

Summer Placement

In

Fortis Hospital

Mohali



(May 15th to 30th, 2015)

A Report on

Measurement of ROI of Machines

“Surgical prophylaxis auditing” and “auditing of quality of discharge summaries”
By

Sana Sood

MBA in Hospital and Health Management

2014-2016

Institute of Health Management Research, Jaipur

CERTIFICATE

This is to certify that Sana Sood has undergone her Summer Training in from 1st April 2015 to 31st June 2015. The candidate herself carried out all the studies related to her Summer Training on :-

- 1) Analyzing Compliance against NABH standards in Surgical Prophylaxis Auditing
- 2) Auditing the "Quality of Discharge Summaries of IPD Patients"
- 3) Measuring the ROI of Machines

Her approach to the study has been scientific and analytical.

The summer training is in partial fulfilment of the course requirement recommended for the award of Master in Business Administration-Hospital & Health Management.

I wish her success in all her future endeavours.



Col. (Dr.) Ashok Kaushik,

Dean (Academic and Student Affairs)

IIHMR University, Jaipur



Prof. Santosh Kumar

(Associate Professor)

IIHMR University, Jaipur

29-Jun-15

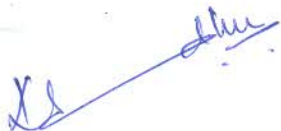
TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Ms Sana Sood** has completed her training at Fortis Hospital, Mohali, from **30-Mar-15** to **20-Jun-15**

She did projects on:

1. To study the compliance of surgical Prophylaxis for CABG & LSCS patients
2. To measure the ROI of Medical Equipments.

For Fortis Hospital



Kanwal Sandhu
Manager-Human Resource



ACKNOWLEDGEMENT

I take this opportunity to express my profound sense of gratitude and indebtedness to all those who helped me throughout the duration of the project.

I would like to acknowledge ,First and foremost Mr. Hemant Narang, Unit Financial Controller, Finance Department for showing confidence in me and giving me such a wonderful topic to do my project ,without his support and guidance it would not have been possible. Then I would like to thank my mentor at Fortis Mohali, *Mrs .Kanwal Inder Sandhu* Training Manager H.R department for her consistent support, motivation and encouragement throughout the internship duration. She has been a Great source knowledge, information and inspiration to do work with utmost diligence and sincerity.

I would also like to thank Ms.Shivani.Garg (Zonal Head-H.R –North Zone) without whose permission I would not get this golden opportunity to do my internship in this esteemed hospital.

I would also like to thank my faculty at IIHMR-Jaipur and specially my Mentor- *Mr Santosh Kumar* and also feel privileged to acknowledge *Mrs. Tanjul Saxena* (H.R- Lecturer) who although was not my official mentor continuously guided me all through the internship.

I would also wholeheartedly thank the entire staff at Fortis Mohali for being so supportive n helpful and removing time from their hectic schedules and giving all the required information, especially Mr Amarjit and Ms Parminder without whose support this project would not have been completed. At the end, Im thankful to God and my heartfelt gratitude to my parents and friends who supported me throughout the course.

THANK YOU ALL

Table of Contents :

SR.NO	TOPIC
1.	Introduction
2.	Different Types of Machines and their Application
3.	Research Methodology - Research Question, Objectives - Data collection - Analysis & Interpretation - Findings & Recommendations
4.	References

Project - “Measurement of Return of Investment (ROI) of Machines”



© 2004 JOHN UELAND



Introduction

What is ROI?

Return on investment (ROI) is a measure that investigates the amount of additional profits produced due to a certain investment. Businesses use this calculation to compare different scenarios for investments to see which would produce the greatest profit and benefit for the company. However, this calculation can also be used to analyze the best scenario for other forms of investment, such as if someone wishes to purchase a car buy a computer, purchase of a machine pay for college, etc

Simple ROI Formula

The simplest form of the formula for ROI involves only two values: the cost of the investment and the gain from the investment. The formula is as follows:

$$ROI (\%) = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}} \times 100$$

The ratio is multiplied by 100, making it a percent. This way, a person is able to see what percentage of their investment has been gained back after a period of time. Some, however, prefer to leave it in decimal form, or ratio form.

Factors Affecting Cost and Gains from Investment

It is easy to calculate ROI when the cost and gains are constant but this is rarely the actual case. Different factors may affect the cost and gains over time. For instance what if a loan had to be taken out to pay for the investment? The investor would have to pay interest on the amount owed. However as the money is paid back the amount of interest would decrease over time because it is calculated by how much money is owed. Another factor may include growth of revenue over time. If a business grows over time their revenue will increase causing their gains to increase over time. This may affect the way the growth of ROI looks over time.

- ❖ The purpose of ROI varies and includes:

1. Providing a rationale for future investments and acquisition decisions:

- Project prioritization/ justification.
- Facilitating informed choices about which projects to pursue (which solutions to implement).

2. Evaluating existing systems.

- Project post-implementation assessment.
- Facilitating informed decisions within the process of evaluating existing projects/solutions.

3. Performance management of the business units and evaluation of the individual managers in decentralized companies.

A Return on Investment as a Metric for Evaluating Information Systems

- Encourages cost efficiency and focuses on one of the main corporate metrics – profit-ability.
- Being based on the accounting records, provides objective outputs.
- Data used is available in the accounting system or official documentation.
- Permits comparisons of profitability of dissimilar businesses/projects.
- Promotes accountability. Transparent collection and use of official financial data contributes to responsible behaviours of those involved in data collection and evaluations.
- Encourages project teams and finance/accounting practitioners to collaborate.

Subjective Reasons for Traditional ROI Popularity:

- Seems familiar from college textbooks.
- Feels familiar from personal investment experience.
- Seemingly easy to collect and process data.
- Use of data and math makes creates anticipation of an accurate and definitive result.

- Single number result – simplifying for the mind.
- Provides quantifiable evidence of value.
- Single measure offers a seemingly global evaluation of performance

ROI as a TOOL

When your hospital invests in a new program, Buying a new machine ,quality improvement intervention, or technology, management often wants to know what kind of financial return it will achieve for that investment. A return on investment (ROI) analysis is a way to calculate your net financial gains (or losses), taking into account all the resources invested and all the amounts gained through increased revenue, reduced costs, or both.

This tool provides a step-by-step method for calculating the ROI for a new set of actions implemented to improve performance on one or more of the AHRQ Quality Indicators (QIs).

Who are the target audiences?

The key audiences are the hospital's financial staff and quality staff, as well as statisticians, data analysts, and programmers, who will contribute to ROI calculations.

How can the tool help Hospital Managers!?

By using ROI, hospitals can better position themselves to maximize the impact of their quality investments. ROI can be used as both a planning and evaluation tool.

Using ROI as a planning tool.

During the planning process before implementing improvement actions, projected ROI can be calculated to estimate how long it will take for an intervention to break even—that is, for the returns of the practice improvement to offset the upfront and ongoing implementation costs. This analysis can be done using data from the literature.

Using ROI as an evaluation tool.

Actual ROI can be calculated after a practice improvement has been implemented to assess its value and inform decisions on future improvement actions. This analysis can be done using actual data from your hospital.

How does this tool relate to others?

The ROI tool is used as a planning tool to develop cost and return information for use in setting priorities for improvements on the Patient Safety Indicators (PSIs) and Inpatient Quality Indicators (IQIs), with the results of these analyses applied in the Prioritization Matrix. It also can be used as an evaluation tool along with the Project Evaluation and Debriefing tool to assess financial effects of the improvements implemented.

How does ROI differ from cost-effectiveness analysis (CEA)?

CEA and ROI share some common features, but they differ in the effects that are addressed. Both ROI and CEA are expressed as ratios, and they use the same amounts for improvement investment costs. ROI shows how much financial gain a hospital can obtain from each dollar it invests in the quality improvement program, while the results of a CEA indicate the costs to a hospital for each unit of effectiveness it achieves through quality improvement actions, such as the costs for each adverse event avoided. These differences are reflected in the formulas used to calculate the ratios.

ROI = Financial gains / Improvement investment costs

CEA = Improvement investment costs / Effectiveness

Different Types of Machines and their Application

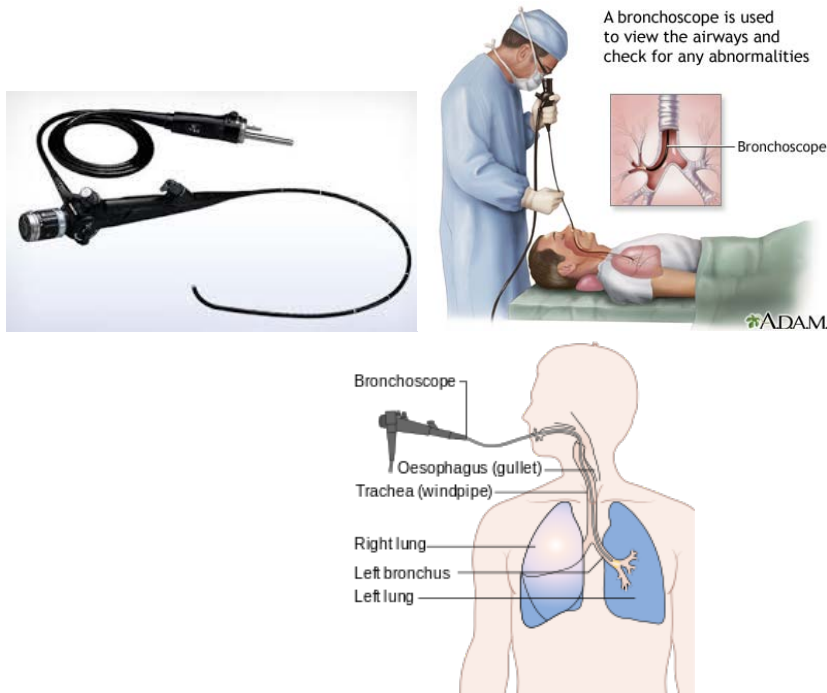
- Bronchoscope
- EUS , Diagnostic
- EBUS TBNA
- Lithroscopy

1) BRONCHOSCOPE :

Bronchoscopy is an endoscopic technique of visualizing the inside of the airways for diagnostic and therapeutic purposes. An instrument (bronchoscope) is inserted into the airways, usually through the nose or mouth, or occasionally through a tracheostomy. This allows the practitioner to examine the patient's airways for abnormalities such as foreign bodies, bleeding, tumors, or inflammation. Specimens may be taken from inside the lungs. The construction of bronchoscopes ranges from rigid metal tubes with attached lighting devices to flexible optical fiber instruments with real time video equipment.

Uses

- To view abnormalities of the airway
- To obtain tissue specimens of the lung in a variety of disorders. Specimens may be taken from inside the lungs by biopsy, bronchoalveolar lavage, or endobronchial brushing.
- To evaluate a person who has bleeding in the lungs, possible lung cancer, a chronic cough, sarcoidosis



2) EUS, Diagnostic:

Endoscopic ultrasound (EUS) is a method of combining endoscopy and ultrasound imaging technologies to obtain high quality images of the digestive tract and its adjacent structures. An endoscope is a thin, flexible tube with a tiny video camera and light on the end, which offers a clear, detailed view of your digestive tract. Ultrasound is an imaging technique that uses sound waves to produce pictures.

In an endoscopic ultrasound, a special endoscope is used that has an ultrasound processor on its tip, which is called an EUS scope, or echoendoscope. These instruments allow examination of both the lining of your digestive tract with the endoscope, but also of the wall of the tract and its surrounding structures such as the liver, pancreas, bile ducts and lymph nodes. Many other structures can also be seen. Because of these unique capabilities, EUS can sometimes detect abnormalities or obtain information other imaging tests cannot. EUS procedures can be done via the mouth, called an upper EUS, or via the rectum, called a rectal or lower EUS.

