

**Summer Training at
Gujart Medical Service Corporation Ltd. Gujarat
(April 3 to June 2, 2017)**

**Assessment and Analysis of Drugs Present in Essential Drug List of Gujarat
Medical Service Corporation Ltd., Gujarat**

**By
Anurag Wadhwa**

**Under the guidance of
Mr. Abhishek Dadhich**

**MBA Pharmaceutical Management
2016-2018**

 **IIHMR UNIVERSITY**
School of Pharmaceutical Management
The IIHMR University, Jaipur
2017

CERTIFICATE

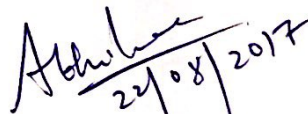
This is to certify that **Anurag Wadhwa** has undergone his summer training at **Gujarat Medical Service Corporation Ltd., Gujarat** from 3rd April 2017 to 2nd June 2017.

The candidate himself completed the project assigned to him during summer training. His approach to the project was sincere and proactive. This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Pharmaceutical Management.

I wish him success in all his future endeavors.



Col (Dr.) Ashok Kaushik
Dean (Academic & Student Affair)
The IIHMR University, Jaipur


22/08/2017

Dr. Abhishek Dhadhich
Assistant Professor
The IIHMR University, Jaipur



GUJARAT MEDICAL SERVICES CORPORATION LIMITED
(A Government of Gujarat Undertaking)

The certificate is awarded to

Anurag Wadhwa

In recognition of having successfully completed his

Summer training in the department of

Logistics & Supply chain

and has successfully completed his Project on

Assessment and analysis of drug present in essential drug list of Gujarat Medical Service Corporation Limited.

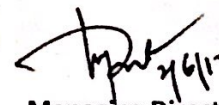
3rd April, 2017 – 2nd June, 2017

At

Gujarat Medical Services Corporation Limited

We wish him all the best for future endeavors




Managing Director, GMSCL

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I would also like to extend our gratitude towards my university guide Dr. Abhishek Dadhich, Asst. Professor, School of Pharmaceutical Management, The IIHMR University and towards my organization guide Dr. H.K. Rathod, Senior Manager, Logistics and Supply System, GMSCL and Dr. Kim Patras, Strategic Management Executive, GMSCL who helped me throughout the project.

My thanks and appreciations also go to our family, our colleagues, and students of MBA PM 08 who have willingly supported us throughout the project.

ANURAG WADHWA



INTRODUCTION

About the organization

The Central Medical Stores Organization (C.M.S.O) was established in 1978 under Health and Family Welfare Department. Govt. of Gujarat and was entrusted with the functions of procurement, storage, distribution of medicines surgical goods medical equipment / instrument and insecticides for the health care institutions under Govt. of Gujarat.

With the changes in the healthcare arena there was a felt need of developing new as well as upgrading the existing functioning and processes of CMSO, and consequently develop an institution supported with necessary infrastructure to make the system responsive to meet the objectives of the universal health coverage. With the view to match the changing demands and pace of development in the sector, CMSO was transformed into "Gujarat Medical Services Corporation Limited" (GMSCL) as an autonomous body and was incorporated under companies act, for systematic procurement, inventory management, Management information system and to infuse professional management with establishment, development and strengthening the use of information technology in medical store organization.

Functional Areas:

The Main Functions of GMSCL are as following:

- Procurement of essential, lifesaving quality medicines, surgical goods & Insecticides and their timely availability by creating highly decentralized storage capacity & distribution network.
- Procurement of quality medical equipment/Instrument and its maintenance for entire product life cycle.



- Establishment of Diagnostic Medical Service Center for early diagnosis & ease of treatment for beneficiaries.

