

**Summer Training at
Fortis Escorts Hospital,
Jaipur**

- **Vendor Management in Fortis Escorts Hospital, Jaipur.**
 - **Inventory Control by ABC Analysis of Drugs**

**By
Anurag Dadheech**

**Under the guidance of
Dr. Arindam Das**

**MBA Hospital and Health Management
2015-2017**



**The IIHMR University, Jaipur
2016**

CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Dr. Anurag Dadheech** student of **MBA Hospital and Health Management** from the IIHMR University; Jaipur has undergone summer training at **Fortis Escorts Hospital, Jaipur** from 1st April to 31st May, 2016.

The candidate has successfully carried out the study designated to him during summer training and his approach to the study has been sincere, scientific & analytical.

The internship is in fulfilment of the course requirements.

I wish him all success in all his future endeavours.



Col. (Dr.) Ashok Kaushik
Dean (Academics & Student Affairs)
IIHMR University, Jaipur



Dr. Arindam Das
Associate Professor
IIHMR University, Jaipur

1st June, 2016

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Dr. Anurag Dadheech** worked as a **Trainee** with us in the **Dept. of Purchase and Pharmacy** from 1st April, 2016 to 31st May, 2016.

His performance during the period in the department was good. He comes across as a willing, sincere and intelligent person who has a strong drive and zeal for learning.

We wish him the best for all her future endeavors.

Authorized Signatory



FORTIS HOSPITALS LIMITED

Regd. Office: Escorts Heart Institute and Research Centre, Okhla Road, New Delhi - 110 025

Tel: +91 11 2682 5000, Fax: +91 11 4162 8435 CIN: U93000DL2009PLC222166

ACKNOWLEDGEMENT

“NOTHING IS MORE KNOWLEDGEABLE THAN EXPERIENCE”

I am deeply indebted to **Dr. Ashok Choudhary**, Deputy Medical Superintendent, Fortis Escorts Hospital Jaipur for taking deep interest and providing opportunity to work under his guidance.

I am also thankful to **Mr. Prateem Tamboli**, Facility Director for their guidance and who permitted me to conduct the project in the hospital.

My special thanks to **Mr. Varun Singh Bhati** for full support throughout my project.

It is my pleasure thanking all those from the different departments for contributing with their ideas and thoughts during the training sessions held. Also I would like to extend my thanks to the staff of the hospital in assisting me in every aspect.

CONTENTS

TOPIC	Page No.
Abbreviations	03
Introduction to Hospital	04
Project I	
➤ Introduction	18
➤ Aim & Objectives of study	19
➤ Research Methodology	19
➤ Observation	20
➤ Recommendation	32
➤ References	33
Project II	
➤ Introduction	35
➤ Aim & Objectives of study	37
➤ Research Methodology	38
➤ Observation	39
➤ Recommendation	41
➤ References	42

Abbreviations:

NABH - National accreditation board for hospital and health.

FEHJ – Fortis Escorts Hospital Jaipur.

ICU – Intensive care units.

OT – Operation Theatre.

QA – Quality Assurance.

IPD – Indoor patient department.

SICU – Special Intensive care unit.

CTVS – Cardio Thoracic Vascular Surgery unit.

CSSD – Central sterile supply department.

SCM – Supply Chain Management.

CAPEX – Capital expenditure.

CBU – Central Buying Unit.

QCPA – Quotation Comparison & Purchase Approval.

PR – Purchase request.

PO – Purchase Order.

GRN – Goods Receiving Note.

INTRODUCTION TO

THE HOSPITAL

Introduction to Hospital

Fortis Escort Hospital, Jaipur is the first NABH accredited multi-specialty hospital at Rajasthan, established on 2 August, 2007 with the mission to bring quality care to Rajasthan. FEHJ is the first hospital in the country to attain NABH Accreditation in minimum stipulated time (ten months) after commencement of operations and was re-accredited on 27th April 2011. The hospital is a 245 bed hospital spread over an area of 6.67 acre.

The hospital is committed to medical excellence with compassionate patient care. The vision is captured and defined by the Fortis logo of two hands holding a human form in a protective manner. It is reflection of our commitment to patient care and endeavor to achieve excellence in health care by bringing together the best of medical talent and technology. Our objective is to provide medical services with a humane approach.

With a vast pool of eminent doctors and well-trained nurses, we maintain our focus on providing the finest medical care in every specialty. Over the years, it has become a landmark hospital for cardiac sciences, orthopedics & joint replacements, critical care, pediatrics, gynecology & obstetrics, pediatric cardiac sciences, neurosciences, gastro sciences, endocrine sciences, plastic surgery and renal sciences & kidney transplant. Live surgeries like angioplasties, plastic surgeries and joint replacements for more than six national and international forums of doctors have been performed at Fortis Escorts Hospital, Jaipur. The hospital has a global recognition for its clinical team and world class medical amenities to match that. Over the years, the hospital has established numerous clinical benchmarks with many first to its credit like Rajasthan's first water birthing, fastest recovery of a pediatric cardiac surgery, lifesaving dialysis of a six day old, first laparoscopic Whipple's case.

The hospital provides the most comprehensive facilities like two hi-end cath labs, electrophysiology laboratory, RFA, space suite and modular OTs, water birthing facilities, invasive and non-invasive ventilators, transport ventilators, fully equipped ICUs, level III neonatal ICUs, dedicated pediatric ICU, world-class dialysis facilities, laminar air flow system, and dedicated kidney transplant unit. This is well supported by the most advanced medical technology like IVUs technology of angiography, Rota-ablation, optical coherence tomography, cutting balloon blade, ECMO, balloon sinoplasty, multipara monitors and touch

screen monitors and high end diagnostic equipment like 64 slice CT Scan machine, 1.5 Tesla MRI and 100 Watt holmium laser machine.

Vision of Hospital-

“Globally respected Healthcare organization recognized for clinical & distinctive patient care.”

Mission of Hospital-

“To be the preferred super specialty healthcare provider of international standards known for patient centric care & clinical excellence through continual improvement of process & outcomes”

Quality Policy-

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

About Company Logo:



The two hands that fuse seamlessly with a human form, express our reassuring approach to healthcare.

- Green is the color of healing and is symbolic of our steadfast focus: to ensure the health and well-being of those we minister to.
- Red is expressive of the dynamic zeal with which we strive to make it a reality.
- Punch line “Your caring hospital”.

Infrastructure:

The infrastructure facilities of the FEHJ are par excellence, such as:

C arm with digital subtraction angiography.

Flat panel cath Lab

Advanced pathological lab

Mobile x-ray

64 Slice CT scan

TMT, ECHO, HOLTER recorder and monitor and ECG to help non-invasive cardiac investigation.

500mA image intensifier TV

Digital CR reader

X-ray

Location:

The access to the hospital is very easy. The hospital is located on JLN Marg Road, Jaipur.

The address of the hospital is:

Fortis Escorts Hospital, Jaipur

Jawahar Lal Nehru Marg,

Malviya Nagar,

Jaipur-302107

Rajasthan, India

Tel: 0141-2547000

Departmental Information:

The organizations comprises of the clinical and non-clinical departments. Each department has its own operations.