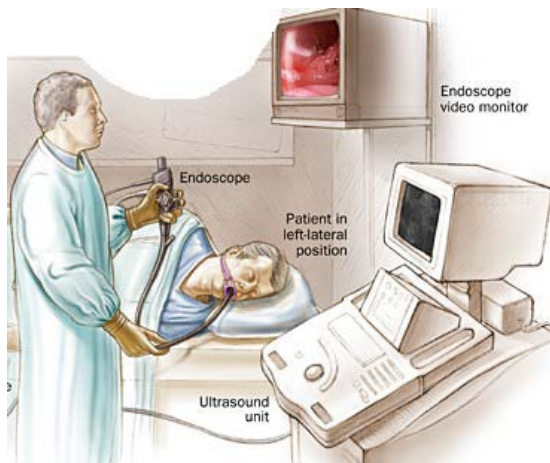
EUS is primarily used to detect suspected cancers and evaluate how far a previously diagnosed cancer has spread in order to determine a patient's appropriate treatment plan. The process of determining the extent to which a cancer has spread is called staging. EUS is used to stage cancers of the esophagus, stomach, pancreas and rectum. If cancer has spread to adjacent lymph nodes and blood vessels, it can be determined by the imaging and fine-needle aspiration capabilities of EUS. EUS gives partial, but incomplete, information regarding the spread of these tumors to adjacent organs due to its limited depth of penetration. However, recent imaging enhancements allow for greater evaluation of adjacent organs than previously possible.

Other uses of EUS include:

- Identifying the nature of "lumps" and "bumps" seen on a previous endoscopic exam. These bumps may represent an adjacent structure compressing the digestive tract or represent a mass or fluid collection within the wall of the digestive tract.
- Evaluating disorders of the pancreas and bile ducts, the tubes that drain bile from your liver and gall bladder. The bile ducts are easy to see with EUS, and the pancreas can be evaluated for masses, cysts or changes that suggest

inflammation.

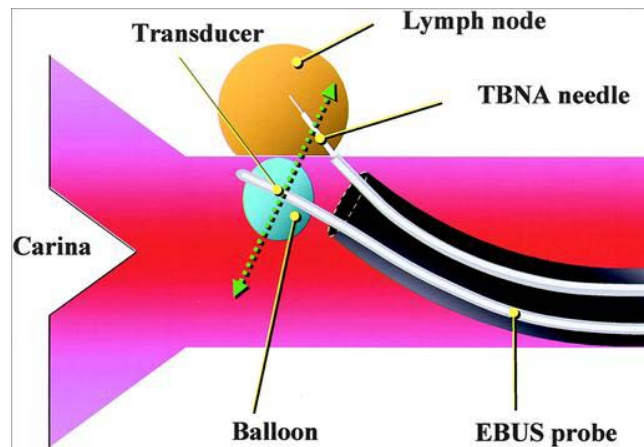
- Evaluating patients with fecal incontinence and stage lung cancers as well as evaluating for clots in the vessels of the abdomen with the use of a process known as Doppler ultrasound imaging.



3) EBUS_TBNA :

Endobronchial ultrasound trans bronchial needle aspiration (EBUS-TBNA) is a reliable and commonly established technique, which can be perceived as the current gold standard that enables visualization and sampling of mediastinal, central or hilar lesions and lymph nodes within the tracheo-bronchial tree. Cells of the tumour or lymph nodes are taken during the procedure. These can then be prepared as smears for diagnosis of malignancy and as cell blocks for histotyping. In selected cases EBUS-TBNA can also allow diagnosis of adenopathy. Sedatives and topical pharyngeal anaesthesia are used for endobronchial ultrasonography. Where complete relaxation is desired, general anaesthesia may be recommended. Under general anaesthesia, a rigid tube, endotracheal tube or laryngeal mask is used to secure the airways and to facilitate bronchoscope insertion. With the ultrasonic bronchoscope inserted into the trachea, the accessible lymph node station can be explored and lesions outlined. If available, Doppler examination of the target lesion, as well as the path of the needle, should be performed to avoid vessel puncture and reduce the risk of blood limiting the specimen's quality for cytopathological analysis. The ultrasound image should be described exactly in terms of the location and orientation of the transducer and the characteristics of the lesion. The description should include location, size, shape, demarcation, echogenicity and relation to other lesions, organs and vessel structures. To outline the lesion and for full control during fine needle aspiration, the transducer must be in firm contact with the bronchial wall. The optional balloon allows better acoustic coupling of

the transducer with the bronchial wall and in addition may reduce cough stimulus during the procedure due to its soft contact to the bronchial wall.



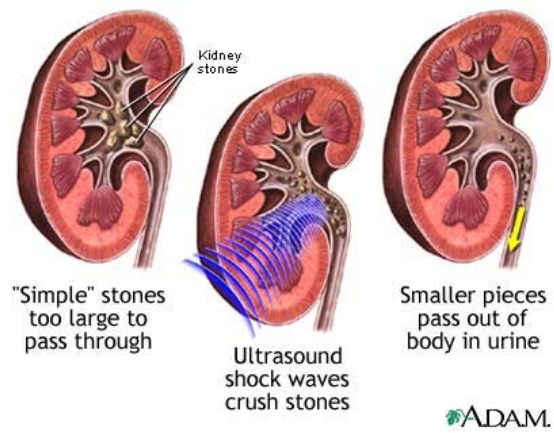
4) Lithotripsy: - Lithotripsy is a medical procedure involving the physical destruction of hardened masses like kidney stones, bezoars or gallstones. ESWL, external shockwaves are focused at the stone to pulverize it. Ureteroscopic methods use a rigid or flexible scope to reach the stone and direct mechanical or light energy is applied. Endoscopy can use different energy sources: ultrasound, electrohydraulic, mechanical and lasers.

Extracorporeal shock wave therapy (ESWL) was first used on kidney stones in 1980 and is applied to gallstones and pancreatic stones. External shockwaves are focused and pulverize the stone which is located by imaging. The first shockwave lithotripter was the Dornier HM3, a device for testing aircraft parts. Second generation devices used piezoelectric or electromagnetic generators. American Urological Association guidelines consider ESWL a potential primary treatment for stones less than 2 cm.

Electrohydraulic lithotripsy is an industrial technique for fragmenting rocks by using electrodes to create shockwaves that was applied to bile duct stones in 1975. It can damage tissue and is mostly used in biliary tract specialty centers. Pneumatic mechanical devices have been used with endoscopes, commonly for large and hard stones. Laser lithotripsy was introduced in the 1980s. Pulsed dye lasers emit 504 nm light that is delivered to the stone by optical fibers through a scope. Holmium lasers were developed more recently and produce smaller fragments. Lithotripsy is used to remove kidney stones that are causing:

- Bleeding
- Damage to your kidney
- Pain

- Urinary tract infections



Review of Literature

“The article explores the historical IT value research, discusses its applicability to IT investments in healthcare, and highlights how it is challenged by several factors unique to the healthcare industry. The integration of historical IT value research with healthcare industry attributes provides an important context for understanding why the IT value proposition in healthcare has been so elusive. The article also poses a set of guidelines, which, based on the IT value research outside of healthcare, may assist in alleviating some of the current frustration with determining the value of healthcare IT investments” [1]

“Return on Investment (ROI) is one of the most popular performance measurement and evaluation metrics used in business analysis. ROI analysis (when applied correctly) is a powerful tool for evaluating existing information systems and making informed decisions on software acquisitions and other projects. The main contribution of this study is in presenting a systematic view of ROI by identifying its key attributes and classifying ROI types by these attributes. ROI taxonomy has been developed and discussed, including traditional ROI extensions, virtualizations, and imitations. All ROI types are described through simple real life examples and business cases. Inherent limitations of ROI have been identified and advice is provided to keep ROI-based recommendations useful and meaningful” [2]

“The Balanced Scorecard offers a previously unrecognized benefit: a new way of looking at the traditional organizational structure of cost and profit centers. Every unit, by contributing to effective strategy execution, has the opportunity to support and create profit. This capability has important implications for specifying objectives and evaluating the performance of all organizational units.” [3]

“This report is an examination on the Return on Investment (ROI) for information technology (IT) in the healthcare, primarily the hospital, industry. Almost every hospital organization has been moving from a paper based (legacy) system to a somewhat automated method to achieve quality of care for patient care services. Many hospitals now are moving to a total electronic

medical record (EMR). Many institutions are embracing this change, where many other institutions are not, due to the high dollar cost associated with these systems. With IT now comprising for the largest budgetary item of any hospital's forecast, regardless of where they are with their systems approach, it becomes necessary to justify and rationalize the costs of these systems to the overseeing bodies of the organizations to purchase these systems. ROI is necessary for this justification, but is very difficult to quantify in hard dollars and to attribute the direct savings from the systems where other processes are reviewed and changed as well.” [4]

“Machines desired by engineers and technical managers are seen by financial decision makers as investments with inherent risk. By writing an effective business case which details how a desired piece of equipment will save the company money, the chance of purchase approval skyrockets”[5]

NEED FOR STUDY :

- To understand the concept of “Return of Investment” in Finance Department
- What Profits are achieved according to Machines which perform surgery after ROI Calculation.

❖ RESEARCH METHODOLOGY

▪ RESEARCH QUESTION :-

Whether ROI Calculation for Profit Analysis of Machines recommended or not?

• OBJECTIVE OF THE STUDY :-

PRIMARY:

- To assess if ROI Calculation helps to Purchase the Machine for its effective Financial Utilization.

• RESEARCH DESIGN :-

The Study Design used for this Project is Analytical study

The Data was only very closely observed and Analyzed.

▪ DURATION :-

This Study was carried out from 15th May- 30th June 2015

- **STUDY POPULATION :** The sample was taken as 5 machines which were Bronchoscope, Laser Uroscopy, EUS Diagnostic, Lithroscope and EBUS TBNA which were in use from Jan- April whose ROI was Calculated and the Profit/Revenue % was judged
- **SAMPLING TECHNIQUE :** Non-Probability, Purposive Sampling

DATA COLLECTION:

Secondary DATA :

Information about the total expense of the machine, its total use in rupees as well as the profit generated from it after its utilization was taken from the Finance Department of FHM .

ANALYSIS

1) Data about the Bronchoscope Machine Jan-April 2015:-

	BRONCHOSCOPY	Till APR 15
S.No	Particulars	BronchoScopy
		2014-15
A	Gross Revenue	1,27,889
B	Less : Consumables	17,600
	Gross Margin	1,10,289
	% of Revenue	86.24 %
Total Capital Employed		
	CIVIL Modification	2,00,000
	VIDEO BRONCOSCOPY SET	19,16,025
	THORACOSCOPY AND 1 NO OF ADULT BRONCHOSCOPE SET	21,83,839
	TOTAL	42,99,864
	Return on Capital Employed	31 %

Fig 1

2) Data about the EUS Diagnostic Machine From Jan-April 2015 :-

EUS / Enteroscopy DIAGNOSTIC		Till APR 15
S.No.	Particulars	EUS/Enteroscopy 2014-15
A	Gross Revenue	2,89,009
B	Less : Consumables	1,18,376
	Gross Margin	1,70,633
	% of Revenue	59.04 %
Total Capital Employed		
	ENDOSCOPIC ULTRASOUND	89,86,111
	ENDOSCOPIC ULTRASOUND VIDEO LIGHT SOURCE	9,19,013
	ENDOSCOPIC ULTRASOUND EVIS EXERA VIDEOSCOPE	26,34,723
	TOTAL	1,25,39,847
	Return on Capital Employed	16 %

Fig 2

3) Data about EBUS- TBNA Machine from Jan- April 2015 :-

EBUS - TBNA		Till APR 15
S.No.	Particulars	EBUS - TBNA 2014-15
A	Gross Revenue	1,12,000
B	Less : Consumables	969
C	Doctor's share	-
	Gross Margin	1,11,031
	% of Revenue	99.13 %
Total Capital Employed		
	UNIVERSAL ENDOSCOPIC ULTRASOUND CENTER	44,99,890
	TOTAL	44,99,890
	Return on Capital Employed	30 %

Fig3

4) Data about Lithroscope Machine from Jan-April 2015 :-

Lithotripsy		Till APR 15
S.No.	Particulars	Lithotripsy 2014-15
A	Gross Revenue	1,09,205
B	Less : Consumables	3,486
	Gross Margin	1,05,719
	% of Revenue	96.81 %
Total Capital Employed		
LITHOTRIPSY MACHINE WITH 3 AXIS TABLE		982206
TOTAL		9,82,206
Return on Capital Employed		11 %

Fig 4

Findings and Recommendations:-

It is seen from the above data that the ROI for Bronchoscopy Machine from Jan - April 2015 was 31%, the ROI for EUS Diagnostic Machine was 16%, the ROI for EBUS-TBNA Machine from Jan- April 2015 was 30%, and the ROI calculated for Lithotripsy Machine from Jan-April 2015 was 11%.

