

To Study the Existing System and Practices of Supply Chain
Management in Rajasthan Medical Services Corporation and
Comparing with Pre-Establishment of RMSC

By

Amit Vyas

*Dissertation submitted for the partial fulfillment of the
MBA Pharmaceutical Management*

Academic year, 2015-2017



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TO WHOMSOEVER MAY CONCERN

This is to certify that Mr. **Amit Vyas** student of MBA Pharmaceutical Management from The IIHMR University, Jaipur has undergone internship training at **Rajasthan Medical Service Corporation Limited**, Jaipur from 07-02-2017 to 6-05-2017.

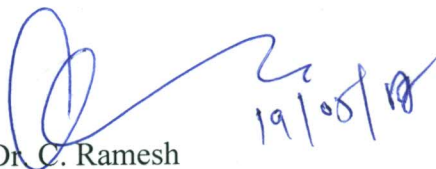
The Candidate has successfully carried out the study designated to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish his all success in all her future endeavors.



Dean, Academics and Student Affairs
The IIHMR University, Jaipur


19/05/18

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S. No: F. 4()/RMSC/Admin./Req./2017 / 949

Dated: 24.5.2017

To Whomsoever It May Concern

This is to certify that **Mr. Amit Vyas S/o Sh. Ramesh Kumar Vyas** bearing Registration No: 0056 from IIHMR University, Jaipur has successfully completed his dissertation training in our Supply Cell Department on **“To study the existing system and practices of Supply Chain Management in Rajasthan Medical Services Corporation & Comparing with pre establishment of RMSCL”** at Rajasthan Medical Services Corporation under the guidance of **Mr. Sanjay Pareek, Manager Supply Cell** from 07-02-2017 to 06-05-2017.

During dissertation training Mr. Amit Vyas performance was found good. We wish him all the success in future life.


Officer on Special Duty
RMSCL

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that the dissertation titled **“To Study the existing system and practices of Supply Chain Management in Rajasthan Medical Service Corporation and comparing it with pre establishment of RMSC”**. and submitted by **Mr. Amit Vyas** Enrollment No **IIHMR-U/07/2015-17/0303** under the supervision of **Mr. Sanjay Pareek** for award of MBA in Pharmaceutical Management of the University carried out during the period from **FEBRUARY 2017** to **MAY 2017** embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.



Signature

THE IIHMR UNIVERSITY, JAIPUR

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled **“To Study the existing system and practices of Supply Chain Management in Rajasthan Medical Service Corporation and comparing it with pre establishment of RMSC”**.....



Signature of student

DECLARATION

*I am a student of MBA Pharmaceutical management, Institute Of Health Management and Research Jaipur, declare that the project titled **To Study the existing system and practices of Supply Chain Management in Rajasthan Medical Service Corporation and comparing it with pre establishment of RMSC** is written and Submitted by me in partial fulfillment of the degree of master of business administration in Pharmaceuticals in the Institute of health management of research, Jaipur University, Rajasthan is my Original work and has not been submitted elsewhere previously in partial or full of the award of any degree in any University.*

Amit Vyas

Acknowledgement:

The Dissertation Training opportunity I had with “Rajasthan Medical Service Corporation Ltd.”, as a part of MBA Pharmaceutical Management program was a golden opportunity for learning and professional development. Therefore, I am as very lucky individual as I was provided with an opportunity opportunity to be a part of it. I am also thankful for having a chance to meet so many knowledgeable people and professionals who led me though this Dissertation Training program.

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I express my deepest thanks to Training coordinator **Mr. C. Ramesh** (Dean Pharmaceutical) **IHMR** University, Jaipur for taking part in useful decision & giving necessary advices and guidance on how to incept and commence the Training. I choose this moment to acknowledge their contribution gratefully.

At Last I would like to praise and thanks Almighty God for his shower of blessings throughout my Dissertation, hence I could work with full integrity and Zest.