Non-Clinical Departments:

1. Quality Assurance Department:

Headed to maintain and perk up the standards, Quality assurance(QA), the activity of providing evidence needed to establish quality in work and the activities that require good quality are been performed effectively. All those planned or systematic actions necessary to provide enough confidence that a product or service will satisfy the given requirements for quality.

2. Human Resource Department:

To ensure availability and retention of quality talent to meet organization goals and objectives. Overall growth and development of employee's orientation and functional training. The department looks into matters like attendance and leave management, appraisal and promotion process, medical benefits, employee welfare programs, payroll management, grievance handling, medical by laws.

3. Medical Record:

Medical Record Department (MRD) is the custodian of all the discharged/expired health record charts. The MRD staff ensures the confidentiality, preservation, storage and retention of the documents.

The department deals with record collection, codification, storage, analytical evaluation and retrieval of records if needed.

4. Pharmacy:

The goal of the pharmacy is to procure and provide medicines and surgical items to the patients. The pharmacy serves various areas of the hospital like Special ward, ICUs, OTs and bio-medical. The department services include procurement and providing medicines to the patients.

The department also delivers medicines to the wards if needed and gives details to the billing department at the time of discharge of patients.

5. Housekeeping:

To achieve defect free room with 100% hygiene and cleanliness to maximize patients satisfaction with minimum cost. The department performs activities like cleaning, providing room amenities, pest controlling and waste disposal.

6. Laundry:

The department delivers spotlessly clean and hygiene linen and uniforms to the users of different departments. The department maintains record for issued linen, received linen, new linen and alterations if needed. The department treats infected/ contaminated linen, treats heat labile linen.

7. Marketing:

The department is responsible for the revenue generation through brand building, retail sales, cooperate marketing, PR and media Communications and liaison with the government. Some activities of the department are brand awareness, events management, cooperate social responsibility, and ensure business & growth in line with organizational objectives

8. Finance:

The department provides accurate relevant and timely financial information necessary in making right business plan and decisions. The finance department looks into business building insights, areas for lowering cost and improving profitability, updating of bills on daily basis for IPD patients. The billing staff has overall responsibility for coordination of various functions (Pharmacy, Wards etc.) and daily basis report for admission and provide the necessary solution to daily problems as deemed proper and reasonable.

9. Information Technology:

The department provides IT values to end users with respect to their day to day function. The department services various departments for IT infrastructure, hardware & network, anti-virus services, internet services.

10. Food & Beverage:

The department provides food and beverages to the esteemed customers and staffs as well. The department performs daily audits of the store and kitchen areas, take rounds of the entire service area with and after the services timings, monitoring of services and sales at various outlets like coffee shops, executive/doctor's dining hall.

11. Engineering:

The department manages all the engineering equipment and machines, supervising day to day hospital maintenance work and ensuring smooth functioning of facilities of hospital. The department coordinates with various departments medical and non-medical so that there is no hindrance in day to day work of all facilities. The Department is responsible for managing plant engineering equipment, utilizes, spares and consumables like diesel generators, plumbing, pipelines, ventilation, air conditioner water treatment plants etc.

12.Patient Welfare Department:

The departmental goal is to make and position the hospital as a “Centre of excellence” by ensuring customer satisfaction through personalized customer care. The department manages patients/attendants expectations as well as keeping the interests of the organization alive, improves the quality of services for the patients through the feedbacks given by them, networking within the organization for the benefit of the patient/attendant and to ensure the action on the feedback.

13.Bio-medical engineering:

The department installs, commission and maintains all the medical equipments in an efficient and cost effective way and makes technical appraisal and recommendation for purchase of new equipments. The department provides inputs to commercial department about new/renewal of contract with equipment supplier including annual maintenance/comprehensive maintenance contracts.

14.Security:

The department provides proactive, competent services, to protect the life and property of every individual present in the premises, to prevent any action or situation that might result in an injury or death when a patient/attendant/visitor/employee are lawfully on the hospital premises.

15.Research:

The department works on studies related to the hospital and the activities undergoing. The department maintains protocol report, investigator brushes, informed consent form file, case report form (CRF) and investigator site file.

Clinical Departments

1. Operation Theatre:

All types of cardio thoracic and vascular surgeries are performed here. High risk surgeries are also performed with Heart Supporting System and advanced perfusion techniques.

There are SICU, CTVS and general surgery, CCU and general wards. The services include invasive monitoring, Patient assessment (Physician, nursing, dietary and physiotherapy), personal needs, dietary needs, bedside X-ray, physiotherapy, transfer to room, patient and family education.

2. CSSD:

The department provides clean and sterile supplies which help in reduction of infection and improving quality of care. The department provides infection control by educating staff on biomedical waste management, by reviewing surveillance data and identifying areas of intervention, by identifying patients or staff with communicable/potentially communicable infections and institute appropriate measures in such cases.

3. Dialysis Unit:

It deals with the artificial replacement of the lost kidney function in patient with renal failure to remove excess water and waste products from the blood.

4. NICU:

It provides world class tertiary level management of sick babies and children. Specialized services include Pediatric surgery, neurosurgery, physiotherapy and child psychology.

5. Labour Delivery Room (LDR):

The department facilities include Obstetrics consultation, investigations, referrals and opinions from other departments if required.

6. Physiotherapy:

The department provides facilities such as Electrotherapy, Diagnostic, Manual, Mechanical Mobilization Therapy, Exercise Therapy, Chest Physiotherapy, Gynae/Obstetrics, Post-Operative Cardiac Surgeries, For Neurological disorders and Geriatrics.

7. HDU, Triage and ICU:

They provide intensive care and monitoring. Procedures performed include bronchoscope, central venous line, peripheral line, arterial line, pulmonary artery catheter, temporary pacemakers, peripheral tracheotomies, PEG placement and chest tube placement.

8. Cath lab:

The range of services in this department includes all emergency and electives procedures across the spectrum of cardiology. CAG, PTCV, BMV, device closure, EP studies, RF ablations, pacemaker implantation, peripheral stenting and many other cardiac procedures are performed in the cathlab.

9. Dietics:

Dieticians provide an array of patient care services including nutritional assessment, counseling services and enteral and parenteral feeding recommendations. The food service department is committed provide all IPD patients with fresh hygienic food. Menus are planned to take advantage of seasonal food and changing patient preferences.

10.Laboratory:

The department offers a comprehensive menu of more than 300 regular and specialized tests performed through the state of the art equipment and based on more than 95 technologies.

FLOOR PLAN of Fortis Escorts Hospital, Jaipur:

1. BASEMENT

- Administration/HR Department
- Marketing Department
- Finance Department
- Staff Dining Hall
- Change Rooms
- IPD Pharmacy
- Medical/General Store
- Medical Records
- Kitchen
- Laundry
- Engineering Department
- Housekeeping Department
- Security Department
- Quality Department

GROUND FLOOR

- Emergency
- Main Lobby
- OPD-I & OPD-II
- Cardiology & Neurology
- Executive Health Check
- Cardiology Lab (Non Invasive)
- X-Ray, C.T> scan
- Blood Bank
- Lab Service

- High Dependency Unit
- Medical ICU
- Cafe
- OPD Pharmacy
- Executive Dining

Ist FLOOR

- Cath Lab
- Cardiac Care Unit
- General Ward
- Neurosurgery Ward
- Physiotherapy
- I.T. Department
- Labour Room
- Delivery/LDR
- NICU
- Library
- Training Hall
- Gastro
- Dining Hall

2nd FLOOR:

- Operation theatres
- OT Recovery I & II
- CSSD

3rd FLOOR:

- Semi Private Rooms
- Private Rooms
- Ward

4th FLOOR:

- Semi Private Rooms
- Private Rooms
- Ward

5th FLOOR:

- Semi Private Rooms
- Private Rooms
- Ward

6th FLOOR

- Semi Private Rooms
- Private Rooms
- Ward

7th FLOOR

- Deluxe rooms

Project One

Vendor Management in Fortis Escorts Hospital, Jaipur

Introduction:

The current competitive scenario for supply chain management has a significant importance and calls for serious research attention, as companies are challenged with finding ways to meet ever rising customer expectations at a manageable cost. To do so identification of supply chain processes that are not competitive, understand which customer needs are not being met, establish improvement goals, and rapidly implement necessary improvements.