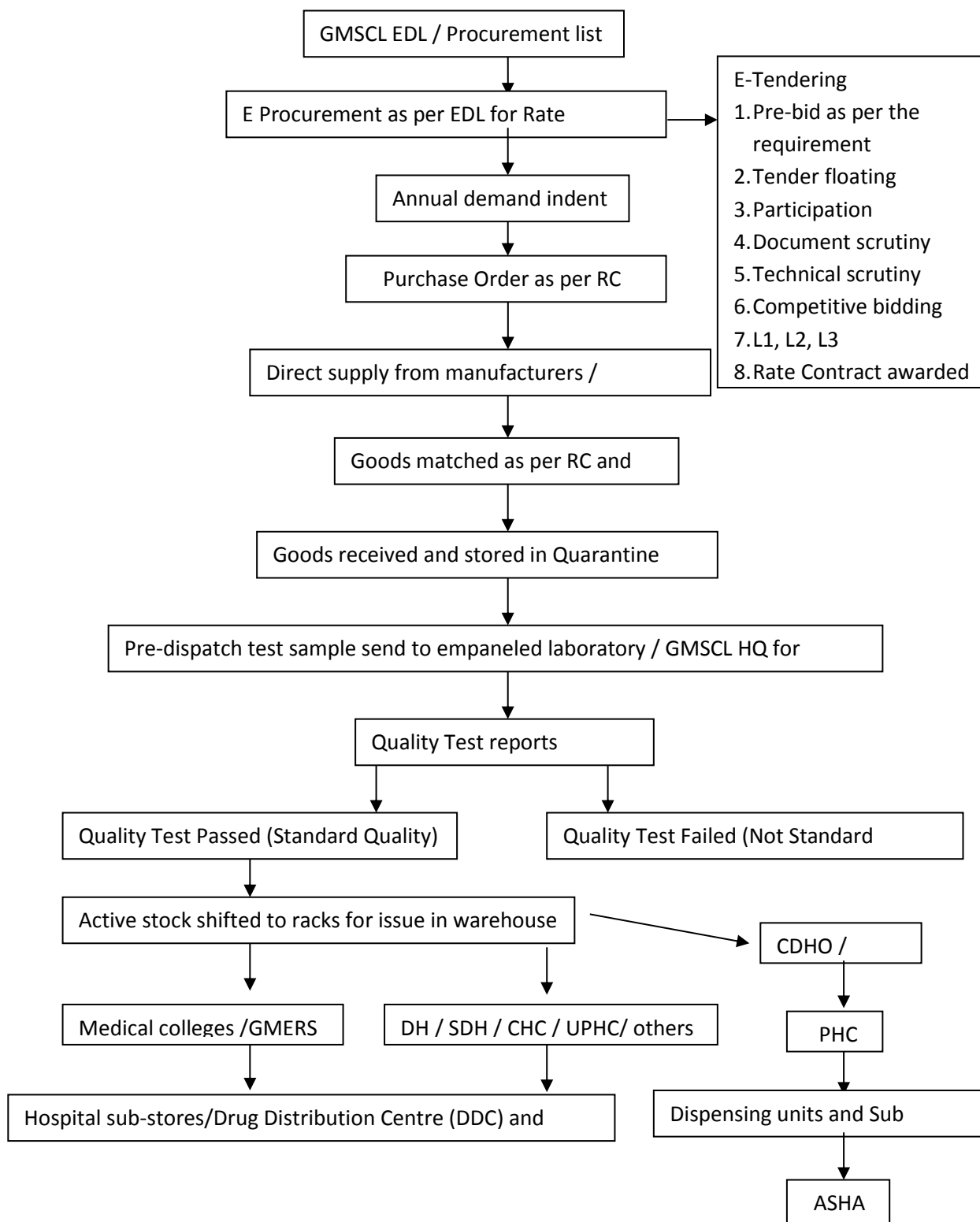
Essential drug list (EDL)

For procurement, and distribution of drugs throughout the state of Gujarat, the Gujarat Medical Service Corporation Ltd. has developed a list of essential drugs and surgical items. Through this the organization decides the rate contracts and place the purchase order with respect to demand of health care facilities.

Essential drug list is a formulary which consists of 575 items distinguished in four sections i.e. tablets, capsules, injection, miscellaneous, and surgical. Section wise distribution of EDL is as follows:

SECTIONS	NUMBER OF ITEMS
Tablets and Capsules	191
Injections	170
Miscellaneous	108
Surgical and Dressings	106

SUPPLY CHAIN- A FLOWCHART



**ASSESSMENT AND ANALYSIS OF DRUGS PRESENT
IN ESSENTIAL DRUG LIST OF GUJARAT MEDICAL
SERVICE CORPORATION LTD., GUJARAT**



INTRODUCTION

Pharmacy is one of the most extensively used therapeutic centers of a health facility, where a large amount of money is spent on purchases on a recurring basis. Further, many a time drugs go out of stock and expire before its use. Absence of or lack of sufficient drugs in pharmacy may lead to poor health care delivery and bad reputation. Thus, the need for planning, designing and organizing the pharmacy in a manner that results in efficient clinical and administrative services becomes even more pertinent in this situation.