Thanks, Sincerely,

Amit Vyas

MBA Pharmaceutical Management

Name of the Figures

S.No.	Name of Figures	Page No.
1.	E- Aushadhi Web Portal	10
2.	Work Flow of E-Aushadhi	11-14
3.	Organogram of RMSC	15
4.	Type wise Eligibility count of EDL	17
5	Available drug warehouse	18
6	Flow of Drug Distribution	19-20

Table of Content

S. No.	List of Content	Page No.
1.	Introduction	7-14
2.	Need of The Study	21
3.	Review of Literature	22
4.	Objective	23
5.	Research questions	24
6.	Research Methodology	25
7.	Data Analysis	26
8.	Result and Discussion	27
9.	Recommendation	29
10.	Conclusion	30
11.	Reference	31

List of Abbreviations

Term	Explanation
ABC	ABC Analysis – Method for measuring Drug Consumption
DDC	Drug Distribution Center
DDW	District Drug Warehouse
D&C	Drug and Cosmetics
DDO	District Drug Officer
DTC	Drug and Therapeutic Committees
E-aushadhi	Drug Management System
EML	Essential Medicine List
HQ	Head Quarter
LD	Late Delivery
MD	Managing Director
NOSQ	Not of Standard Quality
PO	Purchase Order
PHC	Primary Health Care Centre
QC	Quality Control
RC	Rate Contract
RMSC	Rajasthan Medical Service Corporation
STG	Standard treatment Guidelines
VED	Vital Essential Desired

INTRODUCTION

Rajasthan Medical Services Corporation Limited (RMSCL) is a Public Limited Government Company established on 04th May, 2011. It has obtained Certificate of Commencement of Business on 13th June, 2011. RMSCL has been established as a centralized procurement agency for purchasing generic medicines, surgical & sutures and medical equipments for the department of Medical, Health and Family welfare department. It was constituted in compliance of Hon'ble Chief Minister to provide free of cost commonly used essential medicines to all patients visiting Government hospitals.

SIGNIFICANT FEATURES OF THE RMSC

1. The RMSC model is known for its accountability, reliability and responsibility. Some of the significant features that make the system superior are as follows-
2. The main job of Supply Cell is to maintain continuous availability of medicines & surgical in the District Drug Warehouse of RMSC as per the demand.
3. Quarterly purchase orders are issued through e-Aushadhi as per the annual demand, consumption pattern, & suggestion of respective District Warehouse in-charges. Regular monitoring of stocks is done through the software.
4. The cases of surplus (excess) stock or shortages are dealt with promptly by carrying out inter- warehouse transfers. The near expiry drugs are also taken care of in a similar way so that there is optimum utilization of drugs within the shelf life.
5. The supply cell is thus the key to Supply chain management and inventory control of drugs in the District Warehouse across the state.
6. RMSC covers almost 12000 medical and healthcare facilities; ranging from sub-centers to medical colleges.
7. The Distribution Management cost is as low as ~ 5% per year.
8. RMSC manages 34 district drug warehouses in 33 districts located across the state
Inculcates the practice of blister packing with a special logo to avoid misuse and usage of Counterfeit drugs.
9. Efficient Quality Control systems to eradicate sub- standard products.
10. Overall stock control and stock maintenance through e- Aushadhi software.
11. Real-time, accurate Management Information System (MIS) for Planning, execution and control.

e-Aushadhi Portal

e-Aushadhi
Directorate of Health Services (Maharashtra State)

Advanced Drug Warehouse Management System

The e-Aushadhi is a web based application which deals with the management of stock of various drugs, sutures and surgical items required by different district drug warehouses of Maharashtra state. The prime objective of a District Drug Warehouse is to supply drugs to the various medical institutes that are associated with the given district drug warehouse.

Drug Locator
Locate drugs in warehouses

Drug Transfer
Hierarchical transfer of drugs

Quality Control Desk
Maintain details of quality check

Benefits of e-Aushadhi

- 1. Better Planning, executing and controlling
- 2. Online Tracking of Drug Inventory
- 3. Streamlining of Inter-Drug warehouse Transfer
- 4. Store, Maintain, Update, Search & Display information related to drugs
- 5. Alert with different colour for to be expired item will be generated well before its expiry date

Login

Username

Password

[Forgot your password](#)

Get in touch

e-Aushadhi Cell - (022) 22626124 / 22626123
Procurement Cell - (022) 22631831/22651026
Email: eaushadhi@gmail.com
Address: 1st floor, Procurement cell, Arogya