Budgeting, planning and forecasting processes are already recognized as some of the most neglected and underserved management procedures when it comes to suitable systems support. So it should come as no surprise that the planning and approval of Capital Expenditure (CAPEX), a more specialized aspect of budgeting generally receives even less attention. Universally acknowledged by management of all levels as a problem area, it is dogged by lengthy timescales, cumbersome approval procedures and inaccurate data, causing many to question the value of a process which absorbs so much management time.

The quality of management information system is crucial to the delivery of timely and accurate forecasts, yet for many organizations, the CAPEX process is over reliant on a labyrinth of disconnected spreadsheets and manual processes. In recent years, a number of specialized software solutions have emerged aimed at providing specialized functionality and workflow capability in support of budgeting planning and forecasting processes. These have had a profound affect on improving the speed of budgeting processes, improving collaboration between user communities and enhancing data quality and reliability.

Large scale capital expenditure is almost by definition a special case. It does not conform to 'normal' budgeting routines because the activities are unusual, generally require special funding arrangements and often attract high levels of business risk requiring board level consideration and approval. What constitutes a 'special case' varies between industries and the scale of the project relative to the size of the companies involved. Furthermore considerations around the acquisition of pre-built assets are very different from the issues surrounding the design and build of a major asset such as open cast mine excavator, a new production capability, construction project or scientific endeavor. Christopher (1998) defined supply chain as the network of organizations that are involved, through upstream and

downstream linkages, in the different processes and activities that produce value in form of products and services in the hands of customer. Mentzer et al. (2011) say SCM is the “strategic and systematic coordination of the traditional businesses within a supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole”.

Aims & Objectives;

- To learn daily operational management of the organization and its various departments for departments.
- To study salient and critical features about functioning of these departments.
- To identify issues and problems with some specific departments.

Research Methodology:

- Information regarding organizational hierarchy, man power, and other details collected from hospital’s manual, SOP’s of department concerned authorities and one to one interaction with the hospital employees.
- Data was collected by reviewing records and from coordinators

Observations:

Vendor Management in Fortis Escorts Hospital, Jaipur

Most of the vendors are selected by Central Buying Unit (CBU), New Delhi. Top pharmaceutical companies of the country come in contact with the BU and also with the vendors. The companies when negotiates for the items with the CBU they inform about the vendor who will be providing their item to Fortis. These vendors then get registered with Fortis for supplying the items to them and to other Fortis too. The companies provide the stocks to the vendors after negotiating price with the CBU and then the hospital will communicate directly with the vendors of respective pharmacy companies. Other than CBU negotiated vendor, recommendation note is made to compare the medical items to be procured, in between two or more vendors for the lowest price. This prepared recommendation note is then presented in purchase committee (Finance person, HOD purchase and user). One vendor is selected on the behalf of lowest price and the in future orders of those items are placed for the procurement.

Fortis Escorts Hospital, Jaipur has nearly 507 vendors out of which 55 are for pharmacy items, 205 for consignment and capex, 56 for medical and 191 are for non-medical items. The vendors fill a Quotation Comparison & Purchase Approval Form (QCPA) that contains detailed description about the product.

Pre-set listing of the vendors on the basis of price on which items are supplied to the hospital is done. The vendors are listed as following:

L_1 =Maximum Margin.

L_2 =MidMargin.

L_3 =MinimumMargin.

Where L_1 is the minimum price offered by a vendor for item to be procured there by offering maximum margin to the hospital. In case of L_3 vendor the price offered is the highest of all the three vendors hence minimum margin is in these vendors.

Fortis Purchase Department

Purchase department works in co-ordination with store department and basically is responsible for bridging gap between vendor and store department.

Organogram of Purchase:

Purchase department working can be explained with the following organogram.