From the above data we can see that the greatest capital return comes in case of EBUS TBNA Machine and Bronchoscopy Machine and also patients go for these procedures a lot. Hence the Hospital should invest in these machines for greater Revenue Generation.

**A Report on
“Surgical Prophylaxis Auditing” and
“Auditing of quality of Discharge
Summaries”**

Table of Contents:

SR.NO	TOPIC
Section 1	<i>Observational Learning</i> -Brief History of the Hospital - Overview of the Hospital -Overview of the Departments
Section 2	<i>Surgical Prophylaxis Auditing</i> - Introduction - Need for study
	Research Methodology - Aim of Study - Research Question, Objectives - Data collection - Analysis & Interpretation - Findings & Recommendations
	References
Section 3	<i>Auditing On Quality of Discharge Summary</i> - Introduction - Need for study
	Research Methodology - Aim of Study - Research Question, Objectives - Data collection - Analysis & Interpretation - Findings & Recommendations
	References
Section 4	<i>Measurement of ROI of Machines</i> -Introduction -Different Types of Machines and their Application
	Research Methodology - Research Question, Objectives - Data collection - Analysis & Interpretation - Findings & Recommendations
	References

ACRONYMS

FHM : Fortis hospital Mohali

Pts : Patients

NABH-National accreditation Board of Hospitals

COP-Care of Patients

HRM-Human Resource Management

HCO –Healthcare Organization

I. OBSERVATIONAL LEARNING

Section -1



FORTIS HEALTHCARE LIMITED: A brief History and present

Fortis Healthcare Limited ,is one of the fastest growing and India's second largest healthcare provider in the country.The company was founded by the visionary business leader, Late Dr.Parvinder Singh, the Managing Director of Ranbaxy Laboratories.

Fortis Hospital- Mohali was the first step towards realising his Dream,his vision regarding the Indian Healthcare industry.

- **Mission Statement:**

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



- Late Dr. Parvinder Singh

Founder, Chairman Fortis Ltd

- **Vision Statement :**

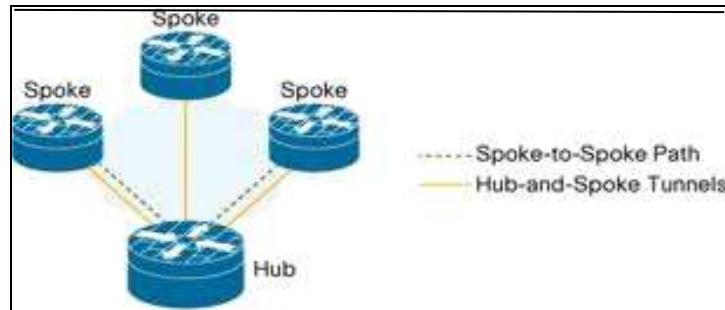
“Globally Respected Healthcare organization known for Clinical Excellence and Distinctive Patient Care.”

- FORTIS HEALTHCARE LTD. Was incorporated in 1996 to develop a world-class system of integrated healthcare delivery in India, comprising super-speciality areas along with multi-speciality care at the tertiary level.
- Late Dr.Parvinder Singh's Dream was carried forward by his Sons, Malvinder.M.Singh and Shivender.M.Singh.
- Fortis is the manifestation of Dr.Parvinder Singh's ideology and has been very 'rapidly growing through a combination of acquisitions, Greenfield, Brown field and management contracts.
- Fortis is in collaboration with the renowned hospital Escorts and has created history by acquiring 10 Hospitals from Wockhardt, giving it a strong Pan India presence, this was one of the largest deal ever in the Healthcare industry.
- In 2005, Fortis announced its first International foray jointly with Mauritius based partner, and thus came into existence "**Fortis Clinique Darne** "

JOURNEY OF FORTIS:

- 1996 : Foundation of the vision
- 2001 : JUNE, : Cardiac centre Launched
- 2002 : AUGUST : Multi speciality wing
- 2005 : Acquisition of 5 ESCORTS HOSPITALS
- 2009 : JANUARY, First International Hospital in partnership- MAURITIUS
- Latest acquisition ; 10 Wockhardt Hospitals Pan India

• OPERATING MODEL :



Fortis operates on a Hub and Spoke model to Provide ,Multi-speciality and Tertiary level medical care.

HUB's – are the super-speciality Hospitals

SPOKE's – are the Multi speciality centres.

Patients who have the need are referred to these Hubs from the Multi speciality facilities in the Region, by embracing this system the patient benefits from the many available network facilities.

• SOME HIGHLIGHTS :

- Fortis Hospital Mohali, is the Most advanced Hospital in the Tricity (Chandigarh, Mohali Panchkula)and the nearby regions, and has State-of Art Infrastructure and Technology and services. There are now 64 Fortis Hospitals across the globe.
- Fortis Hospital Mohali is the first Hospital that was started and the biggest in the tricity, ie a 350 Bedded Hospital with 250 Operational Beds and 7 Operation Theatres, 4 ICU's and a Round the clock Emergency Dept. and 24hrs Pharmacy along with Ambulance services.
- Recent Development is the FORTIS CANCER INSTITUTE at Mohali.
- Fortis Hospital Mohali has been awarded “ BEST DESIGN AWARD” By American Institute of Architecture 1999.
- Built-up Area of Fortis Hospital Mohali 400,000 sq.ft, with a investment of 155 Crores.

QUALITY FOCUS & ACCREDITATION :



Fortis Healthcare has been at the Forefront of providing quality healthcare services and has raised the bar of Quality Standards in the country. The hospital employs renowned medical talent from the healthcare industry.

- Due to their excellent Quality care standards & safety for patients 3 of Fortis's Hospitals have received the Prestigious JCI Accreditation (Joint Commission International)
- JCI- is the largest accreditor of Healthcare organisation in U.S
- In Addition to this, 6 Fortis hospitals in India have been given the highly Respected NABH Accreditation, which is the Highest national recognition for Quality, Patient care and Safety.
- On the other hand even the Labs have been given NABL accreditation.



JCI- Joint Commission International :

- JCI accreditation is the Gold Standard for all the US and European hospitals, depicting the highest levels of Patient care and Safety
- The Mission of the Joint commission international is to improve the quality of Healthcare.
- It is awarded to those Hospitals which reflect the highest levels of Patient care and Safety.
- The accreditation standards are listed in the third edition of JCI, functionally divided to 7 Patient centered chapters & 6 Organisation management chapters.

PATIENT CENTERED STANDARDS	ORGANISATIONAL MANAGEMENT STANDARDS
1. Access to Care and Continuity of care	1. Quality improvement and patient safety
2. Patient and family Rights	2. Prevention and control of infections
3. Assessment of Patients	3. Governance, leadership and direction
4. Care of Patients	4. Facility management and safety staff
5. Anesthesia and surgical care	5. Staff qualifications and education
6. Medication Management and use	6. Management of communication and information
7. Patient and family education	

- NABH-



National Accreditation Board for Hospitals & Healthcare providers

- NABH is a constituent board of Quality council of India, structured to cater to much desired needs of the consumers and to set Benchmarks for Progress of health industry.
- The standards provide framework for quality assurance and performance improvement of hospitals.
- The Standard focus is on Patient safety and quality of care.

- There 10 Chapters in the NABH book, which comprise of two Major aspects of Healthcare delivery.

Patient Centered	Organisation centered
1.Access , Assessment and Continuity of care.	6. Continous Quality Improvement
2. Care of Patients	7. Responsibility of Management
3. Management of Medication	8. Facility Management and Safety
4. Patient Rights and Education	9. Human Resource management
5. Hospital infection control	10. Information Management system

Certificate of Accreditations, Fortis Mohali :

- Awarded JCI Accreditation on 15TH June, 2007
- Re-Accreditation July, 2008, 2013
- Awarded NABH Accreditation on 16th June,2008
- Re-Accreditation June, 2011
- NABH audit 9th-11th May,20



Hospital Overview :

- **FHM** – is divided into 2 Blocks, A - block & B – block, and now recent development is the Fortis Cancer Institute, which maybe named C – block.
- Further, again the Departments are divided Floor wise, which is as follows,
- **Basement** : Materials, Stores, H.R, House-keeping , MRD, Biomedical engineering dept, CSSD, Laundry, Food & Beverage dept.
- **Ground Floor** : Reception, Registration, OPD's Blood Bank, X-ray, NICU, General ICU, Patient waiting areas, IDBI Bank+ ATM ,cafeteria, CCD, Prayer Room, Childrens play area, Dietetics, PWD-Patient welfare dept. Emergency. Lab, Nuclear Medicine, Clinic Rejuve. Pharmacy
- **1st Floor** : Opds, Wards, CMO office, MICU
- **2nd Floor** : MSOT,CCU, Cath LaB, PCR, ORTH.OT
- **3rd Floor** : Executive offices, Café Jamjaajee,Paalna Library. Auditorium, Finance, Marketing, Media & Communication, IT,CSR, FOS, QA Dept.
- In all there are 27 Depts in the Hospital.
- Some Depts. At FHM are Outsourced, like :
 - IVF- Dr. Pai & his Team (Mumbai)
 - Lab : SRL
 - Ultrasound,CT,MRI : Dr.Chawla
 - Dental : Axis Dental

And latest addition is Physiotherapy Dept. outsourced to Dr.Balaji

Overview of FHM Department wise :

➤ **OPD – Out Patient Department ;**

The OPD at FHM is a Multi –speciality centre bringing to the patients all the required specialities under one roof.It consists of the following specialities like Cardiology, Dentistry, ENT, Gastroenterology, Endocrinology, internal Medicine, child specialist, Gynaecology, Neurology, Ophthalmology,Orthopaedics, Psychiatry, Pulmonology, Rheumatology, Urology, Radiology,Lab, Nuclear medicine,Pathology .

It also has Home Based Rehabilitation Programmes and also has a Rehabilitation centre-cum inn providing a world class ambience along with Patient care.

➤ **Preventive Health Care : *CLINIC REJUVE***

Fortis firmly believes in Prevention is better than cure,,and this is done here at Clinic Rejuve ,where preventive Healthcare packages are given to pts and their family members at discounted rates to help them identify High-Risk pts and guide them towards better and healthy living, and providing them with required Medical help or Medication, and try to decrease lifestyle diseases by guiding towards healthy living.

