

# 2015



## Narayana Multispeciality Hospital, Jaipur



Report Submitted by:  
Dr .Namita Mishra

**CERTIFICATE**

This is to certify that the project work titled 'Patient Friendly Financial Communication .Compliance of Active medical Records as per J.C.I specifications with a drill down study on consultants non compliance and to study the level of satisfaction in indoor patients of Narayana Multispeciality Hospital,Jaipur has been done entirely and submitted by Namita Mishra, a student of Masters of Business Administration in Hospital and Health Management-19 th Batch from Institute Of Health Management and Research, Jaipur.

The study project was prepared in the internship period from April 1, 2015 to June 5, 2015 at Narayana Multispeciality Hospital,Jaipur. This is her original work.

I wish her all success for her future endeavors.



Col. (Dr.) Ashok Kaushik

Dean (Academic & Student Affairs)

IIHMR University, Jaipur



Dr. Tanjul Saxena

Associate Professor

IIHMR University

**NH/HRD-Off/2015/280**

**Date: 11<sup>th</sup> July 2015**

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Dr. Namita Mishra** has successfully completed her summer training in **Operations Department** on Narayana Multispecialty Hospital, Jaipur from 6<sup>th</sup> April 2015 to 6<sup>th</sup> June 2015. Her projects during the tenure are:

**Project 1:** To analyze the financial impact of billing related services.

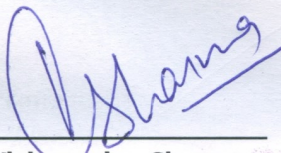
**Project 2:** To study the compliance of active medical records as per JCI specifications with a drill down study on Consultants' documentation non-compliance

**Project 3:** To Study the levels of Satisfaction of Inpatient of Narayana Multispecialty Hospital, Jaipur

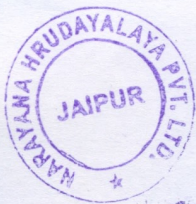
Her work during the Period was commendable and appreciable. Her character and conduct was good.

We wish her success in her future endeavors.

**For Narayana Multispecialty Hospital, Jaipur**



**Vishnupriya Sharma**  
**Sr. Manager-Human Resources**



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## **PREFACE**

Summer internship is an integral part of MBA-HM curriculum. As a part of the course, the students of first year are required to undergo summer placement at any reputed organization to get in depth exposure to various departments of the organization and understanding of health care delivery system and its functions.

The major objectives of the summer internship are as follows:

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

## **ACKNOWLEDGEMENT**

The internship opportunity we had with Narayana Multispeciality Hospitals, Jaipur was a great chance for learning and professional development.

I feel deeply privileged in expressing our deep sense of gratitude to Dr. Devi Shetty (CMD Narayana Group), Mr. Arunesh Punetha (Facility Director) and Dr. Mala Airun (Medical Superintendent) Narayana Multispeciality Hospital, Jaipur for their expert guidance and encouragements which helped in the process of making this report. Without their support, exploring such a vast organisation could not have been possible.

I would like to express our deepest gratitude to Dr. Manikant Jain, Mr. Shubhashish Bhattacharya, Ms. Vishnupriya Sharma (Head-HR), Ms. Neeta Singh, Mrs. Gargi Consul who guided me and gave me the projects. I would also like to express my heartiest gratitude to Ms. Avni Shrivastava for her guidance and help throughout the work.

I am also grateful to all the department heads and staff for giving me time in spite of their hectic schedule. Without their active co-operation and participations it would not have been possible to accomplish our task.

I am also very thankful to my mentor Respected **Dr. Tanjul Saxena** (Associate Professor) who always guided and encouraged me throughout my Summer training period and without her kind support my projects would not have been completed successfully.

Sincerely,

Dr. Namita Mishra

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## **1.ORGANISATIONAL PROFILE**

Narayana Multispecialty Hospital, Jaipur is a perfect blend of technological excellence, complete infrastructure, competent care and heartfelt hospitality - this is how the people, whom the hospital has been fortunate to serve, define the hospital.

It is a 300 bedded multispecialty tertiary care hospital, located at Pratap Nagar within a sprawling campus of 4.7 acres offering high quality affordable medical care to the people within Rajasthan and bordering states as well.

Narayana Multispecialty Hospital, Jaipur was awarded the International accreditation from **Joint Commission International (JCI)** on 21<sup>st</sup> July 2012, making it the first hospital in Rajasthan to receive this prestigious recognition. A JCI accreditation provides assurance that the standards, training and processes at the hospital meet the highest international benchmarks.

**1.1 Vision:** "Our vision is affordable quality healthcare to the masses worldwide."

**1.2 Mission:** "Our dream of making quality healthcare available to the masses worldwide"

**1.3 Values:** Core values are represented by the simple acronyms **iCARE**

- i- Innovation & efficiency  
To continuously reduce the cost of delivery of high quality health care and improve our reach.
- C- Compassionate care  
In providing accessible service that makes a difference to our patients.
- A- Accountability  
To honour commitments to our patients, employees and investors with integrity and transparency.
- R- Respect for all  
Recognise the contribution of every employee and respect the rights as well as the dignity of every patient and employee.
- E- Excellence  
Where we individual excel to collectively ensure the highest quality of consistence and reliable services to our patients and sustainable values to all our stakeholders.

**1.4 Scope of Services:**

- Anaesthesia & Critical Care
- Department of Cardiac Science
  - Cardiac Anaesthesia
  - Cardiac Electrophysiology
  - Cardiothoracic & Vascular Surgery  
Paediatric & Adult
  - Interventional Cardiology  
Paediatric & Adult
  - Non Invasive Cardiology  
ECG, ECHO, HOLTER, TMT
- Department of ENT
- Department of Gastro Science
  - Gastroenterology & Haematology
  - G.I & Laparoscopic Surgery
- Department of Neuro Sciences
  - Neurology
  - Neurosurgery
- Department of Paediatric
  - Neonatology
  - Paediatric
  - Paediatric Surgery
- Department of Plastic Surgery
- Department of Renal Sciences
  - Dialysis
  - Nephrology
  - Urology
  - Transplant Services
- General & Laparoscopic Surgery
- Institute of Bone, Joint & Spine
  - Hand & Upper Limb Surgery
  - Joint Replacement
  - Spine surgery
  - Sports Medicine & Arthroscopy
- Internal Medicine
- Obstetric & Gynaecology
- Psychiatric
- Respiratory Medicine

**ALLIED SERVICES**

- Dietetics
- Emergency & Trauma
- Lap Medicine

**1.5 DEPARTMENTAL SERVICES:****1.Outpatient Department:**

There are 4 decentralised OPD :

- 1.North OOD
- 2.South OPD
- 3.Cardiac OPD
- 4.Nephrology OPD

OPD Timings: 9am to 5pm.

Average no. of OPD patients 240-250 per day ( Including old and new patients)

**2.In Patient Department:**

- Male Medical Ward:  
Location: Lower ground floor.  
Bed Capacity: 19 Beds
- Male Surgical ward:  
Location: Lower ground floor  
Bed Capacity: 16 Beds
- CCU  
Location: Ground floor  
Bed Capacity: 20 Beds
- MICU  
Location: Ground floor  
Bed Capacity: 18 Beds including 2 beds for isolation
- Female General ward  
Location: 1<sup>st</sup> Floor  
Bed Capacity: 34 Beds
- ANC Ward  
Location: 1<sup>st</sup> Floor  
Bed Capacity: 8 Beds with 2 Beds in Labour Room
- Paediatric Ward  
Location: 1<sup>st</sup> Floor  
Bed Capacity: 6 Beds
- PICU  
Location: 1<sup>st</sup> Floor  
Bed Capacity: 5 Beds
- NICU  
Location: 1<sup>st</sup> Floor  
Bed Capacity: 5 Cribs
- ITU  
Location: 1<sup>st</sup> Floor  
Bed Capacity: 21 beds plus 2 beds for isolation

- Semi Private Ward  
Location: 1<sup>st</sup> Floor  
Bed Capacity: 34 Beds including 4 day care beds.
- KTU  
Location: 1<sup>st</sup> Floor  
Bed Capacity: 3 Beds
- Private Ward  
Location: 2<sup>nd</sup> Floor  
Bed Capacity: 18 Beds
- CTVS Male & Female Ward  
Location : 2<sup>nd</sup> Floor  
Bed Capacity: 6 beds and 8 beds in each ward
- Ortho General Ward  
Location: 2<sup>nd</sup> Floor  
Bed Capacity: 6 Beds
- Neuro General Ward  
Location: 2<sup>nd</sup> Floor  
Bed Capacity: 5Beds
- HDU ward  
Location : 2<sup>nd</sup> Floor  
Bed Capacity: 8 Beds

### **3.Emergency Services:**

Location: Lower ground floor

Entrance : Separate entry from the main road

The Emergency Department is a well equipped 10 bedded department. 3 beds for each triage category Red , Yellow, Green and 1 bed for isolation

Staff: 1 Emergency Incharge, 3 MO, 1 Nursing Incharge, 10 Staff nurse.

Ambulance service is outsourced.

### **4.Operation Theatre:**

There are total of 5 OTs,2 on the 1<sup>st</sup> floor and 3 OTs on the 2<sup>nd</sup> floor

Location: 1<sup>st</sup> and 2<sup>nd</sup> Floor

Easy access to CCU, Blood Bank, Emergency and CSSD

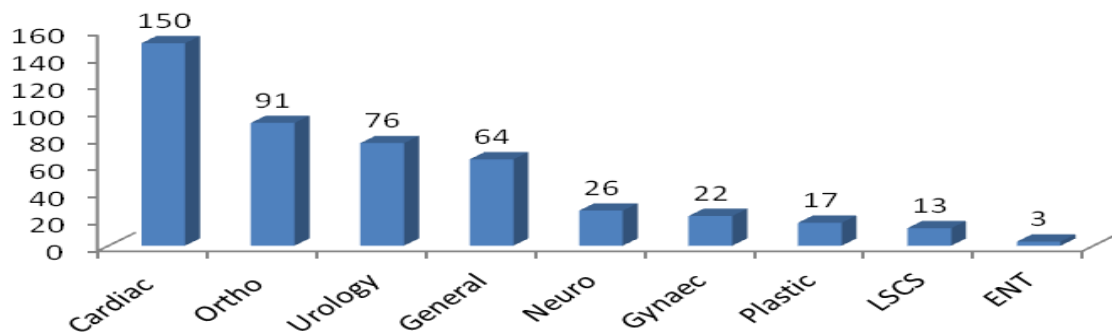
ITU is attached to the the OTs located in the 1<sup>st</sup> floor

Manpower: Head of the Department, 14 Anaesthetist, 1 OT Manager, 2 OT incharge , 2

Perfusionists,18 OT Technicians,48 Staff Nurse, 5 House Keeping Staff.

No of Surgeries: 300-350 surgeries per month.

### Speciality wise Break up Data for April 2015



#### 5.Catheterisation Lab:

Location : Ground Floor

All Invasive Procedures are done in cath lab such as Angiography, Angioplasty , Cath Study, Electro Physiological Study.

Process Flow:



#### 6.CSSD

Location: Lower Ground Floor

Total Area is divided into 4 Zones:

- Zone I. (Dirty Utility) Reception , Inspection and Documentation
- Zone II. ( Clean Area) Assembly and Packing
- Zone III ( Sterile Area) Sterilisation
- Zone IV (Issue Area) Storage and distribution

Check for proper sterilisation

- Bowie dick test
- Leak test
- Sterilisation test

- Batch monitoring test

## **7.Radiology Department:**

Location: Lower Ground Floor

Area:

- Reception Area
- Console Room
- Imaging service room
- Changing room-2

Different rooms for X-Ray, Mammography, MRI, CT Scan.

## **8.Laboratory:**

Location: Ground floor

All laboratory services related to Biochemistry, Microbiology, Histopathology and Haematology.

Blood Bank is attached with the laboratory.

## **9.Physiotherapy and Rehabilitation Centre:**

Location: Lower ground floor

Well trained team of 6 physiotherapist managing the department and providing rehabilitation therapy for joint disease, strokes, trauma etc.

Other facilities :

- Wax Therapy
- Hydro collator- hot pack
- Interferential Therapy
- IFT- Pain Relief
- Ultrasound therapy- piezoelectric effect
- TENZ
- Muscle Stimulator
- SWD etc

## **10. Medical Record Department:**

Scope of Services:

- Maintenance of all medical records.
- Storage of records
- Maintaining the integrity and confidentiality of all medical record
- Maintenance of MLC cases
- Numbering and filing
- Completion of all incomplete records.

## **11. Food and Beverages:**

Location: Lower ground floor

Scope of services:

- To provide well balanced nutritious food to all in patients as well as patients for dialysis as per their needs.
- To serve staff and patients attendants
- To helps in improving the patients condition by providing hygienic , proper and nutritious food as prescribed by the dieticians.

Provide 5 servings for the general ward patients and 8 servings to the semi private and private ward patients.

Types of diet:

- Normal full diet
- Liquid diet
- Soft diet
- Diet for diabetic patients
- Diet for renal patients
- Diet post cardiac surgery patients.

## **12. Housekeeping:**

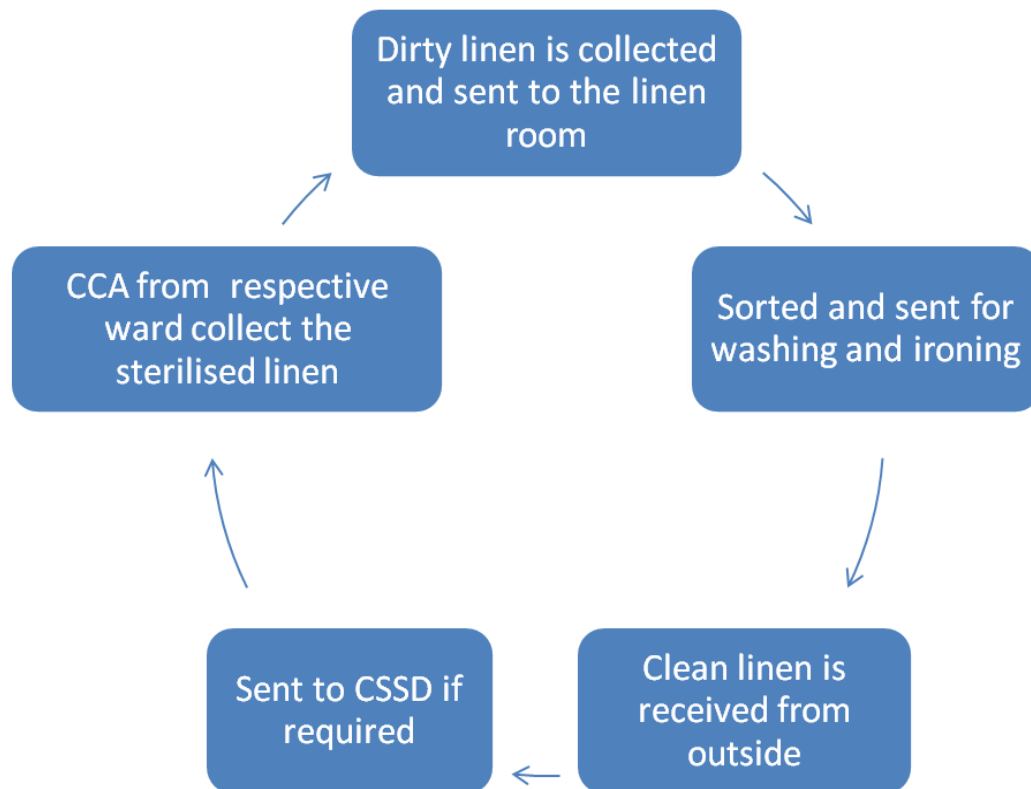
Housekeeping department is outsourced

Services provide:

- Maintain hygiene of the patients and the hospital
- Helping in patients preparation
- Infection control
- Waste disposal

## **13. Linen and Laundry:**

Linen and laundry department is outsourced



Availability of coloured coded bags in each department. Orange colour is for serology positive patients and green bags for serology negative patients.

#### **14. Pharmacy:**

The hospital has 3 different types of pharmacy:

- OPD Pharmacy
- IPD Pharmacy
- OT Pharmacy

Functions:

Dispensing of drugs to all the admitted patients.

Dispensing of drugs for the OPD patients.

Demand estimation according to the formulary, in the absence of formulary, establishment of specification for drug procurement

Furnishing of new drug information to consultants and other professional staff

Quality control of drugs purchased

#### **15. Diagnostic Services:**

Location: Ground Floor

Scope of services:

- Ultrasonography

- TMT
- Electrocardiography
- Echocardiography
- Electroencephalography
- Uroflowmetry
- Electromyography
- Pulmonary function test

Operational timings: 9 am to 5 pm.

### **16. Dialysis Department:**

Location: Lower ground floor

Bed Capacity: 20 beds including 4 beds for serology positive patients

No of procedures done per day: 45-50 dialyses per day

Shift of dialysis: 7 am to 12 noon, 12 noon to 5 pm and 5pm to 8 pm.

Every patient is provided with a meal, included in tariff and the meal is prescribed by the dietician.

### **17. Mortuary:**

Location: Lower ground floor

Temperature: 5-6 degree Celsius

Capacity: At a time four dead bodies can be kept together

Function:

- To keep the dead bodies in the hospital until the relatives claim them.
- To keep the dead bodies for post mortem ( MLC Cases).

### **18. Security Services:**

Security service department of the hospital is outsourced.

Functions:

- To provide security services to all the staff, patients, relatives and visitors
- To protect the hospital property within the premises

- To analyse threats and vulnerability in conjugation with the managements , police and others
- To control the movement of vehicular traffic inside the premises.

## **19. Billing and Finance Department:**

Location: Ground floor

Operational timings: 9am to 5 pm for the finance department  
24 hr IP billing services.

Functions:

- To provide salary to all the staff in a timely manner
- To provide payment to all the vendors and contractors
- Tracking the expenses of inpatients on daily basis
- Timely discharge of patients related to financial clearance
- To provide accurate and timely financial information for decision making.

## **20.Maintenance Department:**

Location: Lower ground floor

Functions:

- To maintain continuous electric supply to the hospital.
- To maintain the chilling plant room of the hospital
- To maintain the supply of medical gases
- To maintain the proper functioning of STP

Operational timings: 24hr.

Infrastructure:

Low tension room

Generator panel: 2 generator of 750 ampere each

Diesel tank- 24 kilolitres capacity

Sewerage treatment plan

Desk panel- control air handling unit

Chilling plant room

Gas manifold room

## **21. Human Resource Department:**

Location: Lower ground floor

Functions:

- Recruitment based on requisition form from respective department duly signed by incharge of the department, HR and facility director

- Induction and training programs- 3 days induction program for all new employees
- Performance appraisal ones in a year in the month of March
- Employee engagement activities such as birthday celebration, open house, and also on the job trainings such as fire safety. BLS training
- Grievance Handling
- Conduct employee exist interview

## **22. Fire safety Department:**

Location: Lower ground floor

The hospital has 7 fire exist door in each floor . A total 26 functional fire exit doors

Sprinklers are located in the entire hospital with a distance of 6 mts between two sprinklers and burst at 68 degree Celsius

Smokes detectors are also located in the entire hospital.

Fire Safety Equipments:

- |                        |    |
|------------------------|----|
| • Horse Reel Drums     | 21 |
| • Jockey Pump          | 01 |
| • Alarm Valve          | 05 |
| • Double Hydrant Valve | 28 |

Hospital follows “PASS” and “ RACE” protocols.

PASS: Pull Aim Squeeze Sweep for operating a fire extinguisher

RACE: Rescue Alarm Contain Extinguish, Evacuate.



## **1.PROJECT REPORT**

**To Analyze the financial impact of billing related services**

**Project Guide:**

Mr. Shubhashish Bhattacharya

H.O.D Operation Management.

## 1.1 INTRODUCTION

DAMS ( Daily Audit Monitoring System) is an initiative started by Narayana Multispeciality Hospital, Jaipur in June 2013, to combat the challenges faced by the hospital due to incomplete medical records, billing related errors and dissatisfaction among the patients. This method is processed to achieve effective and compliant health care functions, that cannot occur without auditing and monitoring process. Daily audit monitoring system acts as a bridge between the health care clinical and non-clinical departments. This is a method to detect compliance related issues.

Medical record contains the information with all significant clinical and other information of all the inpatients and emergency patients. Some records are maintained electronically and some are in the paper format. DAMS is related to the auditing of the paper medical records. The medical records are the multidisciplinary approach to the amount of the care delivered to the patients.

Medical records include:

- Admission order
- Financial counselling
- History sheet
- Nursing admission form
- Dietician admission form
- Daily nutrition reassessment
- Consultant progress notes
- Nursing progress notes
- Physiotherapy form
- Consent forms
- Anaesthesia form
- Investigations
- Bed side procedures form
- IDTR form
- Medicine card

In the medical records the major area of concern is the improper documentation of the above listed forms. According to JCI specifications, the medical records should contain above mentioned forms in the file of the inpatient with some specific parameters.

## 1.2 Rationale of the study:

Dams helps in promoting clear and correct patient friendly financial communications. Patient friendly billing projects helps in differentiating the well performing hospitals from the poorly performing hospitals in terms of patient satisfaction and financial performance.

Medical records are the live proof of the services delivered to the patient.

The medical records should contain proper documentation of all of them. When documentation errors occurs, it leads to billing errors and ends up in patient dissatisfaction. So these are the major challenges that the hospitals are struggling through.

### CHALLENGES:

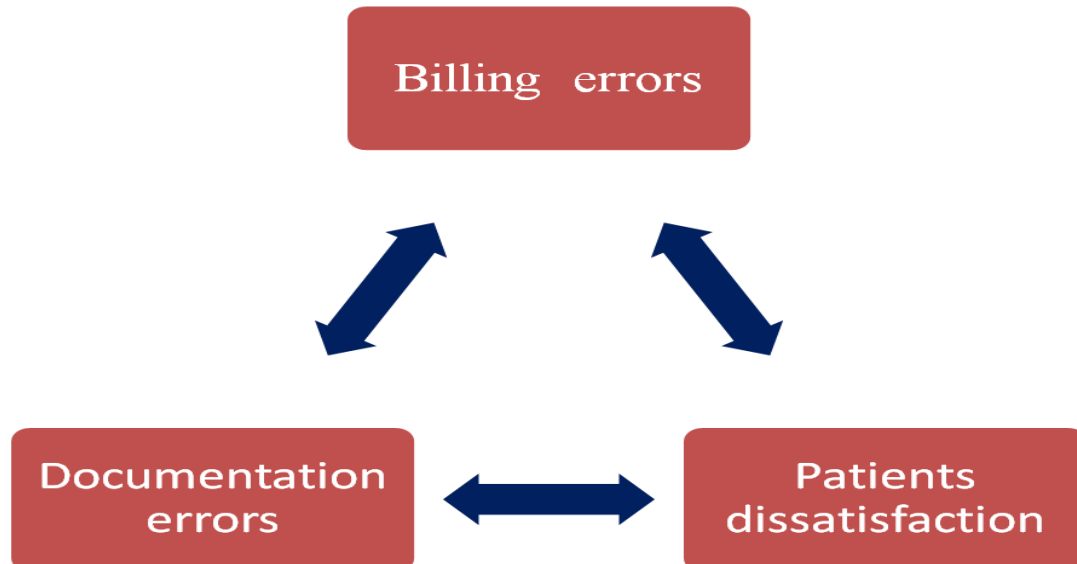


Figure 1.1

In the daily audit monitoring system (DAMS), 16 cross functional teams are working in the Narayana multispeciality hospital. The provisional bill of the inpatients are cross checked with the medical records to check for the services rendered to the patients.

It helps in identifying the undercharging or overcharging issues. By this way, loss to the organization or loss to the patients in financial terms can be identified.

### Advantages of DAMS:

- It aims in proper estimation of the hospital services related charges.
- It aims to monitor and record the progress/decline in the documentation trends.
- It aims to enhance the transparency by marginalizing the documentation errors. Therefore will help to reduce the Billing related errors.
- In the long run will help to improve the level of patients satisfaction.

### 1.3 OBJECTIVE

- To identify the percentage of billing related errors.

## 1.4 METHODOLOGY OF THE PROJECT

The project started on 1<sup>st</sup> may 2015 and runs till 25<sup>th</sup> may 2015. The duration of the project is 25 days. The design of the project is retrospective study design.

### 1.SAMPLE SIZE

The sample size of the project is 440 in which on an average 40 files have been audited per month from june 2014 to april 2015.

### 2.SAMPLING TECHNIQUE

The sampling technique included is the probability sampling . In the probability sampling further simple random sampling technique is used. Simple random sampling has been done through the random number generator software. Through the random number generator the 40 files selected randomly for every month from june 2014. The auditing of the closed files from the MRD department has been done. The final bills of the MRN's selected through random number generator were collected from the accounts department. The auditing of the bills is done with the closed (discharge) files to detect the billing errors. A checklist containing all the parameters has been provided. All the entries are recorded into the checklist. The data is collected month wise and recorded into the excel sheets and analyzed and results are drawn.

## 1.6 DATA ANALYSIS AND INTERPRETATION

### 1.5.1 Financial Counseling

It is basically an estimate about the total cost to be paid for hospital services. Information is provided in non medical jargons and made available to patients and their relatives.

- 440 files were audited out of which 224 files were within the estimated amounts of financial counseling which constitute 51% and 216 files were beyond the estimated amount with a share of 49 %.

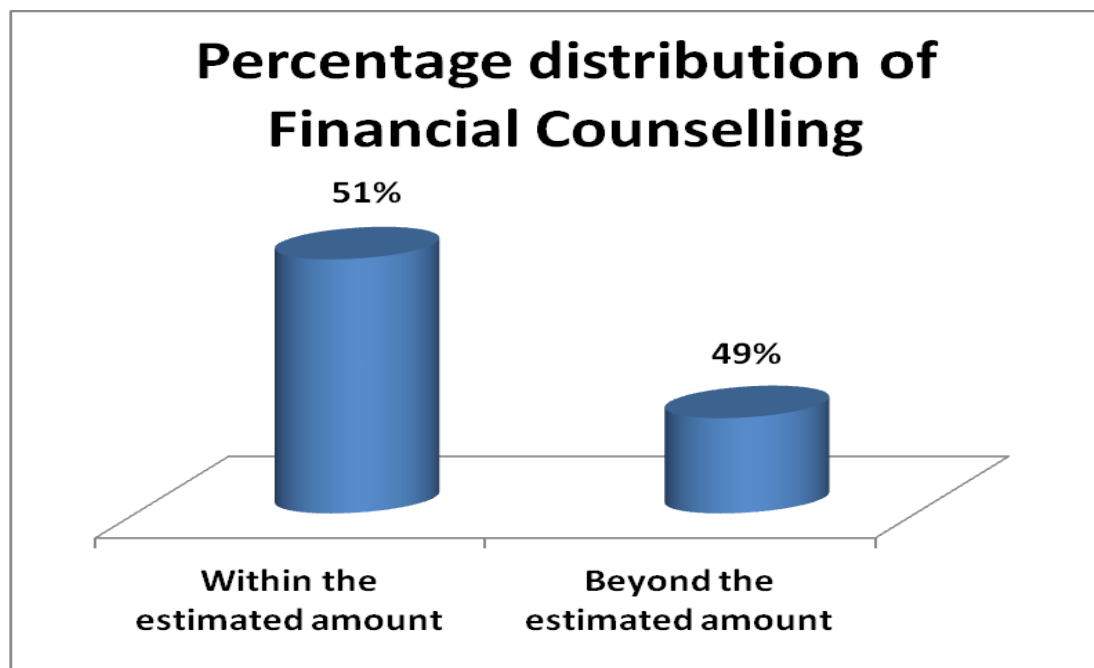


Figure 1.2

- On further drilling into the percentage of beyond the estimated amount ,we Considered 2% variance from the range for the financial counseling to be estimated. 138 files out of 216 showed 2% variance above the estimated amount and 78 files showed 2% variance below the estimated amounts.

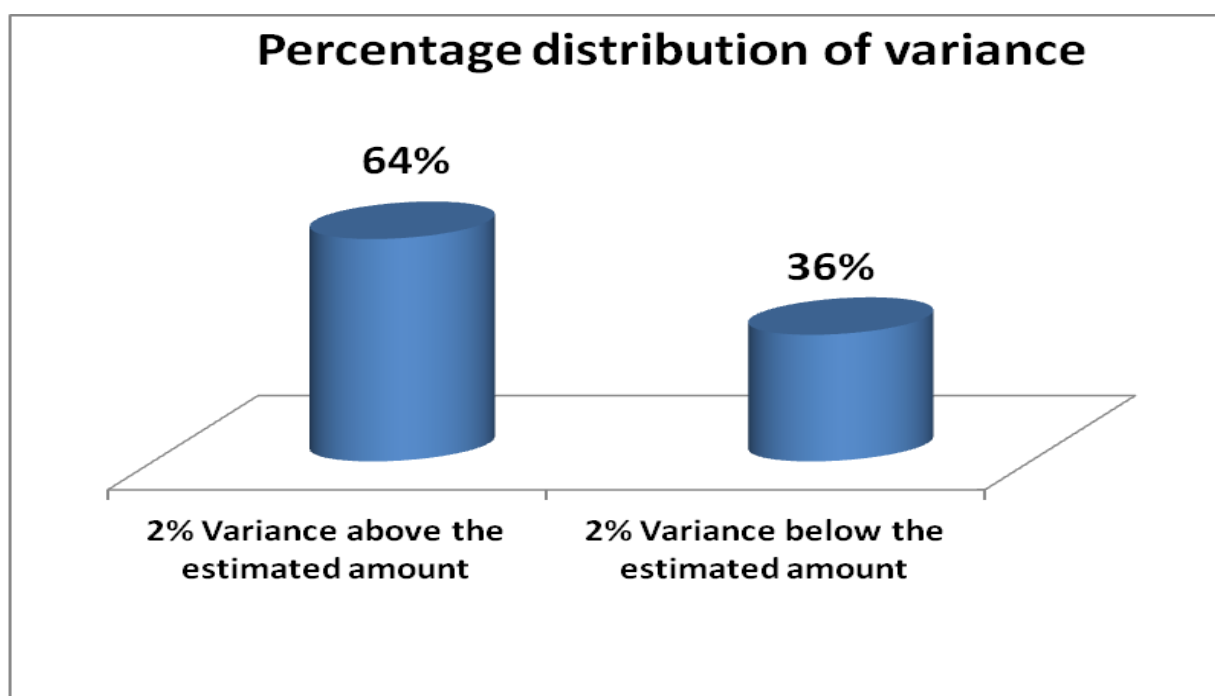


*Figure 1.3*

### 1.5.2 HOSPITALIZATION CARE

Hospitalization care includes bedside procedures, investigations, medication and other categories. Out of 440 files the disparity distribution is shown through a pie diagram .

