**Summer Training at**
**Shree Mata Vaishno Devi Narayana Superspeciality Hospital, Jammu**

# Out of Pocket Expenditure in Intensive Critical Care Unit in SMVD, Jammu

**By**
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**Under the guidance of**
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**MBA Hospital and Health Management**
**2015-2017**


**The IIHMR University, Jaipur**
**2016**

INSTITUTE OF HEALTH MANAGEMENT RESEARCH
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## CERTIFICATE

This is to certify that Ms Puja Sinha has undergone summer training in Narayana Vaishno Devi Speciality Hospitals Pvt. Ltd, Kakryal (Village & Post), Katra Tehsil, Reasi, District, Jammu & Kashmir from 1st April to 31st May 2016.

The candidate herself completed the project assign to her during summer training. Her approach to the project was sincere and proactive. This summer training is partial fulfillment of the course requirement recommended for the award of MBA in Health & Hospital Management.

I wish her success in all her future endeavors.

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Shri Mata Vaishno Devi Narayana Superspeciality Hospital

Managed by Narayana Health

**SMVD/Trainee/ 001** **Dt.31st May' 2016**

## INTERNSHIP CERTIFICATE

This is to certify that **Ms. Puja Sinha D/O Brajesh Kumar Sinha** bearing **Enrollment No: U/01/2015-17/0329** from **Indian Institute Of Health Management Research from Jaipur, Rajasthan,** has successfully completed her Project on **"Out Of pocket Expenditures in ICU"** from **01st April'2016 to 31st May'2016** at **Narayana Vaishno Devi Specialty Hospitals Pvt. Ltd,** Kakryal (Village & Post), Katra Tehsil, Reasi, District, Jammu & Kashmir- 182320

During her internship period, she has shown keen interest to observe and learn with good conduct.

We wish her all the best for her future endeavours.

*for* ***Narayana*** **Vaishno Devi Speciality Hospitals Pvt.Ltd**

**Raman Kumar**
**Senior Manager - Human Resources**

Shri Mata Vaishno Devi Narayana Superspeciality Hospital

**ACKNOWLEDGEMENTS: -**

The internship opportunity I had with **Narayana Superspeciality Hospital, Jammu** was a great chance for learning and professional development. Therefore, I consider myself as a very lucky individual as I was provided with an opportunity to be a part of it. I am also grateful for having a chance to meet so many wonderful people and professionals who led me though this internship period.

I express my deepest thanks to my mentor Dr Harman Loona, General Manager Operations, NH, Jammu for taking part in useful decision and giving necessary advices and guidance and arranging all facilities to make internship easier.

I feel deeply privileged in expressing my deepest sense of gratitude to Dr.Devi Shetty (CMD Narayana Group), Dr. S.P. Singh(CEO), Dr Sriman (Medical superintendent) and Mr. Raman(Human Resource Manager) for their careful and precious guidance which were extremely valuable for my study both theoretically and practically.

The involvement and sharing of knowledge by the NH staff were of great help to my study as well as in better understanding of the Quality department. I am also grateful to all the department heads and staff for giving 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 perceive as this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way, and I will continue to work on their improvement, in order to attain desired career objectives. Hope to continue cooperation with all of you in the future,

My sincere gratitude to my mentor **Dr. Goutam Sadhu,** for his constant support and encouragement

Sincerely

Miss Puja Sinha

MBAHM 20

The IIHMR University Jaipur

## TABLE OF CONTENTS

ACKNOWLEDGEMENT

ABBREVIATIONS

1. ORGANISATIONAL PROFILE
    - 1.1Vision
    - 1.2Mission
    - 1.3Values
    - 1.4Quality policy
    - 1.5Service standard
    - 1.6Observational learning
    - 1.7Scope of services
    - 1.8 Departmental services

2. SPECIFIC PROJECT ON –Out of Pocket Expenditure in Intensive Critical Care Unit in SMVD Narayana Superispecialty Hospital, Jammu.
    - 2.1 Background
    - 2.2 Literature review
    - 2.3 Introduction
    - 2.4 Aim of the study
    - 2.5 Methodology
    - 2.6 Data collection
    - 2.7 Analysis and interpretation of data
    - 2.8 Inference, conclusion and recommendations
    - 2.9 Limitation of the study

3. REFERENCES

ANNEXURES

**ACRONYMS/ABBREVIATIONS: -**

- CSSD: Central sterile supply department.
- DAMA: Discharge against medical advice
- F&B: Food and Beverages
- HIC: Hospital Infection Control
- HIS : Hospital Information System
- ICD: International coding of diseases
- ICU: Intensive care unit.
- IPD: Inpatient department
- LIS : Laboratory Information System
- MLC: Medico legal cases
- MOD: Manager on duty
- MRD: Medical record department.
- MRN: Medical Record Number
- OPD: Outpatient department.
- OT: Operation Theater.
- TMT: Tread mill test

## ORGANISATIONAL PROFILE

### ABOUT NARAYANA HRUDAYALAYA HOSPITAL GROUP

Narayana Hrudayalaya has now radically changed the scenario of accessibility, pricing and state of the art healthcare in India. Originally, Dr Devi Shetty's radical new concept, which started with the Spartan Narayana Hrudayalaya heart hospital Bangalore in the year 2001, was now a truly global healthcare provider .Today, it has 32 Hospitals, 6600 beds, 20 Cities, 15000 Employees, 1800 Doctors and their positively outlook of being able to equip and service of 30000 beds by 2018.

Dr. Devi Shetty has over the past three decades re- affirmed his commitment to 'An equitable distribution of world class healthcare for the masses at an affordable cost'. Our group's firm belief in its core values and mission statement helps reinforce our everlasting commitment to the people of Jammu & Kashmir. Narayana Hrudayalaya Jammu will bring this very same revolutionary concept to the state and its people with the promise of an affordable one-stop health-solution.

**Narayana Health** (formerly known as **Narayana Hrudyalya**) is a multi-specialty hospital chain in India, headquartered in Bengaluru.

The company won the "Good Company" award for its quality, affordability and scale.[The business model of Narayana Health became a Global Healthcare and Harvard Business School case study. The hospital chain is among the largest telemedicine networks in the world

The chain has 1500 full-time Doctors and 15,000 employees. On an average of 150 surgeries are performed every day and on an average of around 80,000 outpatients are seen every month.