➤ **Radiology** : Fortis can boast about having one of the most Advanced Radiology dept with skilled technicians and with the latest and most advanced machines. The Dept. has facilities like 64 Slice CT Scan, MRI,Mammography, X-Ray Ultrasound.

➤ **Nuclear Medicine** : This Dept. uses Safe, Painless, cost-effective method to image body with specialised diagnostic Gamma Cameras, in order to identify organ function and find out if presence of any disease.

➤ **Pathology** : SRL Ranbaxy manages the Path Lab at FHM . One of Asia's leading clinical testing facilities, SRL follows the protocol of College of American Pathologists Staffed with highly skilled technicians and equipped with digital analysers and complete automation in Biochemistry, Hematology Serology, Microbiology and Patholgy and these services are rendered round the clock 24x7,and has also been Awarded NABL

➤ **Physiotherapy** : FHM has a dedicated Physiotherapy dept.which facilitates quick rehabilitation and pain management plus manage pts with musculoskeletal, cardiothoracic and neurological conditions. They also aid in Geriatric care from Degenerative diseases and provide Rehabilitation post trauma /surgery.

- **Dietitics** : The goal of the Diet clinic is to provide diet consultation to patients and their attendants and satisfy their diet related queries. This dept organizes specific individual counselling and diet education to the pts based on the clinical parameters and Doctors prescription.
- **IPD** : FHM has a total capacity of 350 beds out of which 315 are functional. The functions of IPD are to Admit/Discharge/Transfer pts. Collect patient information and coordinate the admission with the other functions of the hospital. Arrange for the billing accept reservations, Disseminate information. It has a Reception desk all the above procedures are done.
- **OT'S** – there are 3 Main OT's Cardiac-OT, MS-OT, Ortho-OT ,

Cardiac OT : Bringing breakthrough technologies to the operating room, and setting international standards in its cardiac facilities, FHM has one of the most state of art OT with the most advanced lung and heart machines and many such devices. Cardiac OT has been constructed around a central sterile core which has the provision of storing all the sterile items to be used in the OT. It also has a Stas lab for immediate ABG &Electrolyte and steam sterilizer . The OT is directly connected with CSSD thorough a Dumb waiter lifter to transfer items.

Cardiac CATH Lab : FHM has 3 Cath labs that function Round the clock 24hrs and 7 days supported by a sophisticated CCU . It has some world class equipments like, COROSCOPE - by Siemens used for electrophysiological monitoring and INNOVA 2000 – by GE a digital imaging system , one of its kind in the world.

MSOT : Multispeciality Operation theatre

FHM is equipped with high-tech OT's where high risk surgical procedures are performed by a dedicated team of experts. There are 4 Major and one Minor OT .

There is a Exclusive OT for Joint Replacements

A State-of-Art Neuro OT has been commissioned and is only of its kind in the region.

On an average 15-20 cases are done in MSOT from 8am to 8pm , however Emergency services are available round the clock

CCU : Critical Care Unit :

CCU is managed by experts in critical care, with patient to nurse ratio 1:1. Trained intensivists are adept in all emergency techniques such as airway management, IV, Anaesthesia etc

➤ **EMERGENCY DEPT.**

The Dept. of Emergency Medicine at FHM is a dept with the most modern life support systems and manned by highly qualified paramedics with knowledge and skills to evaluate and stabilize pts who seek emergency medical care, especially those with potentially lethal and serious conditions.

The Dept is equipped to Handle all emergency cases like,

Cardiac emergencies : Chest pain, heart attacks, angina

Neuro. Emergency : Stroke, shock

Medical emergencies : Poisoning, abdominal pain, lung problem ,liver, kidney

Surgical emergencies : appendicitis, lacerations, cuts , wounds, fractures, trauma, RTA's

➤ **Wards :**

The Wards at FHM are, A1, A2, A3 , A4 Latest additions A6 (Cancer institute block)

A1 A2 are located on the first floor ,

A1 Multi-speciality unit which have a capacity of 33 which includes 2 deluxe rooms, and one presidential suite

A2 Cardiac unit, bed capacity of 38 with one presidential room.and 5 Double rooms and 10 single rooms.

A3 is Multispeciality again, with 47 beds

A4 A5A6 have also been made now.

➤ **Fortis PAALNA:**

FHM has launched a complete Obstetrics and Maternity division .It aims at offering young expectant mothers an excellent experience of childbirth and care. FHM aims to make the delivery safe comfortable , stress free and memorable.

➤ **Pharmacy :**

Pharmacy is one of the most important unit in the hospital. FHM has In Patient Pharmacy on 2nd floor, and the Out Patient Pharmacy on the Ground floor. The Chemist shop is right at the entrance that operates 24x7 and the aim of this Dept is to provide standard medicines to pts .The entire medicine and medical disposable requirements of OPD pts and discharged IPD Patients are met by the Pharmacy Dept.

➤ **CSSD : CENTRAL STERILE SUPPLY DEPARTMENT**

Ensuring high standard of sterilization and disinfection to minimize the incidence of hospital acquired infection rate, is one of the most essential feature at FHM.

The objective of the Central Sterile supply Dept. is to provide all the hospital departments served adequate supply of sterilised goods conforming to highest standards of sterilization from a central place thus reducing the overall cost and contributing towards reduction in the incidence of hospital acquired infection. Destruction of all micro-organisms including their spores by chemical or physical means.

Sterilization methods used :

- 1) Steam Sterilization
- 2) Ethylene Oxide Gas Sterilization

To minimize the time as well as distance , CSSD is connected with Cardiac units and OT,s through two dumb waiter lifts. One is used to transfer the sterile goods, and one for transportation of contaminated goods.

The Dept is divided into 3 zones,

- 1.Decontamination Area
- 2.Semi-sterile Area
- 3.Sterile Area

There are timings for supplying and taking of the goods at CSSD, for Wards and others

Mornings 8.15am to 11am

Evenings 2-30pm to 5pm

While foe Emergency /OT's there is no time restriction (Inventory stock is kept in the Ratio 3:1 to Avoid any kind of shortage)

➤ **PWD : Patient welfare Dept :**

Since its inception Fortis Healthcare has been aspiring to track patient satisfaction and feedback through our Patient Welfare Program. Fortis healthcare has an established PWD and the welfare officers, termed as the pink ladies – due to their uniforms act as liaisons between the patients/customers and the hospital. They are patients advocates or representatives striving to provide solutions to any problem they may encounter here at Fortis.

➤ **Human Resource Dept.**

The Human Resource Dept. deals with the effective management and development of the most valuable Resource i.e the Human component of the organisation. In FHM it is located in the Basement with the Zonal Head, 4 managers, 3 executives and a GDA.

Some of the important functions of HR are,

Manpower planning, Recruitment and Selection, Training and Career Development, Periodic Employee Performance Appraisal, Employee Rights/Welfare/Grievance, Wage and salary administration, rewards, incentives, Trainings, Job description and Job Analysis, employee engagements programmes- Fortis idol, FHM Nach baliye, Doctor/Nurse/Staff of the month etc. Thus this Dept is one of the key depts for functioning of the hospital.

➤ **IT- Information Technology**

The mission of the dept. to implement and support the IT related infrastructure required to achieve the target of being a near paperless and film less institute. The Major tasks include Systems support, looking after the installation and routine maintenance of the Computer systems and networking at FHM Mohali.

Theres, IT Help desk, nos.6050,6055, there are 13 servers 450 work stations, call centre, etc. Backups and internet are also maintained by this dept.

The Softwares used here at FHM are, MEDTRAK and PYROGEN.

Pyrogen : operational only in the accounts and Pharmacy Dept.

Medtrak: is operational in all the depts at FHM

Fortis was one of the first few hospitals to HIS Hospital information system.

➤ **FINANCE :**

One of the Most integral dept. of the the hospital, which is responsible for Revenue collection ,calculation and all money related matters, Purchases, allowances or salary of Employees, Situated on the 3rd floor of Block B.

➤ **Marketing :**

FHM is the first of its kind of Hospital in this region, and FHL has been formed with the sole objective of providing total integrated healthcare by establishing State-of-Art Health delivery system. This dept belong with Media and communication, creates awareness through Ad, Banners, Hoardings Press releases and interviews on Radio and Seminars.

➤ **CSR : Corporate Social Responsibility**

For the upliftment and betterment of Society, this has now become a Mandatory issue, 2% of the profits are supposed to be used for CSR activities for the welfare of the people. FHM also is doing its bit, and has 21 programmes running like ,

CHEटना : To provide help to the underprivileged girl child

ACTFAST : To spread awareness about HIV/AIDS

SAARTHAK : To extend support to cancer patients

SAHAYAK : A programme for Dialysis Patients

NANHI CHAH : To celebrate birth of a girl child and plant tree saplings

Friends of Fortis, Rural Outreach camp, Blood Donation Camps, Free Health check ups etc to name a few.

➤ **F&B –Food and Beverage Dept :**

This is again a vital part of the Hospital as it provides the restricted and special diet to the patients as per requirements. It is responsible for pre-preparation, Preparation, service, clearance of Food and Beverages.

➤ **MATERIALS/ STORES/PURCHASE :**

This dept is responsible for purchase storage of Medical Consumables, Stationary, Medical equipments, Pharmacy stores, its aim is to provide right item at the right time at the right price and quantity. Here at Fortis we have a CBU-Central Buying Unit that procures all the orders. Functions of this dept. are Procurement, Storage, Distribution,

➤ **HOUSE-KEEPING :**

Another important dept. takes care of the facilities present in the Hospital . A team of 11 Supervisors help in maintaining the cleanliness of the Hospital right from the premises , public areas and Patient areas.

➤ **ENGINEERING :**

FHM functions the way it does ie Flawlessly, thanks to this dept. the Main work of this dept . is Building maintenance, Water supply , Power backup, Gas supply, Sewage treatment plant.

➤ **BIOMEDICAL :**

This dept. is again a very important part of the hospital as it helps FHM to maintain its world class services by using world class equipments, Flawlessly. It looks after all the medical devices and Equipments .

➤ **MRD – Medical Records Dept.**

Situated at the Basement, the MRD keeps a record of all the patient files along with their details and history.

➤ **LIBRARY :**

A library is present on the Third Floor that houses various reference books, Journals, articles etc and every employee is an member.

➤ **CAFÉ JAMJAAJEE :**

Situated on the 3rd Floor, the canteen of the Hospital, the unique name lies in the history and Values of Fortis and Fortis culture. A well arranged cafeteria where the staff have their meals daily.

➤ **SECURITY :**

The security although is outsourced gives a 24X& cover to the entire Hospital and especially regulates the traffic in the Parking areas

➤ Some of the other Facilities available are :

- Fortis inn : a paid rest house for the attendents of Out-station patients ,or the Attendants of Patients for some rest within the hospital
- Café 24 : a in house Restaurant that offers a wide variety of food for the attendants and family members of the patients.
- Bank/ATM : IDBI Bank and ATM is also present within the premises that can be very helpful to the customers in cases of need for money, and don't have to run around to get instant financial aid
- Café Coffee Day : CCD as is it well known is also present in the premises near the waiting area, again which is there to cater the needs of the people.
- Prayer Room : keeping in mind the religious and spiritual needs of the people, such a room is created where people can pray for their loved ones
- Play area : Specially for Children, this area has been designed.
- Many other Miscellaneous things like Nescafe Shop, Gift shop, etc is also present in the Hospital premises.

I . PROJECT REPORT- Surgical Prophylaxis

Auditing

Introduction :

❖ What is Quality?

Appropriate application of medical knowledge with due regard due to the balance between the hazard inherent in every medical intervention and the benefits expected from it.