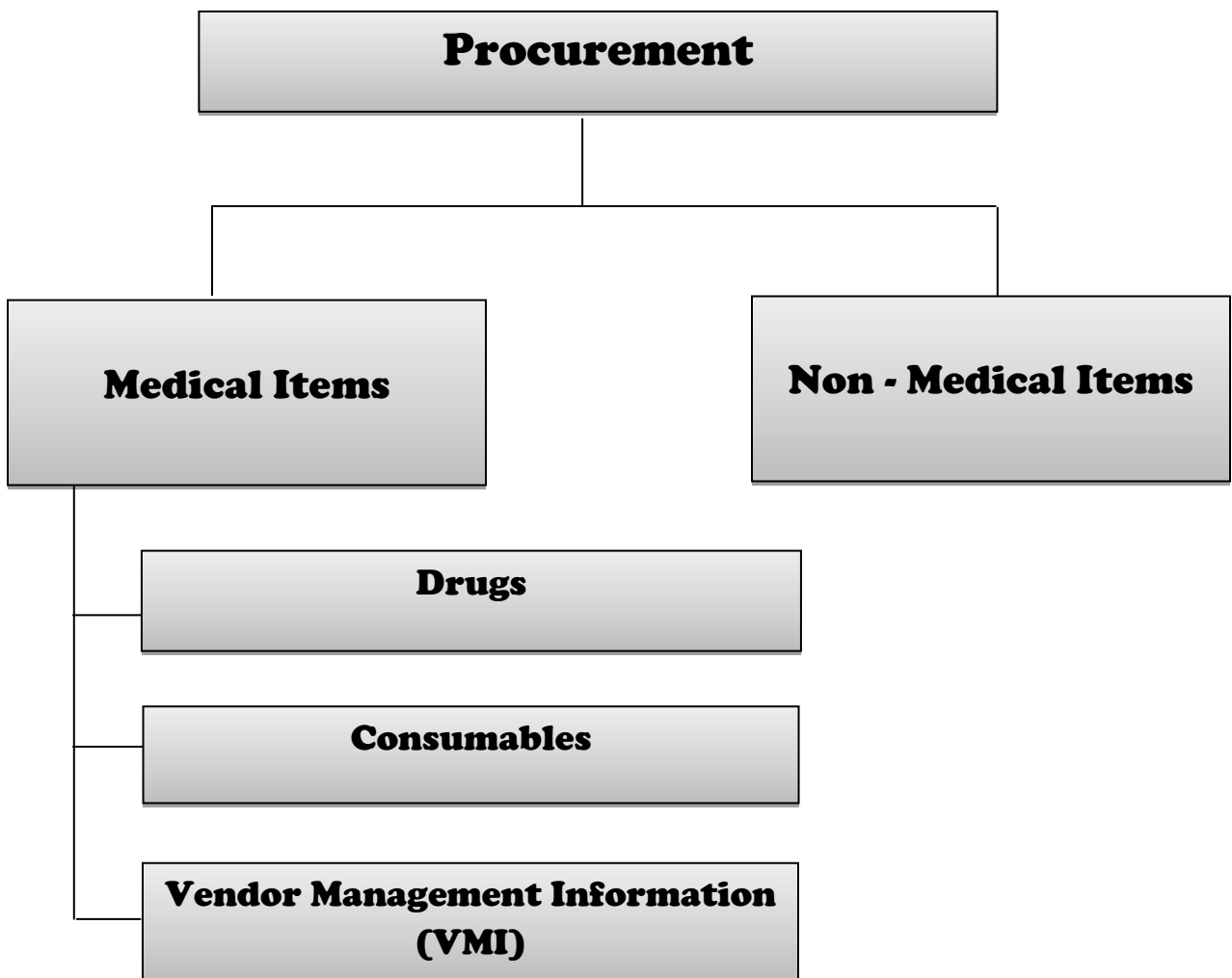


Fig 1: Organogram Of Purchase

Interdepartmental Coordination:

The flow chart below enables us to understand the basic working structure followed in Procurement department in Fortis Escorts Hospital, Jaipur, involving various departments like various medical units, pharmacy store, purchase department, vendors and finance department to end with. Every department should make a perfect coordination, to ensure the systemic Supply Chain Management of medical goods used in hospital.

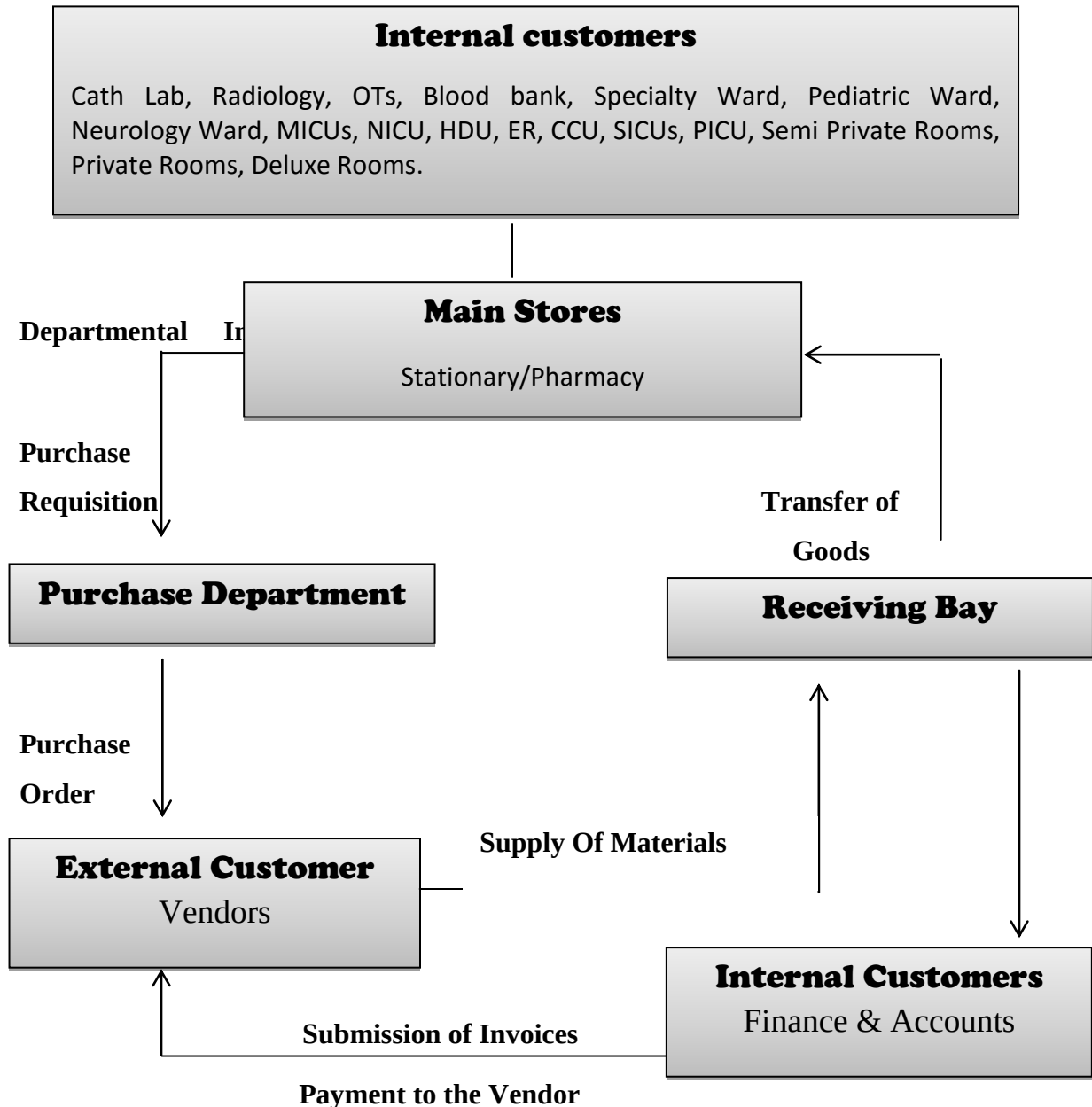


Fig. 2 Interdepartmental Coordination

Process flow in Fortis Escorts Hospital, Jaipur:

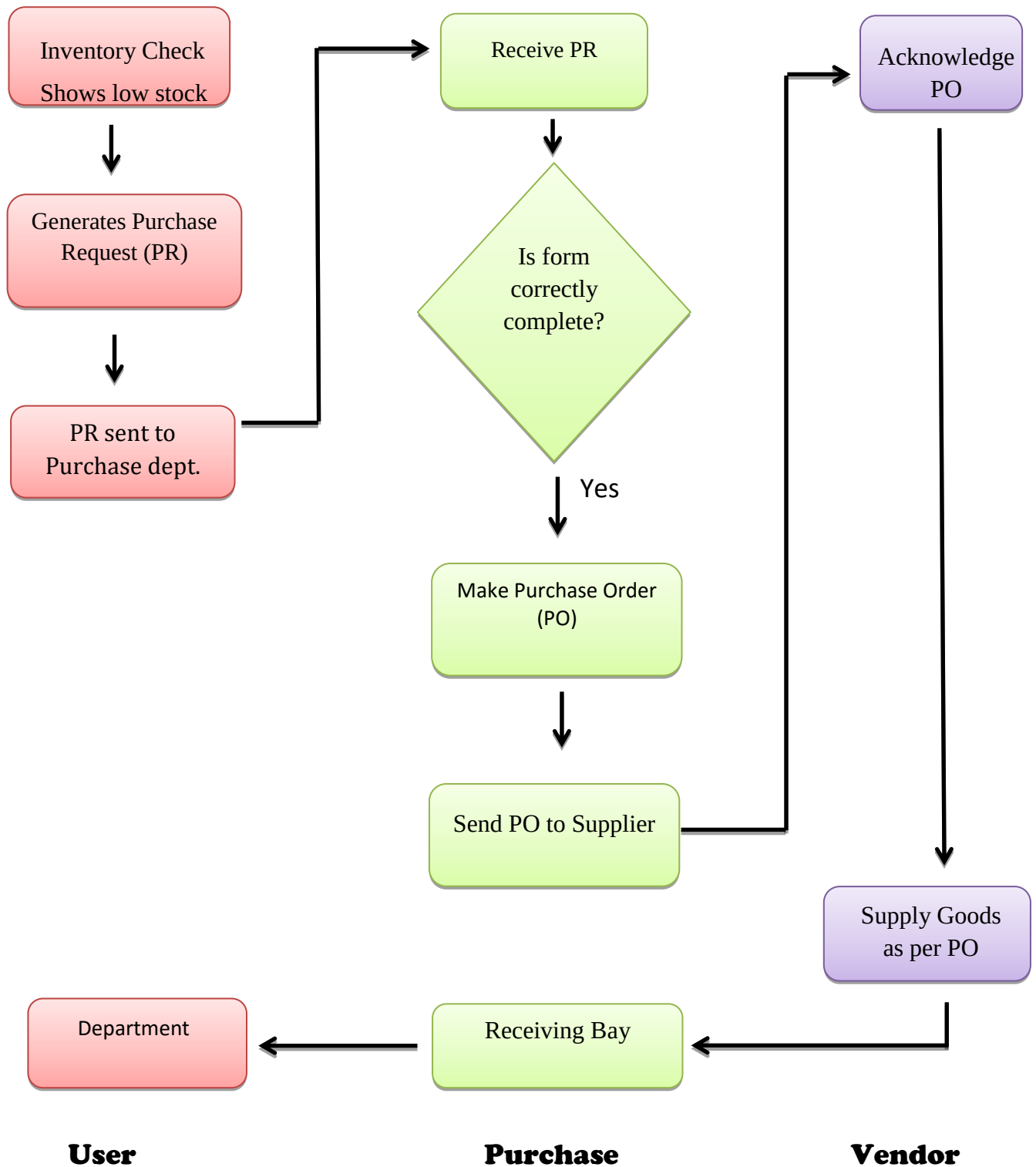


Fig. 3 Process flow for SCM

Approval Hierarchy of Purchase Department for unit:



Fig.4 Approval Hierarchy of SCM

The above pyramid describes about the approval hierarchy followed in Fortis Escorts Hospital, Jaipur. The purchase order is raised by the buyer against the approved PR which is forwarded to the head purchase for approval. The head purchase after conformation from the user generates a Purchase order and is sent to finance individual for clearance in terms of prices.

Rate approval process before raising PO:

Negotiation is done for which three quotations are requested. Quotation Comparison & purchase Approval (QCPA) form is filled by the three vendors in which they give their best possible rate. The vendor with minimum rate is selected and item is procured.

Local purchases are approved through head purchase.

Process Flow for Indent:

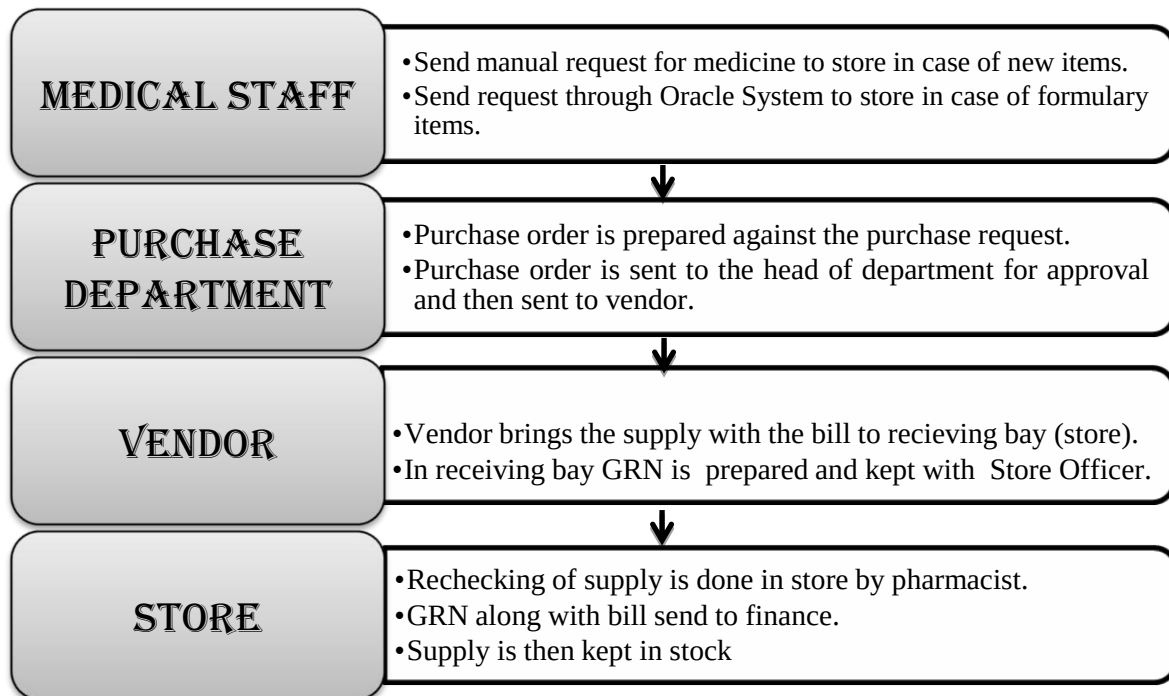


Fig.5: Process flow of indent placement

The above flow chart explains the process how the order for any items is placed in the hospital. Requirements for medicines either new or old are raised by the medical staff of the hospital. Then the working of store and procurement department starts. Store person prepare a requisition which is approved by the head of department and send to purchase department. In purchase department purchase order is prepared against the requisition which is approved by the head of department and sends it to vendor. Vendor bring the items as ordered to the receiving bay of the hospital where GRN is prepared and items are send to store. Rechecking of supply is done by pharmacist and kept in stock. GRN along with bill is send to the finance department for approval.

Process Flow for Item code creation:

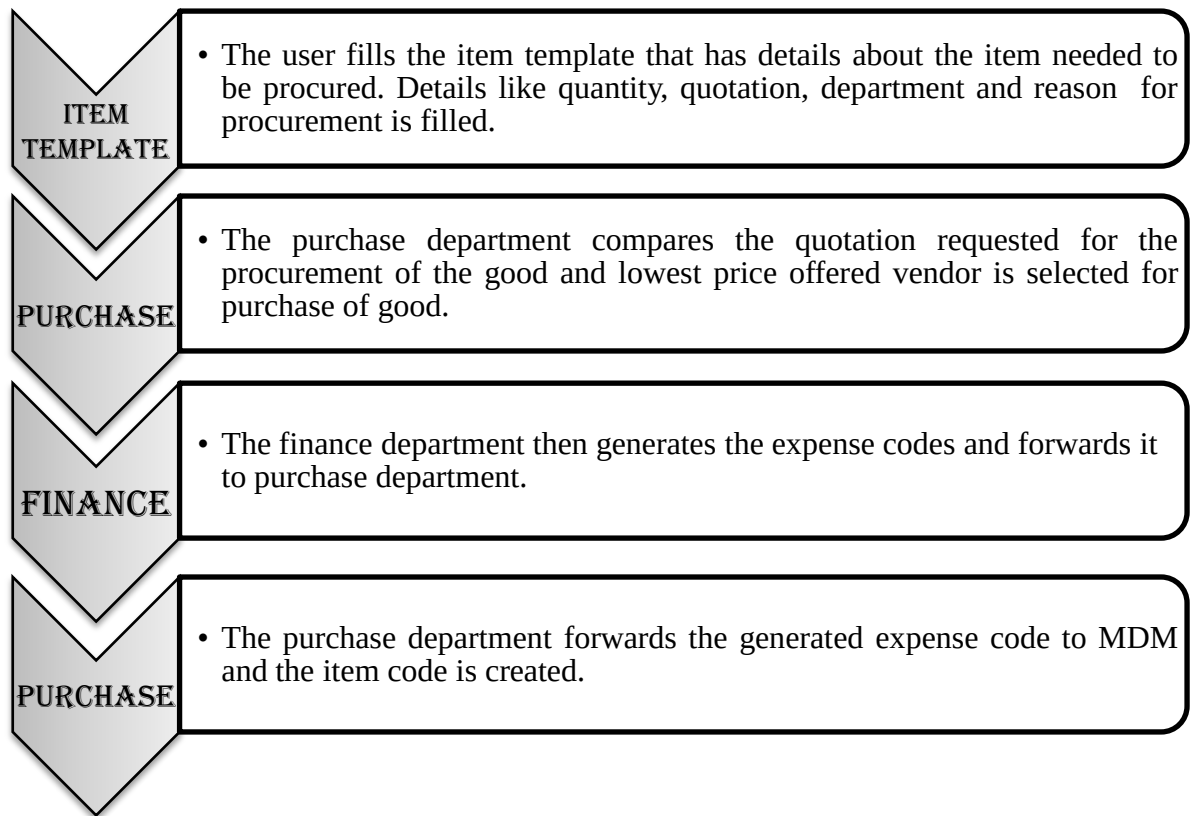


Fig.5 Process flow of new item code creation

The new item code generation is a process that involves all user department, purchasedepartment and finance department. The process begins with the user filling an item template with all the details like quantity, quotation, reason of procurement, model no. Etc. and forwards it to purchase department. The purchase team invites quotation for the item to be procured and compares the rates of the product and finalizes the min quoted price vendor and forwards it to finance department. The finance department after generation of expense code forwards it to purchase department which sends it to Master Data Management (MDM) and the item code is created.

Protocol for Procuring the Non-Formulary Item-

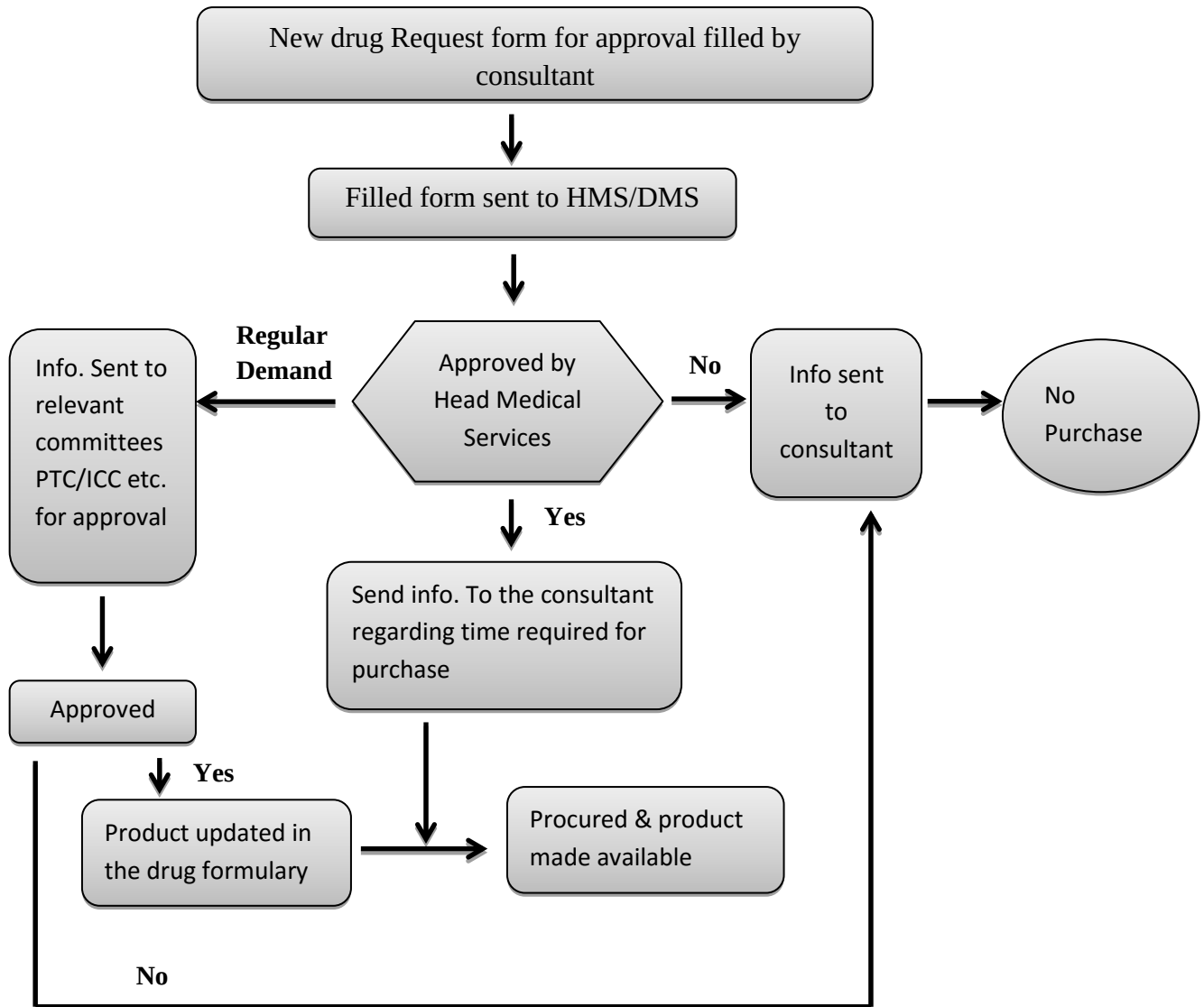


Fig.5: Protocol for procurement of non-formulary Item

The above flow chart explains in detail about the process of purchase of non-formulary items. The above flow chart also explains about the process flow to add a non-formulary object to formulary list.

Vendor Development in Fortis Escorts Hospital, Jaipur-

Process of introduction of new product supplied by new vendor

1. Based on patient need purchase department identify new items/vendors when required.
2. New vendors can also be consulted with the help of other hospitals with in Fortis Escorts group or other hospitals, making telephonic enquiry or searching the internet.
3. New vendors must fulfill the following criteria:
 - i. Quality of product.
 - ii. Net purchase rate.
 - iii. Credibility in market
 - iv. Authorization from principal company.
 - v. Credit term.
 - vi. Lead time.
 - vii. Effective Communication.
4. Samples of new product to be introduced may be taken from the vendor in sufficient number.
5. These samples shall be given to the identified user department competent to assess quality. E.g. any cardiac surgery product samples to be approved by the head of CTVS department.
6. Simultaneously, quotations would be invited for the products and rates would be analyzed. Rates of the equivalent products other companies would be compared but this rule shall not apply to monopoly products.
7. Manager must negotiate rates based on the available cost comparison. Rates should be negotiated with the principal company rather than any distributor or dealer.
8. In case of new items, if all criteria are found to be satisfactory then manager material shall present the details to purchase committee for final rate negotiations and approval thereafter.
9. A new vendor can be introduced for an existing item without purchase committee approval if the same items are available at lower rates from the new vendor.