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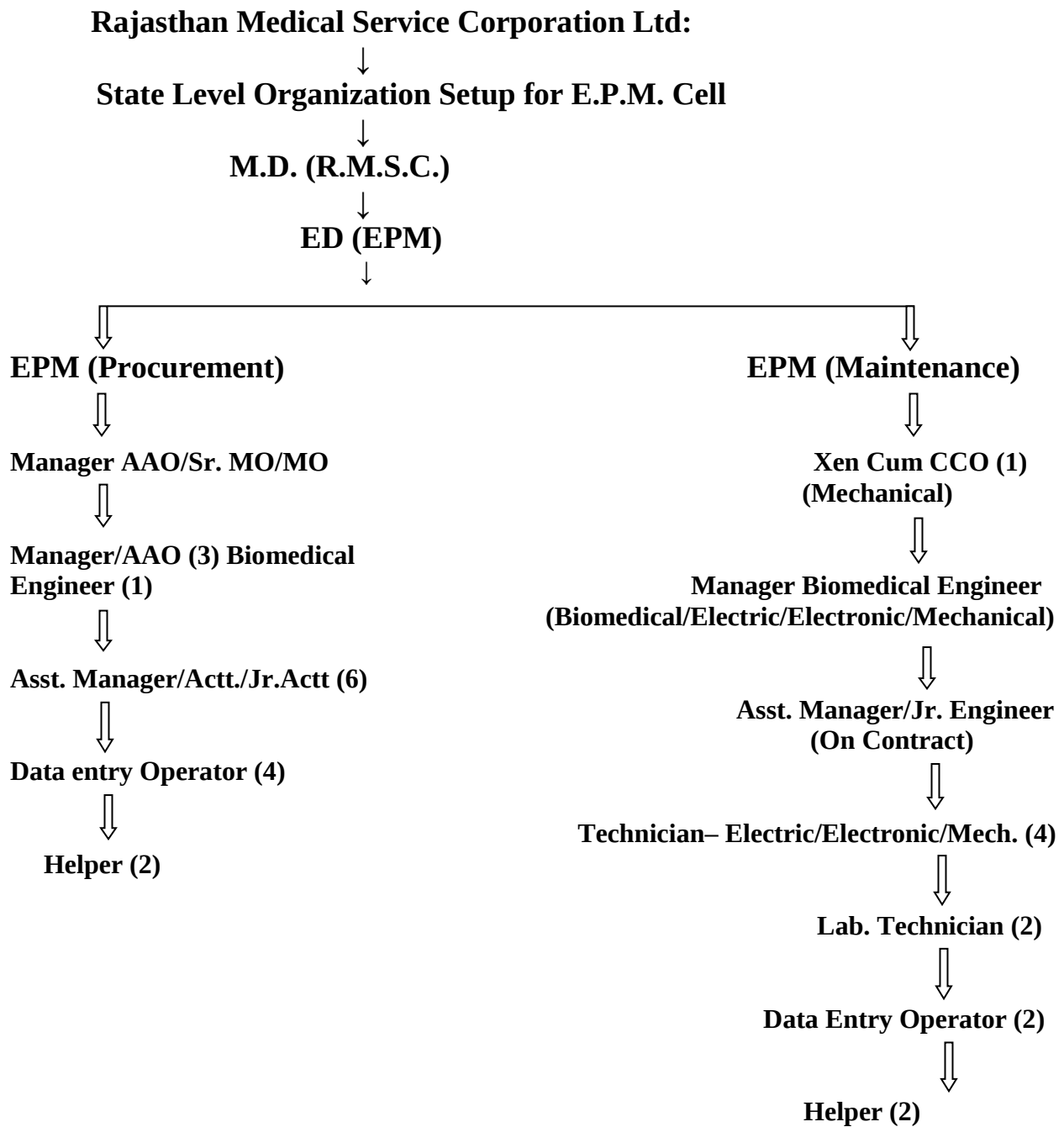
The e-Aushadhi is a web based computer software which deals with the management of stock of various drugs, sutures and surgical items required by different district drug warehouses of Rajasthan state.

"e-Aushadhi" helps in ascertaining the needs of various district drug warehouses such that all the required materials/ drugs are constantly available to be supplied to the user district drug warehouses without delay. This includes classification/categorization of items, codification of items, etc. The prime objective of a District Drug Warehouse is to supply drugs to the various medical institutes that are associated with the given district drug warehouse.