❖ **Quality From The Point Of View**

- Provider of Healthcare services
- Recipient of healthcare services
- Organizer of healthcare services
- **PROVIDERS CONCERN:-**
 - ✓ To provide care as per established norms
 - ✓ Adequate resources
 - ✓ Self Satisfaction with the final outcome
 - ✓ Should contribute to enhancement of the skills, competence and add to experience
- **RECIPIENTS CONCERN:-**
 - ✓ Accessibility
 - ✓ Affordability
 - ✓ Prompt Attention
 - ✓ Less waiting time
 - ✓ Early diagnosis and care
 - ✓ Return to productivity as early as possible
 - ✓ Human Treatment i.e to be treated with empathy ,respect and concern.

- **ORGANISERS CONCERN**

- ✓ Responsible to the society for the funds spent on healthcare
- ✓ To ensure safety of Public and Prevent inappropriate or suboptimal care.
- ✓ To meet the requirements of the recipient and provider of the healthcare services at acceptable costs.

- ❖ **WHAT IS NABH?**

National Accreditation Board of Hospitals & Healthcare Providers (NABH) is a constituent board of Quality Council Of India, set up to establish and operate Accreditation program for healthcare organizations. The board is structured to cater o much desired needs of the consumers and to set benchmarks for progress of health industry . The board while being supported by all stakeholders including industry , consumers , government, has full functional autonomy in its operation.

- **OBJECTIVE OF NABH**

To enhance health systems & Promoting continuous quality improvement and patient safety at international level.

- ✓ **Surgical antibiotic prophylaxis** is defined as the use of antibiotics to prevent infections at the surgical site. It must be clearly distinguished from pre-emptive use of antibiotics to treat early infection, for example perforated appendix, even though infection may not be clinically apparent. Antibiotic prophylaxis refers to the prevention of infection complications using antimicrobial therapy (most commonly antibiotics).
- ✓ Even when sterile techniques are adhered to, surgical procedures can introduce bacteria and other microbes in the blood (causing bacteremia), which can colonize and infect different parts of the body. An estimated 5 to 10 percent of hospitalized patients undergoing otolaryngology ("head and neck") surgery acquire a nosocomial ("hospital") infection, which adds a substantial cost and an average of 4 extra days to the hospital stay. Antibiotics can be effective in reducing the occurrence of such infections. Patients should be selected for prophylaxis if the medical condition or the surgical procedure is associated with a considerable risk of infection or if a postoperative infection would pose a serious hazard to the patient's recovery and well-being.
- ✓ Microbial infections

Local wound infections (superficial or deep-sided), urinary tract infections (caused by bladder catheter, inserted for surgery), and pneumonia (due to impaired breathing/coughing, caused by sedation and analgesics during the first few hours of recovery) may endanger the health of patients after surgery. Visibly worse are postoperative bacterial infections at the site of implanted foreign bodies (sutures, osteosynthetic material, joint replacements, pacemaker implants, etc.) Often, the outcome of the procedure in question and even the life of the patient is at risk.

 - **Prevention of microbial infection**
 - Worldwide experience with antimicrobial prophylaxis in surgery has proven to be effective and cost-efficient, both avoiding severe patient suffering while saving lives (provided the appropriate antibiotics have been carefully chosen and used to the best of current medical knowledge).

- Antibiotic selection
- A proper regimen of antibiotics for perioperative prophylaxis of septic complications decreases the total amount of antimicrobials needed and eases the burden on hospitals. The choice of antibiotics should be made according to data on pharmacology, microbiology, clinical experience and economy. Drugs should be selected with a reasonable spectrum of activity against pathogens likely to be encountered, and antibiotics should be chosen with kinetics that will ensure adequate serum and tissue levels throughout the risk period.
- For prophylaxis in surgery, only antibiotics with good tolerability should be used. Cephalosporins remain the preferred drugs for perioperative prophylaxis due to their low toxicity. Parenteral systemic antibiotics seem to be more appropriate than oral or topical antibiotics because the chosen antibiotics must reach high concentrations at all sites of danger. It is well recognized that broad-spectrum antibiotics are more likely to prevent gram-negative sepsis. New data demonstrate that third generation cephalosporins are more effective than first and second generation cephalosporins if all perioperative infectious complications are taken into consideration. Dermatologic surgeons commonly use antibiotic prophylaxis to prevent bacterial endocarditis. Based on previous studies, though, the risk of endocarditis following cutaneous surgery is low and thus the use of antibiotic prophylaxis is controversial. Although this practice is appropriate for high-risk patients when skin is contaminated, it is not recommended for non-eroded, non-infected skin. There are many factors that affect physicians' compliance with guideline recommendations, including cultural factors, educational background, training, nurse and pharmacist influences, medication supply, and logistics.
- **Advantages of long-acting antibiotics**
- Long-acting, broad-spectrum antibiotics offer the following advantages by comparison to short-acting antimicrobials in perioperative prophylaxis:

- A single dose covers the whole perioperative risk period - even if the operation is delayed or long-lasting - and with regard to respiratory and urinary tract infections
- Repeat administrations for prophylaxis are not necessary, so that additional doses are less likely to be forgotten (an advantage of practical value in a busy working situation such as a hospital)
- Less risk of development of resistance and less side effects
- Increased compliance and reduced errors of administration
- Possibly better-effectiveness (less material and labor cost, less septic perioperative complications)
- There are many factors that affect physicians' compliance with guideline recommendations, including cultural factors, educational background, training, nurse and pharmacist influences, medication supply, and logistics

Review of Literature :

“To Audit the use of prophylactic antibiotics for elective surgery. Setting Khartoum Teaching hospital, Sudan a 1000 bedded tertiary level hospital. A Prospective study was conducted over a 9 month period, patients admitted for elective surgery were included consecutively. The main outcome measure was the use and administration of prophylactic antibiotics. The results obtained were a total of 1768 patients with mean age 37.8 ± 14 years were recruited (females 83.3% of total) who underwent 1814 surgical. A total of 1758 patients received antibiotics for prophylaxis, 1730 patients were given antibiotics in operating room, for 1288 of cases the antibiotics were considered ‘recommended’, while for 442 they were not. Out of the patients for whom prophylaxis was recommended and was given, 725 of patients received a broad spectrum antibiotic or unnecessary combination, 913 received a therapeutic dose, 120 were given the first pre-operative dose within the proper time window and 1250 of patients had extended duration of prophylaxis. Compliance in all stated criteria was achieved in only 47(2.7%) of observed prescriptions”.[1]

“ An Audit of practice in relation to antibacterial prophylaxis in general surgery was undertaken over a four weeks period in a teaching hospital to assess the extent to which principles governing surgical antibiotic prophylaxis was practiced to provide a feedback to the clinicians. The extent of use of antibacterial agents in surgical prophylaxis was 90%. The timing of administration was more than 2hr before surgery in 21% of the cases. Intravenous Route was used in 97% of the cases. The duration of the prophylaxis was more than 72hrs in 48% of the cases. Cefazolin was the most frequently prescribed either alone or in combination with metronidazole. The study indicated inappropriateness in the timing and duration of administration of surgical antibiotic prophylaxis.”[2]

“Infectious morbidity remains a leading cause of post operative complications following caesarean delivery. The major infectious complications of caesarean delivery are fever, wound infection, endometritis and urinary tract infection. Postoperative surgical site infection

remains a major source of illness and a less frequent cause of death in the surgical patient. The administration of prophylactic antibiotics within specific interval has been shown to reduce problematic. Judicious use of antibiotics in hospital through effective antibiotic policy and guideline development is then essential.” [3]

“To review the evidence and provide recommendations on antibiotic prophylaxis for obstetrical procedures.” [4]

✚ NEED FOR STUDY :

- To understand the concept of SURGICAL PROPHYLAXIS AUDITING OF CABG AND LSCS SURGERY PATIENTS.

✚ RESEARCH METHODOLOGY

✓ RESEARCH QUESTION :-

Whether Surgical Prophylaxis Auditing for Surgical procedure is recommended or not?

✓ OBJECTIVE OF THE STUDY :-

PRIMARY:

- To assess the importance of Surgical Prophylaxis Auditing for controlling infections post Surgery.

✓ RESEARCH DESIGN :-

The Study Design used for this Project is Retrospective Studies .

The Data was only very closely observed and Analysed.

✓ DURATION :-

This Study was carried out from 1st Jan - 30th April 2015

✓ STUDY POPULATION : Patients who have undergone CABG and Caesarean Section Surgeries in past Four months ie 1st Jan'15- 30th April'15

✓ SAMPLE SIZE : CABG Patients =80 Caesarean Section Patients= 39

✓ SAMPLING TECHNIQUE : Convenient Sampling

DATA COLLECTION:

✓ PRIMARY DATA :

Information about CABG and Caesarean Section Surgery Files were obtained from the staff of MRD(Medical Records Department) through interactive sessions with the MRD incharge And Staff.

Information on Antibiotic Administered ,Incision Time and Details of the post operative Infections was again given by the Incharge of MRD Dept. through the surgical safety checklist.

✓ SECONDARY DATA :

Information about Surgical Prophylaxis of Antibiotics was collected from Internet.

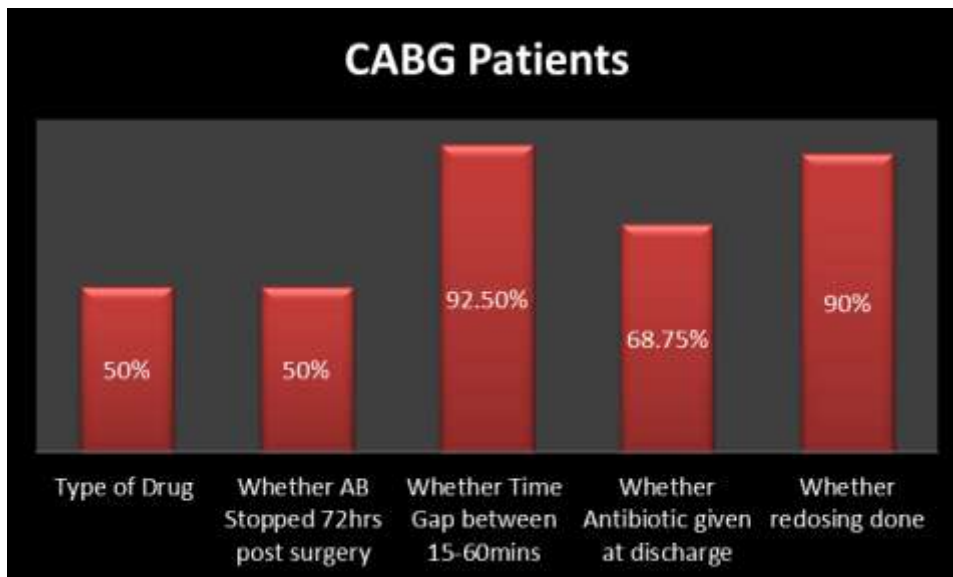
Plan of Execution :

- Data about Patients who underwent surgery of CABG and Cesarean Section in Operation Theatre was collected first from the MRD dept.
- Their UHID's ,Date of Surgery, Date of admission, Date of Discharge, incision time ,name of antibiotic administered, Time of antibiotic administered was Noted
- On this basis, analysis was done using MS-EXCEL and graphs were prepared.

ANALYSIS

1) To check the compliance rate of Surgical Prophylaxis of CABG patients from Jan2015-April 2015 on the basis of four factors:

- Type of Drug
- Time Gap should be between 15-60mins
- Whether Antibiotic Stopped 72hrs Post Surgery.
- Whether Antibiotic Given at discharge
- Whether Re-dosing done if the surgery was greater than 4 hrs.