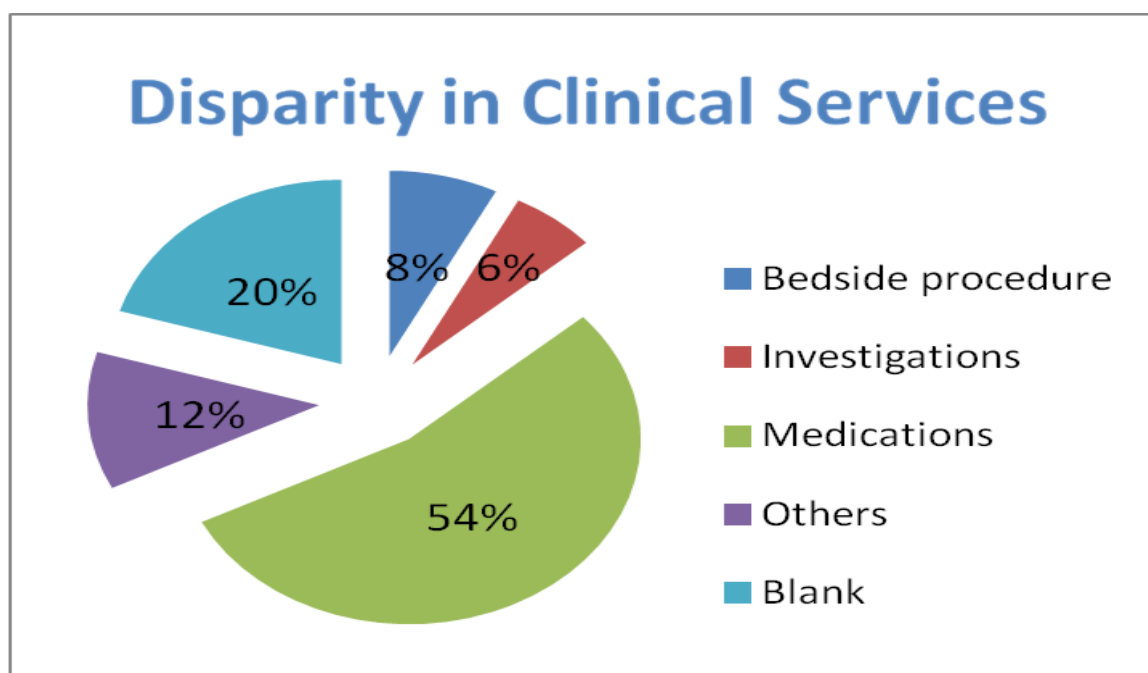


Figure 1.4

- Bed sides Procedure(s) :
  - Blood Sugar Strip test
  - Blood Gas Analysis
  - Nebulization
- Investigation(s):
  - ECG
  - USG
  - ECHO 2D
- Others:
  - Consultation(s)/Cross consultation(s) charges
  - Blood unit charges.

### 1.5.2.1 MEDICATION CHARGES RELATED FINDINGS

Out of the 440 files audited, the major amount of errors observed is in medication related. The 54% of the files i.e 238 shows medication related errors. Two types of medication related errors observed are medication overcharged and medication undercharged.

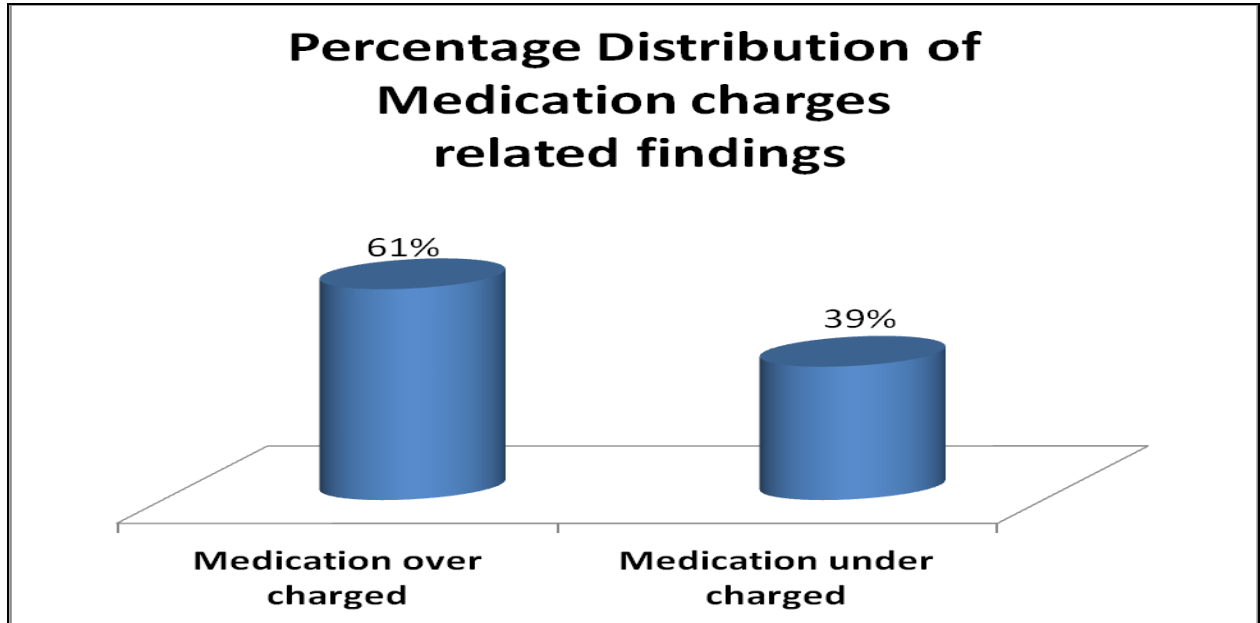


Figure 1.5

### 1.5.2.2 BLOOD SUGAR STRIP TEST CHARGES RELATED FINDINGS

The errors related to the blood sugar strip test founded in 32 files. Out of the 32 files, the blood sugar strip is overcharged in 19 cases and undercharged in 13 cases.

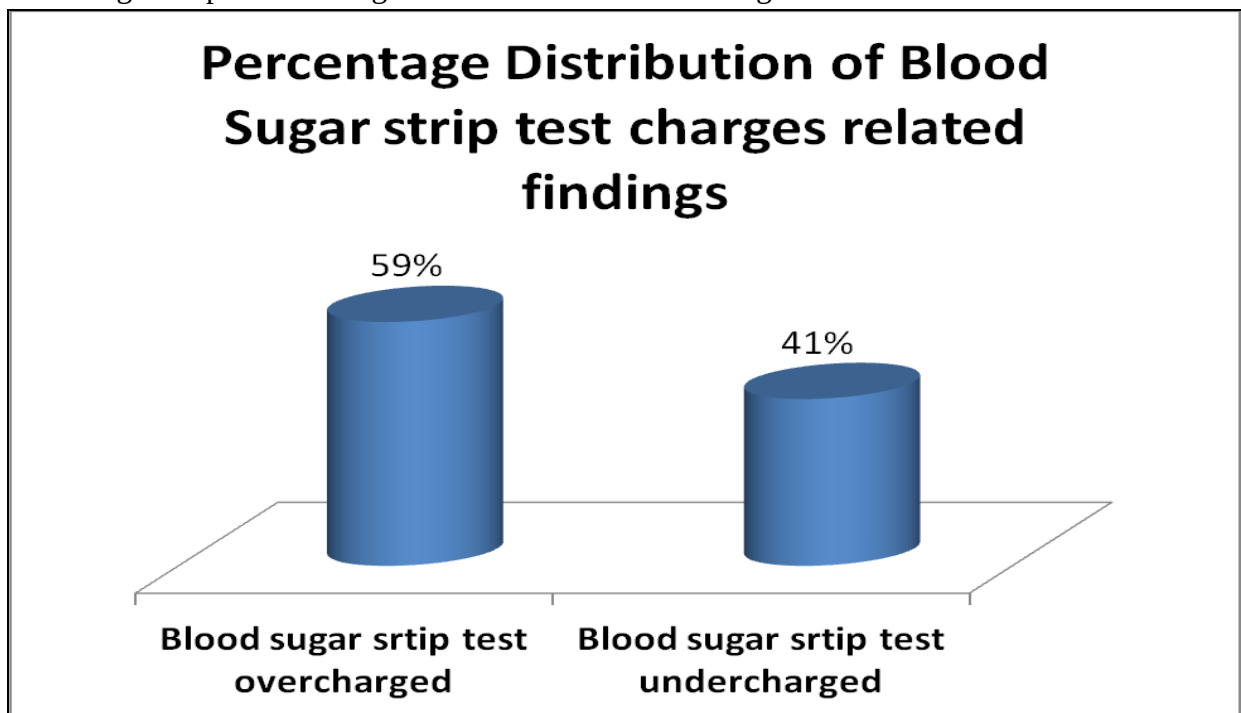


Figure 1.6

### 1.5.2.3 NEBULIZATION RELATED FINDINGS:

Nebulization related errors has been found in 11 cases. The 5 of the error related cases were overcharged and the rest 6 files contains errors related to the undercharging of the nebulization ( bed side procedure).

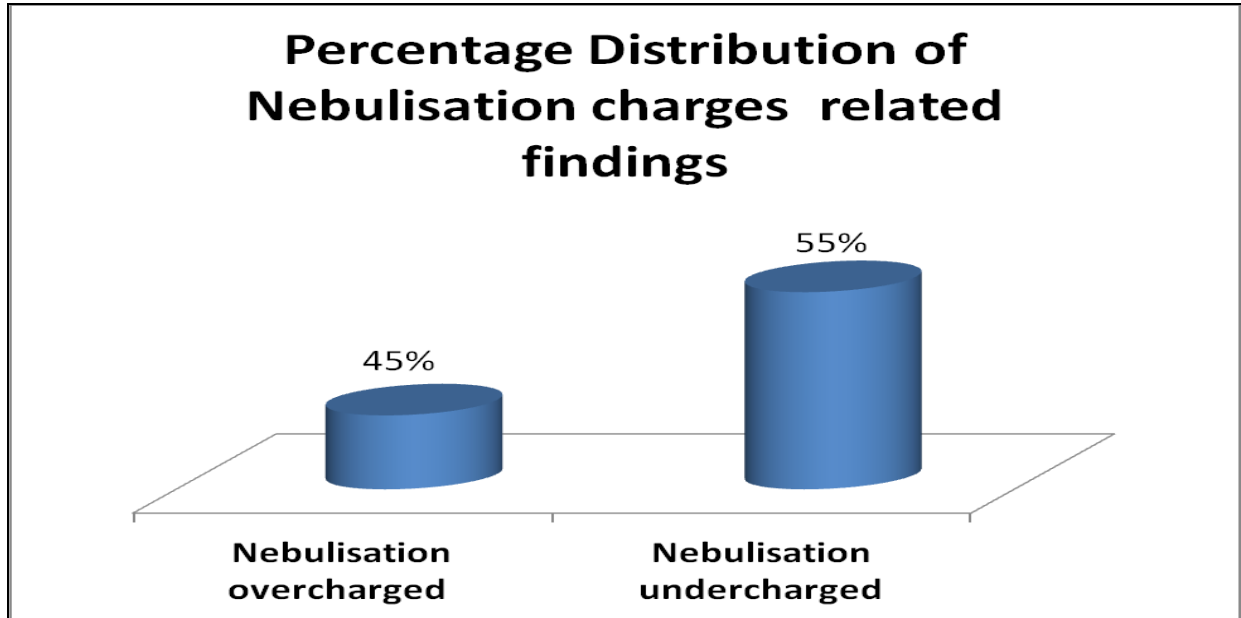


Figure 1.7

### 1.5.2.4. ECG CHAGES RELATED FINDINGS

ECG related errors found in 26 cases out of 440 files. ECG is overcharged in 5 cases and undercharged in 21 cases.

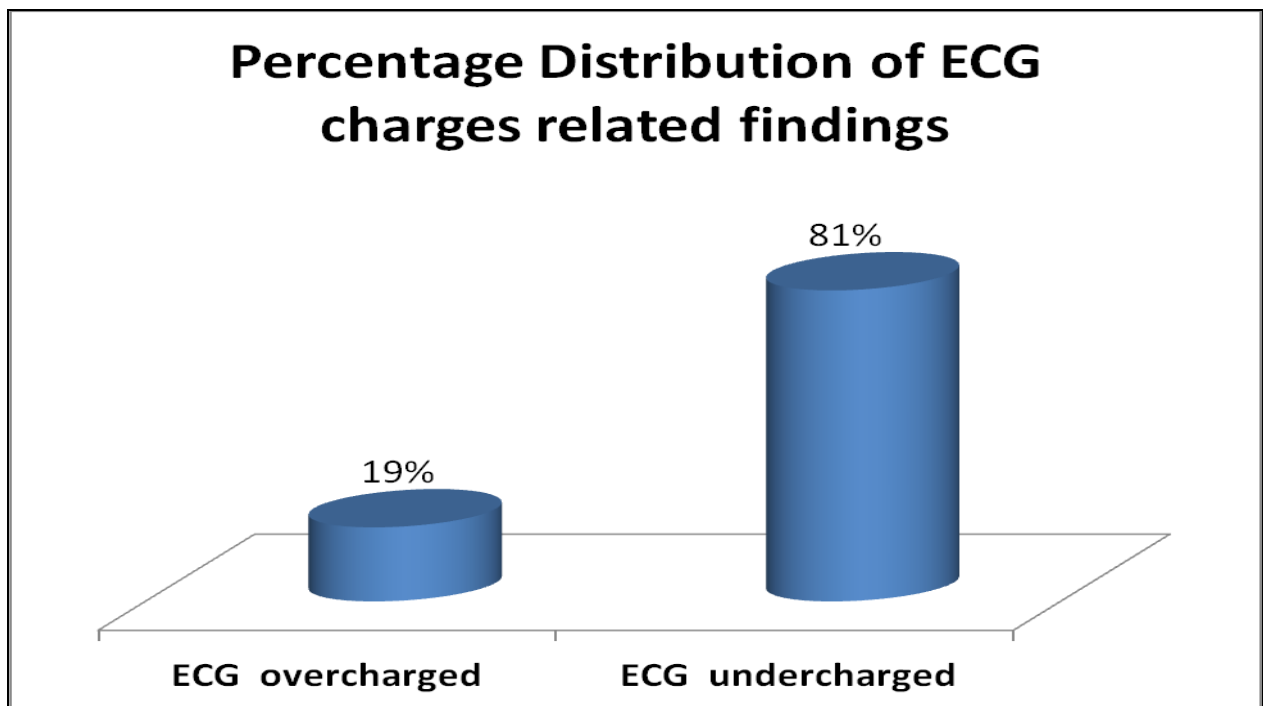


Figure 1.8

### 1.5.2.5 CONSULTANT CHARGES RELATED FINDINGS

In the 81 cases, out of the 440 files, 49 cases were overcharged and 39 cases were undercharged for consultation.

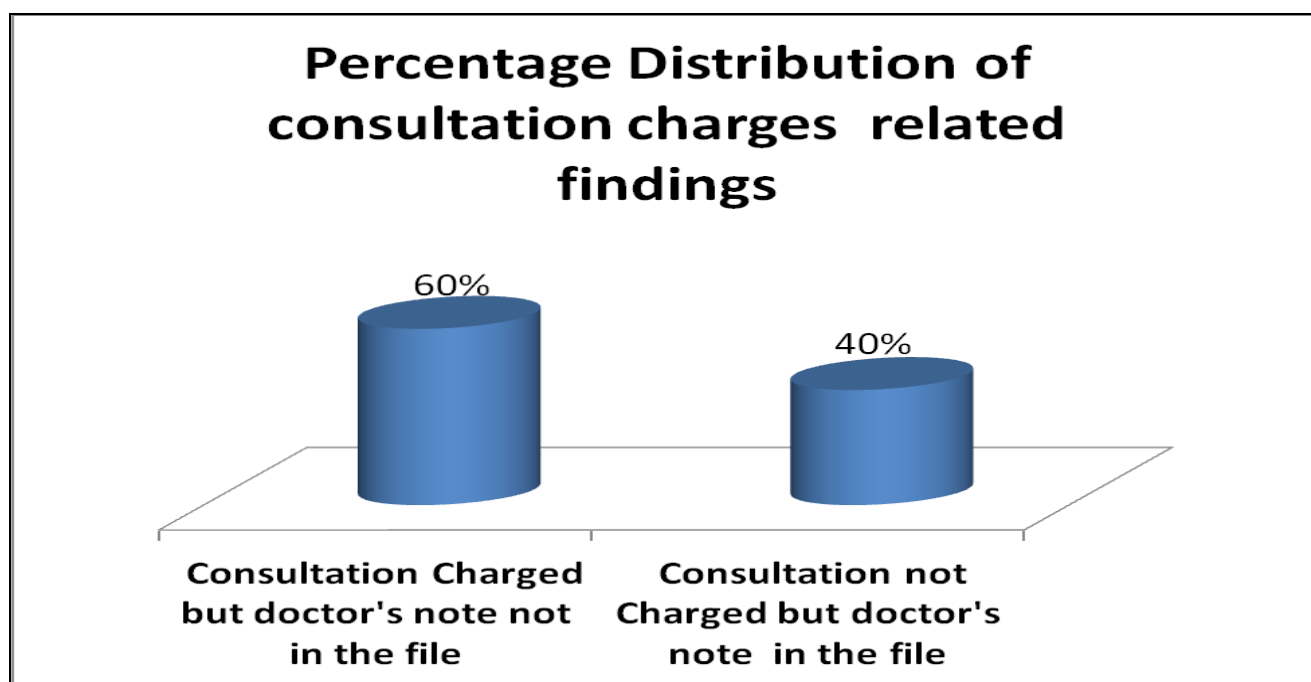


Figure 1.9

### 1.5.2.6 USG CHARGES RELATED FINDINGS:

Out of the 440 files, 14 files contain findings related to the USG. The 8 files have overcharged USG service while 6 files contain undercharged