Supply of Medicine:

2. The onus is the supplier to ensure that all legal requirements are met, when Medicines or Scheduled substances are supplied.
3. Supplier should ensure that accounts are only opened or agreement entered for purposes of the sale of medicines and scheduled substances in the name of legal entity (Company, Corporation, Partnership or sole proprietor), which is appropriately authorized to purchase such medicine.
4. The contract also specifies the penalties for default.
5. Only accept medicines with the appropriate documentation including.
 - A certificate of analysis issued by the manufacturer (Batch certificate)
 - Detailed product specification including quality standards (IP, BP, USP) Labeling, nomenclature, and packaging.
 - For imported medicines, a test report of manufacturer, or the one issued by the drug regulatory authorities.
6. Ensure quality through the inclusion of tendering criteria, for example specifying a minimum self life (at least 75% self life should remain upon arrival), and insisting manufacturers have a minimum turnover for the product quoted and proof of GMP compliance.

ORGANOGRAM:



ORGANIZATION STRUCTURE

Supply cell:

Quality Control Cell:

Logistics Cell:

Information Technology Cell:

Finance Cell:

Technical Advisory Committee:

1.

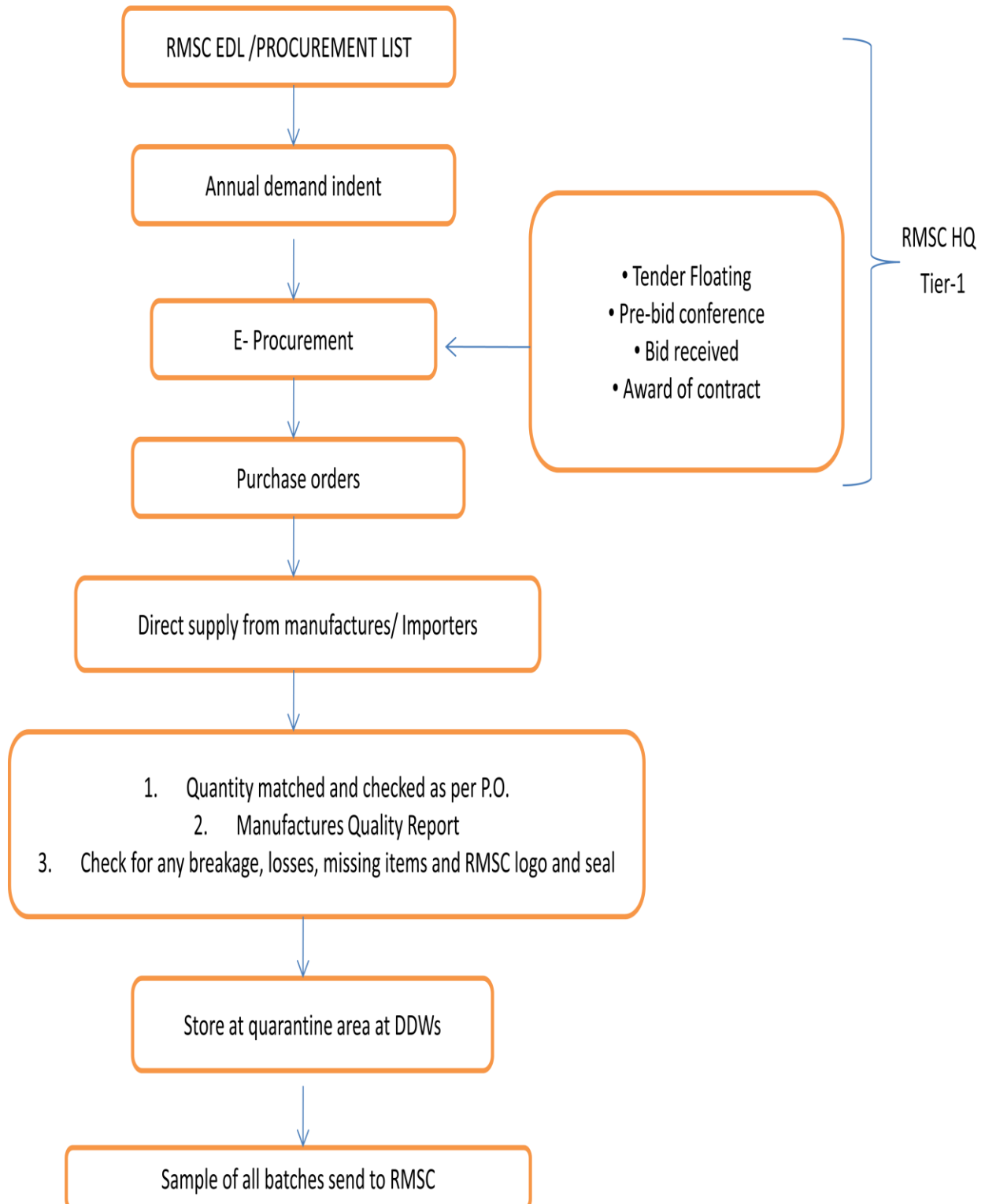
Types	Drugs	Surgicals	Sutures	Total
Sub Center	32	9	0	41
PHC/Dispensary	240	69	2	311
CHC	445	107	11	563
SDH/Sat. Hospital	523	138	37	698
Medical Hospital	603	141	77	821