Inventory control is a scientific system which indicates as to what to order, when to order, and how much to order, and how much to stock so that purchasing costs and storing costs are kept as low as possible. It helps to protect against the fluctuation in supply and demand, uncertainty and minimize waiting time. There are various methods involved for inventory control but two are commonly used: Always, better and control (ABC) and vital, essential and desirable (VED). ABC analysis helps in identifying the items that require the greater attention for control. In this, 10% items consume about 70% of the budget (Group A). The next 20% inventory items take away 20% of the financial resources (Group B) and the remaining 70% items account for just 10% of the budget (Group C). VED analysis is based on critical values and shortage cost of the item. Based on their criticality, the items could be classified into three categories: Vital, essential and desirable, i.e., VED.

Drug analysis is carried out in many ways, such as: -

- ABC analysis
- VED analysis
- FSN analysis- Fast moving items, slow moving items, no moving items.
- FEFO analysis- First Expiry First out.

TYPE	DESCRIPTION
ABC (Always, Better, and Control)	“CLASS A” includes the drugs which occupies 10% of total inventory items, but they represent 70% of the total value of money. “CLASS B” includes the drugs which occupies 20% of total inventory items, and they represent 20% of the total value of money. “CLASS C” includes the drugs which occupies 70% of total inventory items, and they represent only 10% of the total value of money.
VED (Vital, Essential, and Desirable)	“V” stands for Vital items. These are the items without which treatment comes to standstill: i.e. non- availability cannot be tolerated. “E” stands for Essential items. These items whose non-availability can be tolerated for 2-3 days, because similar or alternative items are available. “D” stands for desirable items. These items whose non-availability can be tolerated for a long period
FSN	Based on several parameters such as the rate of issuing, amount consumed annually, lead time, price of single unit etc. Fast Moving – Items which are frequently issued from inventory which are more than once for a specific time. Slow Moving – Items which are less frequently issued which might be once in a specific time. Non-Moving – Items which are not issued from the inventory at all in a specific time.
FEFO (First Expiry First out)	It is an inventory management method that allows for product with the shortest shelf-life to be distributed first. The “E” in FEFO defines the life-cycle of a product and determines when product reach the end of its safe life-cycle. Therefore “E” is of great importance when planning the distribution and commercialization life-cycle of product.

BACKGROUND



The assessment and analysis in inventory control is done with respect to ABC and VED analysis. ABC analysis is done based on consumption and VED analysis is done based on criticality.

ABC cost analysis of all the drugs in the inventory of the warehouse was done and the annual drug expenditure of individual drugs was arranged in descending order. The cumulative percentage of the expenditure was calculated as well as the cumulative percentage of the number of items. Then the list was subdivided into three categories based on the cumulative cost percentage.

The VED criticality analysis of all the listed items was performed by classifying the items into vital (V), essential (E) and desirable (D) categories. Since, the inventory of drugs was for the field practice area of the department and not hospital, therefore the classification of drugs into VED was carried out keeping in mind the role and functions of a primary health center. The items critically needed for the survival, are part of national programs and those that must be available all the times as their non-availability can seriously affect the image of the health center were included in the V category. The items with a lower criticality need and those, whose shortage can be tolerated for a short period at the health center, were included in the E group. The remaining items with lowest criticality, the shortage of which would not be detrimental to the health of the patients, were included in the D group.

LITERATURE REVIEW

- “ABC-VED Analysis of a Drug Store in the Department of Community Medicine of a Medical College in Delhi, by T. Anand, G. K. Ingle, J. Kishore, and R Kumar” This study concludes that category I drugs are either expensive or vital with annual expenditure 73% of Annual drug expenditure. This study helped to prevent locking up of capital due to these items, low buffer stock needs to be maintained while keeping a strict vigil on the consumption level and the stock in hand. A two-bin

method of ordering needs to be followed for these as this will eliminate the risk of item shortage. Category II items can be ordered once or twice a year, thereby saving on ordering cost and reducing management hassles at a moderate carrying cost and without blocking substantial capital. And category III can also be ordered once or twice a year, thereby saving on ordering cost at a moderate carrying cost and without blocking substantial capital.