10. The purchase order can be placed once the purchase committee approval has been obtained.

Vendor management terms and conditions-

1. Please give reference of our PO number on your invoice.
2. Payments of invoice not carrying a reference of our PO number are liable to get delayed.
3. Batch No., Expiry Date and MRP (Wherever applicable) must be mentioned on the invoice.
4. Acceptance of goods would be subject to inspection as per 'Incoming Material Inspection Criteria'.
5. Invoice should be made in favor of 'Fortis Hospitals Limited, Jaipur'.
6. Vendor shall be responsible for payment of octroi and the same shall be reimbursed on submission of proof of payment.
7. In case vendor fails to pick up all goods even after three reminders then goods would be returned via courier along with debit note.
8. Material less than six months expiry would not be accepted.
9. Vendor shall submit PO copy along with challan and invoice copy otherwise goods would not be accepted.

Current Issues in Vendor Management in Fortis Escorts Hospital, Jaipur-

Managing vendors at times can be a painful process. Every hospital faces different problems with different vendors. Some of such problems which Fortis Escorts Hospital, Jaipur are listed below-

1) Delivery Issues-

The main problem that hospital faces with the vendor is of delivery issues. The order placed is not delivered on time by vendors. This problem can have various reasons associated with it like:

- a) Order is not currently available with the vendor in case of rare items.
- b) Vendor has not received the items from the company in case of rare items.
- c) Vendors having issues with the hospital for example, previous bill yet to be cleared.

2) Quality Issues-

Quality of each procured item has to be maintained to keep it effective for the user.

Some vendors may not pay attention towards the quality of the item and supply same to the hospital. This problem remains a major concern for any hospital but fortunately in Fortis Escorts Hospital, Jaipur this problem has not escalated much, thus quality issues are not a major concern here.

3) Rates-

At the time of inflation, a hike in prices can be seen in the market. During such conditions the items that are under CBU contract will not see the price hike but the items which are of Non-CBU will get a hike and will affect the prices of items in each Fortis Escorts Hospital. Thus at the time items are available at high prices affecting the financial process of the hospital.

4) Vendor Monopoly-

When an emergency item is available with only one vendor in town, the negotiation with that vendor becomes a difficult task. Therefore, in this case hospital has to suffer on financial terms.

5) Less technological friendly Vendor-

Sometimes vendors forget to get PO along with them while delivery, hence again PO printout is taken again so that measures to check the order can be done. This wastes hospital stationary and time also. Moreover the vendors are not technology friendly hence delaying the process of procurement.

6) Attitude of the vendor-

The behavior of vendor is very important and affects business to a large extend. Negative attitude of any vendor make it difficult to work for every person involved in it. Such problems are rare for Fortis Escorts Hospital, Jaipur.

7) Expiry date issues-

Sometimes due to regular drug intake the vendor supplies drugs that have short expiry date. In such cases the lot is returned to the vendor and new lot is requested wasting time during the process.

Issues faced by vendors from Hospital Authority-

- 1) Bills are not cleared within proper time, thus delaying the payment of the vendor and making him unavailable or delaying the supply for the next time.
- 2) Sometimes the PO's are placed late in evening by the hospital staff hence the vendor is unable to deliver the drug on time increasing the lead time.
- 3) Sometimes invoice bills are misplaced by the department which delays the payment to the vendor.
- 4) Rarely the attitude of hospital authority is rough when a vendor requests for delivery or for payment, making the vendor unavailable in case of next order placed by the hospital mainly in case of high priced item.

The only issue with that vendors face is of payment from hospital without delay.

Recommendations:

- 1) The purchase department requires more manpower for effective functioning of SCM.
- 2) Proper vendor management assessment half yearly and a proper updation of documents must be made in system.
- 3) Every year vendor meetings should be done to review and clarify issues faced by both vendors as well as the hospital.

References:

- Bard C.R., “Value analysis and Standardization: Systematic Steps to support system wide change”,2010, retrieved on may 2016.
- Fortis Escorts Hospital Standard Operating Procedures (SOP)
- Face to face interaction with employees.

Project Two

Inventory Control by ABC Analysis of Drugs

Introduction:

The goal of any hospital supply system is to ensure that there is adequate stock of required items, so that uninterrupted supply of all essential items is maintained. Health care industry is a labor intensive organization. While salaries and fringe benefits account for roughly 60 percent of operating costs in a hospital, 30-35 percent of costs are incurred on materials and supplies like drugs etc. A logistic expenditure is possible on materials and supplies therefore, controlling these expenses. A study conducted by the Department of Personnel and Administrative reforms in India has revealed that not only quantity of medicine received in the primary health centers falls short of their requirements but the supply is often erratic. Even common medicines are out of stock and remain so for a considerable period. Of the various explanations for non-availability of even simple medicines in the third world countries, a large number are related to materials management. The present study was conducted at Fortis Escorts Hospital, Jaipur to study the drug management through the application of inventory control techniques like ABC, VED and ABC-VED matrix analysis. Since health sector perennially faces a resource crunch it is essential that health managers use scientific methods to maximize their returns from investment at a minimal cost.

Review of Literature:

Approximately 30-35% of hospital budget is spend on buying materials and supplies, including medicines. This requires effective and efficient management of the medical stores. Efficient priority setting, decision making in the purchase and distribution of specific drugs, close supervision on drugs belonging to important categories and prevention of pilferage depend on the drug and inventory management.

Quality of care in the tertiary care hospitals is also sensitive to the timely availability of facilities including drugs. Huge budgets and key element in the provision of care make drug as an important component of hospital care. The medical store is one of the most extensively used facilities of the hospital and one of the few areas where a large amount of money is spent on purchase on a recurring basis. This emphasizes the need for planning, de-signing and organizing the medical stores in the manner that result in efficient clinical and

administrative services. The goal of the hospital supply system is to ensure that there is adequate stock of the required items so that an uninterrupted supply of all essential items is maintained. A study conducted by the Department of Personnel and Administrative Reforms in India has revealed that not only does the quantity of medicines received fall short of requirement but also the supply is often erratic.

Even common medicines are out of stock and remain so for a considerable period. Of the various explanations for non-availability of even simple medicines in the third world countries, a large number are related to materials management. A study from a 1500 bedded state funded hospital has claimed that review and control measures for expensive drugs brought about 20% savings.

Drug inventory management aims at cost containment and improved efficiency. Inventory control is very essential in a developing country like India. India is a country of scarce resources and it is the primary responsibility of each hospital to ensure optimum utilization of available resources to provide good service or quality patient care. Usually, the hospital management is faced with choosing the alternative of either lowering the quality of care or adopting ways and means to reduce the cost of inventories. Therefore, the need of the hour is that we follow the principles of rational drug use and inventory management techniques so that in the existing budget we can cater to more number of patients.