NH ranked36th among 'World's 50 most Innovative Companies 'by Fast Companies2012

A leader in the field of Cardiac sciences, it performs complex congenital surgeries, Coronary bypass grafting with advanced techniques like Beating heart surgeries, Minimally Invasive Cardiac surgery and other valvular surgeries on adults and children. It is equipped with cardiac OTs, state-of-the-art Cath labs, 3D mapping of Electrophysiology, Cardiac Intensive Unit and Coronary care unit.

## ABOUT NARAYANA SUPERSPECIALITY HOSPITAL, JAMMU

Narayana Superspeciality Hospital, Jammu, 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 250 bedded multispecialty tertiary care hospital, located at Kakryal, Katra within a sprawling campus of 30 acres offering high quality affordable medical care to the people within Jammu and Kashmir and bordering states as well.

Shri Mata Vaishno Devi Narayana Superspeciality Hospital is a unit of Narayana Hrudayalaya Ltd. in partnership with Shri Mata Vaishno Devi Shrine Board and is poised to cater to patients for over 20 different specialties with special focus on Cardiac Sciences and Oncology .Hospital commissioned OPD services on March 15, 2016 and IPD services on April 8,2016. Till now hospital has provided OPD services to more than 5000 patients and IPD services to 100 plus patients.

Narayana Health is a leading Health organization which is headquartered at Bangalore, India. The group was founded in the year 2000 under the guidance and stellar leadership of Dr. Devi Shetty, along with the “Asian Heart Foundation”. Narayana Health has also setup the first Health City in the outskirts of Bengaluru, spread over 25 acres. The Health City consists of more than a 1000 bed cardiac hospital and a 1400 bed multi specialty hospital, becoming one of Asia’s most advanced Cancer Care facilities. It also has India’s largest Bone Marrow Transplant unit.

## "Narayana Health has an aim of achieving 100% Patient satisfaction."

**1.1Vision**: "Our vision is affordable quality healthcare to the masses worldwide."
**1.2Mission:** "Our dream of making quality healthcare available to the masses worldwide"
**1.3Values:** Core values are represented by the simple acronyms **'iCARE'**

- Innovation & efficiency
  To continuously reduce the cost of delivery of high quality of healthcare 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
  Recognize the contribution of every employee and respect the rights as well as the dignity of every patient and employees.
- E- Excellence as a culture
  Where we individually excel to collectively ensure the highest quality of and reliable services to our patients and sustainable values to all our stakeholders.

**1.4Quality Policy**:

- Deliver world class patient care through medical excellence.
- Create a patient-centric environment:
- Ensure high standards and safety of treatment during the patient's stay
- Continuous Quality Improvement through implementation of robust clinical and non-clinical process and protocols
- Having world-class infrastructure and cutting edge technology utilized by highly skilled employees.
- Complying with statutory regulations

**1.5Service Standards**:

- Courteous
- Attentive
- Compassionate service

- Teamwork
- Safe

**1.6 Specific Objective**: To describe the observational learning of different departments of the hospital.

**Mode of data collection**:

Every department of the hospital was observed carefully for its working, staff, hierarchy, physical set up and major challenges faced by it, if any.

*Source of information*: a) Primary:

- Interaction with doctors , executives and other employees
- Interaction with patients and their attendants
- Direct observation

b) Secondary:

- Registered records
- Website of the hospital
- Pamphlets, magazines , brochures etc

**Findings:**

## 1.7 Scope of Services:

### 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 Dentistry
- Dermatology

- Diabetology -Endocrinology
- 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 (Liver)
- General & Laparoscopic Surgery
- Institute of Bone, Joint & Spine
  - Hand & Upper Limb Surgery
  - Joint Replacement
  - Spine surgery
- Internal Medicine
- Obstetric & Gynaecology
- Psychiatric
- Department of Nuclear Medicine
- Oncology Haematology
- Oncology Medical
- Oncology Surgical
- Radiation Oncology
- Psychiatry
- Psychology
- Pulmonology
- Pulmonology-Interventional

- Emergency / Casualty

## DIAGNOSTIC SERVICES

1. Non Invasive Cardiology Services
    - Echocardiography - Adult
    - Echocardiography - Paediatric
    - Foetal Echocardiography
    - Trans-oesophageal Echocardiography
    - Treadmill Test
    - ECG and Holter
    - EEG/ ENMG
    - PFT
2. Radiology Services
    - X-ray
    - MRI Scan
    - CT scan (128 slice)
    - Ultrasound
3. Nuclear Medicine- Gamma Imaging
4. LINAC
5. Laboratory Medicine
    - Biochemistry
    - Clinical Pathology
    - Haematology
    - Histo-Pathology

- Microbiology

6. Blood Bank
7. Endoscopy / Bronchoscopy Services

**SUPPORT SERVICES**

1. Cardiac Rehabilitation
2. Counselling
3. Ambulance services
4. Telemedicine
5. CSSD
6. MRD
7. Human Resource
8. Purchase and inventory
9. Pharmacy
10. Morgue
11. Strategic Initiative- Includes Marketing , Branding , corporate communication cell, claims recoveries , corporate relations and relationship with other partners
12. Library
13. OP Pharmacy & IP Pharmacy
14. Waste management.

**OUT SOURCE SERVICES FOR THE HOSPITAL**

1. Housekeeping
2. Security
3. F &B services

## 1.5 DEPARTMENTAL SERVICES:

### 1.Outpatient Department:

There are 5 decentralised OPD:

1. East OPD (1-16 )
2. West OPD (1-5,Gynae and Paediatrics)
3. Cardiac OPD
4. Gastro OPD
5. Oncology OPD

OPD Timings: 9am to 5pm.

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

### 2.In Patient Department:

- General Ward 1:
  Location: Ground Floor
  Bed Capacity: 6 Beds
- General Ward 2,3,4:
  Location: First floor
  Bed Capacity: 18 Beds
- General Ward 5,6,7
  Location : Second Floor
  Bed Capacity:18 beds

- CCU
  Location: First floor
  Bed Capacity: 14 Beds
- SICU

Location: First floor

Bed Capacity: 10 Beds including 3 beds for isolation

- ANC Ward

  Location: Second Floor

  Bed Capacity: 5 Beds with 2 Beds in Labour room

- Paediatric Ward

  Location: 1st Floor

  Bed Capacity: 6 Beds

- PICU

  Location: 1st Floor

  Bed Capacity: 5 Beds

- NICU

  Location: 1st Floor

  Bed Capacity: 5 Cribs

- Post Operative Ward

  Location: Second Floor

  Bed Capacity: 14 beds

- Semi Private :

  Location: (Ground Floor, First Floor, Second Floor)

  Bed Capacity: 24 beds

- Private Ward

  Location: (Ground Floor, First Floor, Second Floor)

  Bed Capacity: 18 Beds

**3.Emergency Services:**

Location: Ground floor

Entrance : Separate entry from the main road

The Emergency Department is a well equipped 10 bedded department. 4 beds for each triage category Red, Yellow, Green and 1 bed for isolation

Staff: 1 Emergency In- charge, 3 MO, 1 Nursing In- charge, 10 Staff nurse.