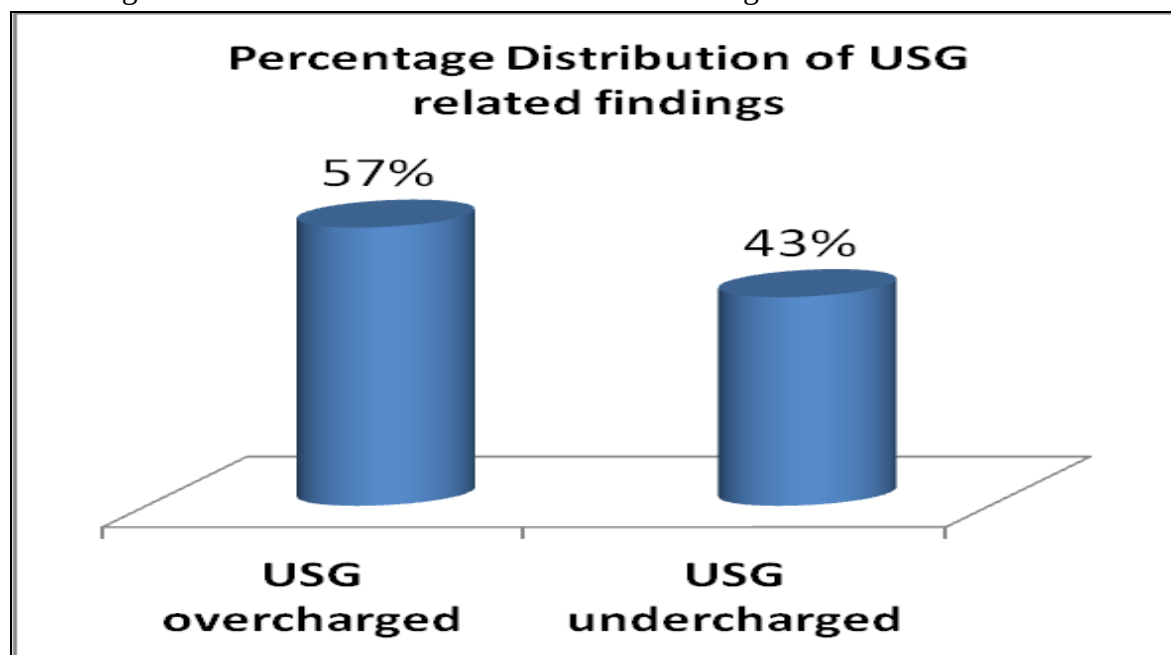


Figure 1.10

### 1.5.3 MONTH WISE TRENDS (JUNE 2014- APRIL 2015)

#### 1. Trend Line of Medications Charged

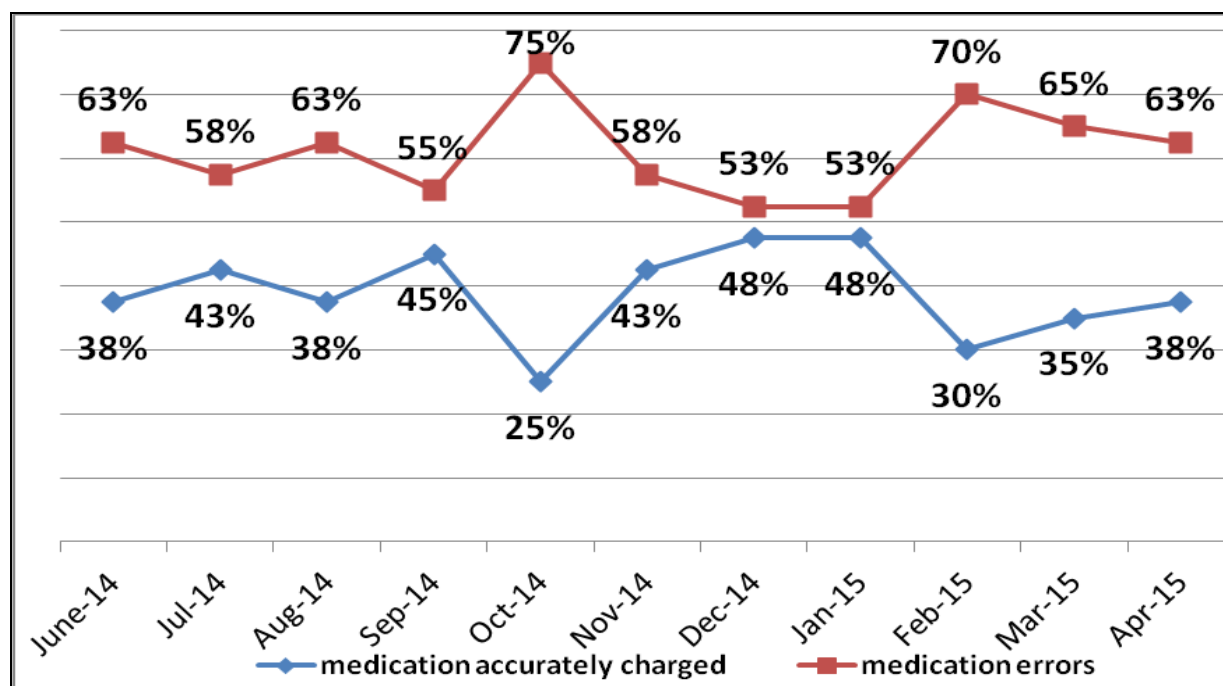


Figure 1.11

#### 2.Trend line in Blood Sugar Strip Test

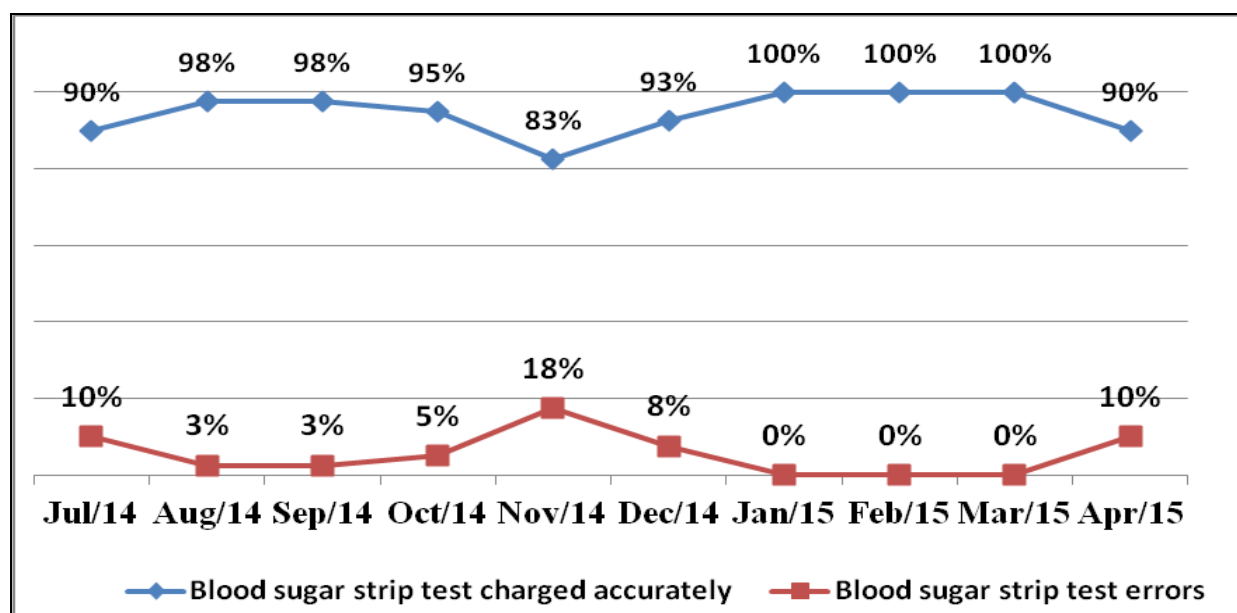


Figure 1.12

### 3.Trend line in ECG services

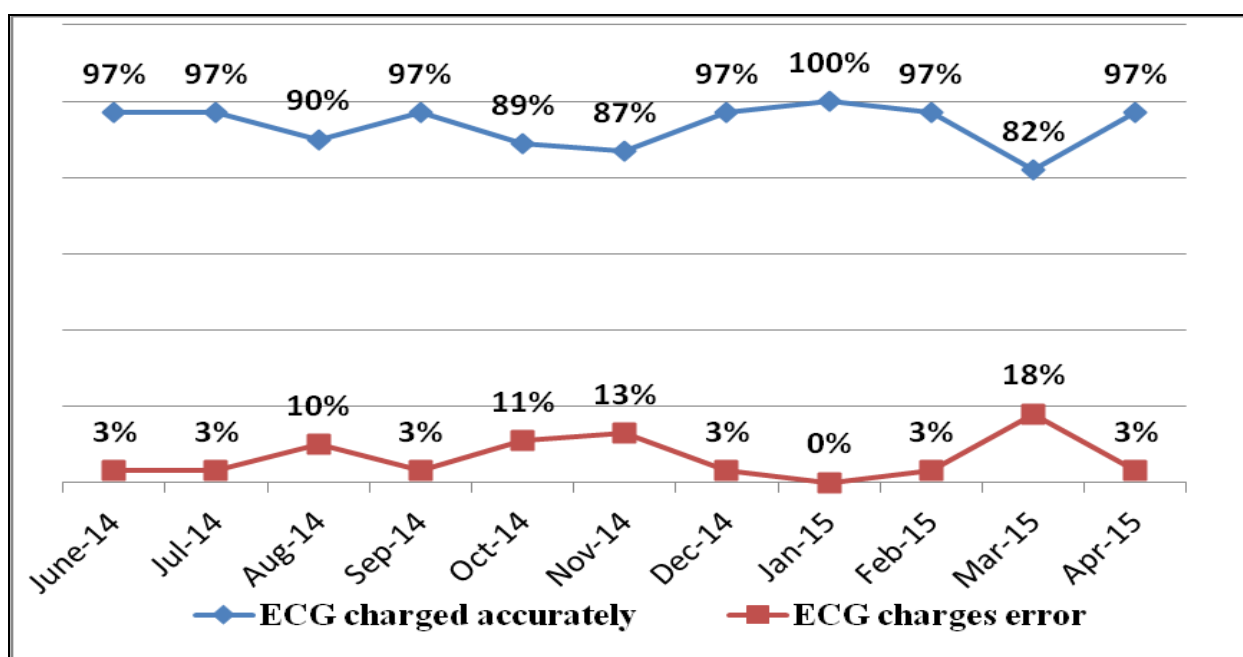


Figure 1.13

### 4.Trend line of USG services

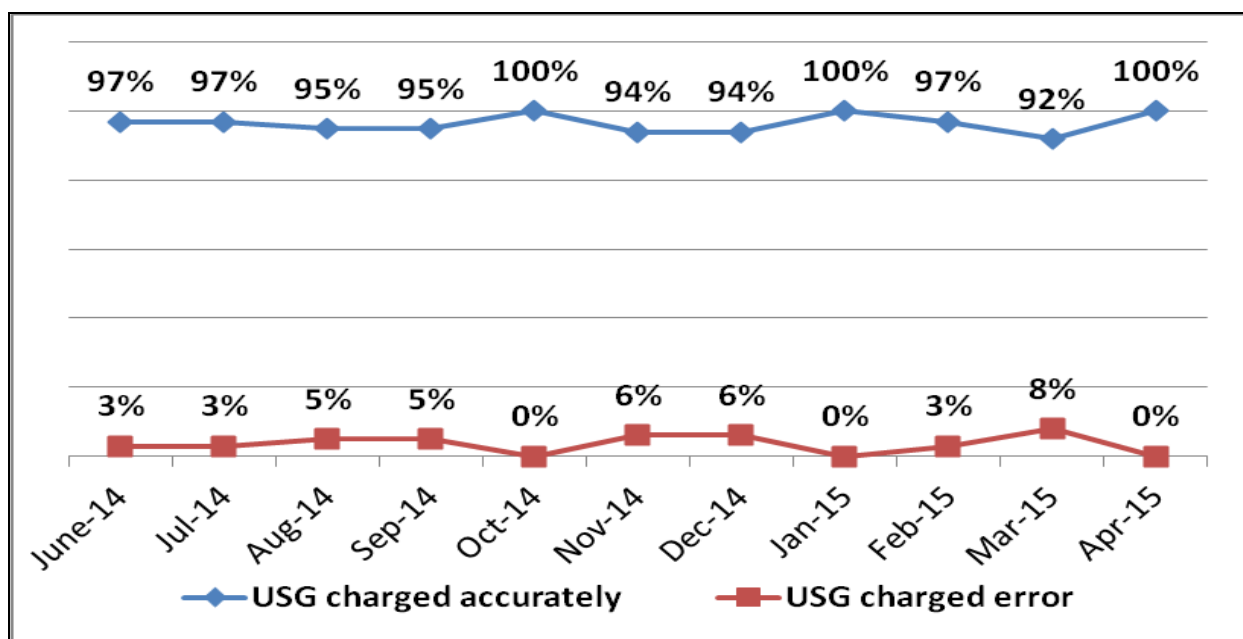


Figure 1.14

## 5. Trend Line in Nebulization Services

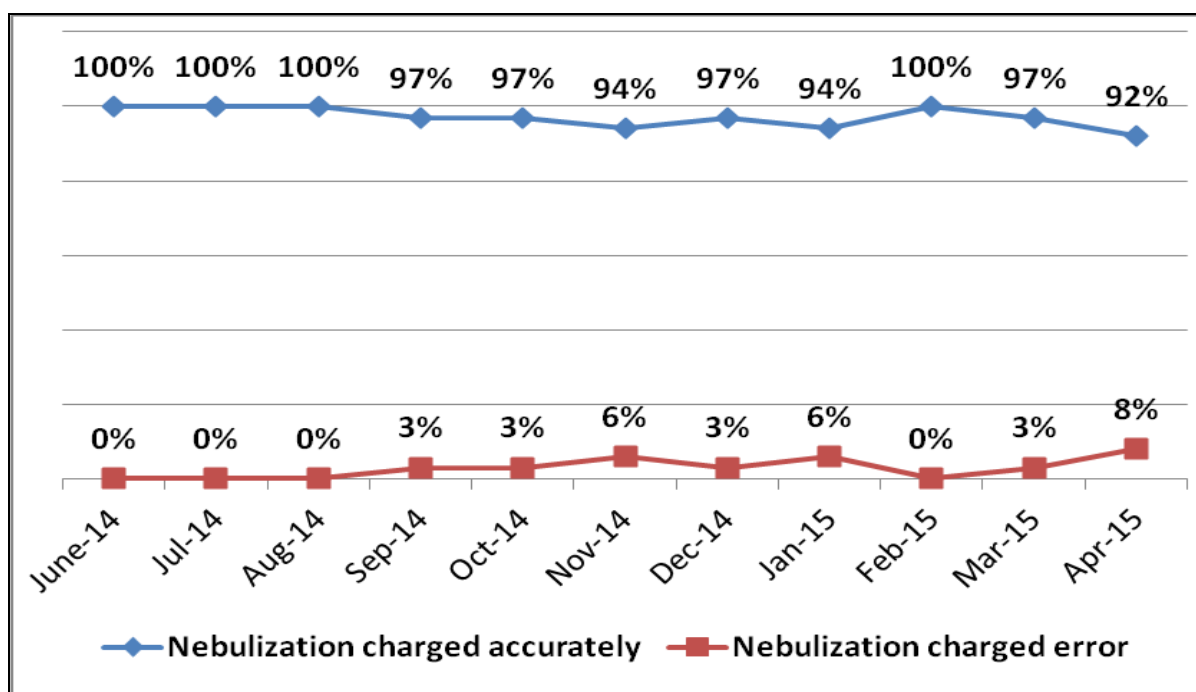


Figure 1.15

## 6. Trend line of Consultation(s) related charges

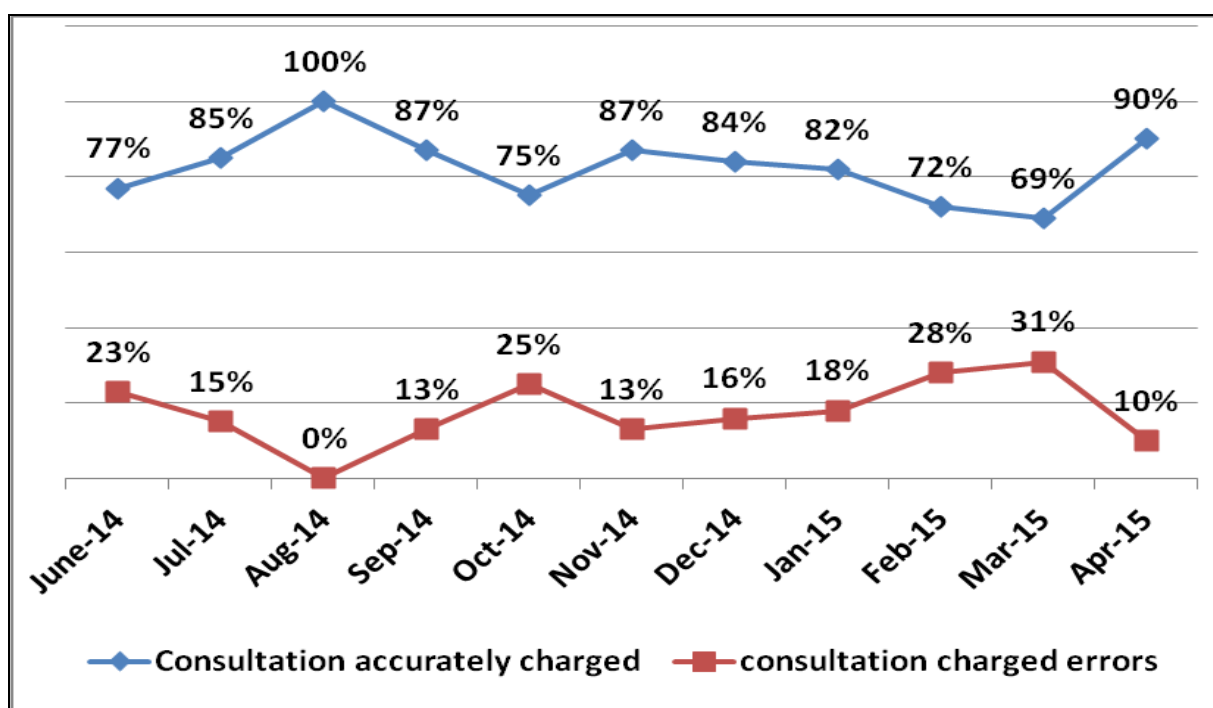


Figure 1.16

### 1.5.4 WARD WISE DISTRIBUTION OF DAMS FINDINGS(JUNE 2014-APRIL 2015)

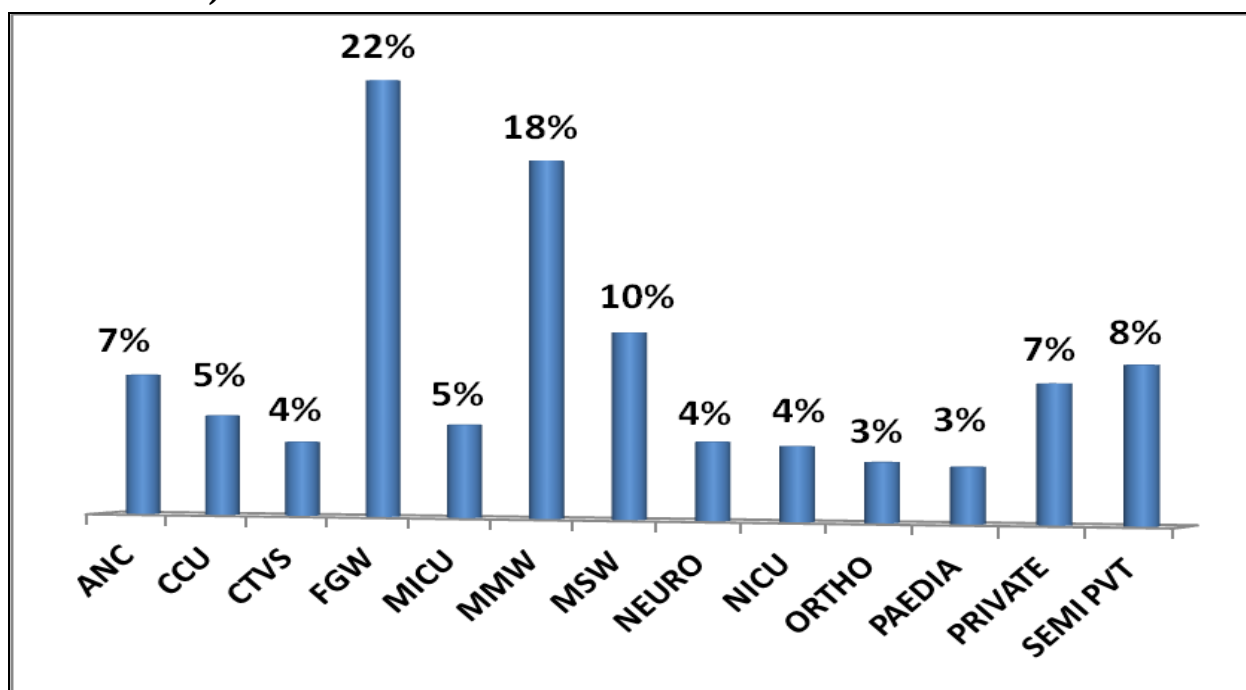


Figure 1.17

Ward wise distribution of the DAMS findings shows that the errors are more prominent in the FGW( Female general ward) and MMW( Male medical ward).

#### 1.5.4.1. ANC WARD(25 files were audited from the sample of 440 files)

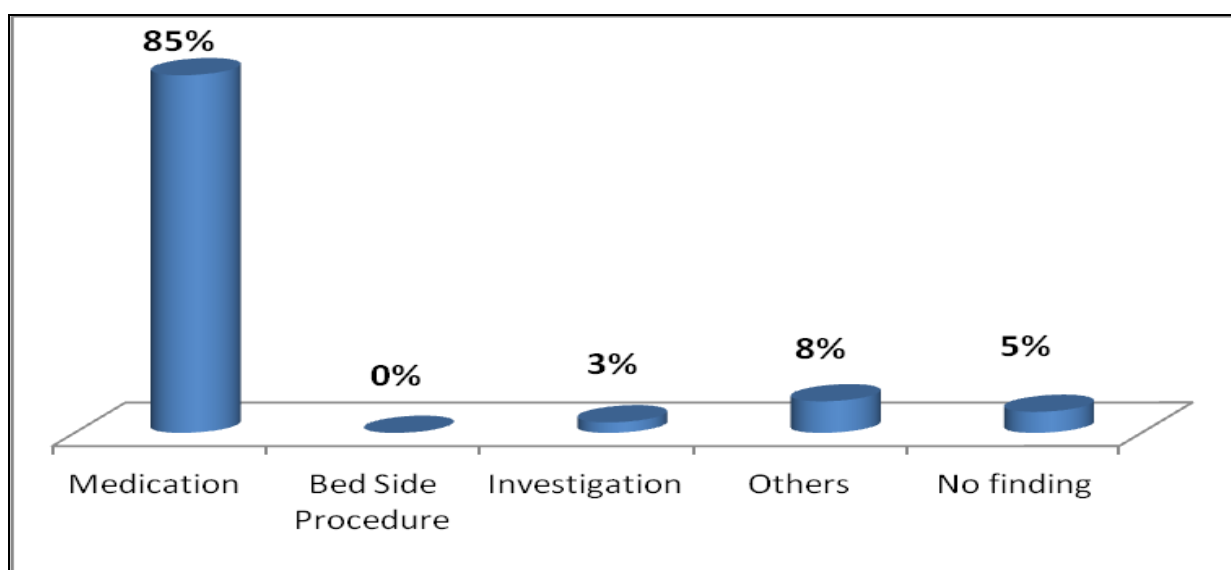


Figure 1.18

On further drilling down into the main headings, the results found for ANC ward are:

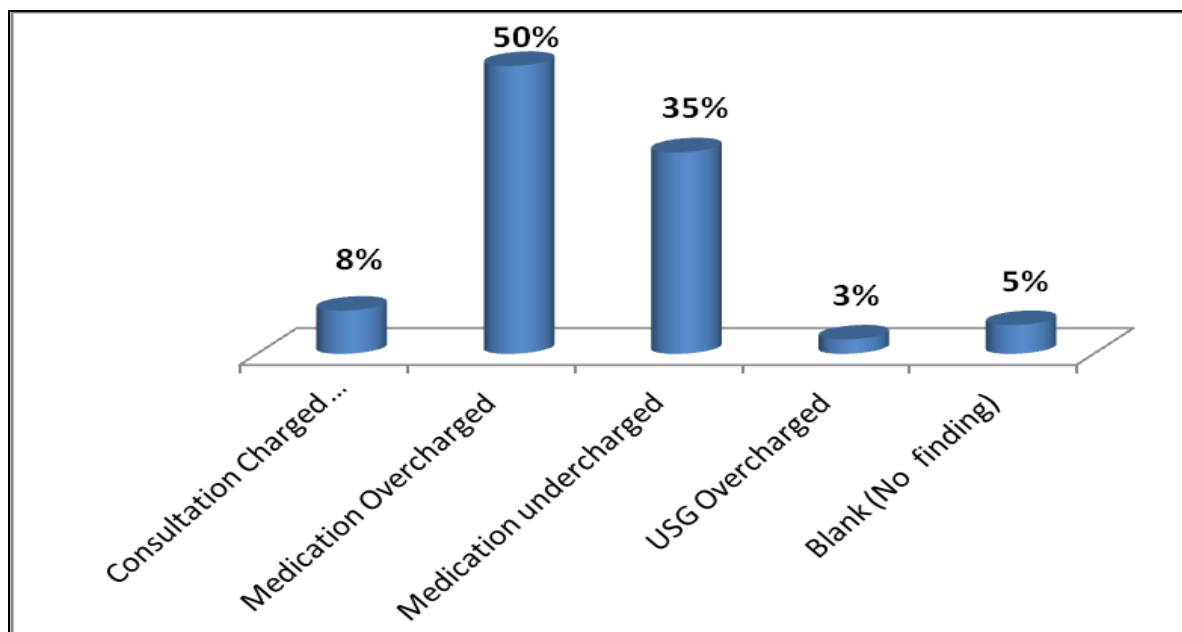


Figure 1.19

#### 1.5.4.2. CCU WARD(102 files audited from the sample of 440 files)

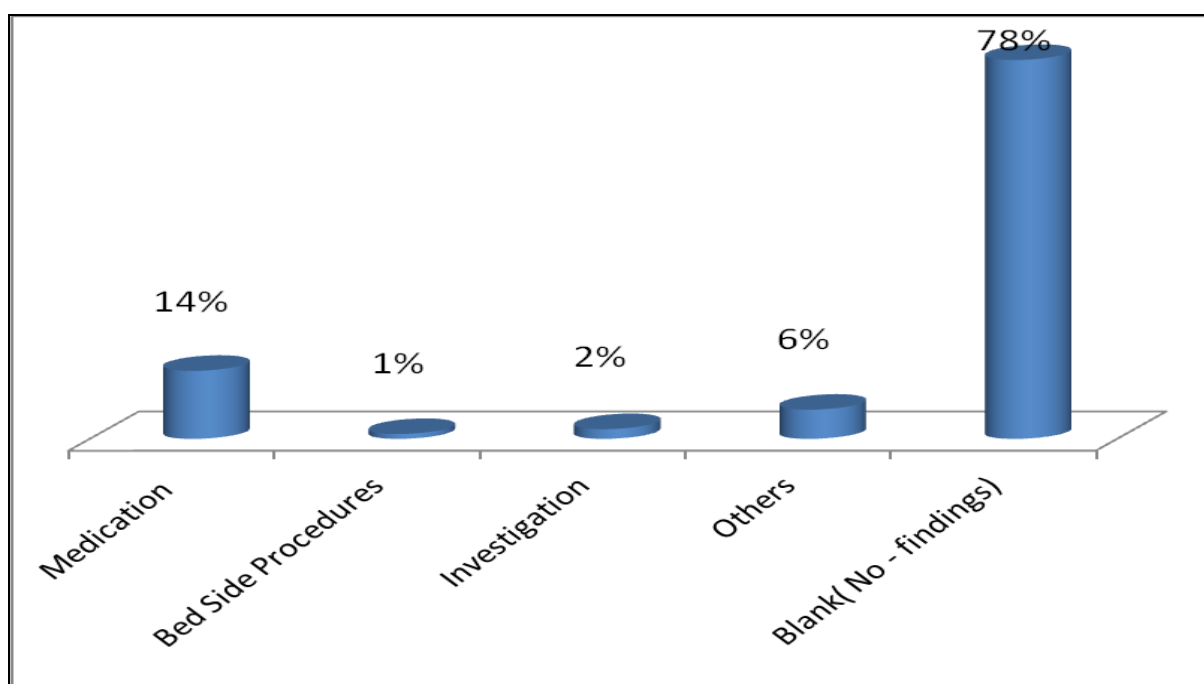


Figure 1.20

On zooming into these broader categories, the errors found in the CCU ward are:

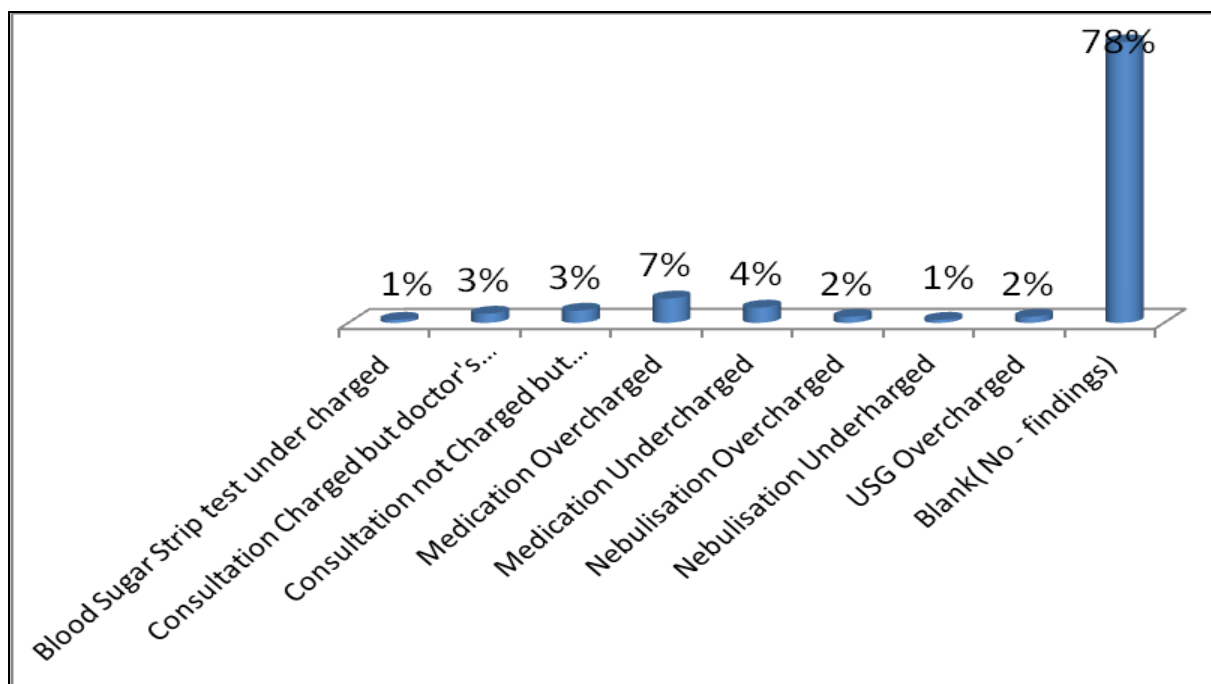


Figure 1.21

#### 1.5.4.3 .CTVS WARD(23 files were audited from the sample of 440 files)

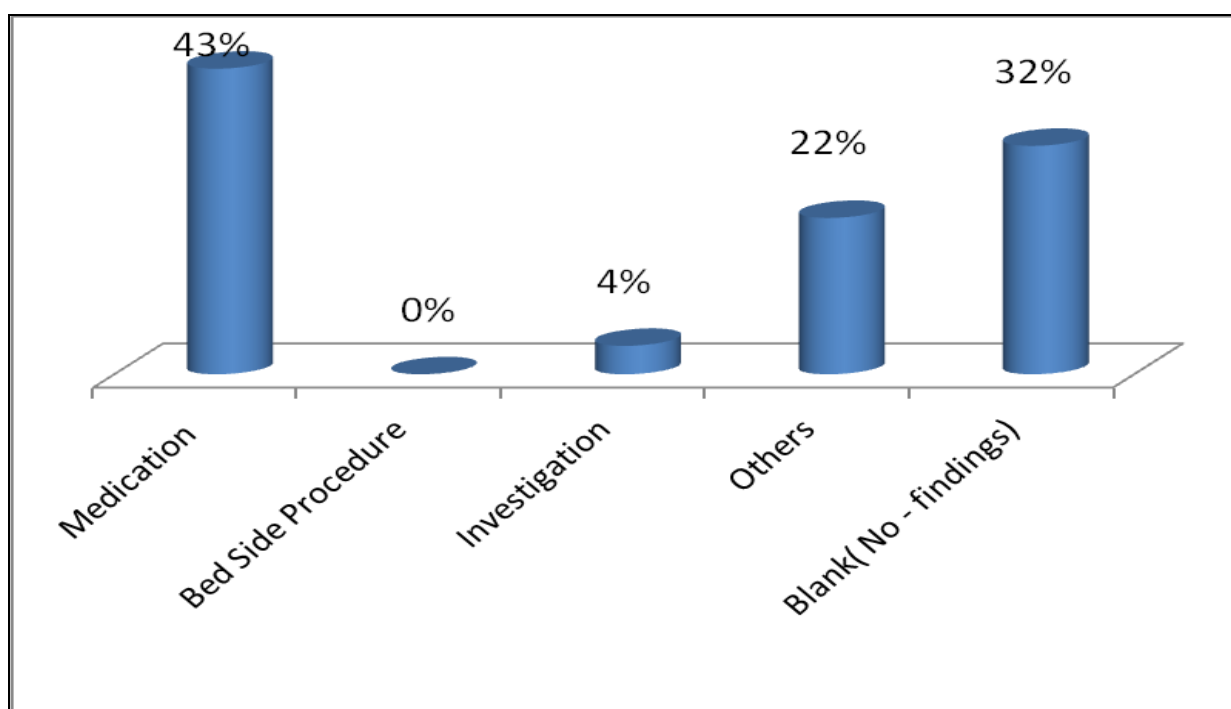


Figure 1.22

On further drilling down into the main headings, the results found for CTVS ward are:

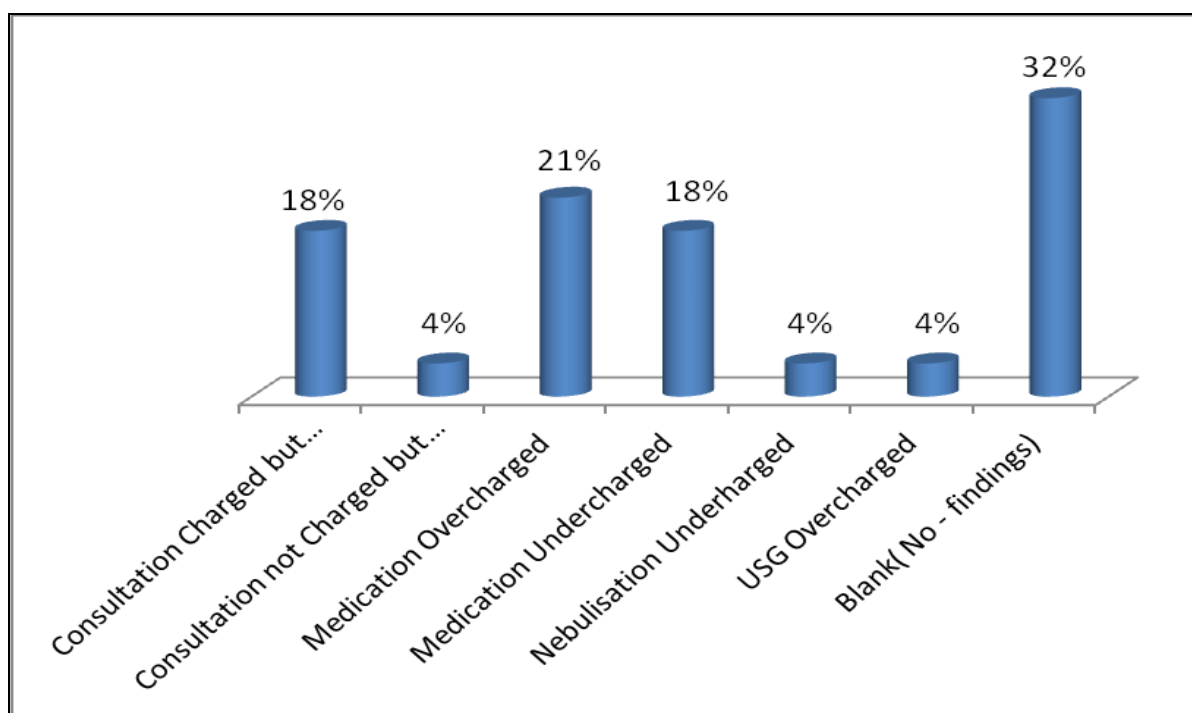


Figure 1.23

#### 1.5.4.4 .MICU (9 files were audited from the sample of 440 files)

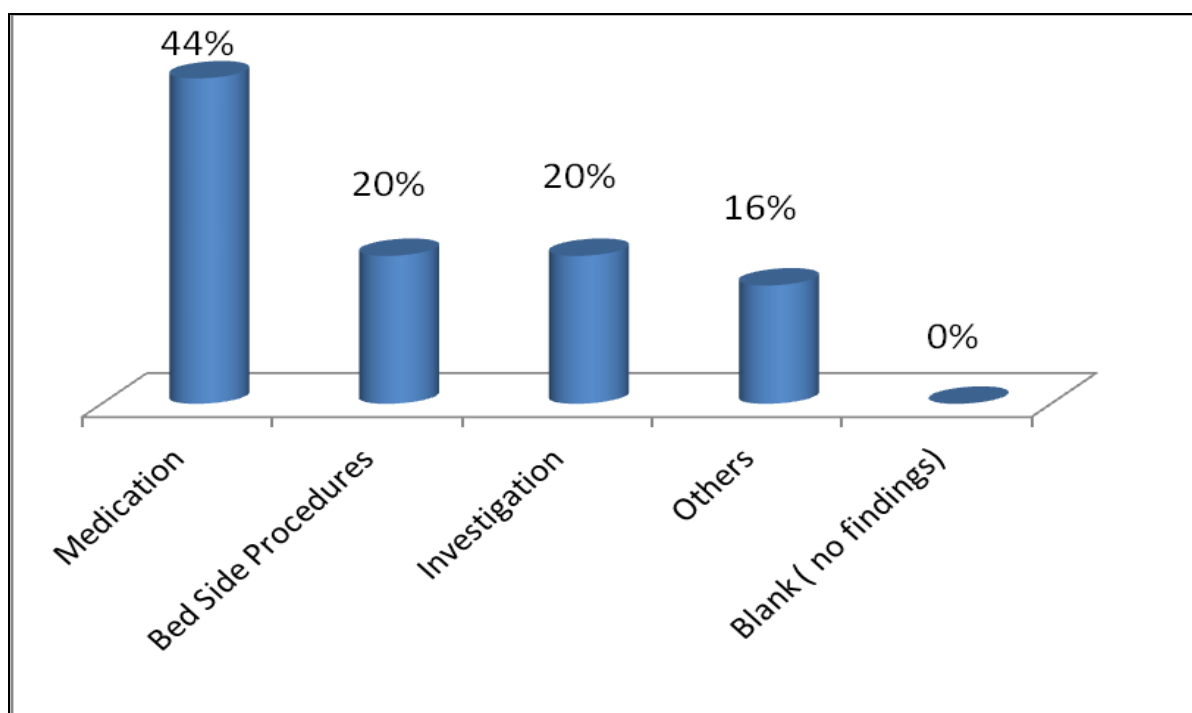


Figure 1.24

On zooming into these broader categories, the errors found in the MICU Ward are:

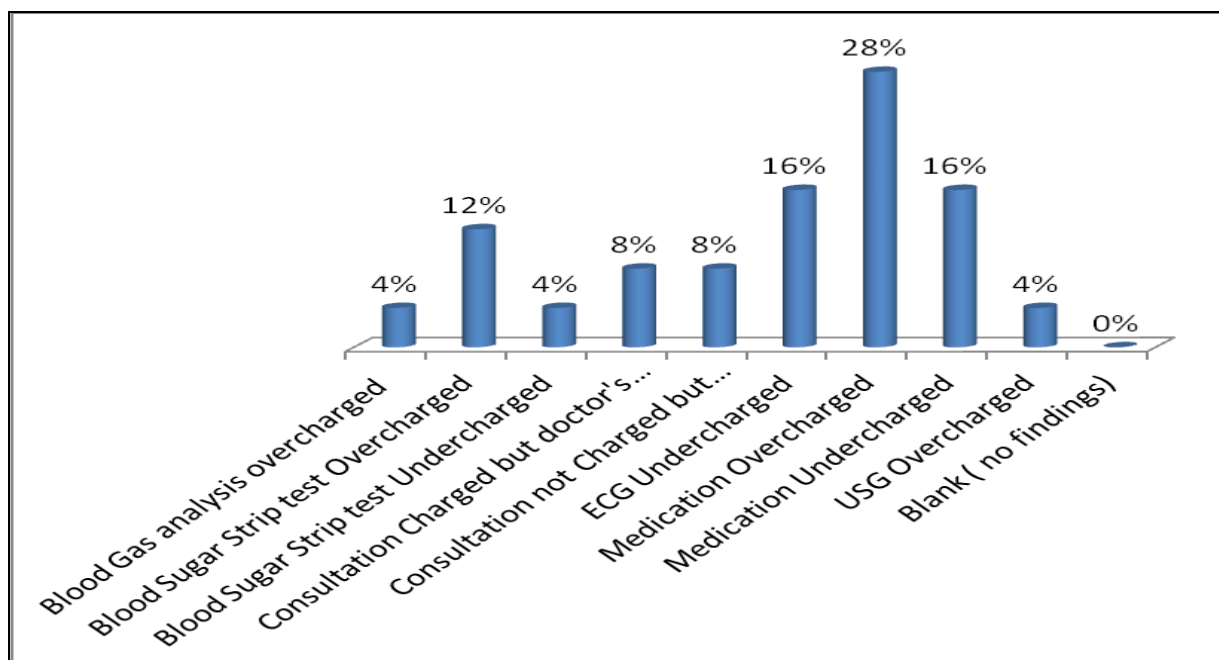


Figure 1.25

1.5.4.5 .MALE MEDICAL WARD(60 files were audited from the sample of 440 files)

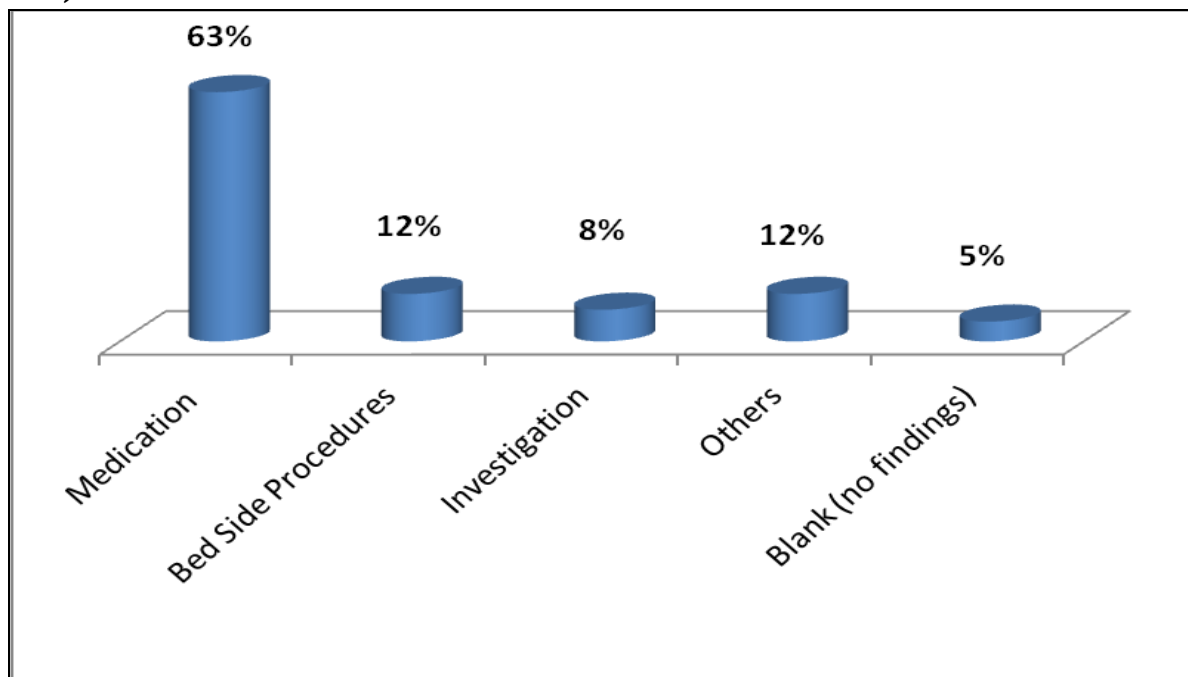


Figure 1.26

On further drilling down into the main headings, the results found for Male medical ward are:

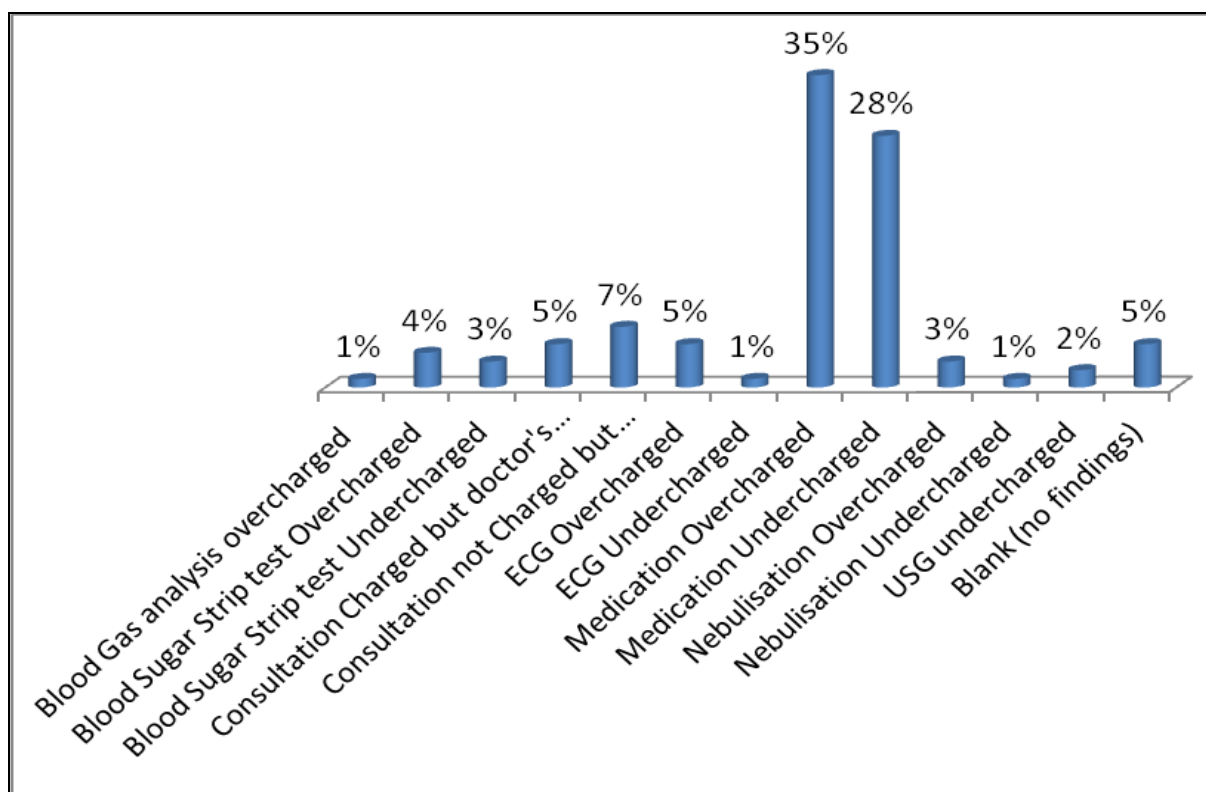


Figure 1.27

#### 1.5.4.6 .FEMALE GENERAL WARD(64 files were audited from the sample of 440 files)

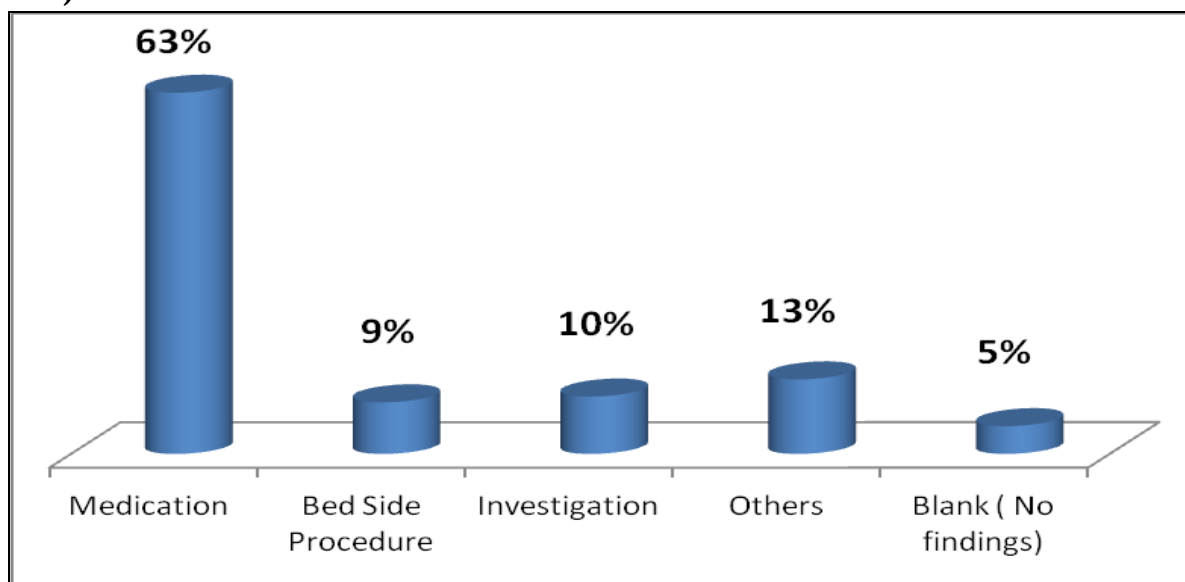


Figure 1.28

On further drilling down into the main headings, the results found for Female general ward are

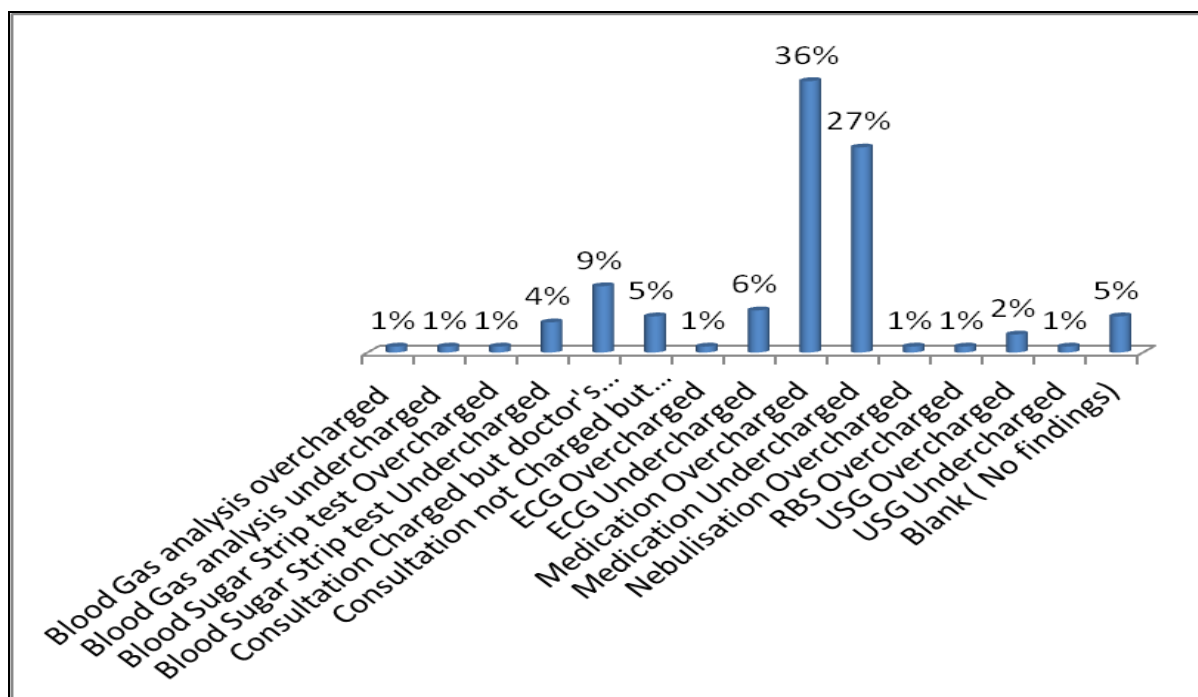


Figure 1.29

#### 1.5.4.7. MALE SURGICAL WARD( 36 files were audited from the sample of 440 files)

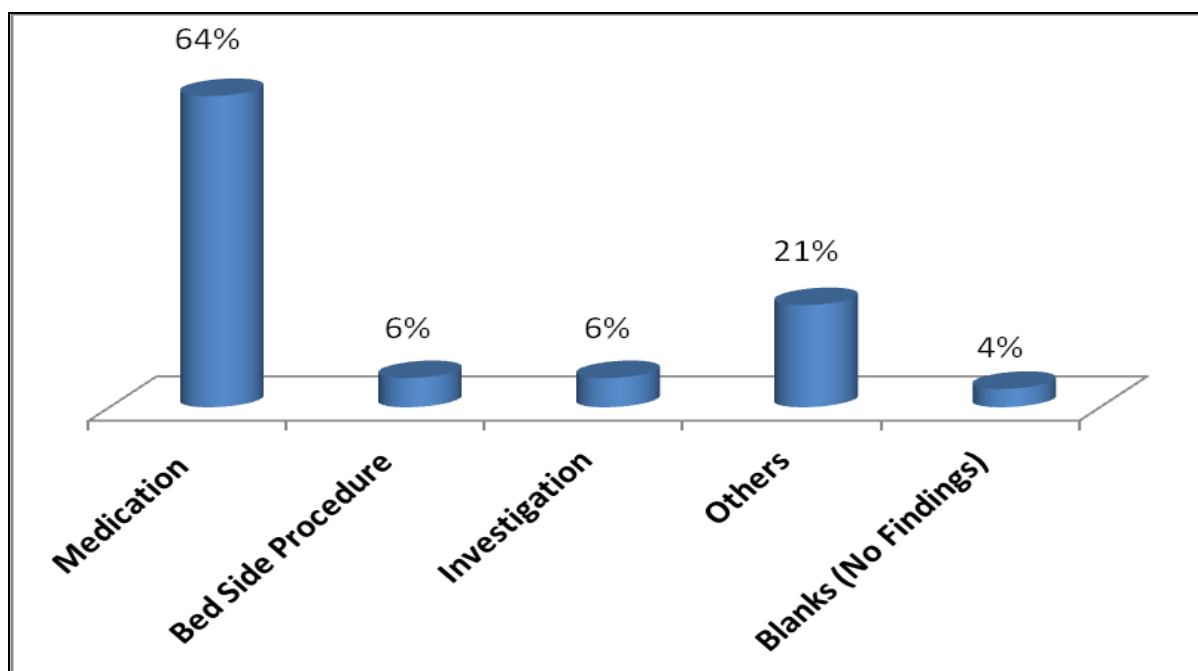


Figure 1.30

On zooming into these broader categories, the errors found in the male surgical ward are:

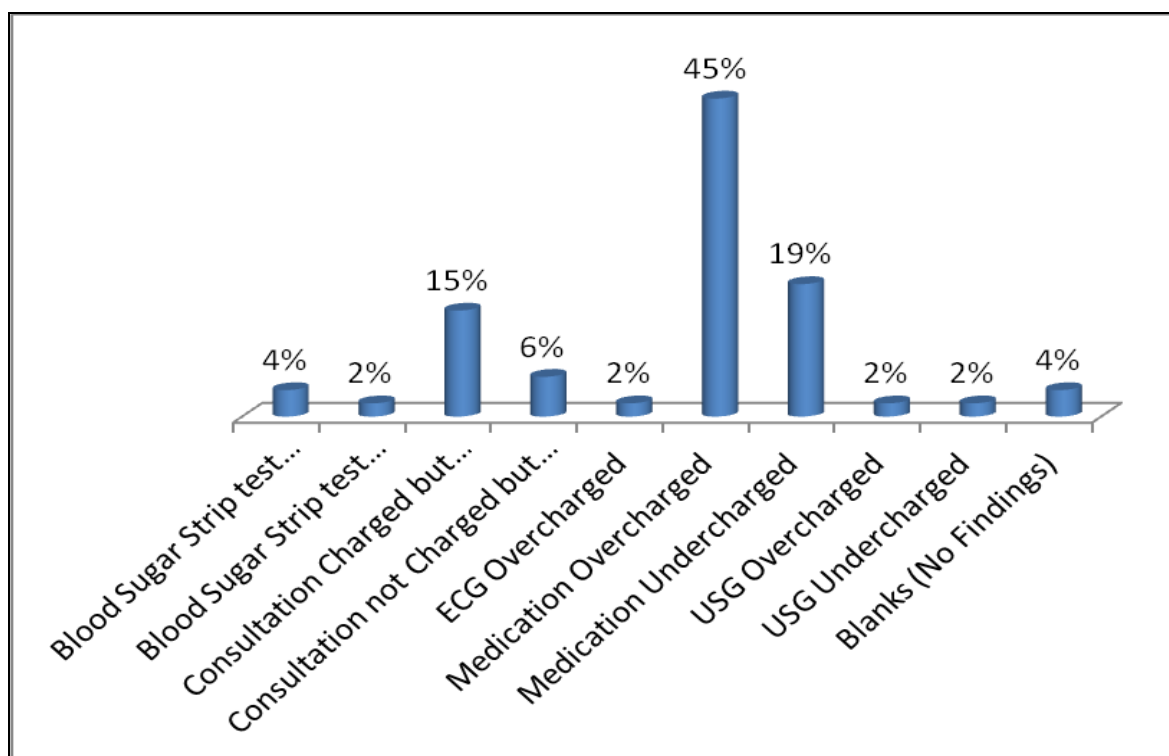


Figure 1.31

#### 1.5.4.8. NEURO GENERAL WARD( 11 files were audited from the sample of 440 file)

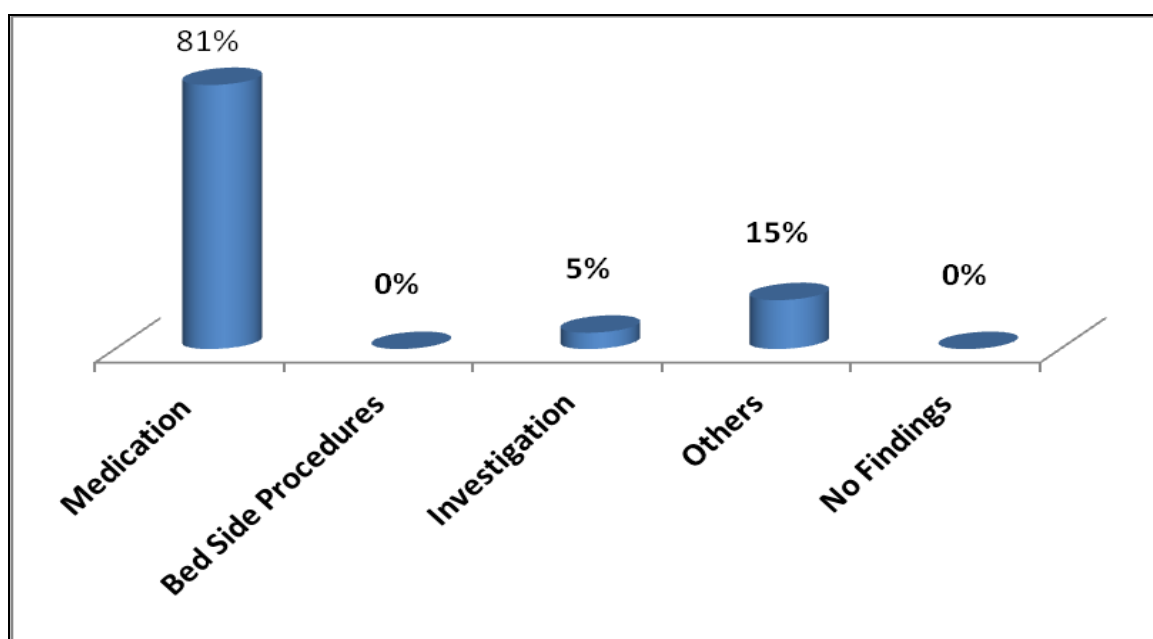


Figure 1.32

On zooming into these broader categories, the errors found in the neuro general ward are:

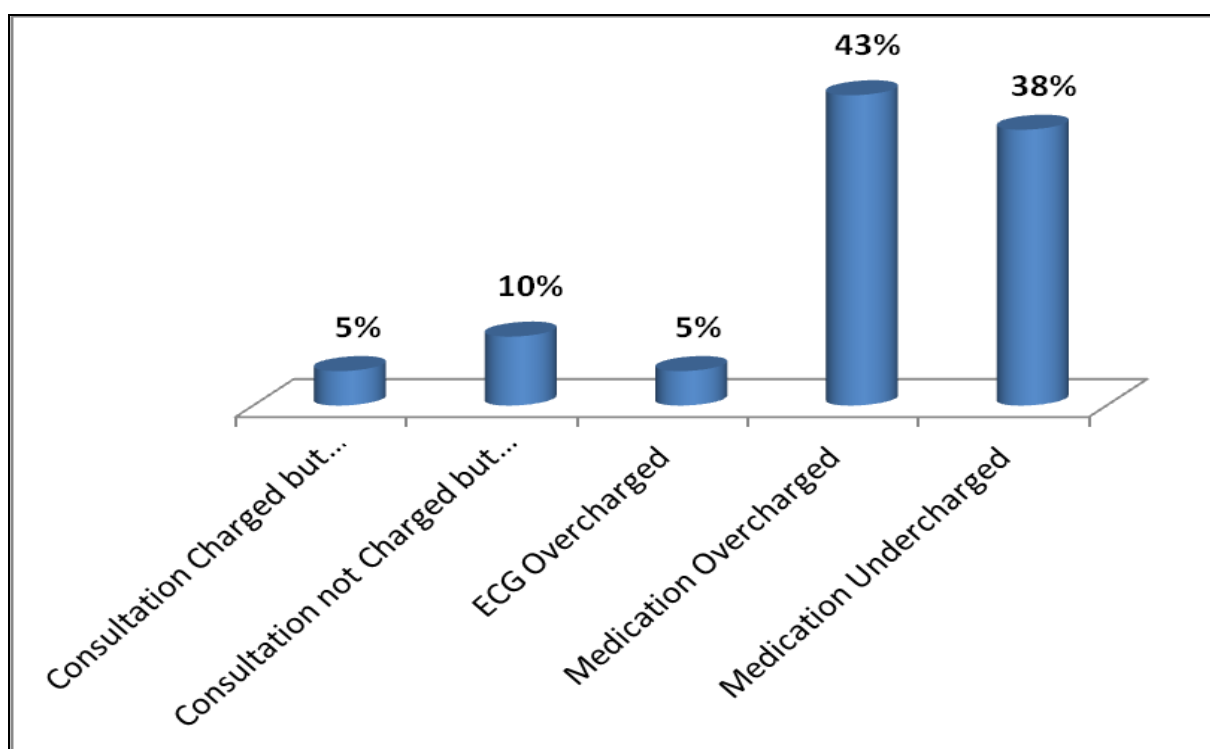


Figure 1.33

#### 1.5.4.10 NICU(21 files were audited from the sample of 440 files)

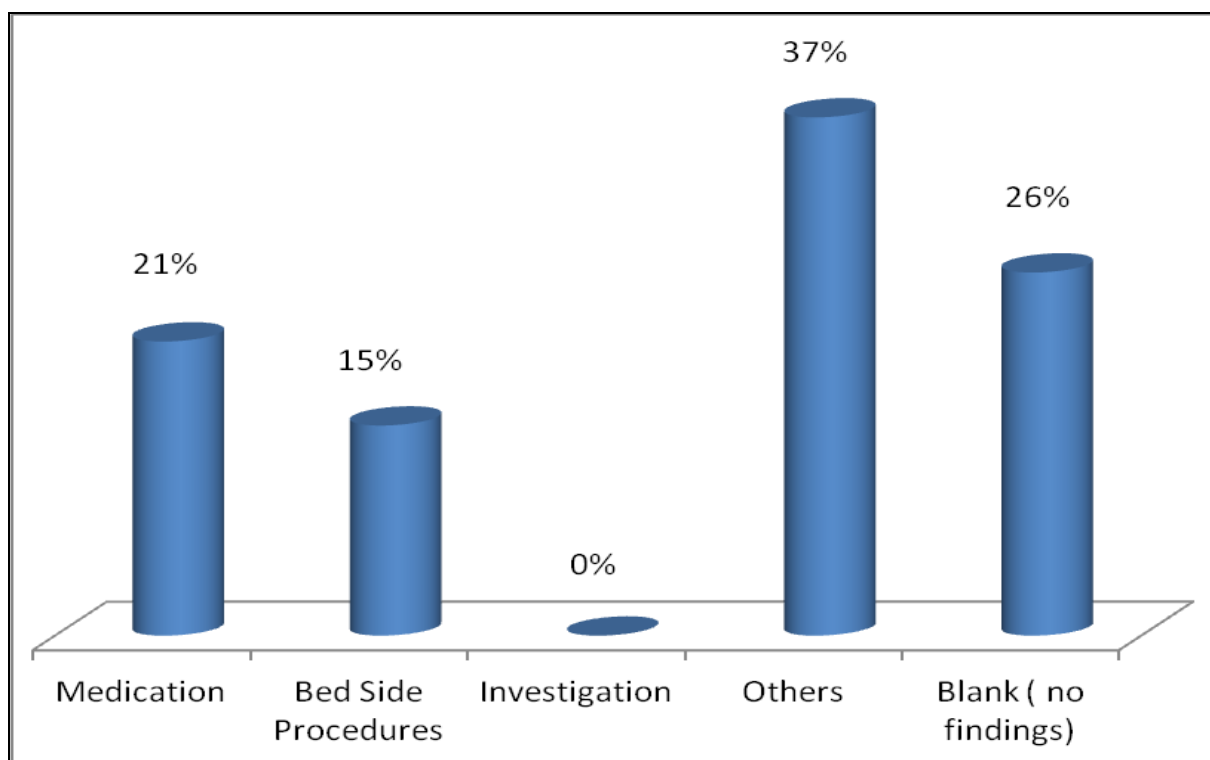


Figure 1.34

On further drilling down into the main headings, the results found for NICU are:

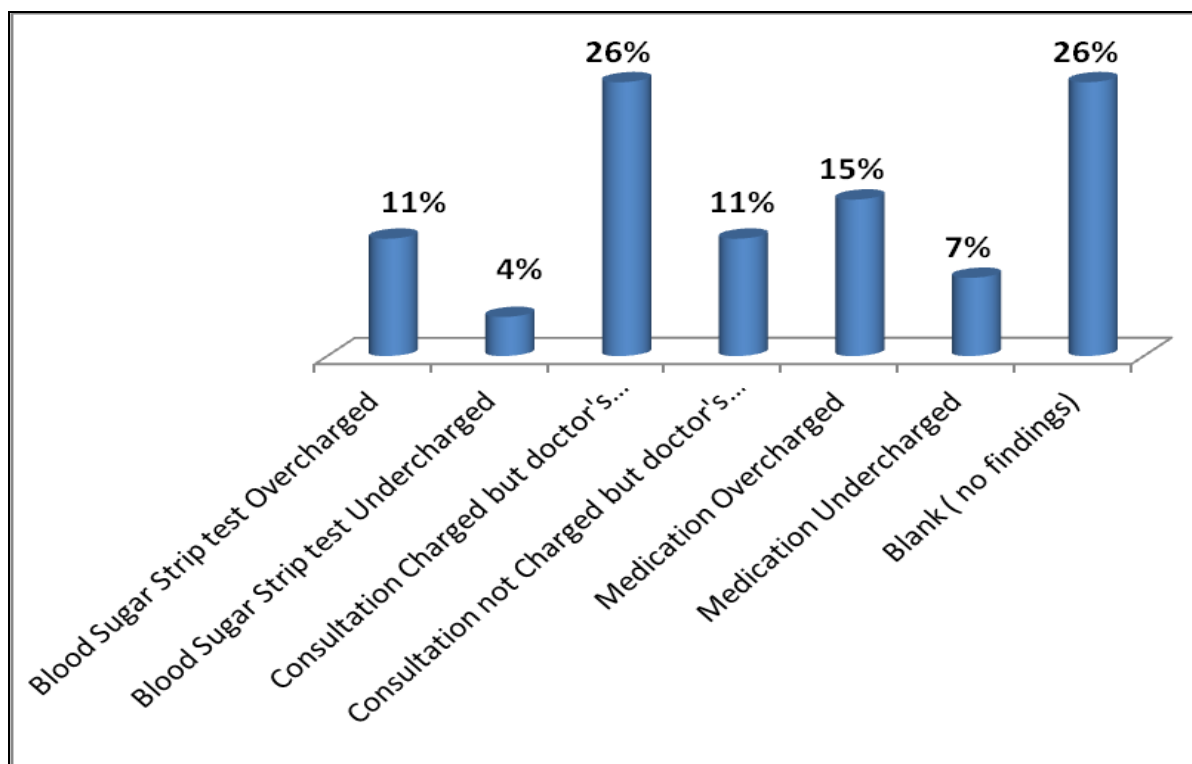


Figure1.35

#### 1.5.4.11. ORTHO GENERAL WARD(12 files were audited from the sample of 440 files)

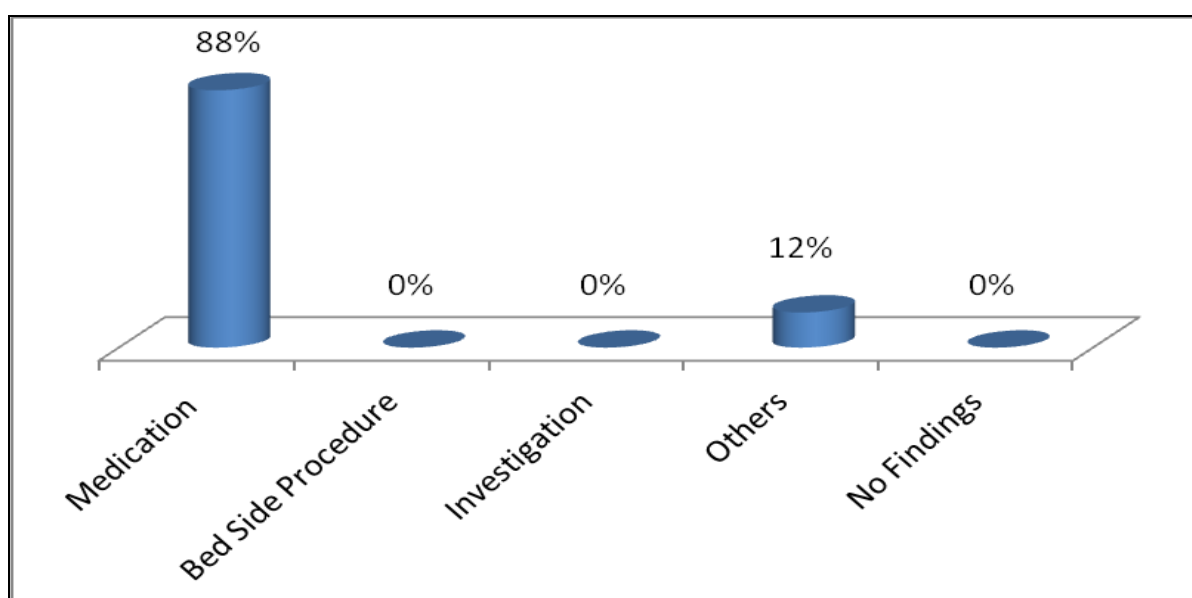


Figure 1.36

On zooming into these broader categories, the errors found in the ortho general ward are:

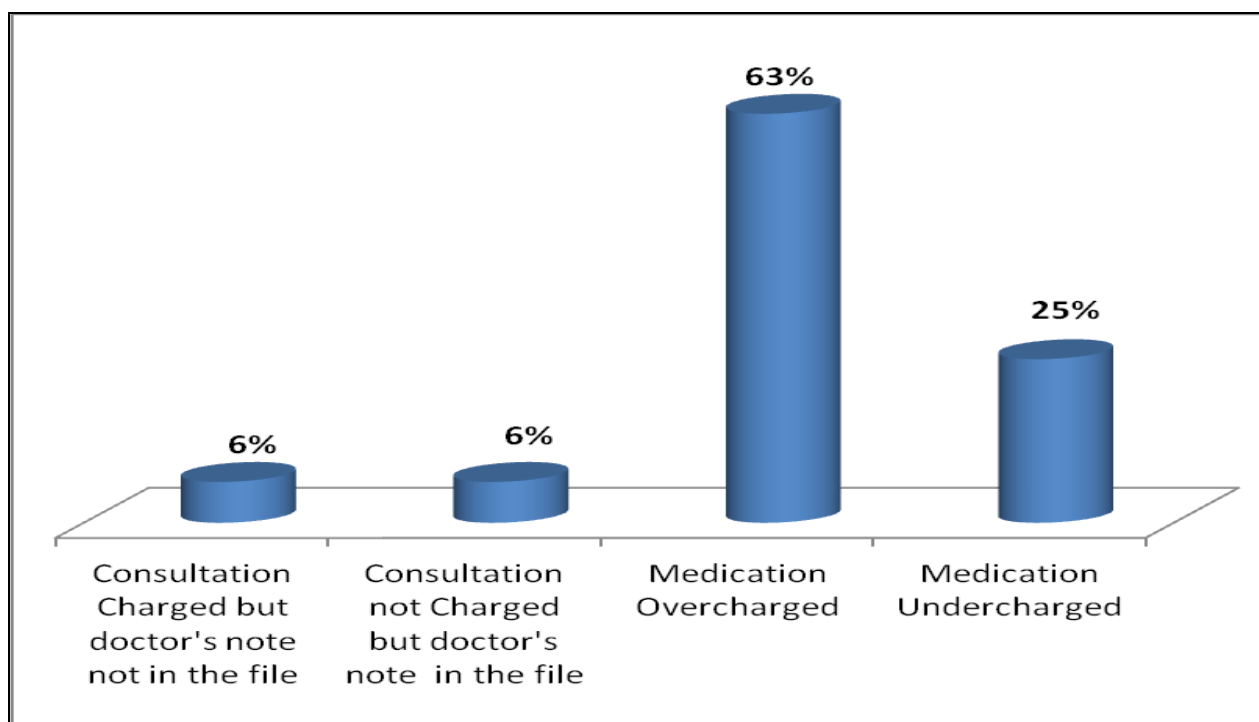


Figure 1.37

#### 1.5.4.11 PAEDIATRIC WARD(13 files were audited from the sample of 440 files

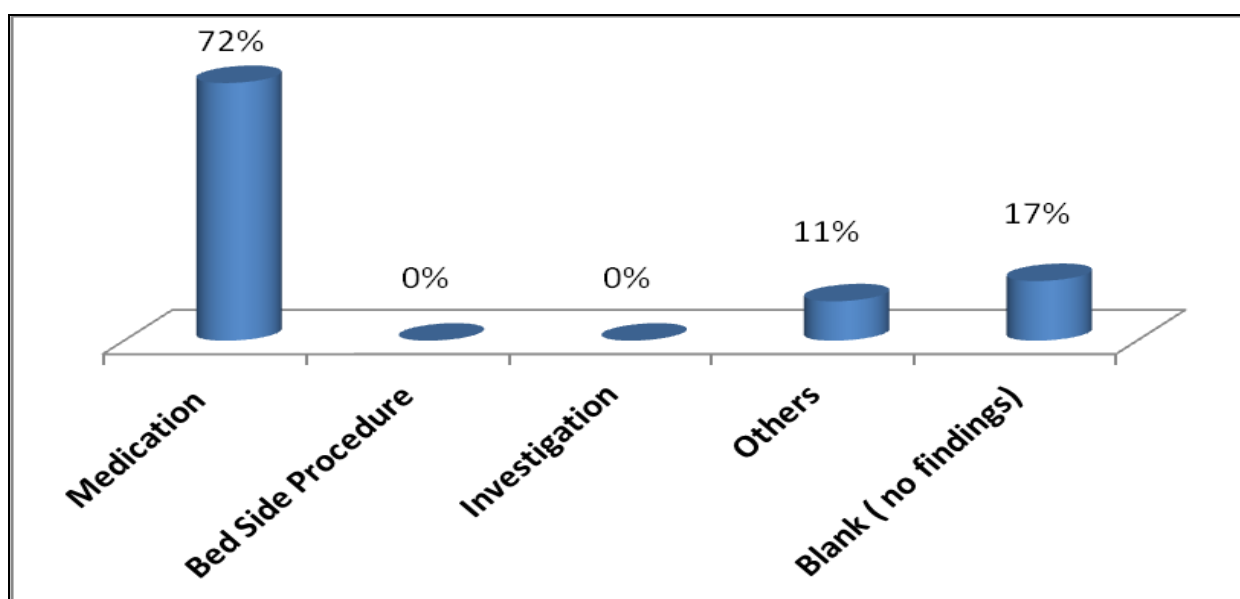


Figure 1.38

On zooming into these broader categories, the errors found in the paediatric ward are:

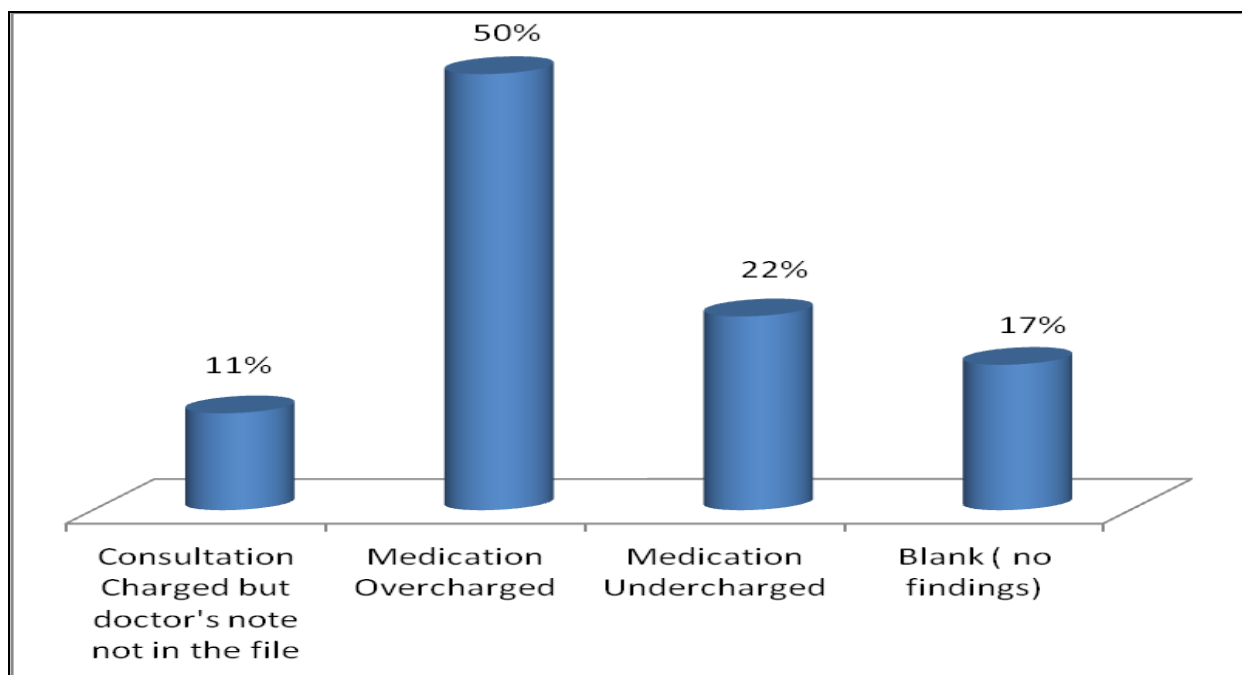


Figure 1.39

#### 1.5.4.12. SEMI PRIVATE WARD(40 files were audited from the sample of 440 files)

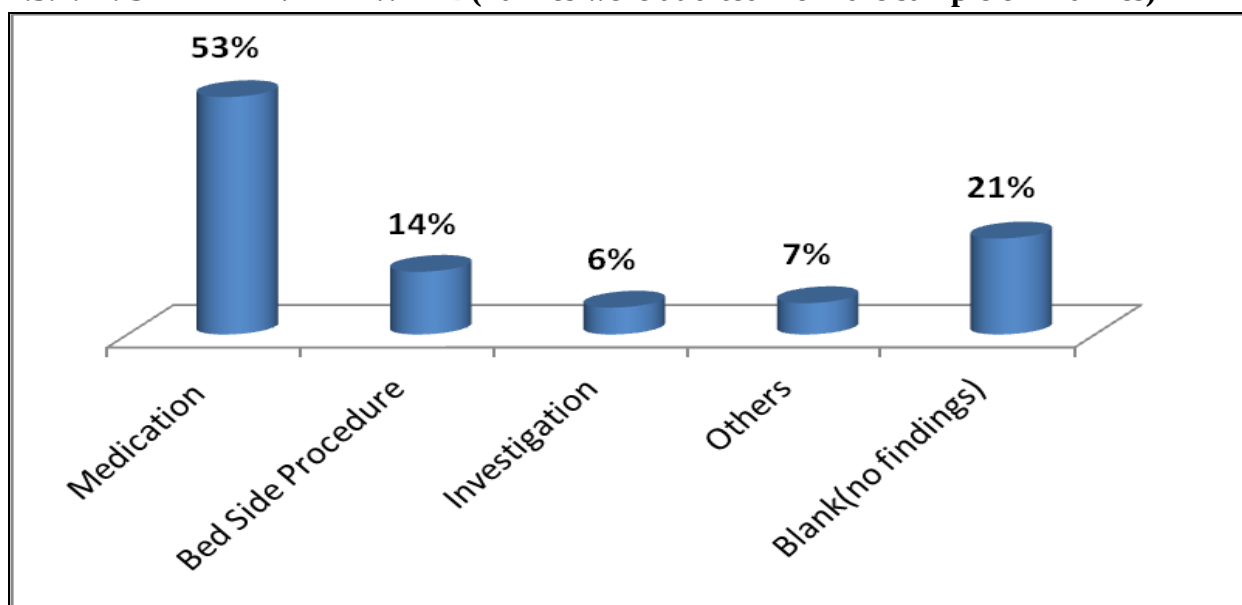


Figure 1.40

Semi On further drilling down into the main headings, the results found for private ward are:

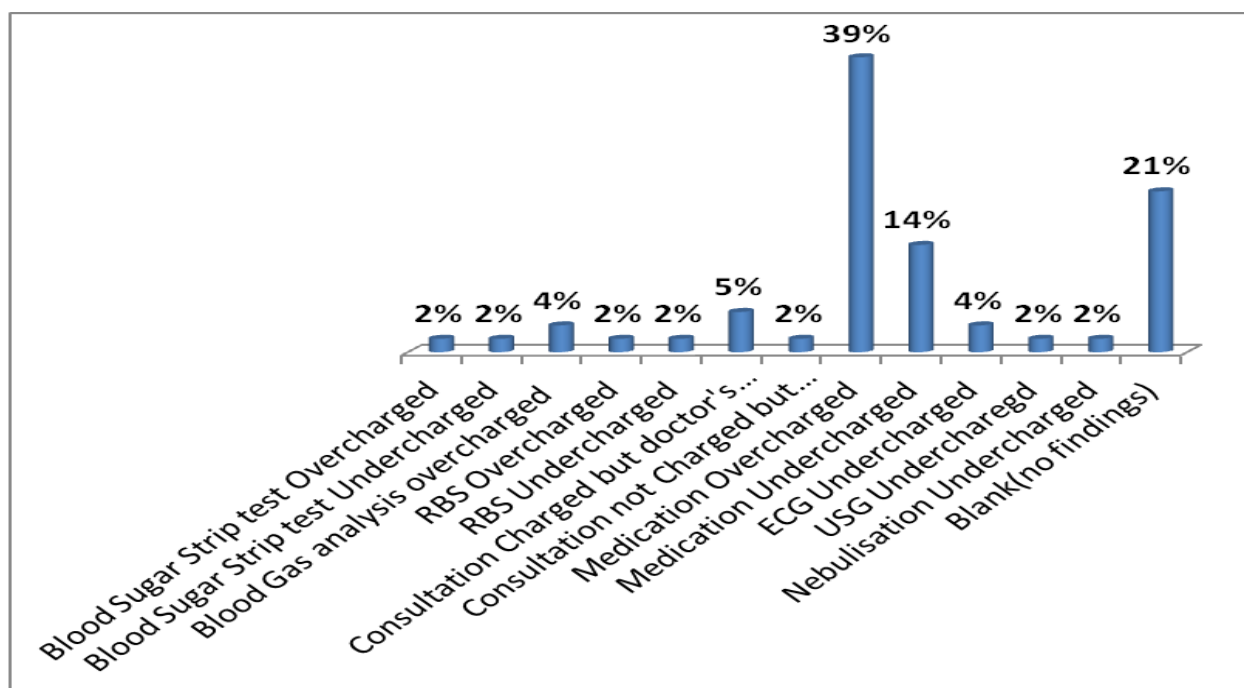


Figure 1.41

#### 1.5.4.13. PRIVATE WARD( 24 files were audited from the sample of 440 files)

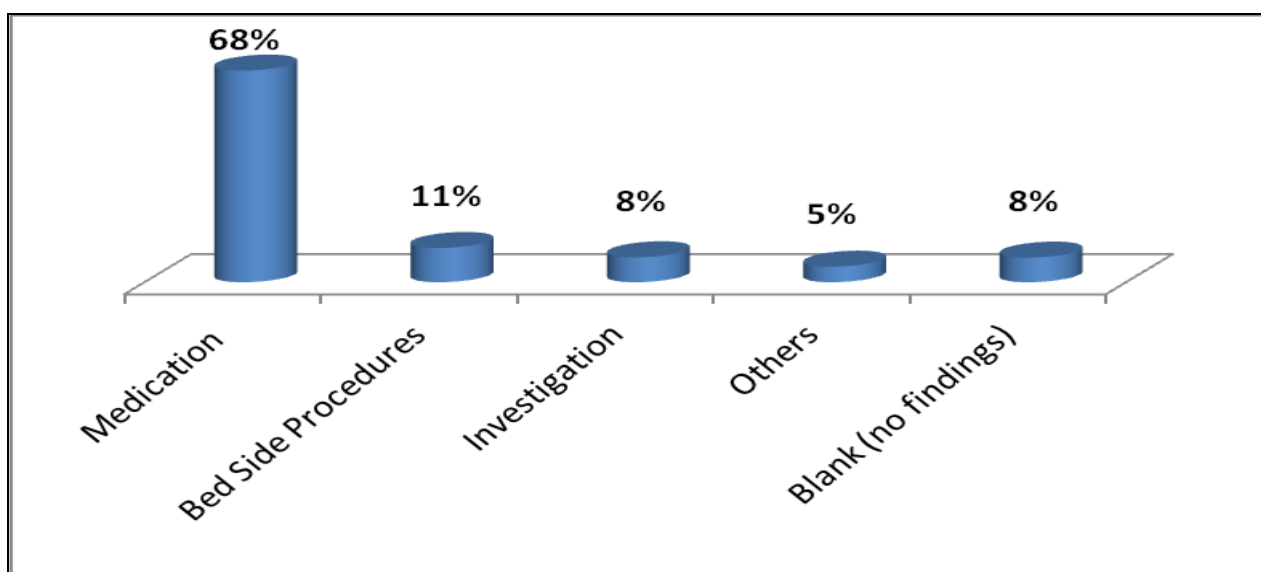


Figure 1.42

On zooming into these broader categories, the errors found in the private ward are:

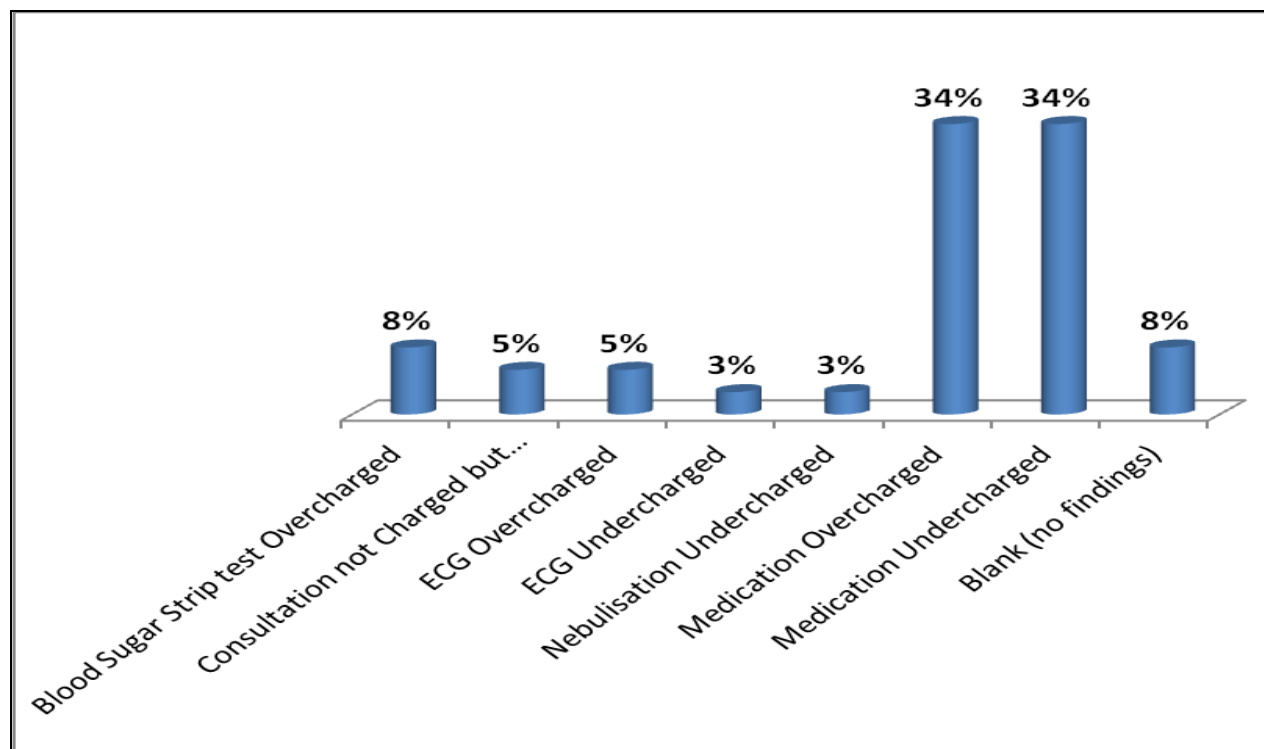


Figure 1.43

## 1.6 INFERENCES

- Maximum number of DAMS findings was observed in Female General Ward followed by Male Medical Ward.
- Areas of concern:
- After analyzing discharged files from June 2014- April 2015 medication related charges errors were maximum. On zooming ward wise data the error mainly comprises of documentation of medication(s) in the medicine card that leads to Over Billing and Under Billing.
- Cross consultation(s) visits were not charged and documented appropriately.
- In the documentation of Bed side procedure(s), errors were majorly noticed in the Nebulisation procedure followed by Blood sugar strip test.

## 1.7 SUGGESTIONS

Errors can be witnessed at any stage of medication process : at dispensing and administration level, so the implementation of technological features will help in continuous quality improvement. It consist of multidisciplinary system approach- Failure Mode Effects Analysis (FMEA) – in combination with emerging technology such as

### 1. Decision support system (DSS)

- ◆ It is an interactive software based system intended to help decision makers compile useful information from a combination of raw data, documents and personal knowledge or business models to identify and solve problems. So decisions are made on this basis.
  - ◆ In the hospital, this software can check for the key problem areas and work can be done on those by the decision committee that includes CEO, MS, head of quality, head of operations, nursing superintendent.
  - ◆ DSS includes the comparison of the figures of one year with next year. So a comparison can be easily drawn and trends can be concluded through this.

### 2. Electronic Medical Record (EMR)

- ◆ Electronic medical records are the collection of the medical and clinical data that is gathered in the provider's office. It can be created, managed, consulted by the authorized providers and staff.
  - ◆ It is basically a digital version of a paper chart that contains all of a patient's medical records.
  - ◆ It helps in improving the overall quality of care given to patients.
  - ◆ It is quick method to monitor certain parameters like vaccinations, blood pressure readings etc.
  - ◆ Data can be easily tracked over time.

### 3. Computer physician order entry (CPOE)

- ◆ It is a process of entry of medication prescription by the physician electronically into the system.
  - ◆ These orders are directly communicated to the staff in the pharmacy, laboratory and radiology.
  - ◆ The advantage of using this system is reduction in the number of medication related errors due to lack of legibility of consultant notes and billing errors.
  - ◆ It helps in decreasing the delay in order completion.

### 4. Bar coding tracker

- ◆ It is a kind of tracker through which the exact quantity of drugs can be tracked . the usage of the drugs can be tracked through the bar codes before using them.
  - ◆ Through this method accurate amount of medication and charged can be concluded.

### 5. Automated dispensing machine (ADM) cabinets

### 6. Infusion auto pump programming through bar code scanning .

- To reduce the consultation related errors, hospital should incorporate a new software which will be both patient and doctor friendly thereby help in better hospital management. Currently undergoing trials in Bangalore , the ipads are designed to be placed at each patients bedside and will be wirelessly connected to the central server.
- Cross consultation related errors can also be further reduced by installing biometric reader in all the wards and linked to HINAI for the timely update of consultant(s) visits .
- In order to reduce medication related errors medicine card and the billing should be cross checked by Floor co ordinator and nursing incharge.

- DAMS auditing teams should be provided a reference list consisting of medicines with their specified generic and brand names.
- Documentation of DAMS findings should be done in properly designed format containing specific billing parameters. [DAMS Auditing Check list.docx](#) .

These technological process improvements continue to help reduce the cost for Narayana Health ,

*Dr. Shetty says “the next big thing in health care is not going to be a magical pill or a faster scanner or a new operation, instead it will be innovation in processes through use of software”*



## **2.PROJECT REPORT**

**Compliance of active medical records as per JCI specifications with a drill down study on consultants' non compliance.**

Project Guide:

Ms Neeta Singh

Deputy Manager Quality.

## 2.1 INTRODUCTION

Health information and evidence is one of the critical blocks of the health system strengthening. Health information system cannot be ignored since health policies and planning in any country are mostly dependent on the correct and timely information on various health issues. Health facilities throughout the world keep consistent records of patients/clients. These medical records are normally kept confidential and in confined places such as records unit or offices.

Medical record is a chronologically written account of a patient's examination and treatment that includes the patient's medical history and complaints, the physician's physical findings, the results of diagnostic tests and procedures, and medications and therapeutic procedures.

Infact, medical record of a patient is the clinical representation of the patient that is built over a period of time by various clinicians with the consent, trust, privacy and confidence of the patient. It enables continuity of care and again, overtime, it becomes a comprehensive, clinical database from which various and salient clinical information is gathered through research. Moreover medical records serve many functions but their primary purpose is to support patient care. Structuring the record can bring direct benefits to patients by improving patient outcomes and doctors' performance. On the side of patients, the records function as medical identification.

Proper filing of patient's medical records ensures easy retrieval and contributes to decreased patient waiting time at the hospital and ensures continuity of care. It is therefore, imperative, that medical records are always kept in the interest of both the clinician and the patient. The medical folder must always be in the custody of the health facility while the patient enjoys the right of information.

Medical Records Compliance is the evaluation of medical care in retrospect through analysis of medical records, thereby provides review of professional work done in hospitals or in other words quality of medical care rendered.

## 2.2 LITERATURE REVIEW

Studies in other developing countries have observed their record keeping systems to be inadequate with about half (52.2%) of the records retrievable within one hour, some of the records were poorly designed and there is use of multiple patient health records by patients. In Ghana, the existing recordkeeping systems of some hospitals were found not designed to collect information on some diseases. This affects monitoring, supervision and decision-making on these diseases.

Other authors have also noted staff training, monitoring and regular supervision are important to successful improvement in records keeping. Some studies found that problems of poor record keeping practices in health care facilities such as duplication, incomplete data, and inaccuracies in data made it difficult for health administrators and researchers to

accurately and reliably identify and define health problems . General Practitioners are at the coal face of the medical service and patients are happy to put confidence and trust in them regarding their personal data. A health service can be delivered in an efficient and effective manner while at the same time respecting peoples' privacy. The general nature of data protection law, to the extent that it leaves scope for ambiguity, entails a certain lack of legal certainty and clarity. For this reason, ".The issues surrounding custody of patients' data raised in this case and advises that General Practitioners should take prompt reasonable steps to notify patients of cessation of practice and allow them the opportunity to transfer their health information to another provider. Quality measurement was one of the considerations for the study on electronic medical record system. The main concern was to have the capability to enter clinical data needed for quality measures into discrete data fields, and not into free text notes, so the quality measures could be easily calculated within the electronic medical record system.

## 2.3 OBJECTIVE

- To analyse the compliance rate of medical records as per JCI standards.
- To study ward wise comparison of compliance rate of medical documents.

## 2.4 MATERIALS AND METHODOLOGY

A observational study was conducted for 15days in Narayana Multispeciality Hospital ,jaipur on 160 active files which forms 21.3% of the discharges in the month of April of various wards(male medical ,male surgical ,female general, cardio-thoracic ward, paediatric ward ,ante natal ward ,semiprivate and private ward) of hospital through daily audits and documentation of 12 active medical records per day. Sampling technique used is simple random sampling with help of random table generator.

### DATA COLLECTION

Data was collected from various medical documents of patients of different wards of hospital that included male medical ward ,male surgical ward, female general ward, paediatric ward, antenatal ward ,cardio-thoracic ward, private ward, semiprivate ward.

Various medical documents were audited for the following information that included:

**All the medical documents should consist of name of the patient and medical record number (MRN)**

- Assessment from Emergency form-date , time of entry of patient ,sign of medical officer on duty in emergency.
- Admission Order form-proposed date of admission ,specific instruction for admission, expected date of discharge ,name and signature of consultant ,name of the counselor

- Consent Form-operation, high risk, anesthesia, restraint, blood transfusion, HIV. All the consent form should have name and signature of doctor under which procedure is done , patient and patient's relative name and signature.
- Medicine card-SOS drugs with indication, orders dated & timed & signed, ongoing medications documentation , allergies documented ,orders given in capital letter.
- History sheet- form completeness , pain score documentation , plan of care/treatment planned documented ,discharge planning ,medical officer sign &date &time , consultant countersign & date &time.
- Nursing assessment form –timeliness (initial assessment within 30 minutes of patient admission),completeness of form, fall assessment and pain assessment documentation, treatment planned documentation.
- Nursing daily assessment form- vitals recorded daily(three times a day), pain and fall assessment done daily (three times a day).
- Transfer form- signature, date, time by consultant, transfer criterion met written on this form
- Patient and Family Education-education given by which department ,name of the counsellor and counselee and on what topic education is given ( this form required to be filled throughout the patient stay in hospital)\
- Progress notes (Nursing)- legibility , date &time &sign mentioned
- Nutrition form- to be filled within 24 hours of patient admission comprising of information of patient diet.
- Nutrition form daily reassessment-date & time , nutrient content given by the dietician quantity of food to be administered , biological marker , signature by the dietician.
- Anesthesia Record- pre-anesthetic checkup done, intra -operative record , recovery score and post operative record documentation.
- Progress notes (Doctors)- legibility, date & time & sign mentioned, cath flow sheet, procedure report ,surgical safety checklist to be signed by concerned consultants.
- Physiotherapy form- date ,time ,signature of physiotherapist of number of visits.
- Inter Disciplinary Review Form (IDTR)-date and sign by concerned doctor , nursing staff ,physiotherapist ,dietician.