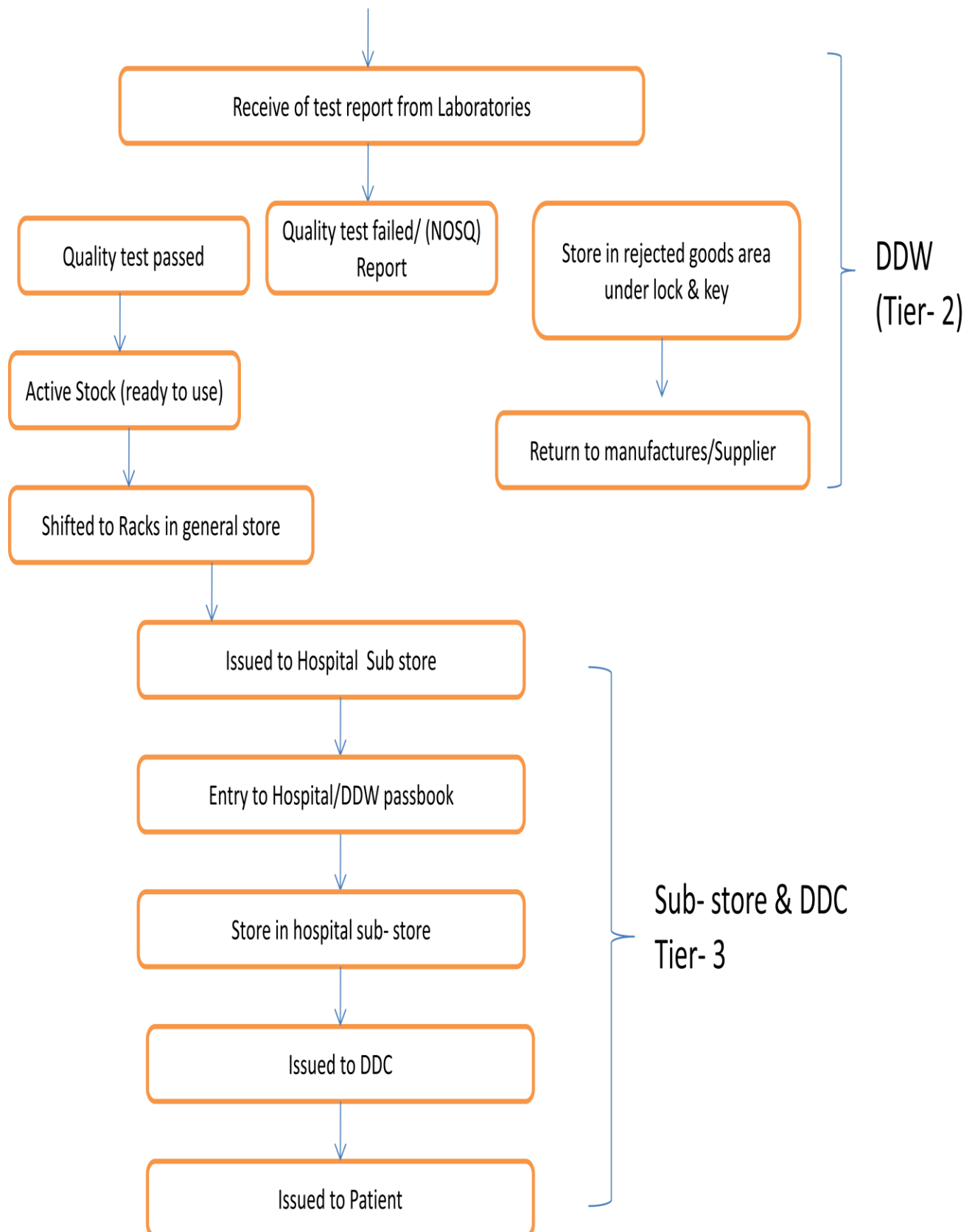
Table: - 1 Type Wise Eligibility Count of EDL