Ambulance service is provided with collaboration of Shrine Board, 2 A.C.L.S (Advanced Cardiac Life Support Ambulances) have been created which cater to serve patients

| Priority 1(serious)-RED | PRIORITY II(Delayed)-Yellow | Priority III(Minimal)-Green) |
|---|---|---|
| • Chronic self limiting disorders<br>• Patients have life threatening injuries or conditions which are critical<br>• Survival with immediate treatment e.g.-respitory arrest | • Requirement of definite treatment but no immediate threat to life exists.<br>• E.g.-acute abdominal pain, acute renal failure | • Patients having minimal injury or minor conditions and are ambulatory.<br>• E.g.-abrasions and superficial lacerations. |

**4.Operation Theatre:**

There are total of 7 OTs

Location: Second Floor

Easy access to CCU, Blood Bank, Emergency and CSSD

Post Operative ward is attached to the OTs

Manpower: Head of the Department, 3 Anaesthetist, 2 OT in-charge ,5 OT Technicians,10 Staff Nurse, 3 House Keeping Staff.

**5. Cardiac OPD:**

Location: First floor

Separate OPD for cardiology cases

Facilities available:

- TMT
- Electrocardiography
- Echocardiography
- Electromyography

**6.Catheterisation Lab:**

Location: First Floor

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

- Anaesthesia & Critical Care
- Department of Cardiac Science
  - Cardiac Anaesthesia
  - Cardiac Electrophysiology
  - Cardiothoracic & Vascular Surgery
    Paediatric & Adult
  - Interventional Cardiology
    Paediatric & Adult
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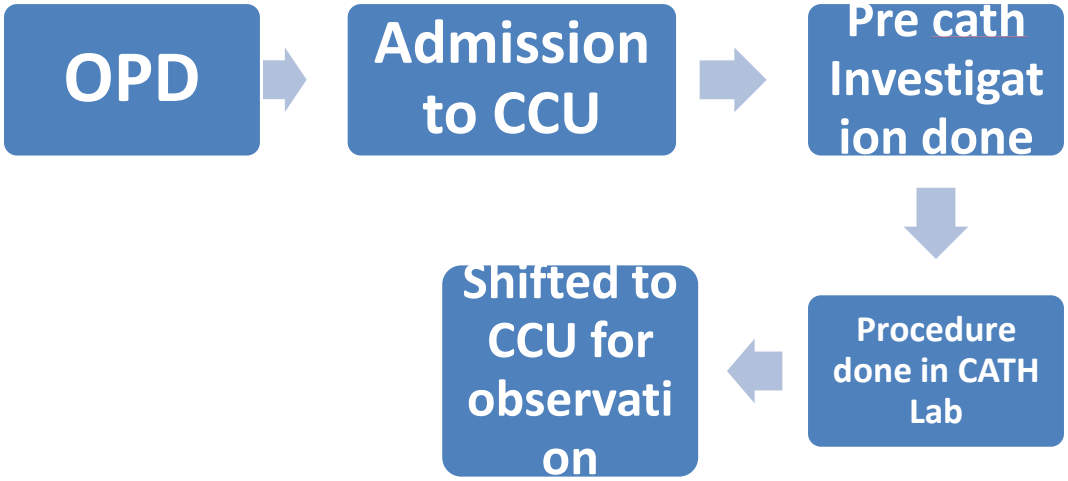
- Department of Gastro Science
  - Gastroenterology & Haematology
  - G.I & Laparoscopic Surgery
- Department of Neuro Sciences
  - Neurology
  - Neurosurgery
- Department of Paediatric
  - Neonatology
  - Paediatric
  - Paediatric Surgery
- Department of Plastic Surgery
- Department of Renal Sciences
  - 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
- Obstetrics & Gynaecology
- Psychiatric
- Respiratory Medicine

**ALLIED SERVICES**

- Dietetics
- Emergency & Trauma
- Lab Medicine

**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

**Functions-**

- Cleaning
- Processing
- Sterilization of all instruments, kidney trays etc.
- It helps in infection control process.
- It is responsible for optimum utilization of equipment resources of the hospital.

## 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-1.5 Tesla, CT Scan 64 Slice, potable x-ray machine

Sonography:

Location: Ground floor

Area:

- Reception Area
- Procedure room: 2
- Reporting room

## 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 physiotherapists managing the department and providing rehabilitation therapy for joint disease, stokes, 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 record
- Storage of records : 1) OPD: 3 years
  2) IPD: 5 years
  3) Death/MLCs: lifetime
- Maintaining the integrity and confidentiality of all medical record
- Maintenance of MLC cases

- Numbering and filing of patient record.
- Completion of all incomplete records.

## 11. Food and Beverages:

Location: Lower ground floor

The F&B department is outsourced and the quality of food is regularly monitored by the F&B executives and the dietician.

Scope of services:

- To provide well balance 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 patient's 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. Line and Laundry:


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 3 different types of pharmacy:

- OPD Pharmacy
- IPD Pharmacy
- OT Pharmacy

**Functions:**

Dispense of drugs to all the admitted patients.
Dispense 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

**Main Store-**

- Location- lower ground floor
- Store receives all medicines, medical equipments, instruments, consumables and other essential goods, printing and stationary material of hospital as ordered, and issues' as per the requirements to the departments.

## 15. Diagnostic Services:

Location: Ground Floor

Scope of services:

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

Operational timings: 9 am to 6 pm.

## 16. Dialysis Department:

Location: Lower ground floor

Bed Capacity: 30 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 bill service.

**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 in patients 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: Mezzanine floor

**Functions:**

- Recruitment based on requisition form from respective department duly signed by In charge 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 exist 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.