## 2.5 DATA ANALYSIS AND INTERPRETATION

| AREA                      | NET COMPLIANCE RATE |
|---------------------------|---------------------|
| Assessment from Emergency | 96%                 |
| Admission Order           | 84%                 |

Table 1.1

| AREA                          | NET COMPLIANCE RATE |
|-------------------------------|---------------------|
| <b>MEDICINE CARD</b>          |                     |
| SOS drugs with indications    | 87%                 |
| Orders Dated & timed & signed | 66%                 |
| Ongoing medications           | 91%                 |
| Allergies documented          | 98%                 |
| Orders in capital letters     | 90%                 |
|                               |                     |

Table 2.2

| AREA                               | NET COMPLIANCE RATE |
|------------------------------------|---------------------|
| <b>H&amp;P sheet (Doctors)</b>     |                     |
| Form completeness                  | 59%                 |
| Pain Score                         | 79%                 |
| Plan of Care/Treatment Planned     | 98%                 |
| Discharge Planning                 | 98%                 |
| MO/Registrars sign ,date, time     | 79%                 |
| Consultant countersign ,date ,time | 19%                 |

Table 2.3

| <b>Nursing Assessment</b>                        | <b>NET COMPLIANCE RATE</b> |
|--------------------------------------------------|----------------------------|
| <b>Nursing Admission Assessment</b>              |                            |
| Timeliness(Initial assessment within 30 minutes) | <b>99%</b>                 |
| Completeness of form                             | <b>94%</b>                 |
| Fall Assessment                                  | <b>100%</b>                |
| Pain Assessment                                  | <b>96%</b>                 |
| Plan of Care/Treatment Planned                   | <b>100%</b>                |
| <b>Nursing Daily Assessment</b>                  |                            |
| <b>Transfer Form</b>                             | <b>96%</b>                 |
| <b>Patient &amp; Family education</b>            | <b>80%</b>                 |
| <b>Progress notes- Nursing</b>                   |                            |
| Legibility                                       | <b>100%</b>                |
| Date time ,sign mentioned                        | <b>44%</b>                 |

Table 2.4

| <b>Nutrition Form</b>               | <b>NET COMPLAINECE RATE</b> |
|-------------------------------------|-----------------------------|
| Nutrition Form – Admission          | <b>96%</b>                  |
| Nutrition Form - Daily Reassessment | <b>77%</b>                  |

Table 2.5

| Anesthesia Record        | NET COMPLIANCE RATE |
|--------------------------|---------------------|
| PAC                      | 90%                 |
| Intra-operative Record   | 99%                 |
| Recovery Score           | 90%                 |
| Post Operative Record    | 100%                |
| Anesthetists name & sign | 98%                 |

Table 2.6

| AREA                                  | NET COMPLIANCE RATE |
|---------------------------------------|---------------------|
| Progress Notes - Doctors (Procedures) |                     |
| Legibility                            | 92%                 |
| Date ,time ,sign mentioned            | 33%                 |
| Cath flow sheet                       | 96%                 |
| Procedure Report                      | 97%                 |
| Surgical Safety Checklist             | 98%                 |
| Physiotherapy Assessment              | 100%                |
| IDTR                                  | 98%                 |

Table 2.7

| AREA                                            | NET COMPLIANCE RATE |
|-------------------------------------------------|---------------------|
| <b>Consents</b>                                 |                     |
| <b>Operation</b>                                |                     |
| % of records having complete consents with sign | 97%                 |
| <b>Anesthesia</b>                               |                     |
| % of records having complete consents with sign | 95%                 |
| <b>High risk</b>                                |                     |
| % of records having complete consents with sign | 94%                 |
| <b>Blood Transfusion</b>                        |                     |
| % of records having complete consents with sign | 95%                 |
| <b>Restraint</b>                                |                     |
| % of records having complete consents with sign | 99%                 |
| <b>Others Consent</b>                           |                     |
| % of records having complete consents with sign | 98%                 |

Table 2.8

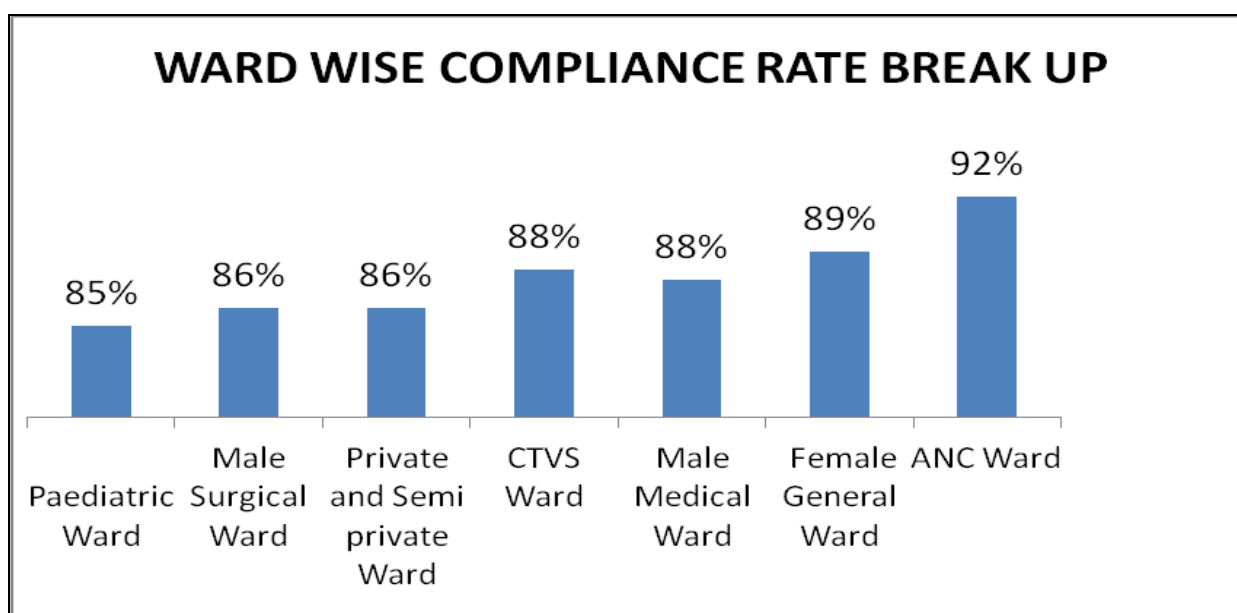


Figure 2.1

## 2.6 FINDINGS

- Admission Order:

1. Expected date of discharge
2. Counselors name not mentioned.

- Orders dates & time & signed:

1. Stopped and withheld medication not followed by date and time.
2. Timings of different doses are not specified, a single notification is used for the same.
3. Once only and pre medication drugs(Stat medications) are not written in capital letters.
4. Indications of SOS drugs not mention in some cases.

- Form Completeness of History sheets:

1. Ongoing past medication( frequency & dose), Vitals signs (in some case) not documented.
2. Review of system , symptoms not documented.

- Patients and Family Education form:

1. Department name-which dept counseling is done is not specified.
2. Name of the counselor and counselee not documented.

- Nutrition Form- Daily Reassessment:

Time on the monitoring sheet not documented.

- PAC:

Date of PAC and Blood group not documented.

## 2.7 INFERENCE

- Organizations' goal was to achieve 95% compliance rate for all departments as well as for medical documents recorded ,any compliance rate below 75% was considered as matter of concern and then regular auditing was practised for those departments.
- Major Areas Of Concern include:
  1. History sheet countersigned by consultant, date and time not documented which constitutes 19% of compliance rate.
  2. Doctors progress notes date, time , sign not documented ,33 % compliance rate.
  3. Nursing progress notes date, time not documented properly, 44 % compliance rate.
  4. Medicine card orders ,time , sign not mentioned properly on the behalf of medical officers or nursing staff , 66% compliance rate
- File Compliance Rate is minimum in paediatric ward that is 85% followed by private and semiprivate , CTVS ward ,male surgical ward (all with 86% compliance rate).This is due to the reasons such as more number of patient load, less accountability of staff in these respective departments.
- File Compliance Rate is highest in ANC ward, due to decreased load of patients and more accountable staff.

## 2.8 DRILLED DOWN STUDY ON CONSULTANT NON COMPLIANCE

### 2.8.1 INTRODUCTION

Doctor is someone who maintains or restores human health through the practice of medicine. He or she will diagnose and treat human disease, ailments, injuries, pain or other conditions. Doctor typically works very long hours and has to be available for emergencies. These hours are spent seeing patients in an office-based setting, running tests as well as interpreting them, prescribing medicine or treatments, doing rounds in the hospital, making notes on patient's physical conditions, advising patients on how to stay healthy and talking to them about further treatment. While performing these duties doctor find a huge difficulty in maintaining quality in medical records documentation. Improving levels of engagement as well as standards according to JCI or NABH specifications across the hospital was also vital. With a large and diverse network of doctors across a range of specialty areas, one particular difficulty was ensuring that guidance was not too generic but took into account the full spectrum of practitioners across the organisation. Promoting importance of supporting information in such a large organisation, and how to go about collecting it, was also a key area to get right. To combat above mentioned challenges this study was proposed as about 19% compliance rate was found with respect to consultants in in-patient record documentation. So, we needed to check for different consultants compliance rate in both in-patient and out patient medical records documentation focussing on each medical record specifically.

### 2.8.2 OBJECTIVE

- To study compliance rate of OPD prescriptions
- To study compliance rate of IPD medical records

### 2.8.3 MATERIALS and METHODOLOGY

A observational study was conducted for 5 days in Narayana Multispecialty Hospital ,jaipur on 140 OPD prescriptions which forms 14% of the total number of out patients during those five days when the study was performed and 120 IPD medical records of the patients admitted in various wards (male medical, male surgical ,cardio-thoracic ward, paediatric ward ,ante-natal care ward ,semiprivate, private ward) which forms 13% of total number of discharges in the month of April .Sampling technique used is simple random sampling.

#### DATA COLLECTION

Data was collected from OPD prescriptions filled by consultants. 5 OPD prescriptions per consultant were included in the study .Total number of consultants was 28.The major parameters which were emphasized included:

- Name of the patient

- Medical record number (MRN) of the patient
- Pain score - 0 for no pain, 1 for slight pain, 2 for mild pain ,3 for moderate pain, 4 for extreme pain ,5 for worst possible pain
- Fall risk assessment- high risk (44 and above), medium risk (25 to 44) , low risk (less than 25).
- Allergies –from medications, food ,environment were documented

Data was also collected from IPD medical records filled by consultants. 5 active files per consultant were included in the study. Total number of consultant was 24. The major parameters emphasized in IPD records included:

- Admission order signed by admitting consultant
- History sheet counter signed by consultant
- Date and Time in progress notes
- Operation consent signed by consultant
- Surgical safety checklist signed by consultant
- Procedure report signed by consultant

## 2.8.4 DATA ANALYSIS AND INTERPRETATION

### 2.8.4.1 Compliance Rate of OPD Prescription

Compliance Rate of Name of Patient

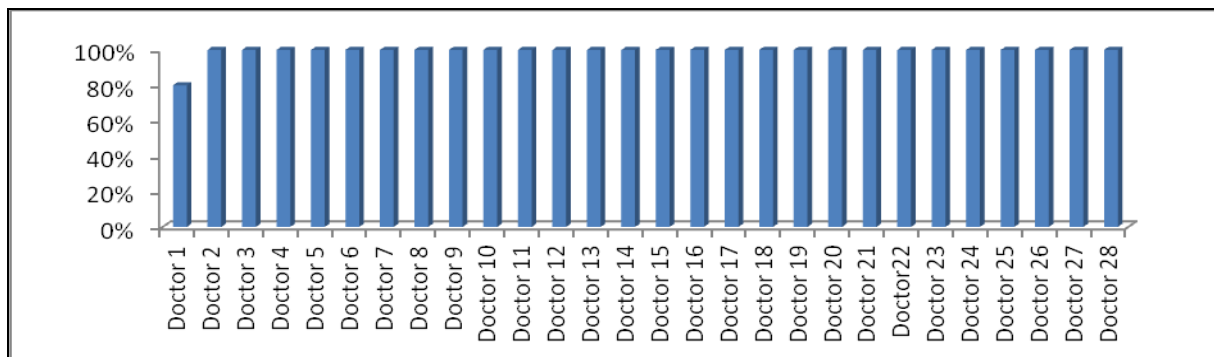


Figure 2.2

### Compliance Rate of MRN of Patient

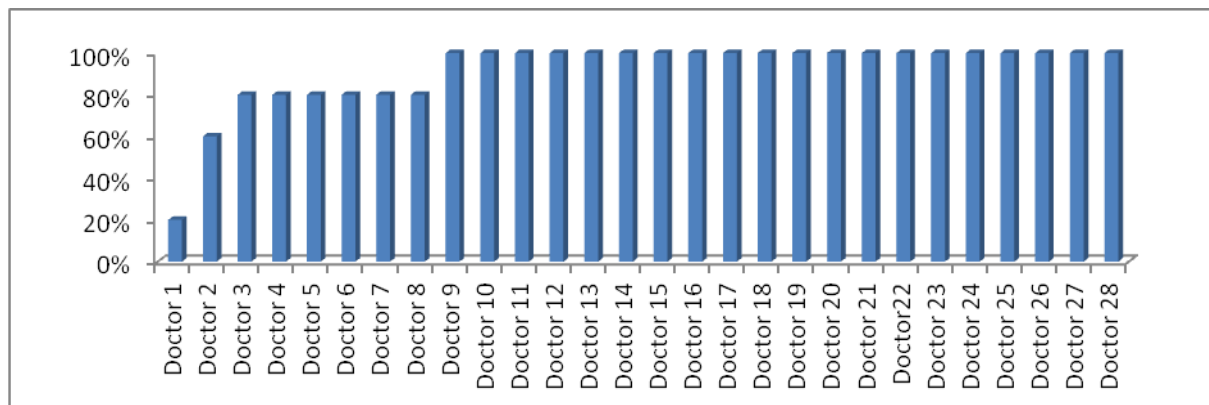


Figure 2.3

### Compliance Rate of Pain Assessment of Patient

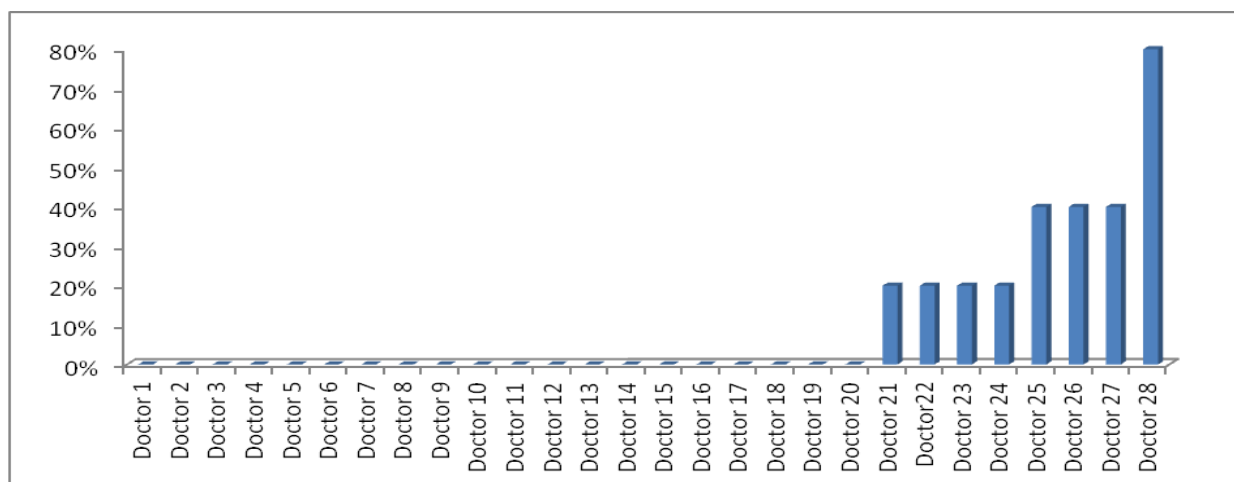


Figure 2.4

### Compliance Rate of Fall Risk Assessment of patient

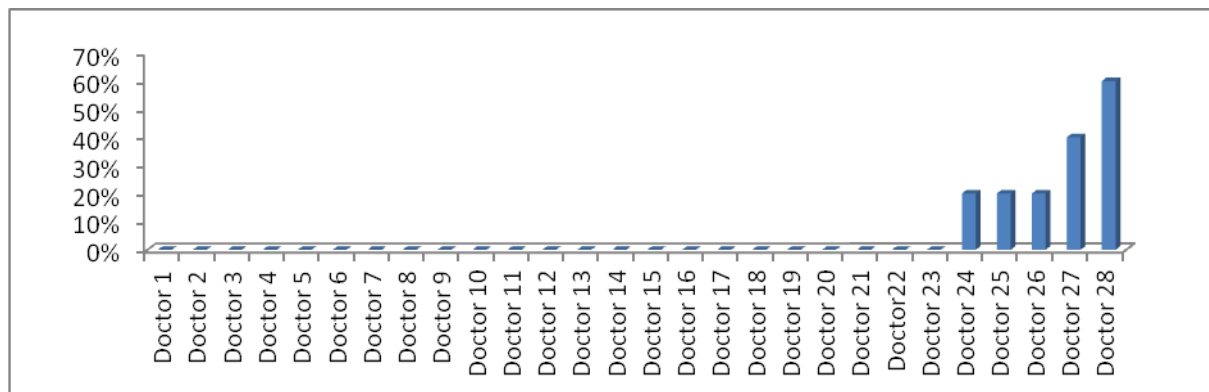


Figure 2.5

### Compliance Rate of Allergies Documented for Patient

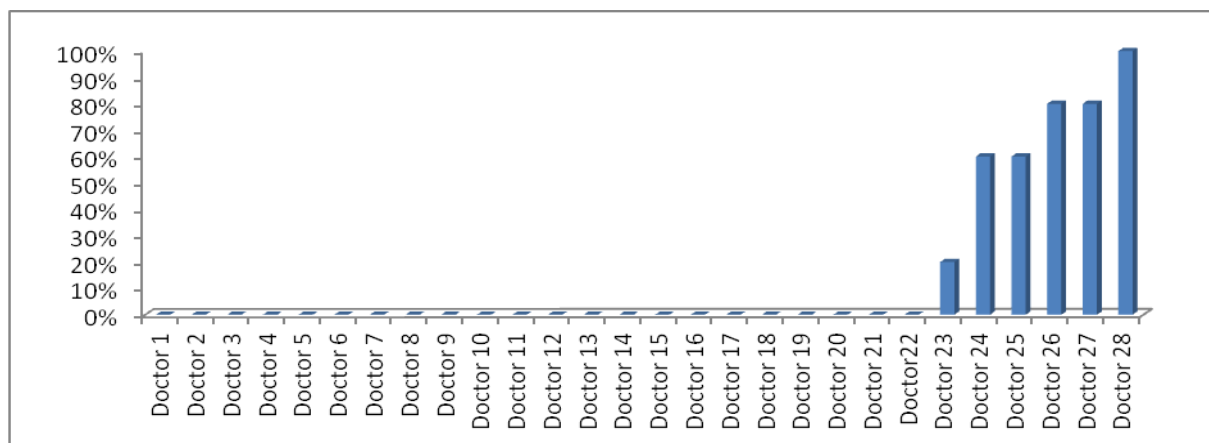


Figure 2.6

### 2.8.4.2 Compliance Rate of IPD Documents

#### Compliance Rate of Admission Order Signed by Consultant

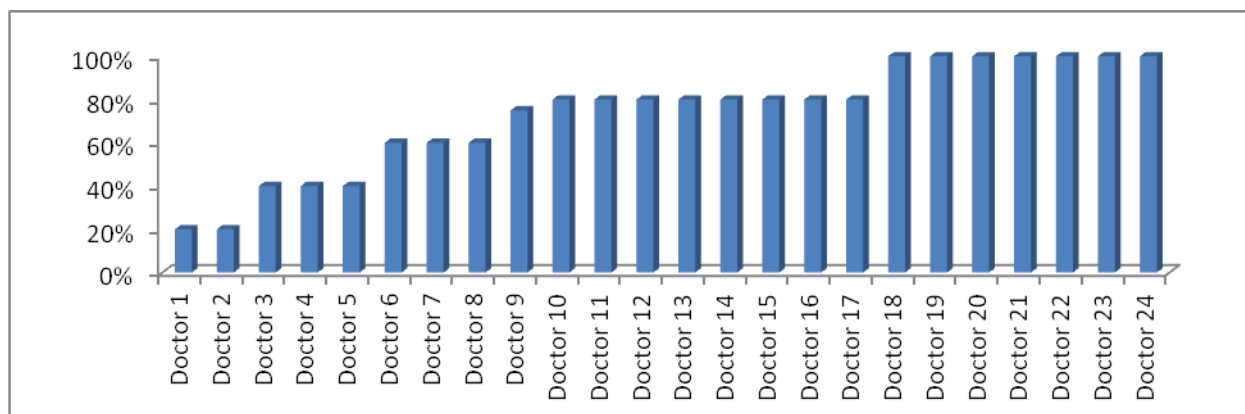


Figure 2.7

#### Compliance Rate of History Sheet Countersign

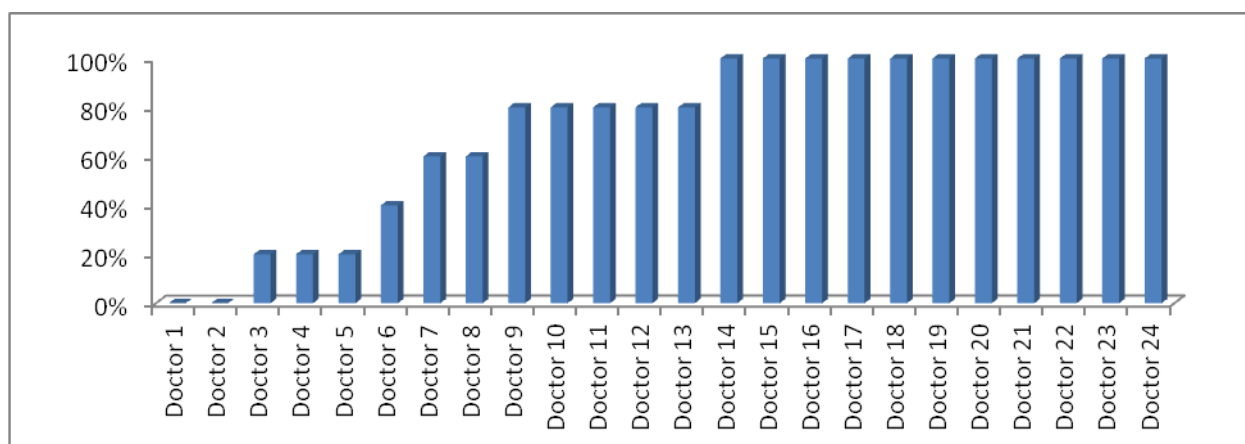


Figure 2.8

### Compliance Rate of Date and Time in Progress Notes

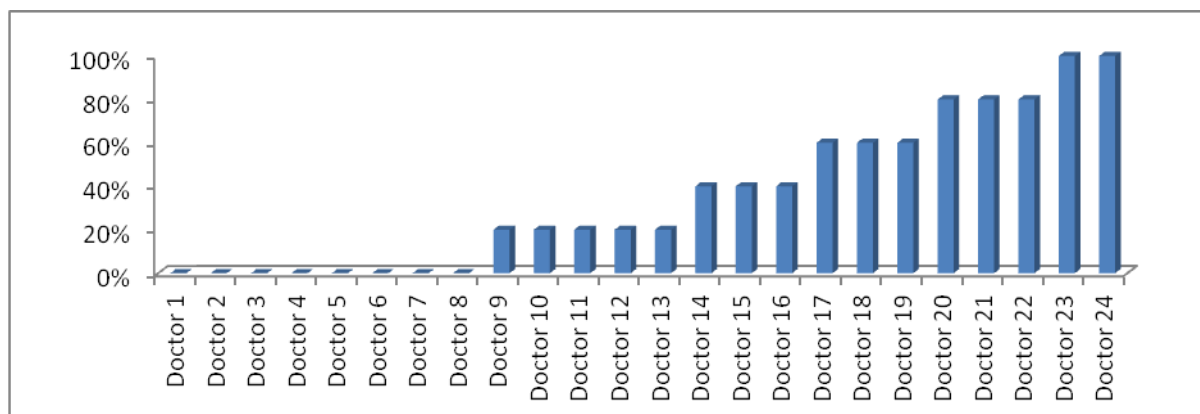


Figure 2.9

### Compliance Rate of Operation Consent signed by Consultant

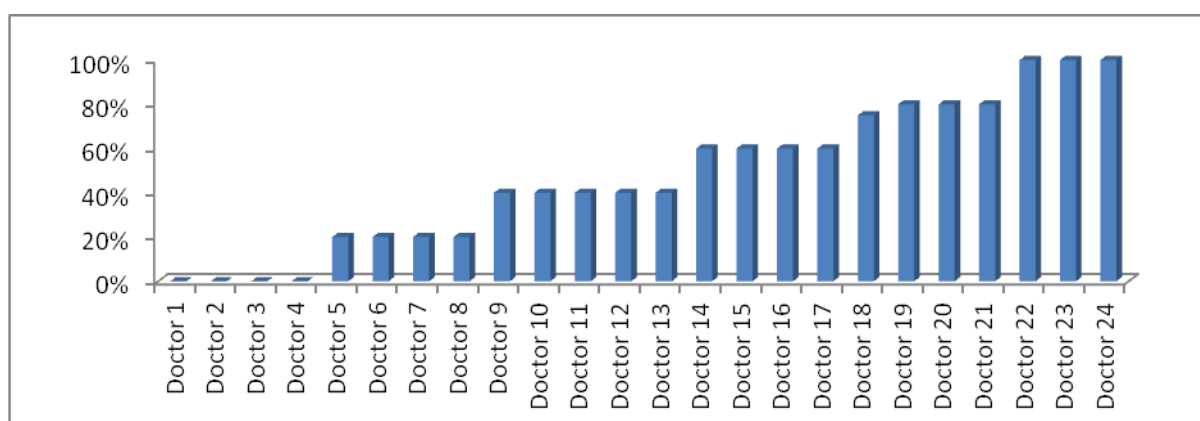


Figure 2.10

### Compliance Rate of Surgical Safety Checklist Signed by Consultant

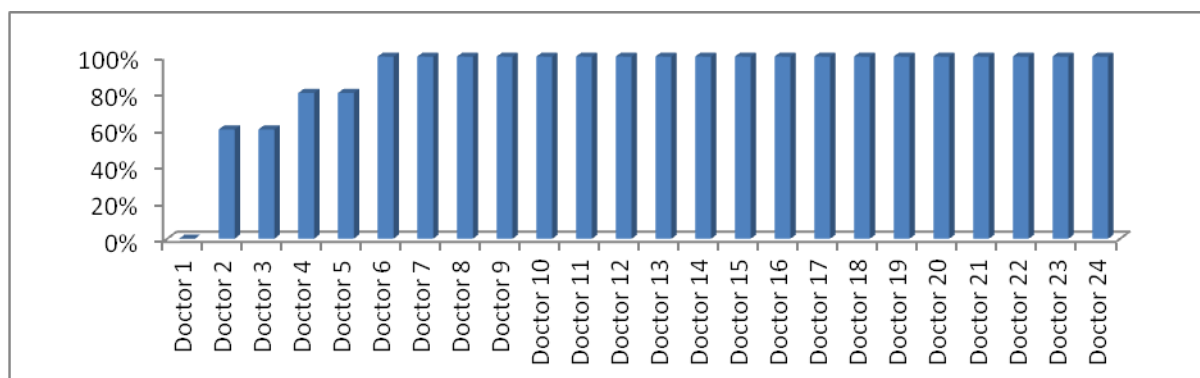


Figure 2.11

### Compliance Rate of Procedure Report Signed by Consultant

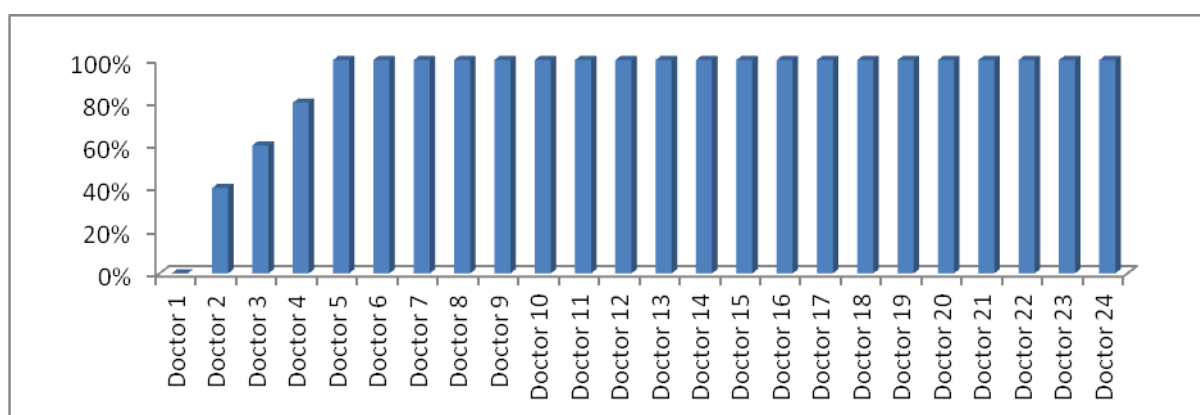


Figure 2.12

## 2.8.5 FINDINGS

Compliance rate for Name and MRN of the patient is found to be maximum.