Sr. No.	Division	District Center
1.	Ajmer	Ajmer MCDW, Ajmer, Bharatpur, Bhilwara, Dholpur, Karauli, Nagur, S. Madhopur, Tonk.
2.	Bikaner	Bikaner MCDW, Churu, Ganganagar, Hanumangarh.
3.	Jaipur	Alwar, Dausa, Jaipur MCDW, Jaipur-I, Jaipur-II, Jhunjhunu, Sikar.
4.	Jodhpur	Barmer, Jaisalmer, Jalore, Jodhpur MCDW, Jodhpur, Pali, Sirohi.
5.	Kota	Baran, Bundi, Jhalawar, Kota MCDW,
6.	Udaipur	Banswara, Chittorgarh, Dungarpur, Pratapgarh, Rajsamand, Udaipur MCDW, Udaipur

Table 2:- Available Drug Warehouses

Process Flow Chart





2. Need For Study

Pharmaceutical Supply chain management is the biggest challenge in the world especially in the India.

Various challenges include timely access of drugs, Annual demand forecasting, and extension in supply of drugs and Quality management of vaccines, sera and human immunoglobulin's.

- Lack of trained professionals:
- Annual demand forecasting: it is challenging task to predict exact demand of drugs in public sector.
- Perceived poor monitoring of cold chain supply management by regulatory authorities.

3. Review of Literature

According to Heinbuch (1995) healthcare cost can be reduced reduction through the hospital material management function.

Schneller and S9 Meltzer (2006) suggested that e-procurement system can help in cost cutting of purchasing costs through the E tendering process and long term relationship with supplier. They also suggested that transaction and administration cost can be reduced through the use of ERP systems, by adopting an automated and paperless format for information to flow throughout an organization.

According to the report of WHO 6 % of the Indian population still lacks regular access to essential medicines.

1. Over 20% of the poor patient doesn't go for treatment because of lack of money.
2. According to the World Bank survey 24% of people fall below poverty line after single hospitalization.
3. Over 40% of hospitalized patients need to borrow money or sell their properties for treatments.

According to World Health Organization (WHO) has stated that as much as 25% of all vaccine products lose their potency during transportation.

4. Objectives

The aim of the study is to conduct a critical analysis of the working of Rajasthan Medical Service Corporation during the last 5 financial years of its functioning with the following objective.

- To study the medicine Procurement system of the state of Rajasthan before and after the establishment of RMSCL.
- To study the medicine storage and distribution system of the RMSCL and compare with the situation prior to its establishment.

4. Research Questions

- What is the medicine storage and distribution system of the RMSCL and comparing it with prestablishment of RMSC.

Methodology

5.1 Sample design

The research conducted was exploratory.

5.2 Sampling method

The sampling method was Non probability Sampling.

5.3 Study Area

The study was carried out in Jaipur city.

5.4 Data collection

Secondary data- The secondary data for this project was gathered through Official website of RMSC, different dependable articles and research reports.