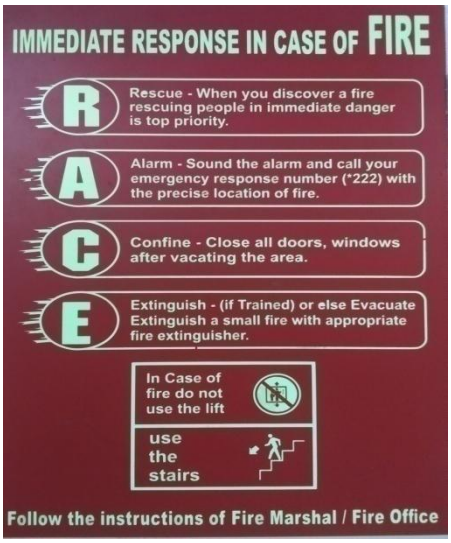
Fire Safety Equipments:

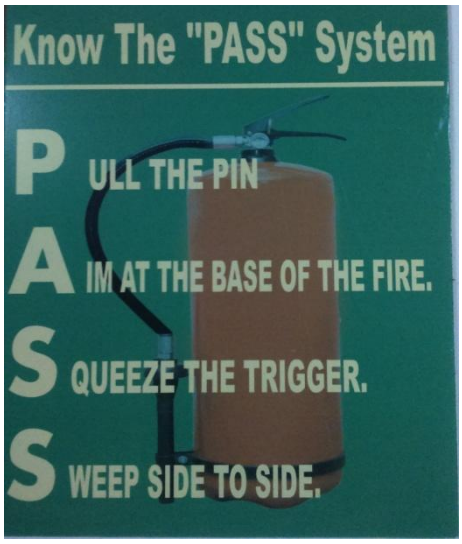
- Horse Reel Drums 21
- Jockey Pump 01
- Alarm Valve 05
- Double Hydrant Valve 28

Hospital follows “PASS” and “RACE” protocols.

PASS: Pull Aim Squeeze Sweep for operating a fire extinguisher

RACE: Rescue Alarm Contain Extinguish, Evacuate.



# 2. PROJECT REPORT

## Out Of Pocket Expenditure in Intensive Care Unit

In Narayana Multispecialty hospital, Jaipur

**Project Guide-**

Dr. Harman loona (General manager Operations)

OPERATIONS DEPARTMENT

## 2.1BACKGROUND-

ICU beds are a very expensive and limited resource with expenditure of large amounts of money and time they provide.

- Specialized monitoring equipment
- A high degree of medical expertise
- Constant access to highly trained nurses (usually one nurse for each bed)

Despite ICU occupies relatively small proportion of hospital beds, it accounts for 8% to 3 % of hospital expenditures. Intensive care unit costs are high during the first 2 days of admission , stabilizing at a lower thereafter. Direct ICU costs per day are six times higher than those for non-ICU care . Higher Expenditure in ICU is of global concern.

Since ICU beds are limited in a hospital , rationalized use of ICU bed for needy patients is necessary .

Audit on adherence to admission criteria help us to accurately identify patients fit for ICU admission , which will help to patient as well as hospital in terms of bed utilization and financial aspect.

- Delaying discharge in ICU patients can be a waste of resource and deny the chance to other patients of an ICU bed who may de dire need of critical care . Therefore , identifying reasons for delay in discharge and streamlining the length of stay helps us in cost effective management in ICU as well as reducing the number of patients falling under the condition of out of pocket expenditure in ICU.

Readmitted Patients have twice length of stay than non readmitted patients .

Re-intubation increases mechanical ventilation days and increases risk to VAP which results in higher LOS .Therefore Readmission and Re-intubation rate should be assessed to reduce outcomes associated with it.

The estimate given to the patients at the time of admission does not remain same at the time of discharge as a result the patient attendant falls under condition to asks for further discounts, asks for loan , discharges the patient without medical advice , delay in discharges in order to get time to arrange the required money.

In our study we will get an opportunity to find out the reasons for all these issues which makes the patient to fall under the condition of out of pocket expenditure.

## REVIEW OF LITERATURE:-

India ranks third in the World Health Organization's latest list of "countries with highest out of pocket (OOP) expenditure on health" in the south-east Asia region.

The WHO's World Health Statistics 2012, released on Wednesday, says almost 60% of total health expenditure in India was paid by the common man from his own pocket in 2009.

The WHO had earlier said that 3.2% Indians would fall below the poverty line because of high medical bills and 4 about 70% of Indians spending their entire income on healthcare and purchasing drugs.

The Planning Commission too accepts that OOP to pay for healthcare costs is a growing problem in India. It says 39 million Indians are pushed to poverty because of ill health every year. Around 30% in rural India didn't go for any treatment for financial constraints in 2004. In urban areas, 20% of ailments were untreated for financial problems the same year, said a recent study in the Lancet.
About 47% and 31% of hospital admissions in rural and urban India, respectively, were financed by loans and sale of assets. States have cut down on spending to purchase drugs, adding to aam aadmi's woes.

The Commission's expert group on universal health coverage said, "We estimate that an increase in the public procurement of medicines from around 0.1% to 0.5% of GDP would ensure universal access to essential drugs, greatly reduce the burden on private out-of-pocket expenditures and increase the financial protection for households."

Hence we can say that Out of pocket expenditure in health has been a crucial problem for patients attendants in taking care of their proper health conditions and using health care facilities at an affordable price.

In my study in a Superspeciality hospital it has been observed that patients who are getting admitted in Intensive care unit are falling under stage of Out of pocket expenditure and are not able to avail proper health care facilities and get there patients discharged as LAMA , takes Loan , asks for discounts at the time of discharge or shifts there patients to small clinics, or government health institutions where they do not receive proper care as a result suffers from Mortality rate.
Therefore we can say that OUT OF POCKET EXPENDITURE in health sector plays a crucial role in embarking increasing rates of morbidity as well as mortality of patients and not leaving a healthy life.

This issue Out of pocket expenditure has been critically faced not only by poor class of people but also to the middle class family who are found to be medically insured but still they have to pay the difference amount shown in their bills at the time of their discharge specifically if they have been admitted to Intensive care unit of an hospital.

In my study out of pocket expenditure in ICU we can go through various reasons which are responsible for this hike in final bills issued at the time of discharge to patients attendants as compared with estimated bill issued at the time of admission specifically confined to the Intensive care unit area.