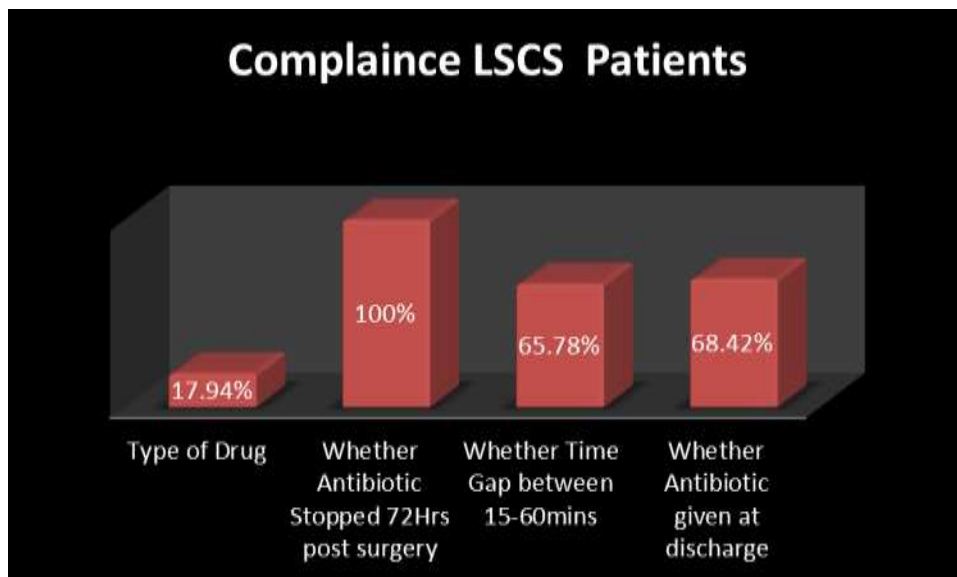


❖ **Interpretation :**

Out of the total sample size 80 Patients who underwent CABG surgeries, there was 50 % Compliance Rate seen in the Type of Drug Given, 50% Compliance Rate seen in whether the Antibiotic was stopped 72hrs post-surgery, 92.5% compliance rate seen in the time gap, between the time of antibiotic administered and the incision time which was 15-60mins, and 68.75% compliance rate was seen whether the antibiotic was given at discharge and 90% compliance was seen in whether re-dosing was done to patients whose duration of surgery was more than 4hrs.

2) To check the compliance rate of Surgical Prophylaxis of LSCS patients from Jan2015-April 2015 on the basis of four factors:

- Type of Drug
- Time Gap should be between 15-60mins
- Whether Antibiotic Stopped 72hrs Post Surgery.
- Whether Antibiotic Given at discharge



❖ **Interpretation :**

- ❖ Out of the total sample size 38 Patients who underwent LSCS surgeries, there was 17.94% Compliance Rate seen in the Type of Drug Given, 100% Compliance Rate seen in whether the Antibiotic was stopped 72hrs post-surgery, 65.78 % compliance rate seen in the time gap, between the time of antibiotic administered and the incision time which was 15-60mins, and 68.4% compliance rate was seen whether the antibiotic was given at discharge.

FINDINGS :

- From the above data, we can say , Surgical Prophylaxis Auditing in Surgical procedures is Advisable for preventing infections.
- Main non compliances were Prolonged antibiotic duration, inappropriate selection of antibiotic for the surgery which needs prophylaxis.

CABG Patient Findings

- Antibiotic stopped 72hrs post surgery was less in case of CABG patients.
- Redosing of antibiotics is given to patients whose duration of surgery is more than 4 hours.

LSCS Patients Findings

- The Compliance Rate of LSCS patients for the type of drug given was only 17.94%.
- Commonly used antibiotics were Cefuroxime, Ceftriaxone, Ceftizoxime, metronidazole etc.

.

RECOMMENDATIONS

- International guidelines advocate the use of narrow spectrum use of antibiotics for surgical prophylaxis. Cefazolin should be generally viewed as the first choice in clean operations which provides adequate coverage for many clean contaminated operations.
- Non adherence was mostly due to inappropriate choice of drug and use of antimicrobial prophylaxis for longer duration, Deep evaluation of barriers that may hinder universal implementation of guidelines is warranted and solutions to increase adherence should be encouraged.
- Interactive workshops to address current controversies and solutions to overcome the compliance barrier are useful for enhancing surgical staff commitment towards hospital guidelines.
- Auditing antibiotic use against agreed standards should be seen as a quality indicator to decrease the rate to Surgical Site infections.

REFERENCES :

- 1) Abubaker Ibrahim Elbur, Mirghani Abd El Rahman Yousif, Ahmed Sayed Ahmed ElSayed & Manar Elsheikh Abdel-Rahman, An audit of prophylactic surgical antibiotic use in a Sudanese Teaching Hospital, International Journal of Clinical Pharmacy International Journal of Clinical Pharmacy and Pharmaceutical Care ISSN 2210-7703 Int J Clin Pharm DOI 10.1007/s11096-012-9719-y.
- 2) Shamna.M.S , V.K.Kalaichelvan , Y.M.Fazil Marickar , Deepu.S, Cesarean Section and Prophylactic Antibiotics, IOSR Journal of Pharmacy and Biological Sciences (IOSR-JPBS) e-ISSN: 2278-3008, p-ISSN:2319-7676. Volume 9, Issue 2 Ver. III (Mar-Apr. 2014), PP 51-54 www.iosrjournals.org.
- 3) Julie van schalkwyk, Nancy van eyk, et al , Antibiotic Prophylaxis in Obstetric Procedures, SOGC Practise Guideline, No 247 September 2010.
- 4) www.wikiepedia.com

2- Auditing On Quality of Discharge Summary

Introduction

Importance of Discharge Summary of a hospital

Hospital discharge summaries serve as the primary documents communicating a patient's care plan to the post-hospital care team. Often, the discharge summary is the only form of communication that accompanies the patient to the next setting of care. High-quality discharge summaries are generally thought to be essential for promoting patient safety during transitions between care settings, particularly during the initial post-hospital period. The Joint Commission has established standards (Standard IM.6.10, EP 7) outlining the components that each hospital discharge summary should contain 6 components. These components are:

1. Reason for hospitalization.
2. Significant findings.
3. Procedures and treatment provided.
4. Patient's discharge condition.
5. Patient and family instructions (as appropriate).
6. Attending physician's signature.

The period following discharge from a hospital is a vulnerable time for patients. The transition of care from hospital to community or from hospital staff to patient self-management can result in adverse events leading to avoidable ED visits, hospitalizations and poor patient outcomes. Studies show that adverse events can result from ineffective communication, limited patient literacy for reading drug labels or inability to recall medical instructions.: Patients do not understand medical terms Patients are not fluent in English Patients cannot memorize verbal instructions Patients are too stressed at time of illness to absorb information Studies have shown that 40-80 percent of the information patients receive

is forgotten immediately and nearly half of the information retained is incorrect. The problem is even more pronounced for patients with language barriers, particularly in ethnically diverse communities such as Toronto, where over 60% speak languages other than English or French at home, and 5% of residents report having no knowledge of either of Canada's official languages. Individuals with language barriers face significant challenges in navigating the health care system, leading to poor self reported health, increased medical errors, poor compliance with therapy and follow-up and increased costs, among other outcomes. Even for people with no language barrier, the ability to obtain, process and understand basic health information and services needed to make appropriate decisions – known as health literacy – varies from person to person. An estimated 55% of Canadians between the ages of 16 and 65 have low health literacy, and only 12% of those above the age of 65 have adequate health literacy skills. Poor health literacy leads to poor health outcomes, especially among the elderly, those with limited education and chronic diseases, as well as new immigrants with a language barrier.

Current State of Discharge Communication

INFORMATION GIVEN TO PATIENTS-

In reviewing discharge summaries from different hospitals, it was evident that these were information dense documents laden with technical language meant mostly for the patient's primary care provider. These documents were not well suited for use as tools to transmit critical information from hospital to patient at time of discharge. In the world of discharge summaries, patients are almost thought of as messengers in the transport of documents from hospital to primary care provider, a practice previously performed by fax machines. Given that the hospital discharge event and ensuing primary care appointment might be separated by many days, this practice seems less than ideal in the absence of effective patient self-management strategies. There is also considerable variation across hospitals, and even from department to department within a hospital, in terms of how discharge summaries and packages are assembled and delivered. Discharge packages in certain hospital departments (e.g. elective surgeries) are generally quite good and are often available in multiple languages. In other areas, such as general internal medicine, where patients arrive unexpectedly and are often very complex, there is generally room for improvement.

Furthermore, these are precisely the types of patients for whom effective communication of medication and care instructions is likely to make a difference for their health and avoid unnecessary return to the hospital.

PATIENT EXPERIENCE WITH DISCHARGE COMMUNICATION

Patient satisfaction survey results across hospitals in 2012/13 highlight several challenges in how discharge information is currently communicated to patients. The majority of discharged inpatients indicate that they know the purpose of their home medications (80%). However, the largest gap is in knowing when to resume usual activities after an inpatient stay (54%), followed by knowing what side effects of medications to watch out for (63%), what danger signals to watch after going home (64%) and who to call if help is needed (74%).

-INVOLVEMENT OF FAMILY AND CAREGIVER

Family members and caregivers play a significant role in a patient's life. This role becomes even more significant after an inpatient stay, where family members and caregivers take on the task of supporting the patient with their follow up care. Patients expressed a desire to have discharge instructions relayed to them in the presence of the caregiver that will be helping with post-discharge care

Hospital discharge can be a challenging process for healthcare professionals, patients, family members and careers. While at least 80 per cent of patients discharged from hospital return home without any complications or ongoing care needs, some patients will require input from a number of different healthcare professionals, such as social workers, therapists and general practitioners. Patients with complex needs, such as those with multiple chronic illnesses, may also need to be discharged to a care home or to intermediate care, and their length of stay in hospital is more difficult to predict than patients with simple care needs. Intermediate care is made up of support services that help an individual to make the transition back to their home. These are delivered by a team that can include nurses, care assistants, occupational therapists and others. Intermediate care can also include a short stay in a local residential rehabilitation unit, to help patients recover and regain their independence. Despite these differences, the basic principles for planning for discharge apply to every patient including those who are admitted to hospital with straightforward medical investigations and

treatments. The key focus is achieving ‘timely’ discharge, where a patient is transferred home, or to an appropriate level of care, as soon as they are clinically stable and fit for discharge. It is vital that patients are not in hospital for unnecessary amounts of time, known as ‘delayed discharge’, but also that social and practical factors are taken into consideration before rapid and unsafe discharges occur, known as ‘premature discharge’. Barriers to achieving timely discharge are mainly associated with patients over the age of 65, not least because they are more likely to have complex medical needs, including more after-care needs.