Compliance rate for Pain assessment of the patients is 0% for 20 doctors

Compliance rate for Fall assessment of the patients is 0% for 23 doctors

Compliance rate for allergies documented is 0% for 22 doctors  
Compliance rate of IPD medical records is as shown in the table:

| <b>Medical Records</b>                    | 0% | 20% | 40% | 60% | 80% | 100% |
|-------------------------------------------|----|-----|-----|-----|-----|------|
| <b>Admission order</b>                    | 0  | 2   | 3   | 3   | 9   | 7    |
| <b>History sheet counter sign</b>         | 2  | 3   | 1   | 2   | 5   | 11   |
| <b>Date and Time in progress notes</b>    | 8  | 5   | 3   | 3   | 3   | 2    |
| <b>Operation consent signed by doctor</b> | 4  | 4   | 5   | 4   | 4   | 3    |
| <b>Surgical Safety checklist</b>          | 1  | 0   | 0   | 2   | 2   | 19   |
| <b>Procedure report</b>                   | 1  | 0   | 1   | 1   | 1   | 20   |

Percentage - denotes compliance rate

Numbers - denote number of doctor compliant in particular parameter

## 2.8.6 INFERENCE

Those doctors who were compliant enough in OPD prescription documentation had a great impact on compliance of IPD documents as well. Analysis of above collected data also revealed that consultants of ante natal ward being highly compliant in OPD prescription documentation resulted in depicting 92% compliance rate ( highest among all the wards) for IPD documents.

Consultant compliance in IPD medical records is found to be minimum in documenting date and time in progress notes wherein 8 doctors out 24 doctors studied had 0% compliance rate in this parameter as well as it was found to be maximum in procedure report counter sign by consultants where in 20 doctors out of 24 doctors studied had 100% compliance rate.

## 2.8.7 AREAS of IMPROVEMENT and ACTION PLAN

- Accountability of nursing in charge, floor co-ordinators and medical officers should be emphasized for the closure of files during consultant rounds.
- Organisation can appoint a quality doctor very similar to quality nurse, who is having same or equivalent designation to consultant and would be responsible for maintaining doctors' record compliance.
- Doctors progress notes sheet should have printed date and time twice (top and middle) on each page so that these parameters can be documented (reminder) in the notes.

- Appointment of five OPD nurses for respective north and south block OPD of the hospital to keep a check on consultant non compliance.
- Bar Coding of all the IPD documents and further scanning would help to keep documentation check of all the records as these cannot be altered.
- Timely reminders should be given to clinical staff (medical officer, dieticians, physiotherapist, nursing) regarding the documentation process.
- Intra departmental appreciation by nursing in-charge and shift in-charge should be a regular practise.
- Performance appraisal to the staff for proper documentation of medical records as per JCI standards should include title as **star employee of month** for all the wards.
- Photograph of all star employee of month should be displayed on the notice board in OPD lobby as well outside their respective departments.
- Star employee of month batch should be first given by Medical Superintendent and later on by the previous month's winner .Cash award for respective winners according to their designation not the materialistic gifts. Refreshment party of these winners every month with FD,MS,GM,DMS .



### **3.PROJECT REPORT**

**Study the levels of satisfaction of in patients of  
Narayana Multispeciality Hospital , Jaipur.**

Project Guide:

Dr. Manikant Jain

Deputy Medical Superintendent.

### 3.1 INTRODUCTION

Health care scenario is fast changing all over the World. Patient satisfaction is one of the established yardsticks to measure success of the services being provided in the hospitals. Improved socioeconomic status and easier access to medical care has led to high expectations and demands from consumers of hospital services. For health care organization to be successful regular monitoring of customer's perception is a simple but important strategy to assess and improve their performance. A patient is the ultimate consumer of the hospital. He is the person in distress. He expects from hospital comfort, care and cure. Patient forms certain expectations prior to visit. Once the patient comes to the hospital and experience the facilities, they may become either satisfied or dissatisfied.

Human satisfaction is a complex concept that is related to a number of factors including lifestyle, past experiences, future expectations and the value of both individual and society. The goal of any service organization is creation of satisfaction among customers.

Very few studies carried out in India for measuring satisfaction of patient with hospital services. The purpose of present study is to carry out evaluation of hospital services by getting feedback from indoor patients.

### 3.2 REVIEW OF LITERATURE

Hospitals are among the most complex and dynamic institutions of our society. The main function of a hospital is to promote the health of the community it serves. The WHO defines hospital as "an integral part of a social and medical organisation, the function of which is to provide for the population, complete health care both curative and preventive and whose out patient services reach out to the family in its home environment."<sup>1</sup> The main objective of hospital is to provide health services to all people, at all times. The expenditure on government run hospitals is to be regarded as an investment that will pay dividends in the form of reduced invalidity/unemployment, otherwise caused by sickness. Thus, "a hospital is a place for the definition and treatment of human illnesses and restoration of health and well being of those temporarily deprived of these"<sup>2</sup>. A modern hospital has become a highly scientific and complex medical institution from its age old concept of a poor house where people left their incurable and dying relatives. The role of hospitals and hospital administration has been broadened in the modern era as the life expectancy has gone up. People expect that all kinds of diseases to be eased out or controlled by the hospitals. Thus,

hospital has become a place of high expectations in the modern times to which everyone looks for help in times of distress. “The hospital has a noble purpose expressed in the phrase promotion of health and welfare of the people”.<sup>2</sup> Hospital Administration is an activity to secure better output “through optimum utilization of inputs”.<sup>3</sup> It is said that each hospital has an image of its own, a tempo of work and emotional atmosphere peculiar to its traditions, its community of staff and patients. The nature of staff relationship directly influences the staff patient relationships. It is for this reason there is different working atmosphere in different hospitals. Some hospitals enjoy a good reputation and others a bad one. The patients and the hospital environment are interested only in the ultimate quality of effective health care, which is an important factor in the inputs of a good health care delivery system. In this way all the efforts are directed to achieve a good health care output thereby, providing good quality health care, which will go a long way in creating excellent patient-hospital relationship. With the growing community consciousness about hospital services, expectations about the hospitals’ performance are also rising. Hospitals are being reoriented from just being centres for medical care and treatment to be more community oriented. There is now a greater pressure of work, for really over-worked hospital personnel due to steep rise in population and type and serious nature of the diseases. The faith of people in the efficiency of public hospital is declining because of the negligence and indifferent attitude on the part of hospital authorities. Medicine is still not an exact science in spite of the great advances in biochemical science. It is imperative for doctors, nurses and Para- medical personnel to exhibit utmost precaution, care, judgment and skill in dealing while treating the patients, balancing the relative risk of the disease with the risk involved in the use of drugs, surgery or diagnostic procedures, apart from the cost benefit consideration. Wage increase of the medical and Para-medical personnel, is not matched with the rising cost of living, which leads to unionism and has a negative impact on the patient satisfaction, which in turn is declining despite the increase in services, hospital personnel and infrastructure. Dissatisfaction among the patients visiting government hospitals is widely publicized by the mass media; political leaders and community in general and has a feeling that the hospital performance is not matching with the expenditure incurred on creation of infrastructure Objective .The main objective of the study

### 3.3 Aims:

To study satisfaction of the patients admitted in Narayana Multispeciality Hospital, Jaipur regarding:

- a) Patient care provided in the hospital,
- b) Behaviour of medical, nursing and supportive staff,
- c) Availability of necessary services and amenities in the hospital.
- d) to study the overall functioning of the hospital and to understand the emerging needs of the patients or their attendants in terms of quality healthcare and to identify strategies that may help in increasing patient satisfaction scores and sustain patient loyalty on the long run.

### 3.4 Objectives:

- To assess the interdepartmental functioning of the hospital in terms of quality of services provided and outcome of service delivery.
- To measure the level of patient satisfaction by developing a patient satisfaction index after evaluating the feedback forms.

### 3.5 Methodology

- **Study design:** Descriptive Study.
- **Study area:** Narayana Multispeciality Hospital, Jaipur.
- **Study Population:** Indoor patients who have admitted for some kind of medical / surgical interventions or the attendees of the patients.
- **Nature of study:** Quantitative data collected through questionnaire technique.
- **Study tool:** Feedback forms
- **Project started from:** 18<sup>th</sup> May- 28<sup>th</sup> May 2015.
- **Period of study:** 11days.
- **Sample size:** 200 discharged patients in the month of May. (40 patients per ward).  
The wards were categorized broadly into:

- Male General Ward
- Female General Ward
- CTVS ward
- Semi Private & Private Ward
- ANC/ Paediatric Ward

**Type of data:**

- Primary data collected through interacting with the patients or their attenders of the patients in different wards.
- Patients or the attenders of the patients are required to fill up a questionnaire covering clinical services like medical, nursing and diagnostic services and non clinical services like front office, food & beverages.
- Lickert scale is used.

**In patients departments**

- The departments scored by patients were :
  1. Food and beverages
  2. Nursing
  3. Housekeeping
  4. Patient care services
  5. Billing
  6. Dietetics
  7. Medical Admin
  8. Security

9. Pharmacy
10. Maintenance
11. TPA
12. Others

### Method of scoring:

- The questionnaire consist of 6 overheads namely:
  - Front office
  - Medical staff : doctors
  - Food and Beverages
  - Diagnostic services
  - Nursing Staff
  - Overall rating of the hospital
- Each overhead consist of a set of questions which need to be scored by the patients or their attenders at the time of discharge.
- Scoring pattern is based on Lickert scale.

| Excellent | Very Good | Good | Average | Poor |
|-----------|-----------|------|---------|------|
| 5         | 4         | 3    | 2       | 1    |

The overheads:

- Front office consist of 4 questions
- Medical staff consist of 4 questions
- F&B consist of 2 questions
- Diagnostics services consist of 2 Questions
- Nursing Staff consist of 2 Questions
- Total number of scores received by the various department in different wards of the Hospital:

| S<br>L<br>N<br>O | Departmen<br>ts | CTVS<br>Ward | Male<br>Gener<br>al<br>ward | Femal<br>e<br>Gener<br>al<br>ward | Semi<br>Pvt &<br>Privat<br>e ward | ANC/Pa<br>ediatric<br>Ward |
|------------------|-----------------|--------------|-----------------------------|-----------------------------------|-----------------------------------|----------------------------|
| 1                | Front Office    | 601          | 581                         | 594                               | 601                               | 620                        |
| 2                | Medical         | 674          | 648                         | 658                               | 665                               | 692                        |
| 3                | Nursing         | 680          | 613                         | 629                               | 658                               | 676                        |

Table 3.1

**Maximum score for :**

**Front office, Medical Staff, Nursing Staff is 800**

Total number of scores received by the various departments in different wards of the Hospital

| Sl no. | Departments          | CTVS | Male General Ward | Female General Ward | Semi Pvt & Private ward | ANC/Paedia |
|--------|----------------------|------|-------------------|---------------------|-------------------------|------------|
| 1.     | Food and Beverages   | 281  | 280               | 379                 | 302                     | 296        |
| 2.     | Diagnostics Services | 313  | 302               | 301                 | 304                     | 327        |

Table 3.2

**Maximum Score for:**

**Food and Beverages, Diagnostic services is 400**

**Score Card**

| SI No. | SCORE CARD                               | CTVS | MGW  | FGW  | SEMI PVT& PRIVATE | ANC/ PEDIA |
|--------|------------------------------------------|------|------|------|-------------------|------------|
| 1      | Total no of IP discharges                | 106  | 232  | 154  | 224               | 68         |
| 2      | Total no of IP forms collected           | 40   | 40   | 40   | 40                | 40         |
| 3      | Over all IPD patients satisfaction score | 3.97 | 3.78 | 3.83 | 3.91              | 4.10       |
| 4      | Positive recommendations index           | 97%  | 100% | 100% | 96%               | 100%       |

*Table 3.3***IPD Operations- Patient Satisfaction Index/ Scorecard****Calculating the Index:**

- Overall Level of IPD satisfaction score were calculated by taking the mean of the scores of various parameters on the scale ranging from 1-5.

| Excellent | Very Good | Good | Average | Poor |
|-----------|-----------|------|---------|------|
| 5         | 4         | 3    | 2       | 1    |

### 3.6 DATA ANALYSIS AND INTERPRETATION

#### Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .873             | 16         |

**Interpretation:** Cronbach alpha is a measure of reliability. More specifically; alpha is a lower bound for the true reliability of the survey. Mathematically, reliability is defined as the proportion of the variability in the responses to the survey that is the result of differences in the respondents. It also measure the of internal consistency that is how closely a set of items are related as a group .According to statistics (normal value-.7), it is found that questionnaire used in the study is .87 reliable that is justifies the topic taken for the study.

#### Group Statistic

| Coding  | N   | Mean  | Std. Deviation | Std. Error Mean |
|---------|-----|-------|----------------|-----------------|
| Wards 1 | 159 | 66.41 | 8.279          | .657            |
| 2       | 40  | 66.70 | 8.419          | 1.331           |

#### Independent Samples Test

|       |                             | Levene's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |                                           |       |
|-------|-----------------------------|-----------------------------------------|------|------------------------------|--------|-----------------|-----------------|-----------------------|-------------------------------------------|-------|
|       |                             | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |       |
|       |                             |                                         |      |                              |        |                 |                 |                       | Lower                                     | Upper |
| wards | Equal variances assumed     | .658                                    | .418 | -.198                        | 197    | .843            | -.291           | 1.469                 | -3.189                                    | 2.606 |
|       | Equal variances not assumed |                                         |      | -.196                        | 59.413 | .845            | -.291           | 1.484                 | -3.261                                    | 2.678 |

The Independent-Samples T- Test procedure compares means for two groups of cases. From the above test it can be easily concluded that mean difference between the services of the general wards and deluxe wards is almost same .

The standard error difference is also similar .It unequivocally states that patient satisfaction level is similar in general and private wards.

The primary data collected regarding the satisfaction among the IPD patients using Likert scale. Qualitative data analysis was done about the level of satisfaction with the services provided by the hospital

Analysis for different study parameters is represented using pie diagrams as follows:

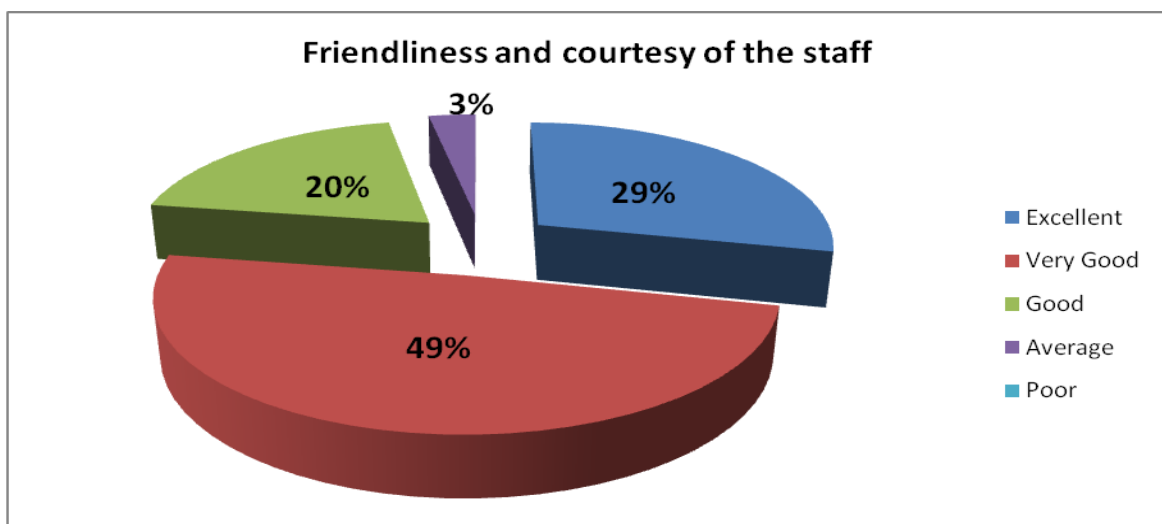


Figure 3.1

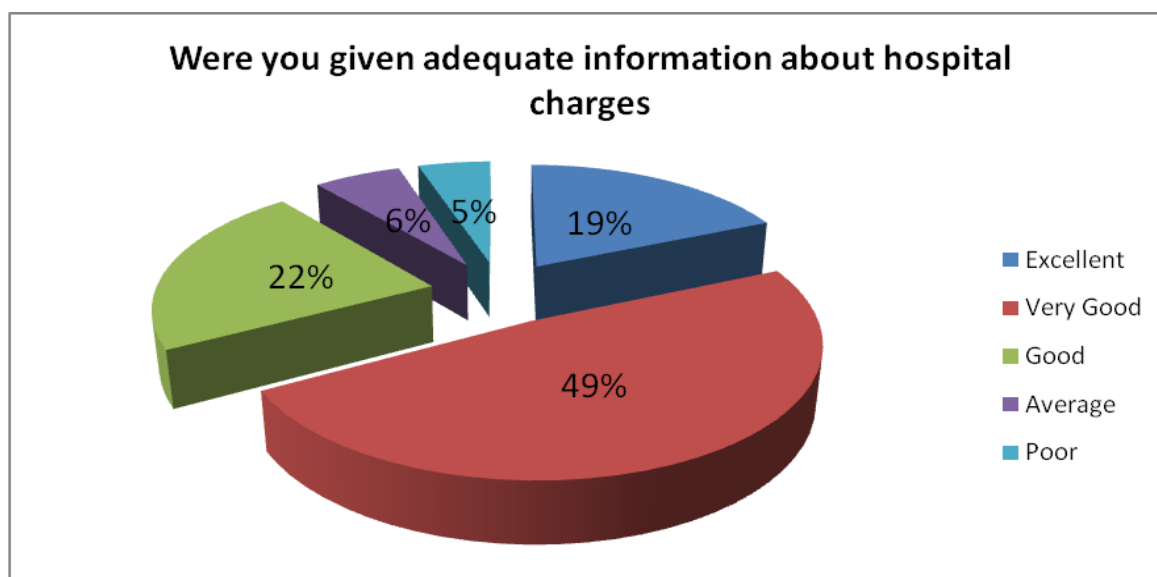


Figure 3.2

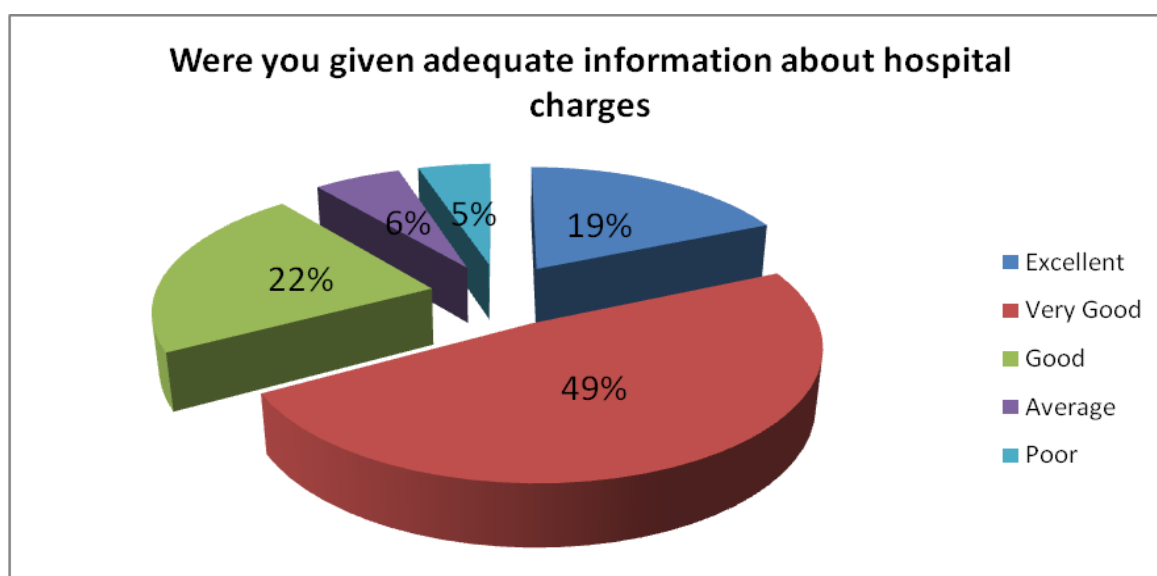


Figure 3.3

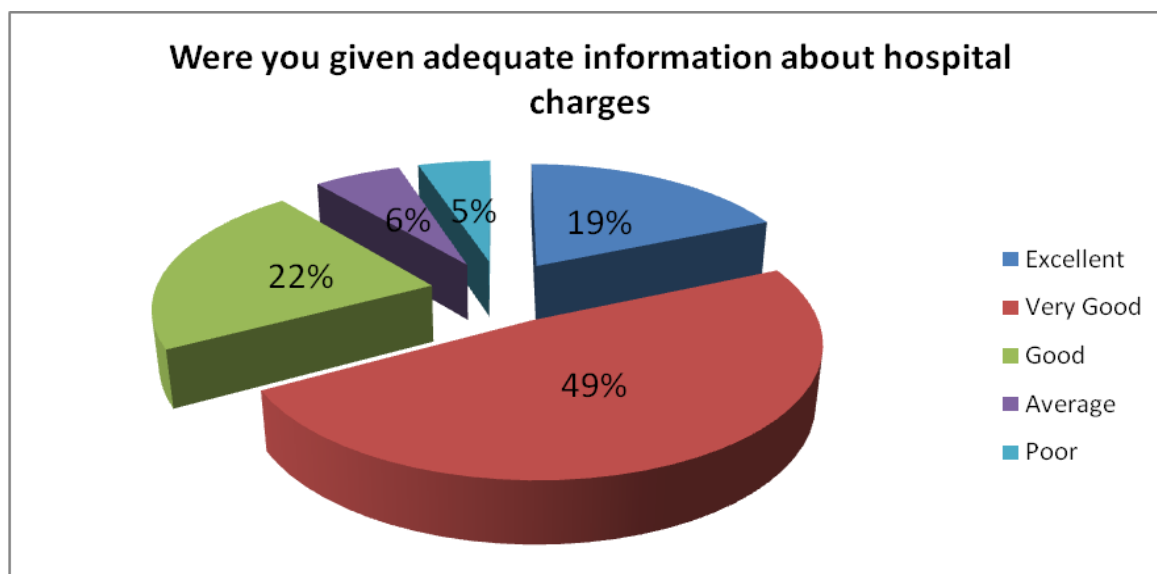


Figure 3.4

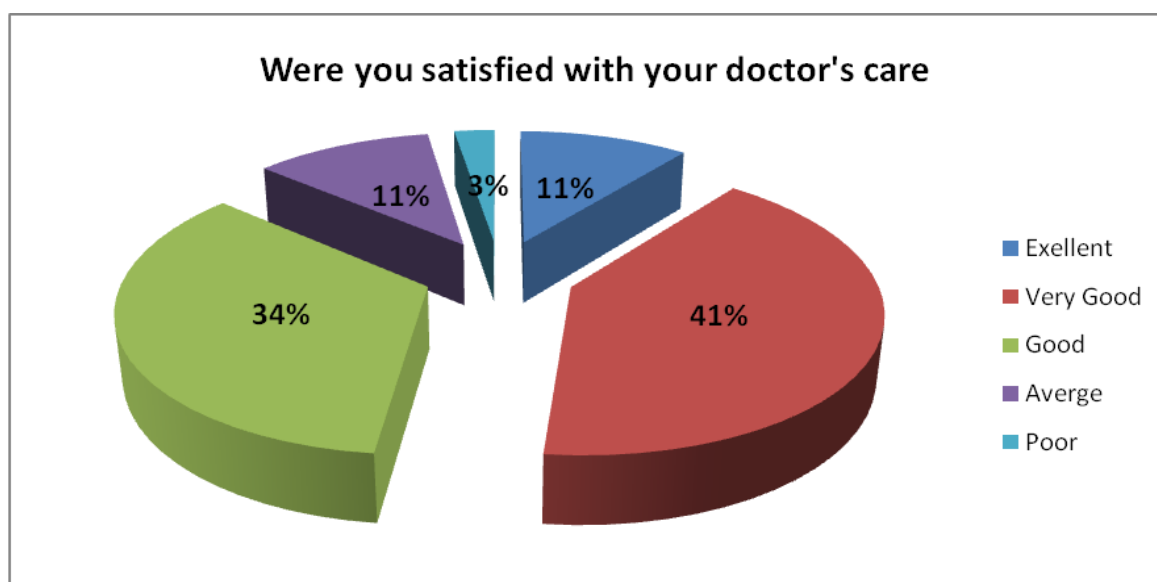


Figure 3.5

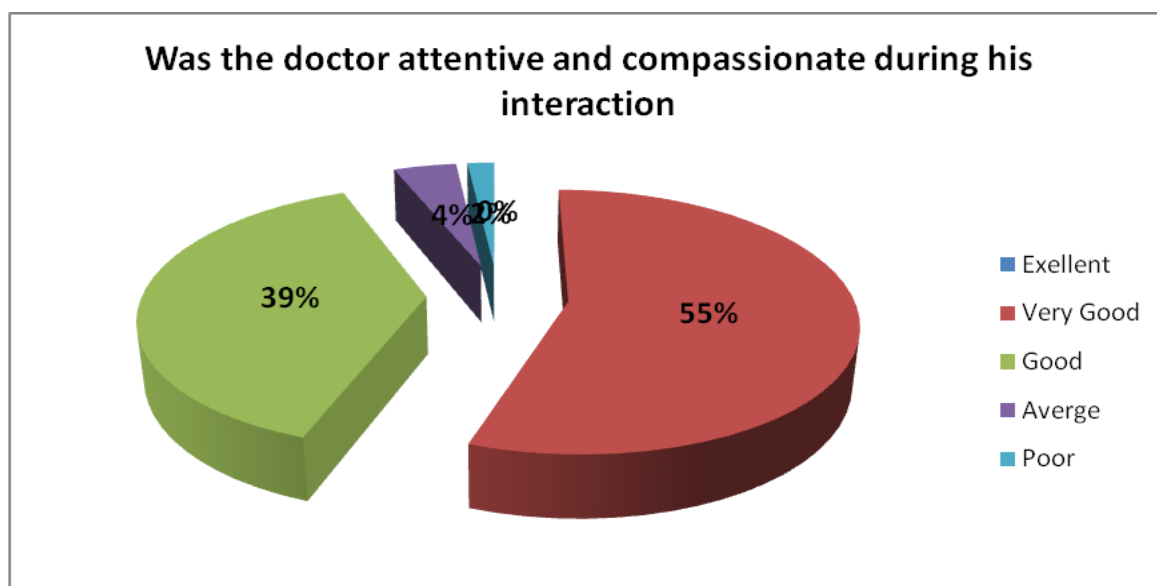


Figure 3.6

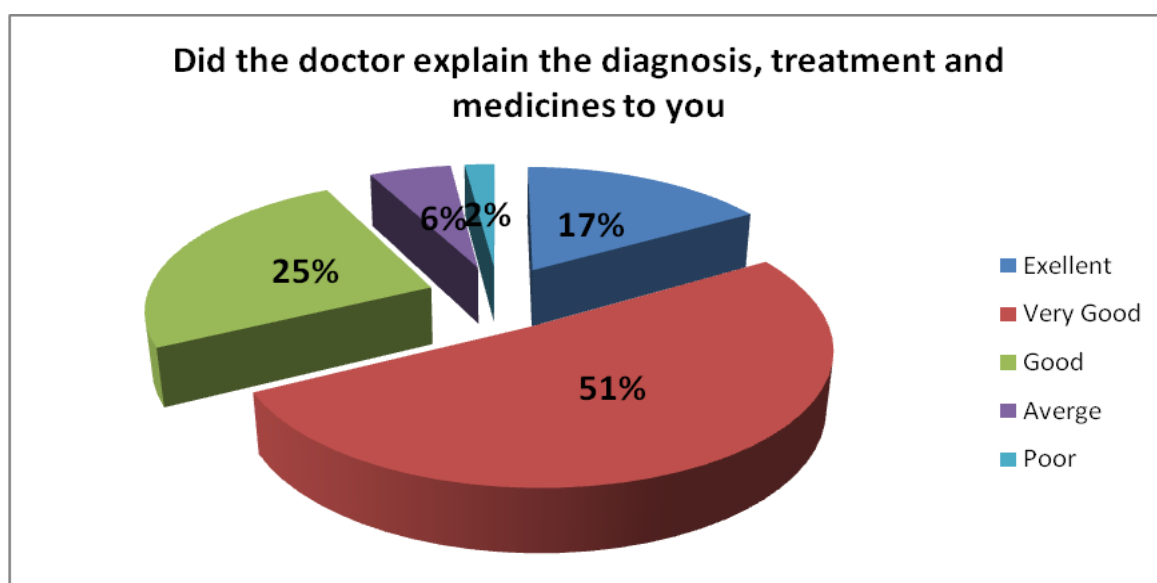


Figure 3.7

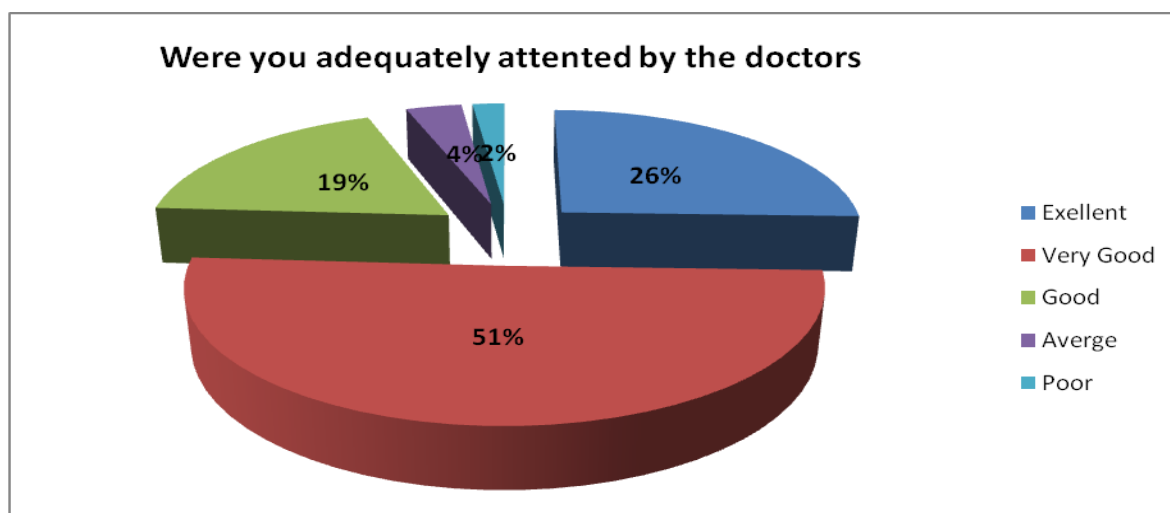


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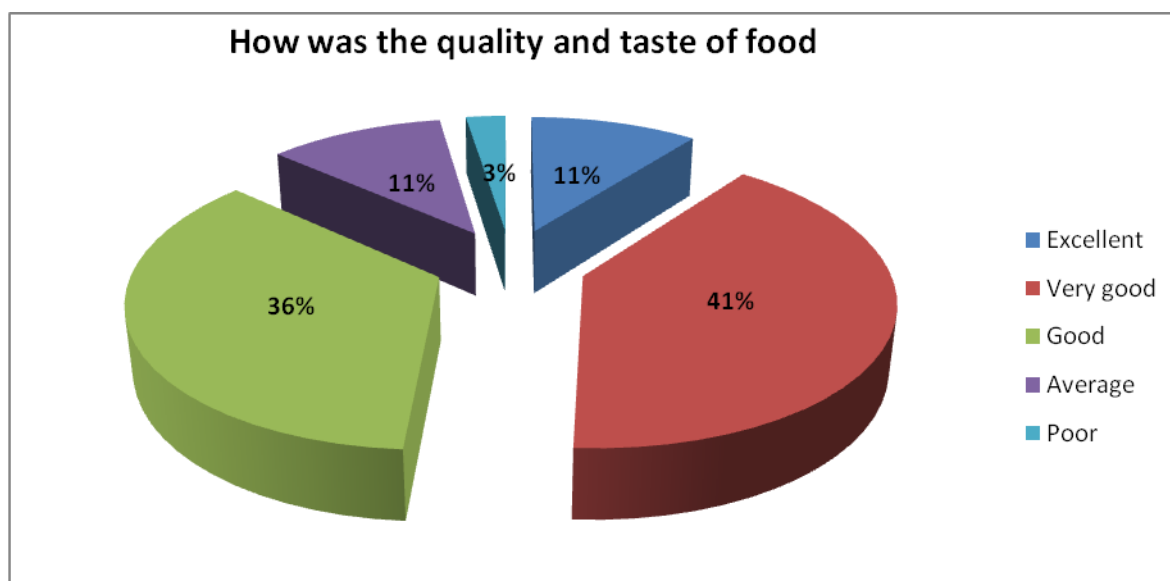