## 2.2 Research question

- What are the reasons for delay in transfer out of patients who are fit for discharge from ICU?
- What is readmission in ICU?
- What are the outcomes associated with Readmission?.
- What are the reasons for the difference in the estimated bill and final bill issued to patient attendant?
- What are the reasons for LAMA
- What percentage of patients falls under out of pocket expenditure after getting admitted in ICU?

## 2.3 Specific objectives

- To identify the number of readmission cases ICU.
- To study the outcome associated with increasing bills in ICU.
- To study the reasons of the difference between estimated bill and final bill issued to the patient attendant.
- To study the difference amount paid by the patient attendant who are medically insured.
- To study the reasons for increase in average length of stay in ICU.
- To study the reasons for delay in transfer out of patient from ICU.
- To study the reasons for the cases of LAMA?

## 2.4Operational Definition

- ICU readmission is defined as admission of a patient to the ICU Within 48 hours of shift out from the previous ICU during the same hospitalization period.
- Estimated bills are the overall summation of the estimated amount which are given to the patient attendant at the time of admission which may or may not remain same with the final bill issued at the time of discharge.

## 2.5Research methodology

**Area of study** **:** Intensive care unit

**Study Period** **:** 1st April to May 31st.

**Study Type** **:** Descriptive study

**Sampling**

| Study objective | | Sampling technique |
|---|---|---|
| Cases of readmission | - | convenient sampling method (100 patients) |
| Delay in transfer of patients | - | 100% sample for two months in ICU |
| Difference in estimated bill from final bill | - | 100% sample for two months in ICU |
| LAMA Rate | - | 100% sample for two months in ICU |
| Death rate | - | 100% sample for two months in ICU |
| Asks for loan | - | 100% sample for two months in ICU |
| Medically insured | - | 100% sample for two months in ICU |

**Data collection**

The study carried out consisted of examining the patient's files for consultants' notes, admission history form, progress notes and transfer summary to assess the criteria for admission and discharge in ICU.

The admission criteria form was examined to assess proper documentation. Observational study and interview with doctors and bed side nurses was carried out to identify the reasons of Delay in transfer out from ICU and there Delay in discharges.

Observational study and review of patient record files was carried out to assess Readmission, LAMA cases and death cases. Quality indicator register was examined.

A proper questionnaire has been prepared to interview the patients as well their attendants in order to find out the reasons for their condition to fall under out of pocket expenditure after getting admission in ICU.

Patients were interviewed in terms of their following aspects which ultimately defines them into the condition of out of pocket expenditure:-

- Patients income
- Reasons for discharges against medical advice.
- Medically insured
- Had taken loan for further treatment
- Satisfaction level from organization

## 2.6Data analysis and Data interpretation

The data has been collected and analyzed on various perspectives which are as follows:-

- The total number of admissions under 10 different specialties of hospitals which signifies overall highest number of admissions under different departments and represents the overall study of patients falling under out of pocket expenditure admitted in ICU .

- The cases of readmission under ten different departments of the hospital signifies one of the major cause for out of pocket expenditure and readmission of the patient has a direct impact on increasing bills as well as average length of stay of the patient admitted in ICU.

- The third graph draws our attention over the effect of average length of stay of these patients admitted in ICU. The ALOS varies from patient to patient and the reasons behind that enlisted below in the graph.

- The delay in transfer out of patient from ICU of 24-48 hours has also one of the major roles in increasing bills as it draws ICU beds charges causing a factor to fall under out of pocket expenditure.

- Mode of payment verses income has given us idea about the affordability and non affordability of medical treatment for those patients who are admitted in ICU .

**a) Cases of Admission ICU under different Departments:-**

This graph shows the total number admissions in Intensive care unit area within two months of the study under different departments .