It is essential that the health managers use scientific methods to maximize their returns from investment at a minimal cost. Inventory analysis seeks to achieve maximal output with minimal investment input, based on the economic principle of stretching the limits means to meet unlimited ends. Each item may be considered critical and there is a perceived need to supply very high levels of service.

There is no denying that the stocking hospital pharmaceuticals and supplies can be expensive and tie up a lot of capital, and bringing efficiencies to such important cost drivers- often 30%- 40% of a hospital's budget can present meaningful savings. Thus a hospital material manager must establish efficient inventory system policies for normal operating conditions that also ensure hospital's ability to meet emergency demand conditions¹². The study use pattern helps in designing appropriate corrective measures. ABC analysis is an important tool

used worldwide, identifying items that need greater attention for control. The limitation of ABC analysis is that it is based only on monetary value and rate of consumption of the items. Sometimes, particularly in a hospital an item of low monetary value and consumption may be very vital or even lifesaving. Their importance cannot be overlooked simply because they do not appear in category A of inventory. Therefore, another parameter of the materials is their critically. This could be in item of the therapeutic value of a drug or intrinsic value of the material in achieving the objectives of the hospital system.

We undertook this analysis of inventory control of drugs to identify areas for further improvement as well as find corrective interventions to achieve this end result.

Aims and Objectives of Study:

- To identify the categories of drugs and medical consumables which need stringent management control.
- To analysis the annual consumption of items of medical store and expenditure incurred on them for the year March 2015-2016.
- To evolve a priority system based on ABC analysis.

Methodology:

The study was conducted at Fortis Escorts Hospital in Jaipur. The data of annual consumption and expenditure incurred on drugs in the medical store for financial year 2015-2016 were collected and then transcribed and analysis in MS Excel.

ABC Analysis:

An ABC analysis is performed to classify planning objects according to their usage value, or number of objects. During ABC analysis, the system assigns each object one of the following indicators:

- A - The most value, or given number of objects that produce the greatest value
- B - Less value, or given number of objects that produce less value
- C - The least value, or given number of objects that produce the least value

The annual consumption of all the drugs was calculated after multiplying unit cost by annual consumption and the resulting annual expenditure of individual items was arranged in descending order. Next step was to calculate the items cumulative cost of all the items, as well as the cumulative percentage of expenditure and the cumulative percentage of number of items. The drugs were then classified into three categories: A, B and C based on the cumulative cost percentage of 70%, 20% and 10% respectively.

Result:

The study was conducted in Fortis Escorts Hospital, Jaipur to identify the categories of drugs that needing a strict management control.

The drug formulary of the hospital comprises of 1665 items. The total expenditure of medicines Rs. 95283390.20 for six months i.e. October 2015- March 2016.

ABC Analysis-

ABC analysis revealed that 4.69% of drugs belong to category A, 10.75% of drugs belong to category B and 84.56% belong to category C. The amount of Rs. 66698373.14 are spent on Category A drugs, Rs. 19056678.04 on category B and Rs. 95283390.2 on category C i.e 70.03%, 10.75% and 10.02% of the total expenditure respectively

Table below show the category wise distribution of the drugs.

Category	No. Of Drug	% Of Item	Annual Drug Expenditure	% Of Annual Drug Expenditure
A	78	4.69	66698373.14	70.03
B	179	10.75	19056678.04	19.95
C	1408	84.56	9528339.02	10.02
Total	1665	100	95283390.2	100

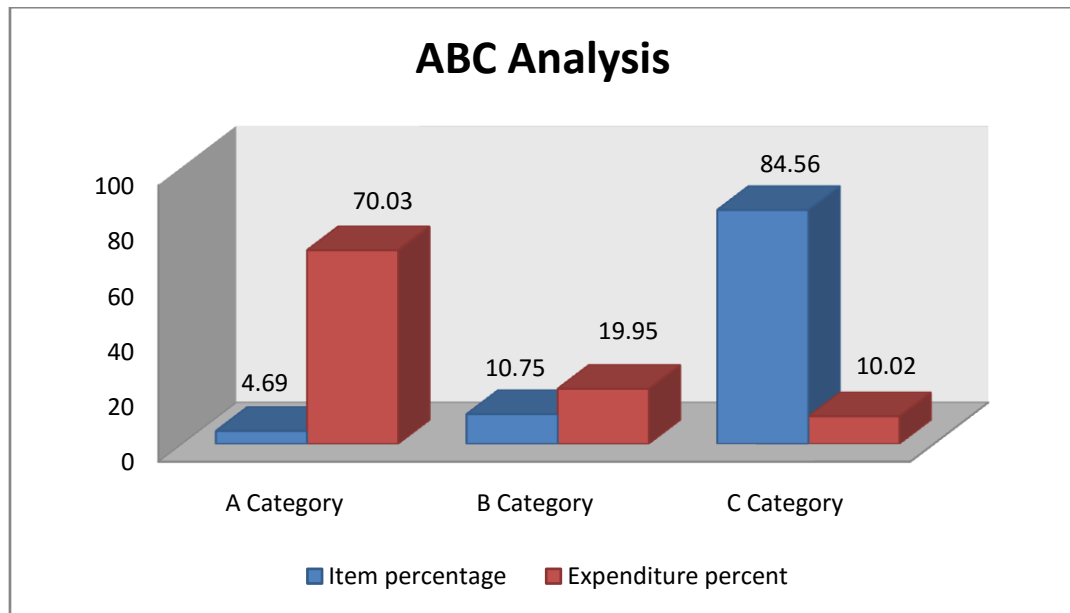


Fig The category wise distribution of the drugs.

The above graph clearly explains that only 4.69% of the drugs are counting for 70.03% of the total drug expenditure. Hence by keeping a tight control over the A category drug 70% of expenditure for drug can be controlled.

Constrain of the study:

In place of procurement cost of the drugs MRP of the drug was provided hence calculations were done on the basis of MRP not actual cost.

Recommendations:

- For A category drugs audits should be for every Week.
- For B category Drugs audits should be for every Month.
- For C category drugs audits should be on quarterly basis.
- The forecasting of A Grade drugs need to be accurate.
- A category Drugs having nature of life saving but slow moving can be shifted to consignment basis for better inventory management.
- The ordering procedures regarding A grade drugs should be very accurate and fixed EOQ.
- In case of A grade drugs minimum safety stocks should be maintained whereas for C category drugs it should be high.

References:

- Gupta, S and Kant, S (2000) Inventory Control. Hospital Store Management- An Integral Approach.
- Das, J.K. (2001) Inventory control. In: Kaushik, M Agarwal, A.K., Arora, S.B., Eds., Essentials of logistics and equipment management, manual of post graduate Diploma in Hospital and health management.
- Beier, F.J. (1995) the management of the supply chain for hospital pharmacies: A focus on inventory management practices. Journal business Logistics.
- Academy of Hospital Administrators. Management Development program for doctors.
- Gandhi P, Basur A. Application of ABC analysis in medical store of ESIC, Delhi.
- Thawani VR, Turankar AV, Sontakke SD, Pimpalkhute SV, Dakhale GN, Jaiswal KS et al. Economic analysis of drug expenditure in Government Medical College Hospital, Nagpur, Indian J Pharmacol 2004.