A Discharge Summary is a document which essentially transfers the care of the patient from the hospital. The document should be received by the GP on the day of discharge, preferably electronically. The document should be typed and all new diagnoses should be identified, including a brief summary of what has happened to the patient (avoiding abbreviations). Investigations and why medications have been started or stopped, or catheters inserted, should also be included. A list of medications and a supply of medicines to complete short courses (or a twenty-eight day supply of on-going medication) should be provided on discharge. If the patient is best treated using a Dosette box of medications (a plastic box system for arranging daily / weekly medicines), they should be given a supply of these by the hospital pharmacy. It should be clear if and when patients are to be followed up. If the patient has been advised to remain off work, or adjustments made to their work, they should be given a Statement of Fitness for Work or fit note. Investigations performed by the hospital need to be followed up and appropriate action taken by the hospital team. It is good practice for hospital doctors to phone the GP when considering discharge if there are complex problems or unresolved issues to facilitate a well planned discharge. A patient, or a patient’s relative, may have access to information regarding what happened during the hospital admission and the medications the patient has received sooner than the GP. Patients / carers are often handed a paper ‘flimsy’ and the copy may be sent to the GP by post or perhaps delayed by an internal system, such as scanning. The discharge summary may not have been sent to the usual GP looking after the patient if there is software at the hospital that sends the discharge information to a GP who has previously been recorded as the patient’s GP. Leaving hospital Timely discharge can improve the safety and appropriateness of discharge from hospital, and can have a positive impact on length of stay while reducing unplanned

readmissions. It is part of wider action needed to reduce the delays at all stages of the patient journey. Each hospital will have its own policy and standard arrangements for discharging patients. Patients with ongoing needs are also likely to benefit from a discharge coordinator, who can provide a single point of contact for all stages of the patient journey. The length of stay in an acute hospital bed may not be enough time for patients with complex needs, who may benefit from a period of rehabilitation, either as an inpatient or in the community. This could be achieved by increased care services and, if necessary, long-term care in a care home. Intermediate care, or a ‘step-down’ facility, is designed to bridge the gap from hospital to home (or to residential care). There are a number of national and local services available that enable people to live in a supported environment with appropriate care. These services can give patients and their families’ time to make decisions about their future living arrangements, facilitate timely discharge and prevent unplanned-readmissions. Access to intermediate care services is often via a joint assessment by a social worker and a nurse/therapist. A Discharge Summary is a clinical report prepared by a healthcare professional that outlines the patient's history, diagnostic findings and treatment administered, as well as their condition on discharge and recommendations on continuing care. “

❖ REVIEW OF LITERATURE

“Complete, accurate and timely hospital discharge summaries are important for continuity of care. The aim of this study was to evaluate the effectiveness of an electronic discharge summary system in improving the medication information provided compared to the information in paper discharge summaries. A retrospective audit of 199 paper and 200 electronic discharge summaries was conducted. The completeness of medication information, and whether medication changes during the admission were explained, were assessed. The likelihood of any incomplete information having an impact on continuity of care was assessed. There were 1352 and 1771 medication orders assessed in paper and electronic discharge summaries, respectively. Of these, 90.9% and 93.4% were complete in paper and electronic discharge summaries, respectively. There was no significant improvement in the proportion of incomplete medication orders rated as unclear and likely to impede continuity of care in paper compared with electronic discharge summaries (7.3% vs. 6.5). In summary, electronic discharge summaries offer some improvements over paper discharge summaries in terms of the quality of medication information documented.” [1]

“Adverse events are poor health outcomes caused by medical care. Measuring them is necessary for quality improvements, but current detection methods are inadequate. A study to validate a previously derived method of adverse event detection using term searching in physician-dictated discharge summaries. A retrospective, chart review study of a random sample of 245 adult medicine and surgery patients admitted to a multicampus academic medical was taken. The authors used a commercially available search engine to scan discharge summaries for the presence of 104 terms that potentially indicate an adverse event. Summaries with any of these terms were reviewed by a physician to determine the term’s context. Screen-positive summaries had a term that was contextually indicative of an adverse event.”[2]

“The exchange of health information between acute care providers (e.g. hospitals) and primary care providers (e.g. general practitioners) has traditionally been via hard copy discharge summaries. In recent years the advent of sophisticated information and communication technology has fuelled developments in electronic discharge referral systems (eDRS), which are credited with enabling more timely and accurate information exchange, enhancing patient care, and ultimately improving patient outcomes. The aim of this paper is to highlight key issues regarding the development and implementation of electronic discharge referral systems. “[3]

“ Discharge letters were routinely sent to the patient’s general practitioner (primary care physician, family physician) by a care of the elderly consultant. In the past (the ‘old’ system), copies were also sent to the patients, or their carer, as well as other healthcare professionals if necessary, but not routinely to pharmacists. s Patients were more likely to get the treatment recommended by the consultant as a result of the change in practice: 83% (34/41) compared to 51% (23/45) of patients had treatment plans in their discharge letters implemented. All pharmacists and the consultant were very positive about the change, having found the ‘old’ system haphazard and unreliable. They also felt patients were more likely to get the treatment recommended by the consultant. This was supported by results from the audit. Pharmacists felt more integrated into their local healthcare team and that the change linked the discharge process in secondary care with the existing pharmacist medication review service in primary care. Sending discharge letters to pharmacists working in the practice as well as general practitioners can lead to improvements in co-ordination of care and implementation of consultant recommendations for treatment.”[4]

“Patients are particularly susceptible to medical error during transitions from inpatient to outpatient care. Discharge summaries were evaluated by incoming postgraduate year internal medicine residents for their completeness, accuracy, and relevance to family physicians. Consecutive discharge summaries prepared by PGY-1 residents for patients discharged from internal medicine wards were retrospectively evaluated by two independent reviewers for presence and accuracy of essential domains described by the Joint Commission for Hospital Accreditation. Family physicians rated the relevance of a separate sample of discharge summaries on domains that family physicians deemed important in previous study. Ninety discharge summaries were assessed for completeness and accuracy. Most items were completely reported with a given item missing in 5% of summaries or fewer, with the

exception of the reason for medication changes, which was missing in 15.9% of summaries. Discharge medication lists, medication changes, and the reason for medication changes—when present—were inaccurate in 35.7%, 29.5%, and 37.7% of summaries, respectively. Twenty-one family physicians reviewed 68 discharge summaries. Communication of follow-up plans for further investigations was the most frequently identified area for improvement with 27.7% of summaries rated as insufficient.[5]

- **NEED FOR STUDY**

- To understand the concept of Quality of Discharge summary Auditing of IPD Patients.

RESEARCH METHODOLOGY

- ✓ **RESEARCH QUESTION :-**

Whether Quality of Discharge Summary Auditing for hospitals recommended or not?

- ✓ **OBJECTIVE OF THE STUDY**

To assess the importance of Auditing the Quality of Discharge Summaries.

- ✓ **RESEARCH DESIGN :-**

The Study Design used for this Project is Retrospective Studies .

The Data was only very closely observed and Analysed.

- ✓ **DURATION :-**

This Study was carried out from 1st May – 15th May

- ✓ **STUDY POPULATION :** Patients who have been admitted in hospital in past Four months ie 1st Jan'15- 30th April'15

- ✓ **SAMPLE SIZE :** 400 Patients

Each month 100 patients.

- ✓ **SAMPLING TECHNIQUE :** Convenient Sampling

DATA COLLECTION:

PRIMARY DATA :

Information about Discharge Summary files was obtained from the staff of MRD (Medical Records Department) through interactive sessions with the MRD incharge And Staff.

Information on Discharge summary was also taken electronically through a software of fortis known as medtrak, which possess all information about patient discharge, patients admission date , age , etc.

SECONDARY DATA :

Information about importance of discharge summaries was collected from Internet.

Plan of Execution :

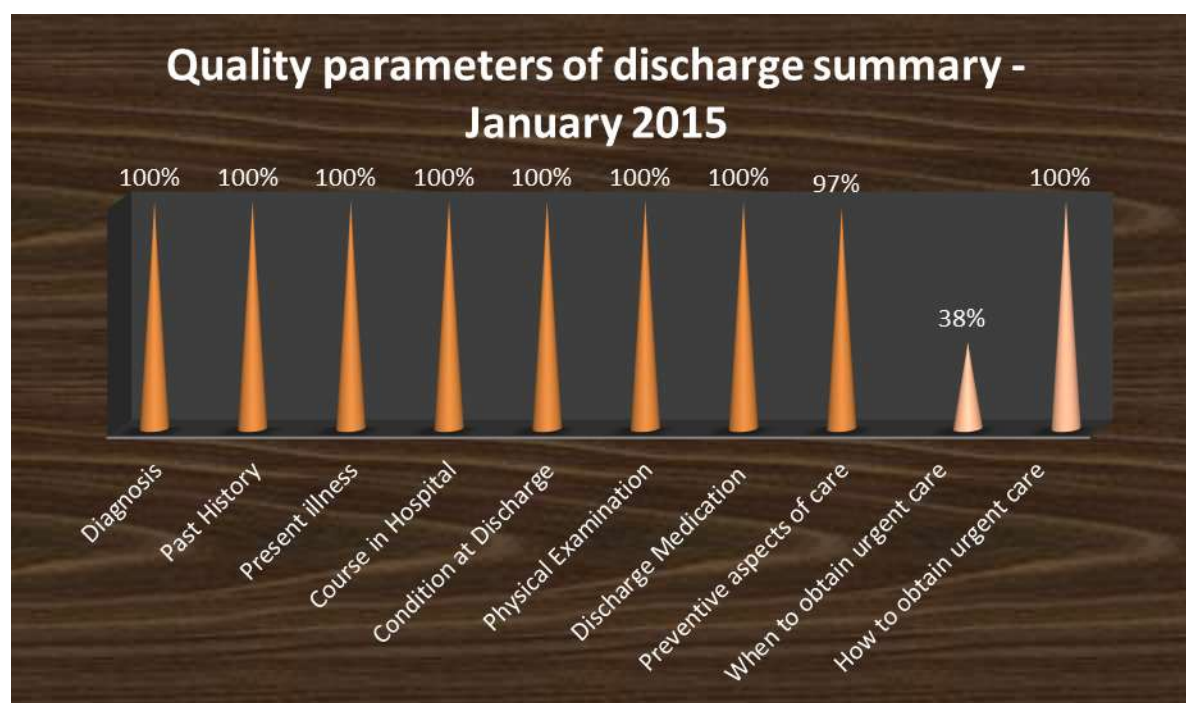
- Data about Patients who were admitted in hospital was collected first from the MRD dept.
- Their UHID's , Date of discharge, diagnosis, Past history, Present illness, Physical examination, Course in the hospital, Condition at discharge, Discharge Medications, Discharge advice, How and when to obtain urgent care,, All were noted.

On this basis, analysis was done using MS-EXCEL and graphs were prepared.

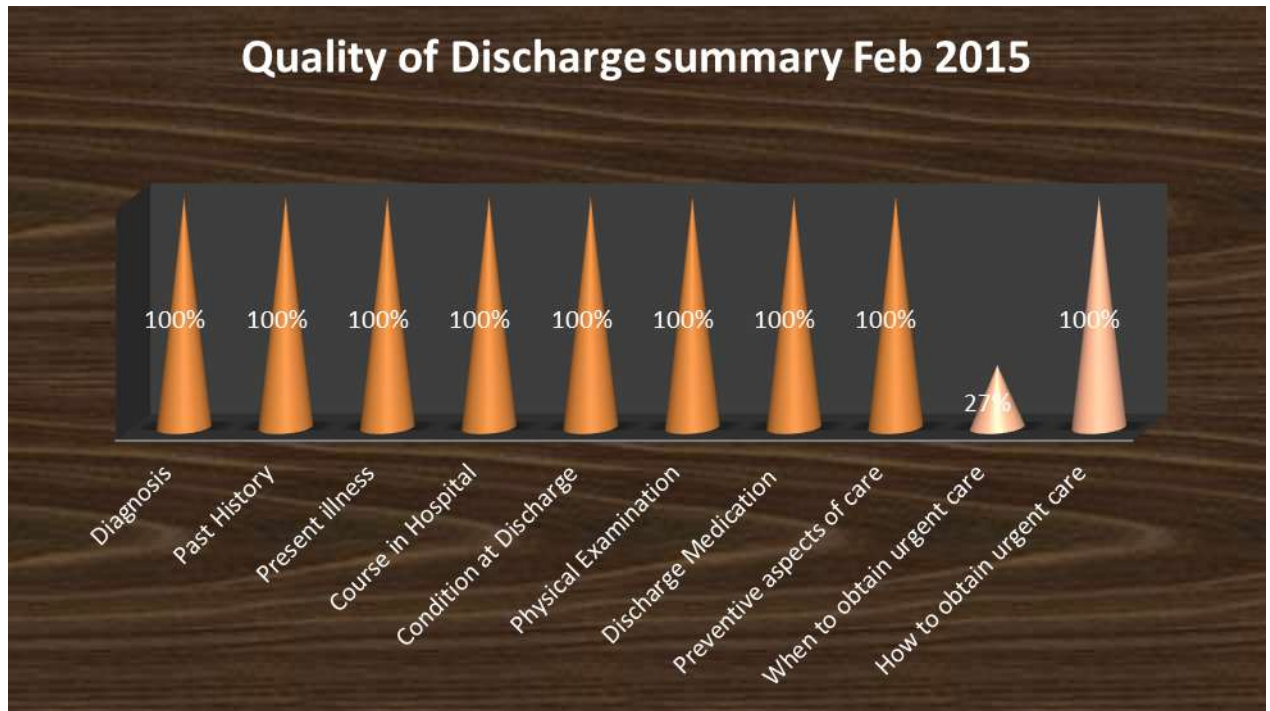
ANALYSIS and FINDINGS

- 1) To check for the quality of Discharge Summaries by looking at the percentage of all the parameters in the checklist.