- “ABC-VED analysis of expendable medical stores at a tertiary care hospital by Kumar S, Chakravarty A”. This study revealed that out of 1536 items considered for the study, 6.77% (104), 19.27% (296) and 73.95% (1136) items were found to be A, B and C category items respectively. VED analysis revealed that vital items (V) accounted for 13.14% (201), essential items (E) for 56.37% (866) and desirable accounted for 30.49% items (469). ABC-VED matrix analysis of the inventory reveals that only 322 (21%) items out of an inventory of 1536 drugs belonging to category I will require maximum attention.
- “ABC and VED Analysis in Medical Stores Inventory Control, by R Gupta, KK Gupta (Retd), BR Jain (Retd), and RK Garg”. This study revealed that on coupling the two techniques ABC-VED matrix was made and drugs were classified in to Category I (AV+BV+CV+AE+AD) comprising 68 drugs, Category II (BE + CE +BD) 159 and Category III (CD) 98 drugs. The management of Category I drugs was monitored by top management resulting in better control on the annual expenses and at the same time making available the vital Category II by middle and Category III at lower managerial level.
- “Recent review article on Pharmaceutical Inventory Models”, by G. Santhi and K. Karthikeyan. This study concluded that Inventory management can make it easy and effective and reduces material handling time and counterfeiting of the pharmaceutical product up to a high rate. There are two main goals for managing an inventory for a pharmacy. The products that are regularly kept in stock are based on the needs of the pharmacy and its customers. Efforts should be made to keep

the medications used regularly in stock and available for use not outdated or damaged, while some rarely used, extremely expensive or cumbersome products may be ordered in as needed. The second goal of inventory management is to keep medication costs at a minimum.

OBJECTIVE OF THE STUDY:

Primary objective:

- To study ABC Vs VED Analysis of drugs procured in GMSCL warehouses.

Secondary objective:

- To study the coupling of two techniques i.e. ABC-VED for drug analysis.

NEED OF THE STUDY:

- To find out ways to manage resources and budget. And to recommend ideas of new procurement techniques to reduce management hassles at a moderate carrying cost.

DESIGN OF THE STUDY:

- Descriptive.

RESEARCH METHODOLOGY:

TARGETED DRUGS	Essential Drug list
SAMPLE SIZE	575
SAMPLING TECHNIQUE	Purposive
WAREHOUSE COVERED	11

DATA COLLECTION:

TOOL	Questionnaire for VED analysis
TECHNIQUE	Face to Face interview

METHODOLOGY

Step 1: Annual drug expenditure (ADE) was calculated for the financial year by adding the expenditure incurred on each item.

Step 2: ABC analysis of all the drugs in the inventory was done. For this, the annual expenditure of individual items was arranged in descending order. The cumulative cost of all the items was then calculated. The cumulative percentage of expenditure and the cumulative percentage of number of items were calculated. This list was then subdivided into three categories: A, B and C, based on the cumulative cost percentage of 70, 20 and 10%, respectively.

Step 3: The VED criticality analysis of all the listed items was performed by classifying the items into vital (V), essential (E) and desirable (D) categories. The items critically needed for the survival, are part of national programs and those that must be available all the times as their non-availability can seriously affect the image of the health center were included in the V category. The items with a lower criticality need and those, whose shortage can be tolerated for a short period at the health center, were included in the E group. The remaining items with lowest criticality, the shortage of which would not be detrimental to the health of the patients, were included in the D group.

Step 4: A matrix was formulated by combining the ABC and VED analysis to evolve a management system, which can be used for prioritization.

	V	E	D
A	AV	AE	AD
B	BV	BE	BD
C	CV	CE	CD

From the resultant combination, three categories were classified (I, II and III).

Category I: Includes all vital and essential items (AV+BV+CV+AE+AD).

- It is the highest priority group.
- It helps in keeping a check on the annual budget and their availability.

Category II: Includes the remaining items of E and B group (BE+CE+BD).

- It is the group which requires moderate attention.

Category III: Includes the desirable and cheaper group of items (CD).

- It is the group which is also maintained by loose attention by the authority.

QUESTIONNAIRE

The questionnaire is related to the ASSESMENT AND ANALYSIS OF DRUGS PRESENT IN ESSENTIAL LIST OF GUJARAT MEDICAL SERVICE CORPORATION LTD. It is for the qualitative research purpose. Its results will be used for the internship project. Please provide the below information which will not be disclosed.

Respondent No.:

Gender:

MALE	FEMALE
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Specialty:

Experience:

With all due respect of your knowledge and experience kindly tick the drug which from your side is Vital for public health in Gujarat.



Requirement for the project:

1. Sheet of quantity consumed of FY 2016-17.
2. Sheet of rate of drugs of EDL.
3. A sheet of drugs of EDL for survey of VED analysis.

Introduction need to be refined ---- gmscl and intro of the study must be segregated by a title page.

Background must include something in the starting.

Try to clear out the BASIS at which you are classifying VED

LIMITATION OF THE STUDY:

The study is only concentrated on the State Program. As at present there are many program running under Govt. of Gujarat. So, there is a possibility of biasness if it is considered for future references.