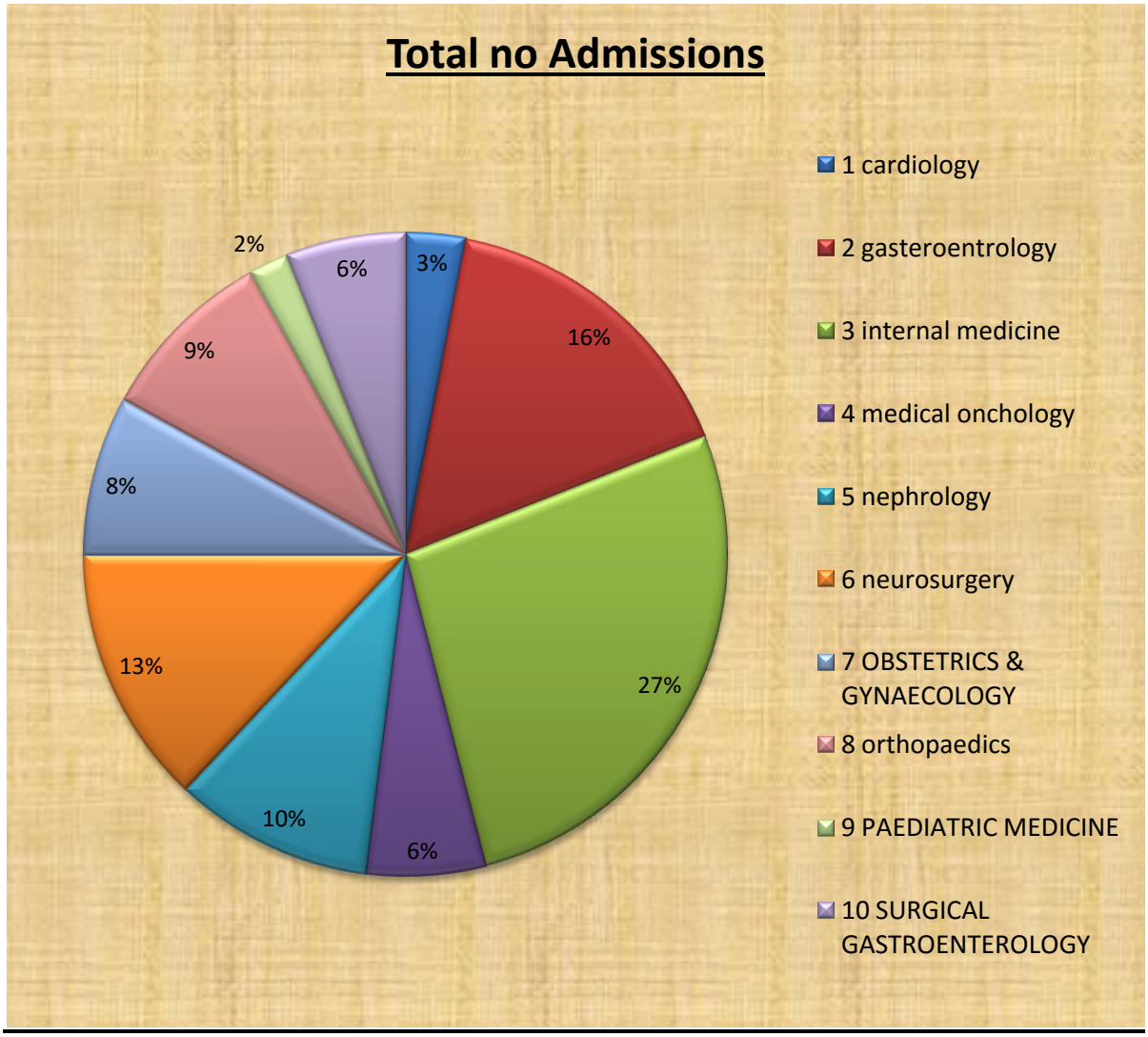



Fig2.6(a)

ANALYSIS:-

- Highest number 27% of admissions in ICU took place under department of Internal medicine which is one of the most specialized departments in terms of revenue generation in IPD as well as in OPD context.
- Second highest 16 % of admission took place in departments like Gastroenterology , 13% in Neurosurgery and 10% in Nephrology respectively.
- The ICU area has been found to be fully operational within these two months of the study under these departments .

**b). CASES OF READMISSION**

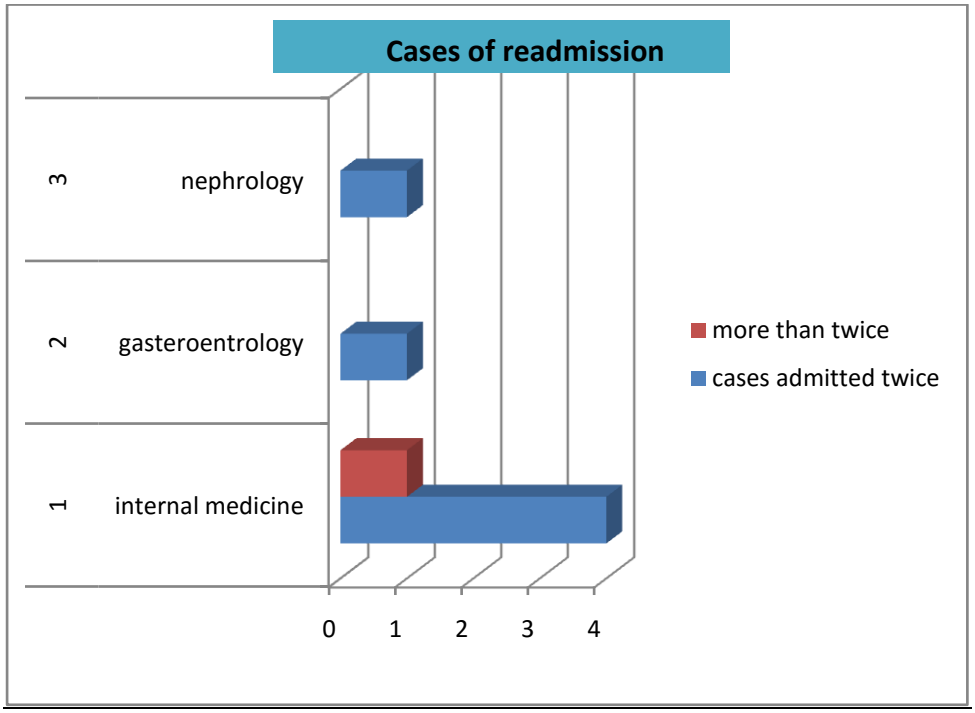



Fig-2.6 (b)

ANALYSIS:-

Out of 100 cases of patient admitted in ICU , 4 cases were found to be admitted twice in department of internal medicine and 1 case has been found to be admitted for more than two times in the same department in ICU .

Similarly one patient has been admitted twice in each departments like gastroenterology and nephrology respectively.

These all cases of Readmission had longer average length of stay as well as treatment procedure on an Observational admission criterion.

- The basic cause of readmissions were:-
  Non recovered Medical condition,
  Non proper followed medical treatment
  Early discharges on patient requests.

The cases of re-admission were found to have a huge burden of high cost expenditure over patient and there attendants at the time of discharge, whose result has shown in their financial status that compelled them to take loan or sell their home assets to fulfill the bills of their medical treatment.

**a) Average length of stay:-**

Average length of stay of patient admitted in ICU played a crucial role in adherence with increase in bills at the time of discharge. The reasons for increase in ALOS of the patient were are as follows:-

Non recovered medical condition,

Delay in any surgical procedure,

Non availability of diagnostic or lab investigations which are outsourced could be the major reasons for increase in length of stay in ICU.

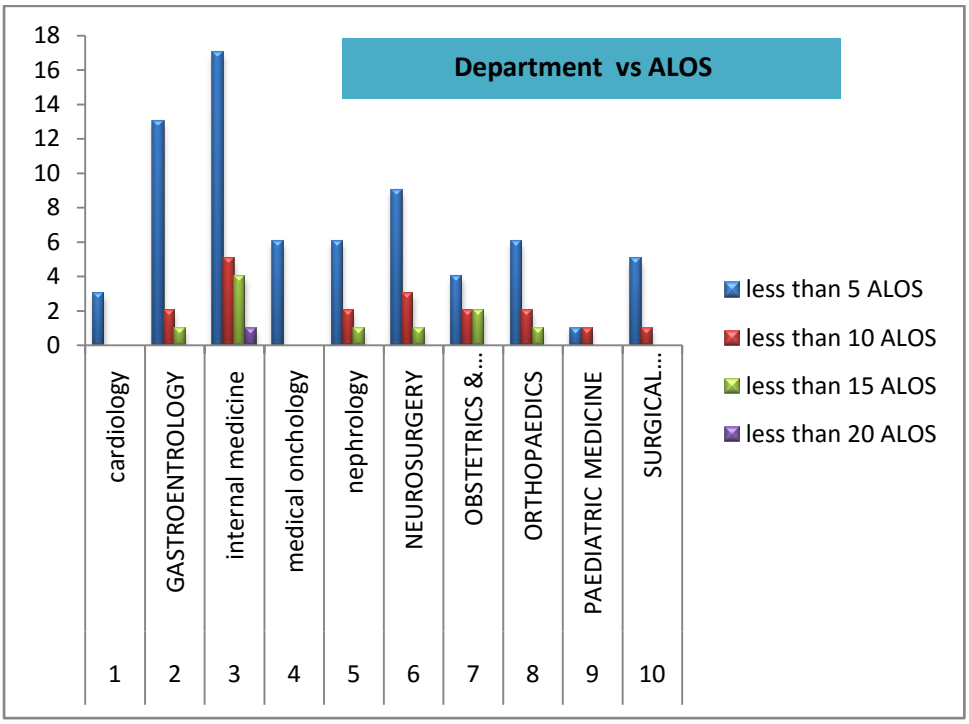



Fig2.6 (b)