5.5 Research Instrument (tools and techniques)

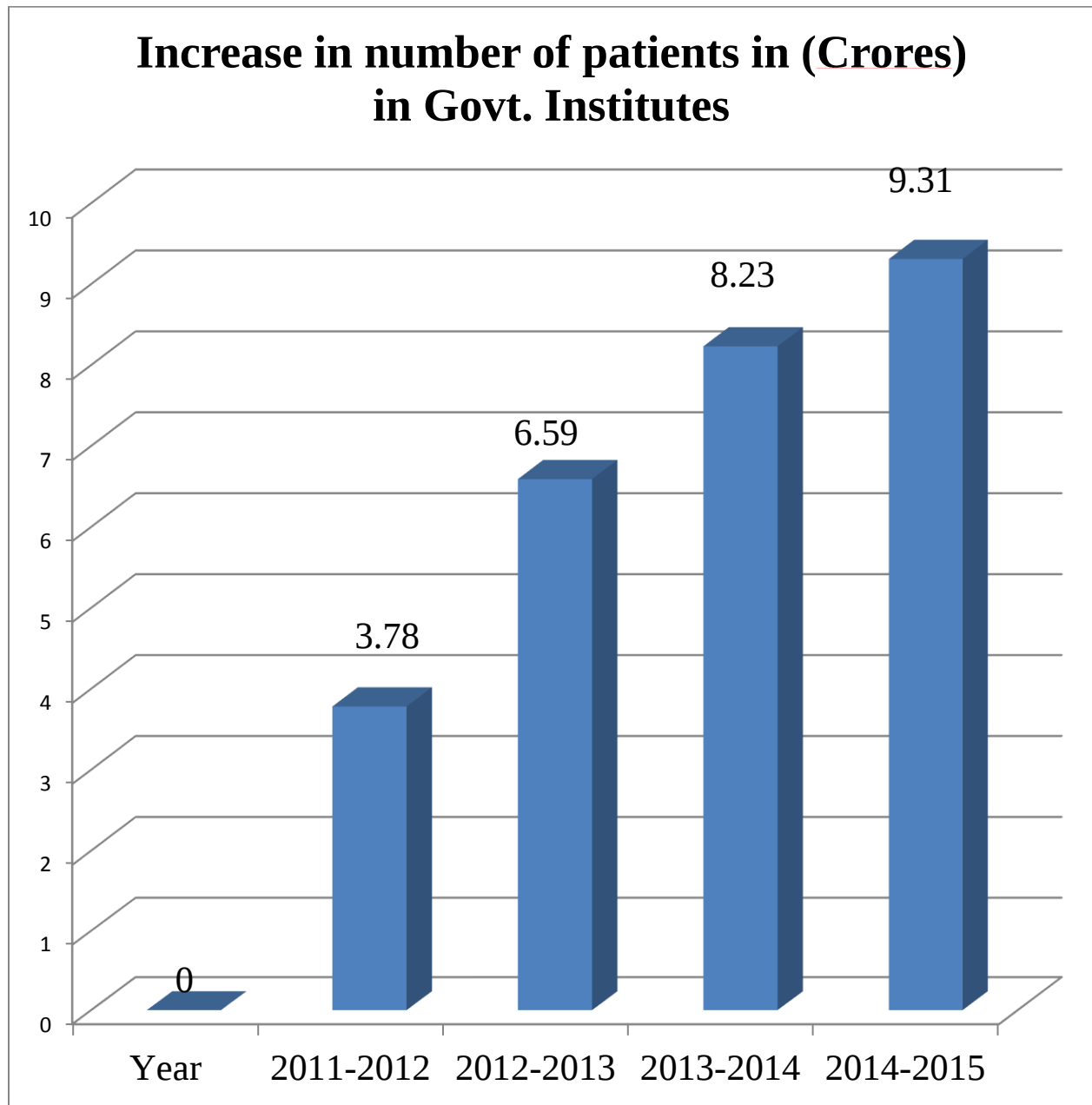
The information was collected by informal talk with the Pharmacist in supply Cell, IT officer, Logistics Cell, and Suppliers.