Figure 3.9

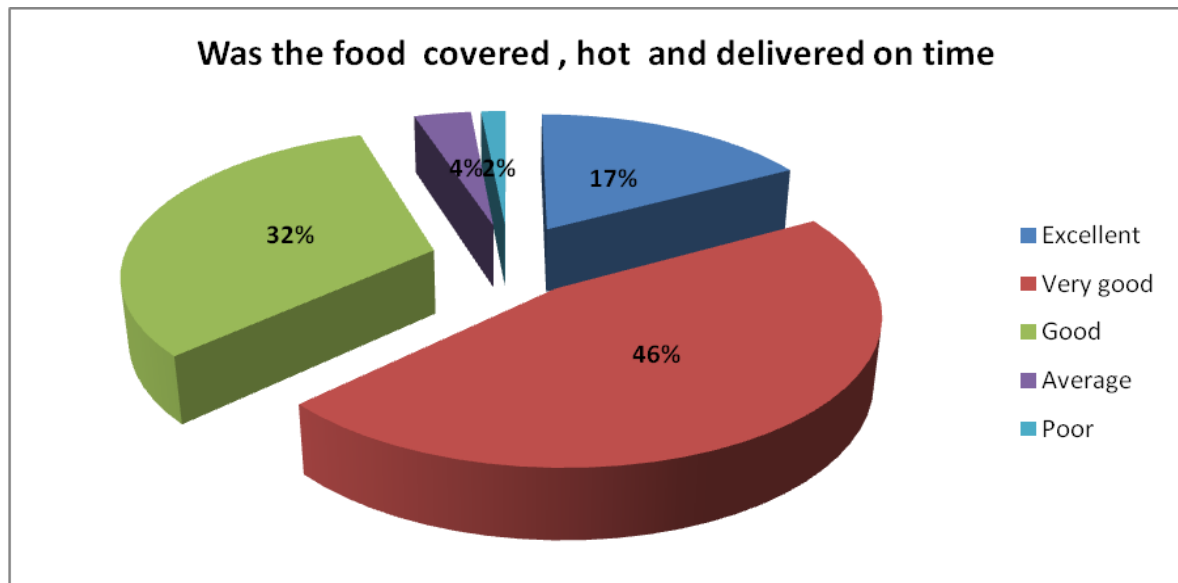


Figure 3.10

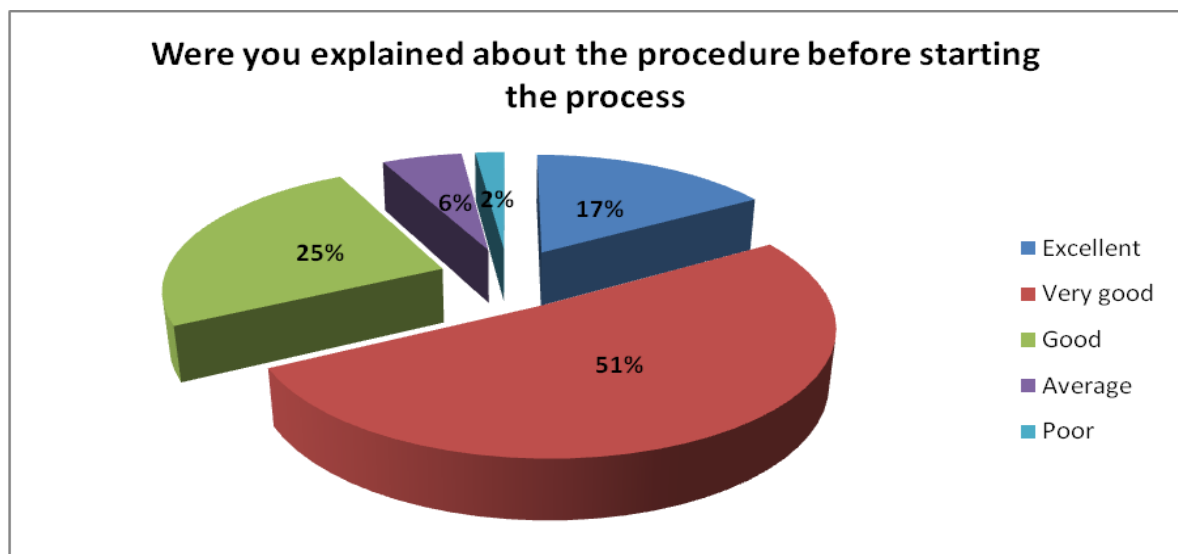


Figure 3.11

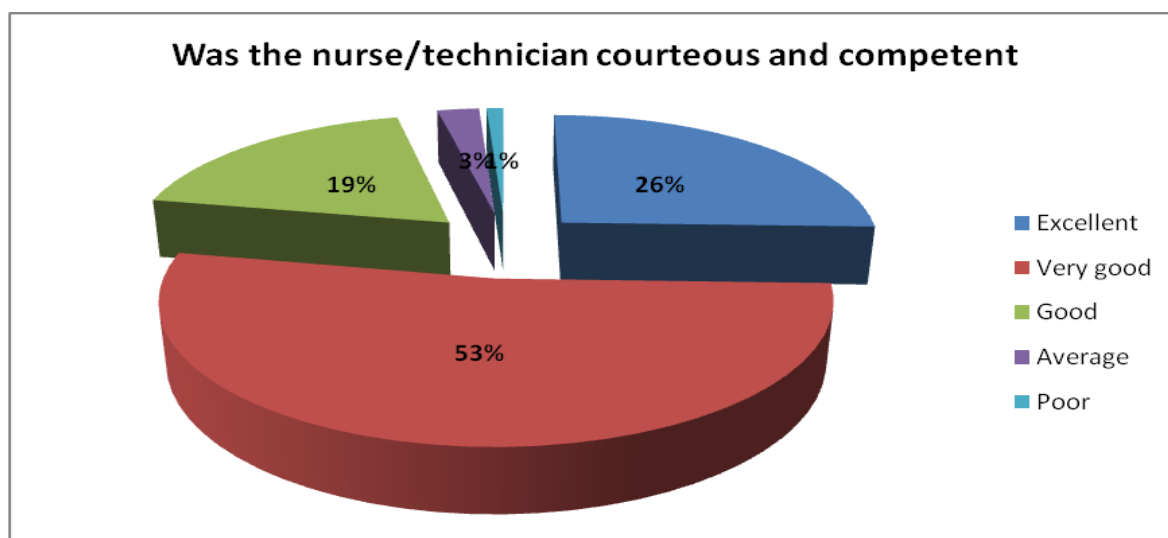


Figure 3.12

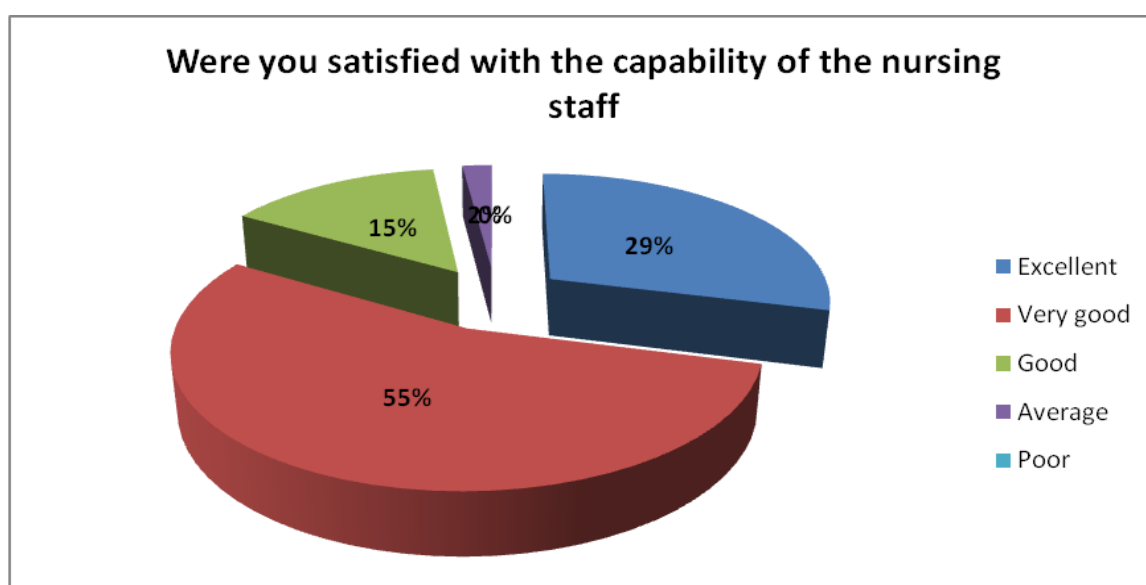


Figure 3.13

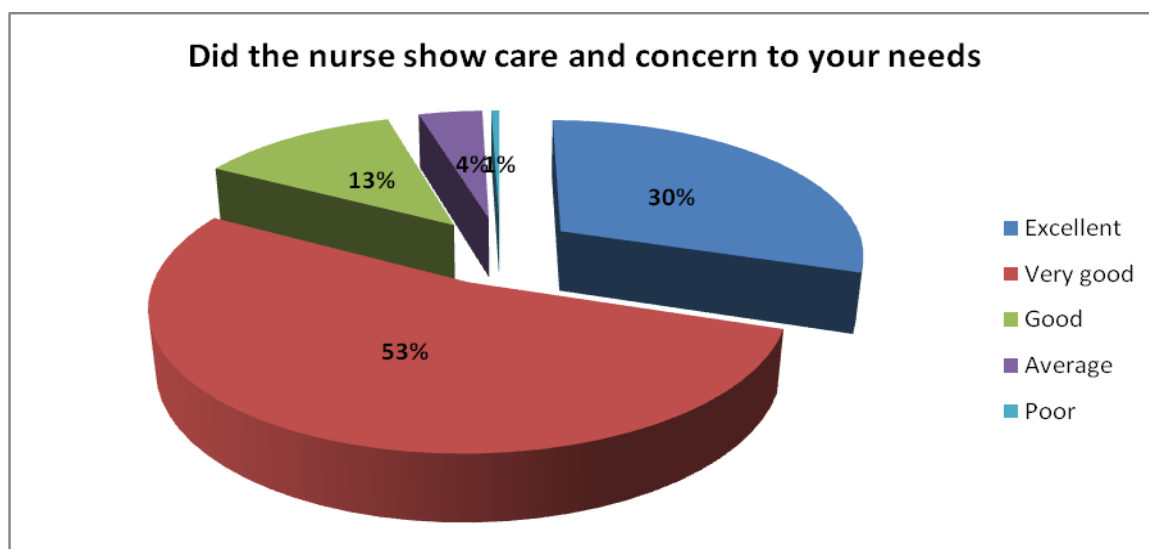


Figure 3.14

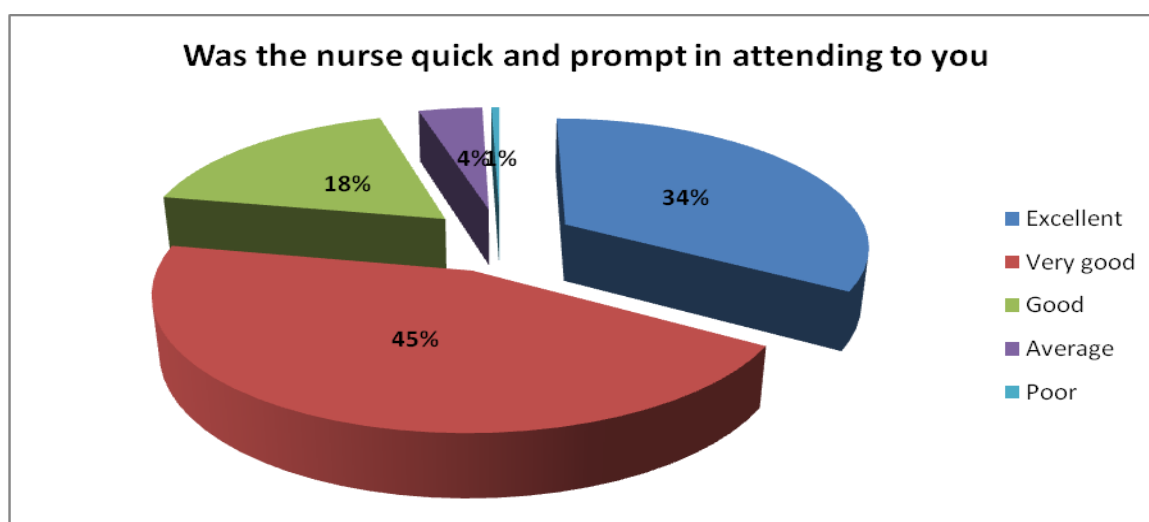


Figure 3.15

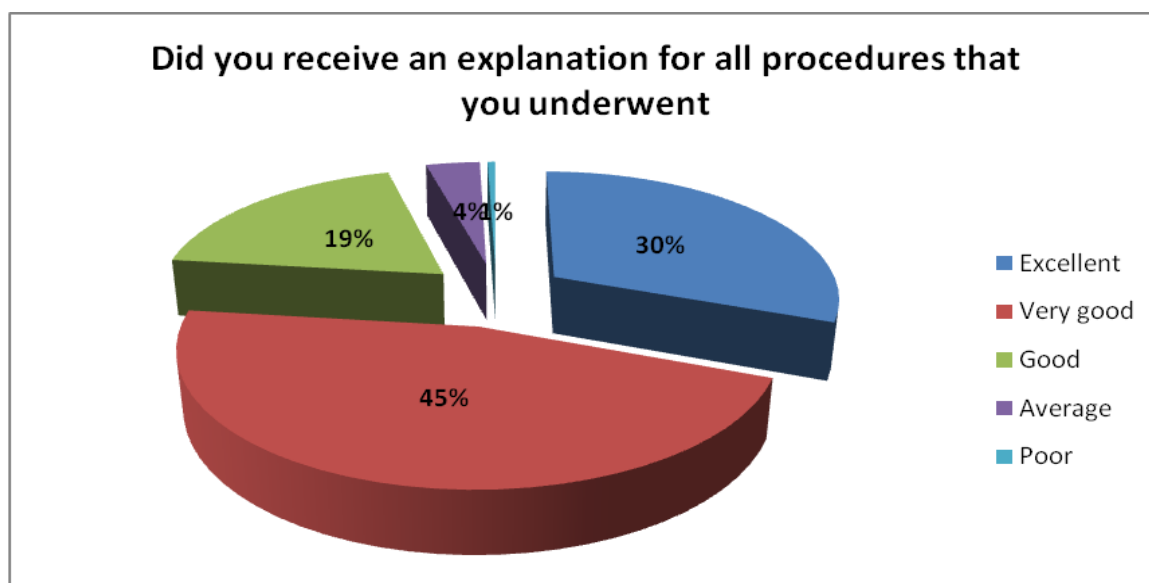


Figure 3.16

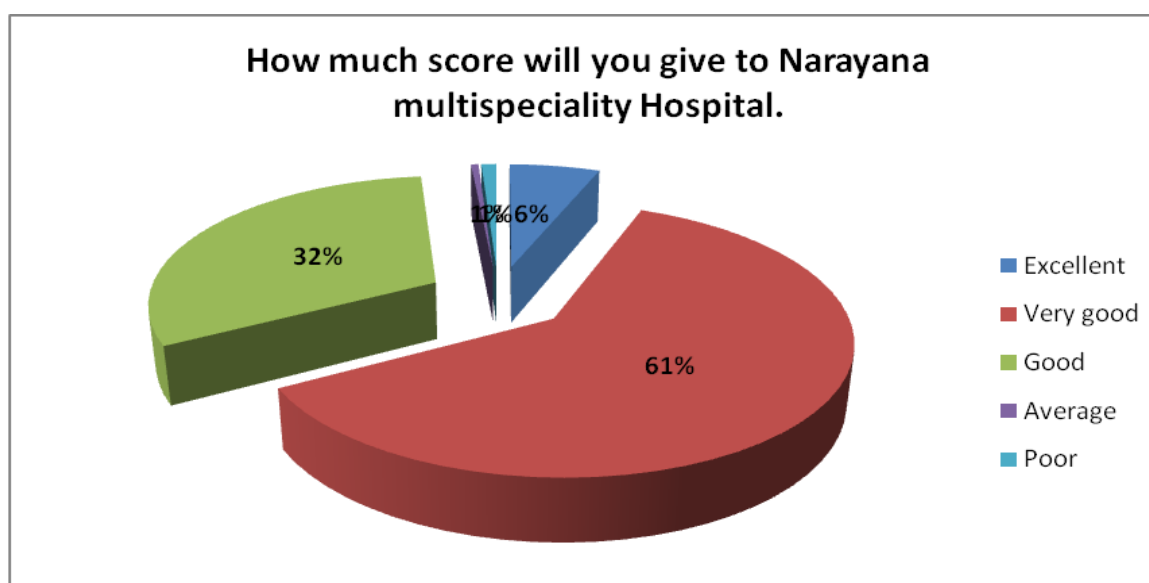


Figure 3.17

### 3.7 INFERENCE:

- The IPD patient satisfaction score is reported to be highest in ANC/Paediatric ward followed by CTVS ward for the month of May 2015

- 100% of patients or their attenders in ANC/ Paediatric Ward , Male General Ward, Female General Ward said that they would definitely recommend Narayana Health to their friends or Colleagues
- As per the data it was found that the patient's satisfaction level largely depends upon the attributes such as respect for them and compassion.
- The quintessential elements for patients satisfaction is the efficiency of hospital in providing services, comfort during their hospital stay, information and proper communication to reduce anxiety.
- The indoor patients were found to be satisfied with the attention and co operation provided by the doctors and the nursing teams.

### 3.8 SUGGESTION:

- Front office and persons handling the counter, need to be given proper training and provide with up to date information for improving services and replying to queries quietly instead of getting things cleared from their supervisors. The higher management and supervisory levels are required to address these issues timely.
- Security guards though doing their duties as per laid down norms but at times it if felt that they are indulged in unhealthy and unavoidable hot discussion.
- Discharge procedure is very lengthy and time consuming and needs improvements.
- The availability and efficiency of the staff of Emergency Department needs to be enhanced specifically the Medical Officer.
- The quantity of liquid diet needs to be increased.  
Patients demanded for the individual towels for wiping hands etc. and dustbin with each bed. (general ward)
- The work of the housekeeping and the CCA staff should be specified.
- A special attention should be required for the female general ward regarding the cleanliness.

### 3.9 CONCLUSION:

In conclusion to this study about the level of satisfaction among indoor patients of Narayana Multispeciality Hospital ,Jaipur indicate that patients showed very good level of satisfaction

based of Questionnaire consisting of 6 overheads including front office, medical staff, nursing staff, food and beverages, diagnostics and overall rating of hospital.

There was an association of experience with the satisfaction level. Patients with good experience in the hospital showed higher level of satisfaction while those with bad experience showed low level of satisfaction.

It is impossible to truly pursue total quality management and improvement activities without considering clients' suggestions and complaints. Patient satisfaction can be directly related to service choice that affects competition for customer acquisition in the service delivery market. In order to provide best services, factors related to patient satisfaction need to be explored off and on and suggestions can be incorporated accordingly. This will help in maintaining a healthy community, which in turn shall work for development of the nation

### **Reference:**

1. WHO. Technical report Series 1968; 395:6.
- 2 .Goel SL, Kumar R. Management of Hospital-I 2002. Deep & Deep Publishers, New Delhi: 3.
3. Roy P. Hospital service administration in a metropolitan city-A case study of Safdarjang hospital New Delhi. An unpublished thesis of Punjab University Chandigarh 1991.
- 4.The Irish College of General Practitioners and the National General Practice Information Technology Group which led to the timely publication in November 2003 of "An Information Guide to the Data Protection Acts for General Practitioners.
5. Shenandoah Community Health Center (SCHC) in Martinsburg, West Virginia Health Center Case Study
- 6.

## ANNEXURE

## 1.DAMS AUDITING CHECKLIST (RECOMMENDED AFTER STUDY ANALYSIS)

**DAMS Auditing Check list**

MRN :

Patient Name:

DOA and Time:

DOD and Time:

Currently admitted under:

WARD/Bed:

Patient Category:

Corporate Sponsor:

**Bed Charges:**

|                 |  |
|-----------------|--|
| Length of stay: |  |
| Days charged:   |  |

**Financial Counseling:**

|                    |  |
|--------------------|--|
| Estimated amount:  |  |
| Gross Bill Amount: |  |

**Hospitalisation/ care:**

Name

Number of visits.

Visits charge.

|                        |  |  |
|------------------------|--|--|
| IP Consultant:         |  |  |
| Cross Consultation(s): |  |  |

**Diagnostics( Non Lab) services:**

| Name of services: | Quantity performed | Quantity charged |
|-------------------|--------------------|------------------|
|                   |                    |                  |

**Drugs:**

| <u>Injectables:</u>                   | <u>Quantity administered</u> | <u>Quantity charged</u> | <u>Remarks:</u> |
|---------------------------------------|------------------------------|-------------------------|-----------------|
| <u>IV infusion</u><br><u>Therapy:</u> | <u>Quantity administered</u> | <u>Quantity charged</u> | <u>Remarks:</u> |

**2.MRD CHECKLIST**

| Medical Records Audit Tool                        | YES | NO | NA | REMARKS |
|---------------------------------------------------|-----|----|----|---------|
|                                                   |     |    |    |         |
| <b>File no.</b>                                   |     |    |    |         |
| <b>Fields/forms audited</b>                       |     |    |    |         |
| Admission Order                                   |     |    |    |         |
| <b>Assessment from emergency</b>                  |     |    |    |         |
| Form completeness                                 |     |    |    |         |
| <b>H&amp;P sheet (Doctors)</b>                    |     |    |    |         |
| Form completeness                                 |     |    |    |         |
| Pain Score                                        |     |    |    |         |
| Plan of Care/Treatment Planned                    |     |    |    |         |
| Discharge Planning                                |     |    |    |         |
| MO/Registrars sign,date,time                      |     |    |    |         |
| Consultant countersign,date,time                  |     |    |    |         |
| <b>Nursing Admission Assesment</b>                |     |    |    |         |
| Timeliness(Initial asseessment within 30 minutes) |     |    |    |         |
| Completeness of form                              |     |    |    |         |

|                                              |  |  |  |  |
|----------------------------------------------|--|--|--|--|
| Fall Assessment                              |  |  |  |  |
| Pain Assessment                              |  |  |  |  |
| Plan of Care/Treatment Planned               |  |  |  |  |
| <b>Nursing Daily Assessment</b>              |  |  |  |  |
| Completeness of form                         |  |  |  |  |
| <b>Nutrition Form - Admission</b>            |  |  |  |  |
| Form completeness                            |  |  |  |  |
| <b>Nutrition Form - Daily Reassessment</b>   |  |  |  |  |
| Completeness (Date, Time, Sign)              |  |  |  |  |
| <b>Transfer Form</b>                         |  |  |  |  |
| Completeness                                 |  |  |  |  |
| <b>Consents</b>                              |  |  |  |  |
| Operation                                    |  |  |  |  |
| Anesthesia                                   |  |  |  |  |
| Blood Transfusion                            |  |  |  |  |
| Restraint                                    |  |  |  |  |
| High risk                                    |  |  |  |  |
| Others                                       |  |  |  |  |
| <b>Anesthesia Record</b>                     |  |  |  |  |
| PAC                                          |  |  |  |  |
| Intra-operative Record                       |  |  |  |  |
| Recovery Score                               |  |  |  |  |
| Post Operative Record                        |  |  |  |  |
| Anesthetists name & sign                     |  |  |  |  |
| <b>Blood Transfusion Monitoring Sheet</b>    |  |  |  |  |
| Completeness                                 |  |  |  |  |
| <b>Restraint Monitoring</b>                  |  |  |  |  |
| Completeness                                 |  |  |  |  |
| <b>Progress Notes - Doctors (Procedures)</b> |  |  |  |  |
| Measurable Goals                             |  |  |  |  |
| Review of Goals                              |  |  |  |  |
| Legibility                                   |  |  |  |  |
| Date, time, sign mentioned                   |  |  |  |  |
| <b>Cath flow sheet</b>                       |  |  |  |  |
| <b>Procedure Report</b>                      |  |  |  |  |
| <b>Surgical Safety Checklist</b>             |  |  |  |  |
| <b>Progress notes- Nursing</b>               |  |  |  |  |
| Measurable Goals                             |  |  |  |  |
| Review of Goals                              |  |  |  |  |
| Legibility                                   |  |  |  |  |
| Date, time, sign mentioned                   |  |  |  |  |
| <b>Physiotherapy Assessment</b>              |  |  |  |  |

|                                       |  |  |  |  |
|---------------------------------------|--|--|--|--|
| Completeness of form                  |  |  |  |  |
| <b>Medicine Card</b>                  |  |  |  |  |
| SOS drugs with indications            |  |  |  |  |
| Orders Dated & timed & signed         |  |  |  |  |
| Ongoing medications                   |  |  |  |  |
| Allergies documented                  |  |  |  |  |
| Orders in capital letters             |  |  |  |  |
| <b>IDTR</b>                           |  |  |  |  |
| Completeness of form                  |  |  |  |  |
| <b>Patient &amp; Family education</b> |  |  |  |  |
|                                       |  |  |  |  |
| Completeness of form                  |  |  |  |  |
| <b>Discharge Summary</b>              |  |  |  |  |
| Reason for admission                  |  |  |  |  |
| Condition of patient at discharge     |  |  |  |  |
| Diagnosis documented                  |  |  |  |  |
| Abbreviations not used (BD/OD)        |  |  |  |  |
| Other non-drug advice documented      |  |  |  |  |
| Discharge Order                       |  |  |  |  |

## 3. Patients satisfaction questionnaires

|                                                                           | MRN NO: |
|---------------------------------------------------------------------------|---------|
| <b>FRONT OFFICE</b>                                                       |         |
| Were you satisfied with the time taken for admission and bed availability |         |
| Friendliness and courtesy of the staff                                    |         |
| Were you given adequate information about hospital charges                |         |
| Your experience during the discharge process                              |         |
| <b>DOCTORS</b>                                                            |         |
| Were you satisfied with your doctor's care                                |         |
| Was the doctor attentive and compassionate during his interaction         |         |
| Did the doctor explain the diagnosis, treatment and medicines to you      |         |
| Were you adequately attended by the doctors                               |         |
| <b>FOOD AND BEVERAGES</b>                                                 |         |
| How was the quality and taste of food                                     |         |
| Was the food covered, hot and delivered on time                           |         |
| <b>DIAGNOSTIC SERVICES</b>                                                |         |
| Were you explained about the procedure before starting the process        |         |
| Was the nurse/technician courteous and competent                          |         |
| <b>NURSING STAFF</b>                                                      |         |
| Were you satisfied with the capability of the nursing staff               |         |
| Did the nurse show care and concern to your needs                         |         |
| Was the nurse quick and prompt in attending to you                        |         |
| Did you receive an explanation for all procedures that you underwent      |         |

| OVERALL EXPERIENCE                                                        |  |
|---------------------------------------------------------------------------|--|
| How much would you rate Narayana as compared to other Hospitals in Jaipur |  |

## LIST OF ABBREVIATIONS

JCI- joint commission international

OT- Operation theatre

TPA- Third party administrator

ICU-Intensive care Unit

MICU-Medical intensive care unit

SICU-Surgical Intensive care unit

MRN –Medical Record Number

AO – Admission Officer

HK – House Keeping

MGW- male general ward

FGW- female general ward

CTVS- cardio thoracic vascular system

MMW-male medical ward

PVT- private ward

SEMI PVT- semi private ward

HDU- high deficiency ward

ANC- antenatal care ward

CCU- Coronary care unit

CATH LAB- catheterization lab

PICU- paediatric intensive care unit

NICU- neonatal intensive care unit

F&B- food and beverages

KTU- kidney transplant unit

CSSD- central sterile supply department

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