in reception
- If any patient not able to get reports due to hospital delay procedure and nt able to come early to take so that report should be sent by coriour service
- INTERNATIONAL patient reports should be prepared before their discharge to avoid their inconvenience
- Their should be clear status of each and every report in reception where is report recently because it‘s the 1st place where patient attendant comes to know about reports

Reports signed by doctors‘ ASAP after preparation of reports but due to busy schedule if they are not able then it should be responsibility of staff of cath lab to remind them

Conclusion

Cardiac catheterization lab, which is generally a high-volume, challenging and complex environment within any healthcare facility, can operate efficiently only if it has a highly integrated system that brings together all the different aspects of managing the facility.

From the study we can infer that proper scheduling facilities efficient and effective turnover of patients, which automatically translates into better utilization of the facility while ensuring quality care in many ways than one. Reduction in patient waiting time, better and timely care by nursing staff, training, and re –education of staff can help to improve the process many folds.

The cost of providing high quality service within the healthcare organization has increased significantly over past one or two decades, primarily due to decreased payments and the increased cost of doing business. In the effort of cutting cost, it is important that the quality is not compromised . Taking all the associated risks into consideration, the organization should develop processes that ensure not only patient safety but also supports and protect organization in difficult times.

The patient cache of FEHI is mainly urban and rich population who is well aware of the industry patterns and demands the best in terms of quality of service. A detailed insight into many issues related to the management of lab. This will allow the current practice to form baseline with which one can measure improvements in the dept and help meet the ever rising and never ending costumers‘ needs and demands.

Ultimately , patients benefits from a safer and more efficient work environment; medical staff benefits from the improved workflow and more satisfied patient; employees win as a result of the elimination of wasteful work, resulting in less – stressful work experience and improved productivity. Finally , the value benefit all the hospital stakeholder ,from staff who enjoy a better working environment to physicians who can plan for their procedures to start on time, to the community at large .

Bibliography

- MaCaulay,HMC and Davies LL.Hospital planning and administration .WHO1966
- Breslawski s and Hamilton D: procedure room scheduling .choosing the best system, ARON J 53 (5):1229-1237, 1991.
- DEXTER F , Macario A,Traub RD which algorithm for scheduling Add-on elective cases maximizes operating Rooms utilization – anesthesiology 1999 91 (15):1491-500
- Tom Long ,MBA ,RT®,CCVT,CCPT 2000-2010 I Six-Sigma
- Increasing cath lab capacity through six sigma –by Carl Vieth and Carolyn Pexton
- Cath lab digest –march 2006 , Vol.14 no.3
- Mermel LA,McCormick RD, springman SR et al-the pathogenesis and epidemiology of catheter related infection with pulmonary artery swan-ganz catheters: a prospective study. Am j Med 1991;91:197-205.
- FEHI journal
- www.fortisescorts.in
- www.google.com