ANALYSIS:-

- It has been observed that 5 per cent, 3 per cent and 2 per cent of patients in departments like Internal medicine , Gastroenterology and Neurosurgery posses average length of stay Less than 15days in ICU respectively.

  Department of Internal medicine has shown highest average length of stay of 17 days of 1 female patient admitted under observation admission criteria and finally was not found to be survived.

  The data interprets the fact of falling under out of pocket expenditure due to increasing average length of stay and has resulted in early discharges of patients through LAMA and resulted into non recovered medical condition of the patient.

c.)**Delay in transfer of patients from ICU**

Delay in transfer of patients out from ICU has been found to be an important factor in exceeding billing charges of patient and falling into the condition of out of pocket expenditure at the time of discharge.

This delay has usually taken place for time being of about 24-48 hours but has a huge impact on overall final bill of patient at the time of discharge.

This delay arises due to following reasons as per recorded in our study :

- Non availability of beds in IPD.
- Surgical delays.
- Lab reports not available on time (outsourced).
- Delay in desired treatment from doctors and nurses side.

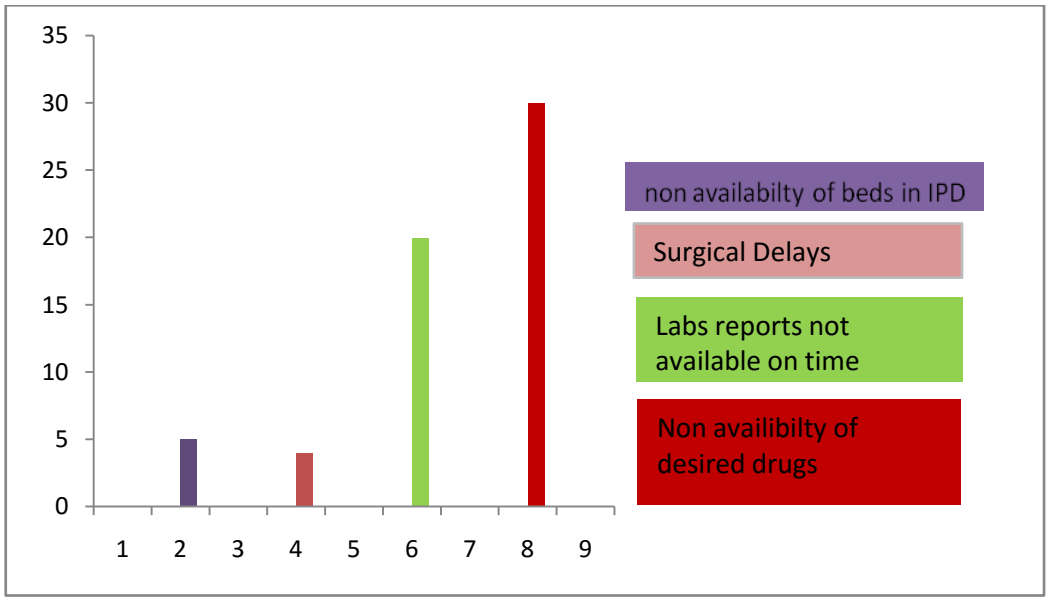



Fig-2.6 (c)