5.6 Study duration

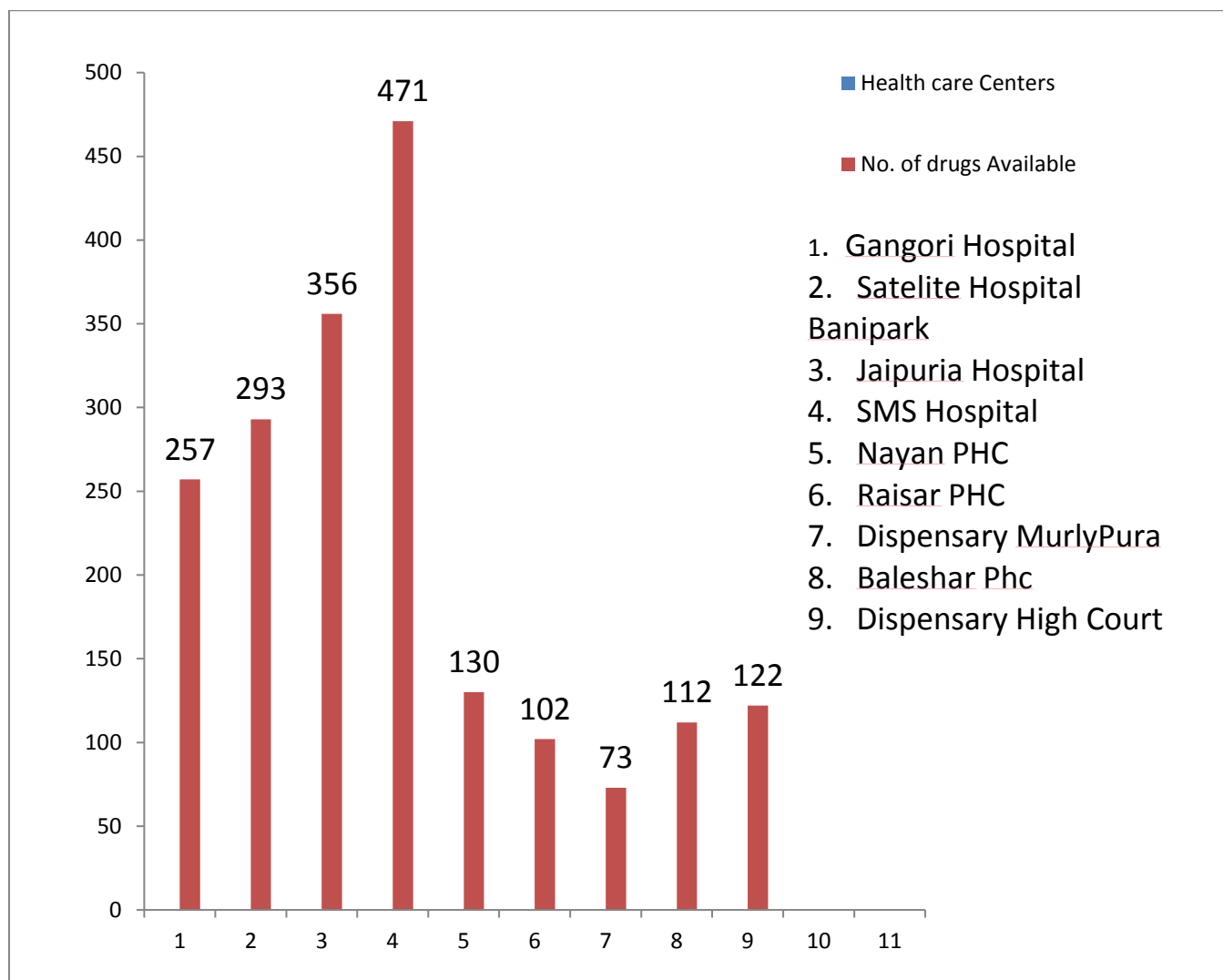
3 months (5st February to 5th May)

Data Analysis (Findings & Inferences)

1. Increase in Number of Beneficiaries:



2. Availability of Drugs in various Health Care Centers



Findings based on Observation

- Number of Beneficiaries has been increased exponentially after establishment of RMSC.
- SMS Hospital, Jaipur have high no. of Drugs Availability.

Recommendations

- Rajasthan Medical Service Corporation has Succeed in promoting access to medicine to all in the state of Rajasthan with quality assurance of generic medicine.
- RMSC succeed to achieve maximum possible benefits to all the section of the society with the available budget.
- It has made possible the distribution of drug at all the health care centers.
- Strict action should be taken on supplier in case of supply fail.
- Continuing professional development (CPD)

Conclusions:

- e- Aushadhi plays a major role in streamlining the supply chain management of Rajasthan Medical Service Corporation.
- e- Aushadhi helps in better planning control and execution through various processes like demand management order management and financial management.
- Micro analytics helps to solve the routing problems.

References

1. Agyekum, Adomako Percy, Public health challenges in the supply chain management of cold chain medicines in the greater Accra region, July 2010.
2. Kokilam M. and Joshi HG. Understanding the Success of TNMSC, An ICT enabled Structure that revolutionized the Indian rural healthcare system, International journal of Pharmaceutical and chemical sciences Vol. 4 (2) Apr-Jun 2015.
3. Kanda M., Access factor affecting supply chain of medical supplies in public health centers in Kenya, International Journal of academic research in accounting, finance and Sciences, April 2015.
4. Achuora S., Factor affecting Distribution Performance for pharmaceutical product in Kenya's public sector, IMS Monthan Vol.-VII, No.2, Dec. 2012
5. Sharma S., Chaudhary, Improving availability and accessibility of medicines: A tool for increasing health care coverage, Archives of Medicines, 2015, Vol. 7, 5:12.
6. Auma M, Factor affecting Supply chain performance in Govt. Health Institutions in Kisumy central sub country, Kenya, Nov.-2011.
7. Singu M, The pharmaceutical Supply chain: A diagnosis of the state of the art, June2005.