MONTH OF JANUARY

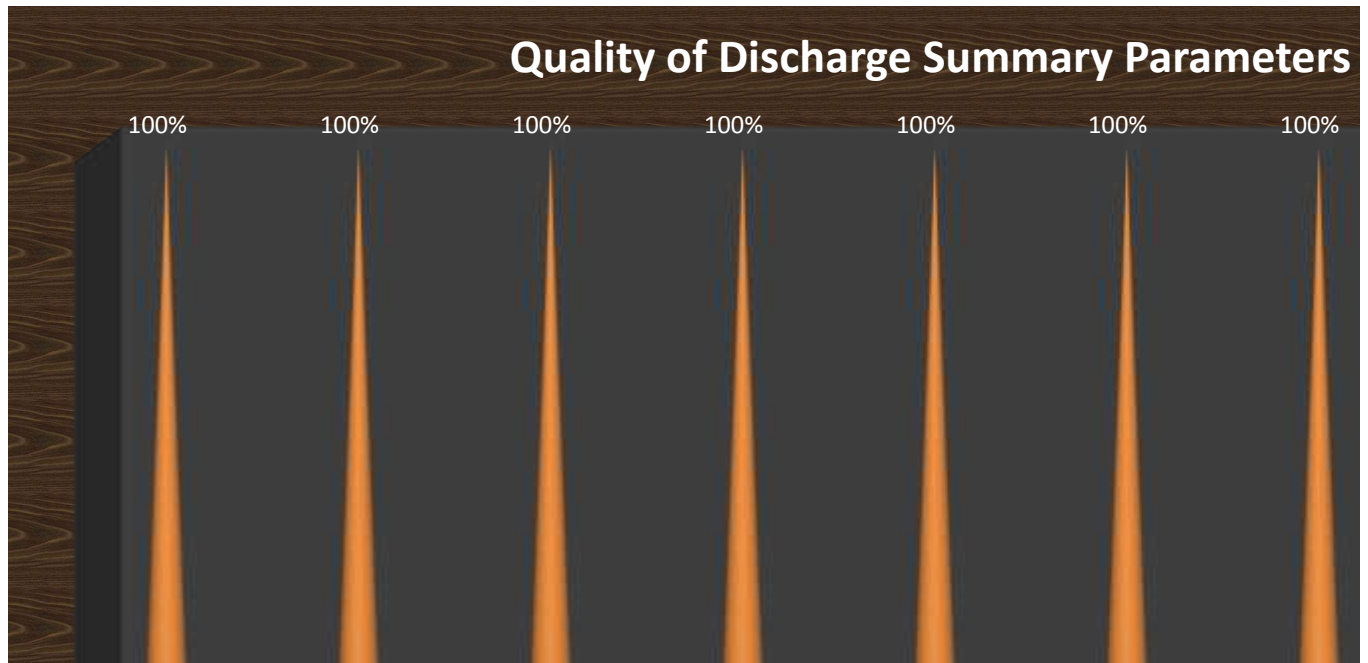


Interpretation:- Out of total sample size of 100 IPD Patients , details regarding diagnosis, past history, Present illness, course in hospital, condition at discharge and discharge medication was 100% complete in the discharge summary sheet but 97% discharge summaries were complete in case of Preventive Aspects of care, only 38 % of the summaries had instructions for the patients on When to obtain immediate care and 100% discharge summaries were complete in case of “How to obtain immediate care”.



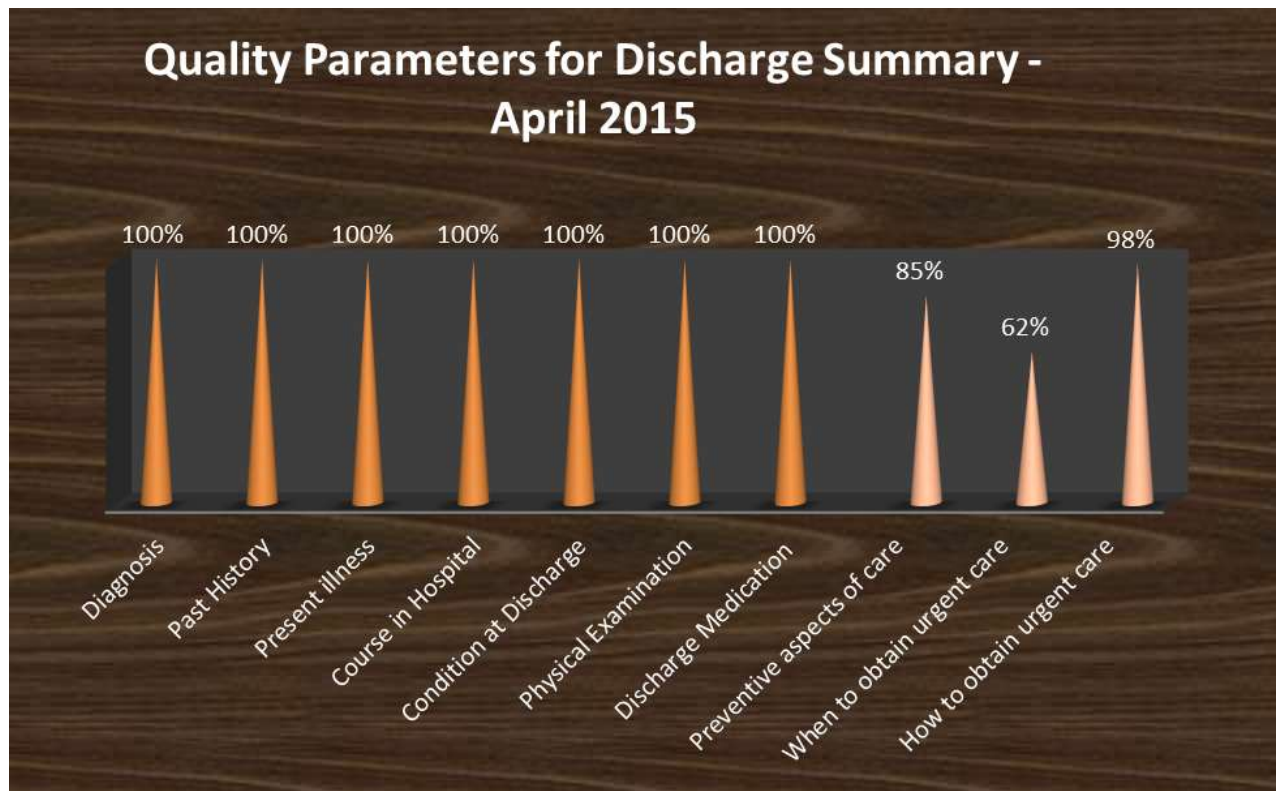
diagnosis, past history, Present illness, course in hospital, condition at discharge, Preventive aspects of care and discharge medication was 100% complete, only 27% summaries had instructions to patients on “ When to obtain immediate care” and 100% Discharge summaries were complete in case of “How to obtain immediate care.”

MONTH OF MARCH



Interpretation:- Out of total sample size of 100 IPD Patients , details regarding diagnosis, past history, Present illness, course in hospital, condition at discharge and discharge medication was 100% complete in the discharge summary sheet but 94% discharge summaries were complete in case of Preventive Aspects of care , only 34 % summaries had instructions to patients on “When to obtain immediate care” and 100% summaries were complete in case of “How to obtain immediate care”.

MONTH OF APRIL



past history, Present illness, course in hospital, condition at discharge and discharge medication was 100% complete in the discharge summary sheet but only 85% discharge summaries were complete in case of Preventive aspects of care, only 62 %summaries had instructions to patients on “ When to obtain immediate care” and 98% discharge summaries were complete in case of “How to obtain immediate care”.

Recommendations:

- ✓ Rather than treating a condition after it has progressed, **preventive care** focuses on preventing disease and maintaining proper health. Preventive care may include immunizations, vaccines, regular check-ups, routine physicals and colonoscopies.
- ✓ Treating a disease in its earliest stages can be relatively easy, sometimes requiring little more than a simple prescription. But helping a patient combat the effects of an advanced disease can prove extremely difficult, and sometimes impossible.
- ✓ After a person has been discharged Discharge advice/Preventive care notes warns the patients for future illness if any about to re-occur. Hence it is very important that the discharge summary contains notes for Preventive Aspects of care so that the patient or his family members can keep a check on the patients health and report to the doctor for any queries.
- ✓ Immediate Care is defined as medical care that accommodates patients who “need to see a doctor now” No appointment is necessary and walk-ins are expected and welcome because these non-emergency conditions are unpredictable yet medical attention is necessary. Patients must be aware that an immediate care center is not appropriate for very serious or life-threatening conditions. Hence “**when to obtain urgent**” column is necessary so that the patient is aware of the signs which can create emergency situation after his inpatient days.
- ✓ Continuous efforts should be taken through meetings, workshops to increase the importance of completeness of discharge summaries so that the patients faces no difficulty in knowing anything important regarding his health after his inpatient days.

REFERENCES

- 1) Kind AJH, Smith et al . Documentation of Mandated Discharge Summary Components in Transitions from Acute to Subacute Care, Advances in Patient Safety: (Vol. 2: Culture and Redesign 2008 Aug., <http://www.ncbi.nlm.nih.gov/books/NBK43715/>
- 2) Elin C Lehnbohm, Magdalena Z Raban, Scott R Walter, Katrina Richardson and Johanna I Westbrook . Do electronic discharge summaries contain more complete medication information? A retrospective analysis of paper versus electronic discharge summaries,, HEALTH INFORMATION MANAGEMENT JOURNAL Vol 43 No 3 2014.
- 3) Alan J. Forster, Jason Andrade, Carl van Walraven, et al Validation of a Discharge Summary Term Search Method to Detect Adverse Events, J Am Med Inform Assoc. 2005 Mar-Apr; 12(2): 200–206.doi: 10.1197/jamia.M1653.
- 4) Craig J1, Callen J, Marks A, Saddik B, Bramley M. Electronic discharge summaries: the current state of play. HIM J. 2007;36(3):30-6
- 5) Steve Gray, Mike Urwin, Sheila Woolfrey et al, Copying hospital discharge summaries to practice pharmacists: does this help implement treatment plans?, Quality in Primary Care 2008;16:327–34.
- 6) Kimberly Legault, Jacqueline Ostro, Zahira Khalid, Parveen Wasi and John J You, Quality of discharge summaries prepared by first year internal medicine residents, BMC Medical Education 2012, 12:77 doi:10.1186/1472-6920-12-77.
- 7) www.wikipedia.com
- 8) <http://www.michiganavenueimmediatecare.org/definitions.html>