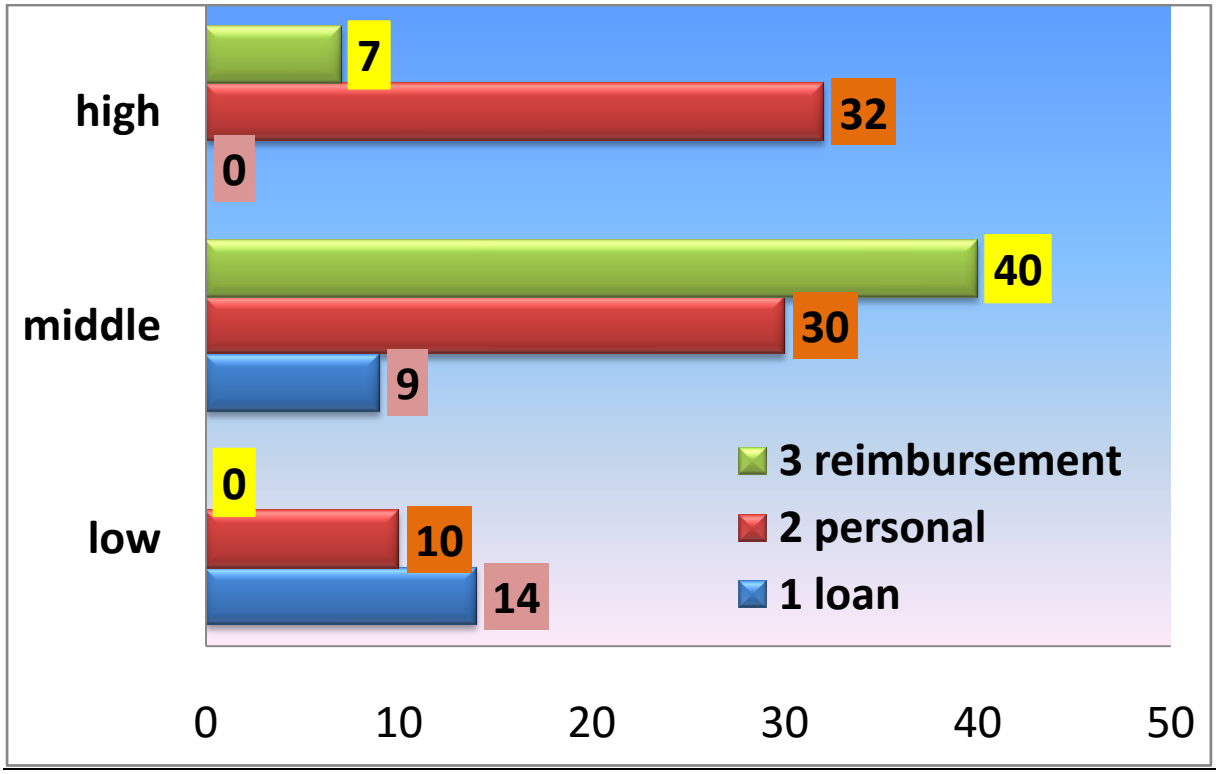
ANALYSIS:-

- It has been found that overall 30 patients admitted has faced delay in transfer out from ICU due to non availability of Lab reports on time which were outsourced.
- Around 20 patients were found to be delayed in shift out from ICU due to delay in desired treatment from doctors and nurses side which mostly happened due to non availibity of drugs in the hospital as it was an startup organization whose inventory has not been yet setup.
- Since the hospital has an occupancy of 250 beds but the non fully functional at the time of study , the IPD area has occupancy of 35 beds including general ward(18 beds), semi private(6 beds) , private ( 5 beds), in each 3 floors respectively , but for the time being only 35 beds in 1$^{st}$ floor has been found to be operational .
- Hence there used to be an usual delay in transfer out of patients from ICU to IPD ward .

## Mode of payment:-

There has been mainly 3 types of Mode of payment for the patients admitted in ICU in our hospital .The graph below explains the relation between the level of income of the patients and the mode of payment which they had at the time of their discharge.

Mode of payment signifies about different class of income group who can afford medical treatment of their patient admitted in ICU.




## ANALYSIS:-

It has been observed that 14 per cent of Patients having low level of income had paid there partial or complete hospital bills either by borrowing loans or by selling their home assets , 10 per cent of them paid their bills through loans , and 0 per cent of them had reimbursement as the mode of payment.

Similarly , 40 per cent of patients having middle level of income had paid there hospital bills through reimbursement , 30 per cent paid through there personal money , and only 9 per cent of them had taken loan .

And lastly in case of Patients having high level of income 9 per cent of them had reimbursement as their mode of payment , majority of 32 per cent of them had paid through their personal money.

OBSERVATIONS:-

**Accurate Recording**

- There was under reporting of 3 cases of readmission and1 case of re-intubation.
- There is not timely recording of cases in quality indicator register . Doctors record only those cases which they recollect which leads to under reporting.
- Since cases are under reported because the patient are re-admitted in another ICU and not in the same ICU where they were previously admitted.

Also in case of non- availability of ICU beds they are admitted in Accident & Emergency Department within 48 hours of shift out which leads to miss out cases of readmission within 48 hours

**Outcomes associated with re-admission.**

Readmitted patients have twice length of stay than non-readmitted patients .

Prolonged length of stay incurs lot of financial costs to both the hospital as well as patients , and leads to increased morbidity and emotional dissatisfaction of the patient . Patient prefers discharge against medical advice due to financial reasons and increased psychological morbidity . DAMA patients are at risk of 1.5-10 times higher mortality.

The ALOS of readmitted patients in ICU is 8.05 days as against 406 days of non readmitted patients in MICU.

As observed in above graphs maximum cases of readmitted patients are discharged against medical advice due to financial reasons and increased emotional morbidity in ICU environment.

CONCLUSIONS:-

This observational study on OUT OF POCKET EXPEDITURE IN ICU concludes that there have been following reasons for attendants falling under huge financial disability once their patient gets admitted in ICU.

The effect of this disability also results in many negative shifts towards the medical condition of their patients , which are as follows:-

Early discharges on patients request.

Transfer of patients to another government medical institutions, clinics and sub centers.

Non recovered medical condition

Prone to disabled life morbidity and mortality

Local treatments and avoidance also leads to access of extra out of pocket expenditure.

Hence from all these problems we cannot deny that ICU is one of the most important department of hospital with huge out of pocket expenditure , but when this hike in expenditure is taking place in only few cases of particular department repeatedly then we should must think of few solutions which would not only help the organization to bring huge revenue by bringing more patients but will also help the patients in getting their full medical treatment with an recovered medical condition and will also built the good satisfaction level among patients.

As per this observational study we have been successfully observed that most cases of patients who go for Leave against medical discharges are belongs to department of Intensive care unit and repeatedly into above mentioned departments. This hereby concludes that to avail complete treatment in ICU for the people of state J&K is highly non affordable and we must think of to minimize its charges with respect to create a good satisfaction level among patients.

A policy among all cooperate hospitals should be developed which would ultimately resolve the condition of falling in stage of out of pocket expenditure within few departments of hospital like internal medicines, neurology , nephrology and gastroenterology , as the diseases are going to be the same only the medical condition differs from patient to patients , in order to take them into priority we must think to bring ICU charges and its overall expenditures into the pocket of patients not out of it

RECOMMENDATIONS:-

Though two month of this industrial training might not be sufficient to provide any sort of recommendations but with the approach to lead ahead the organization with some of the Improvements are as follows:-

There was a need to built a proper coordination and communication between medical as well as non medical staff so as to avoid difference in estimates issued to the patient at the time of admission and the amount which has been told to the patient while the conversation which they had with the doctors , as if the difference occurs it used to create a lot of disputes and errors at the time of discharge at the billing counters.

The departments of internal medicine , neurosurgery, neurology, gastroenterology etc needs to have their patients admitted under specialized packages either surgical or for observational stay with respect to provide them with huge satisfaction level specially in terms to provide them up with financial stability.

The patient attendants need to be counseled appropriately in terms about there packages what all it includes and other miscellaneous charges which it excludes. Every detail of there patient right from the day of admission to the day of discharge should be made clear to the attendants medically as well non medically. This would help in achieving patient's satisfaction and reducing errors.

Though the average length of stay has to be decided by the doctors once the patients gets admitted but if the ALOS has been found to increased due to operational delays like delay in lab and diagnostic reports , non availability of medicines etc then these could be avoided by proper quality or operational setup of departments within the organizations.

There must be proper recruitment of well trained nursing, housekeeping, security, as well as utility staff and they should have their training on a frequent and regular basis with respect to improve their efficiency and effectiveness