AN ANLAYSIS OF INVENTORY MANAGEMENT TECHNIQUE AT SURAT WARE HOUSE

Gujarat Medical Services Corporation Limited
A Government of Gujarat Undertaking

IIHMR UNIVERSITY

Introduction

Supply chain procedure at Gmscl

Indent generation →Rate contract →Purchase order →Procurement→ drugs in quarantine → Sample send to laboratory→ activation of batch →Supply to Hospital

Classification of inventory
ABC Analysis

Criteria	classes		
	A	B	C
Number of item	10%	20%	70%
Value of inventory	70%	20%	10%
Stock control	Strict	moderate	looses
Importance	High	moderate	low
Control effort	maximum	moderate	minimum

VED Analysis

- V-Items critically needed for the survival of the patients and must be always available
- E-items with a lower criticality need and Absence of them stop the work for some period
- D-The remaining items with lowest criticality, shortage of which would not be detrimental to the health of the patients

ABC-VED matrix analysis

Category I Include vital and Expensive item (AV+BV+CV+AE+AD)

Category II include Essential and less expensive item (BE+CE+BD)

Category III include Desirable and cheaper item (CD)

Rationale for Having Inventory

- Economies of scale can be obtained by purchasing large volumes which allows cost reduction per unit fixed cost. Also, transportation can get economies of scale through utilization by moving larger volume of product
- Protection from uncertainties is a primary reason for holding inventory.
- Having stock on hand can reduce the risk of shortage or stock out situation which might lead to inefficient supply of product and lack of reliability from the customer.

Research question

- What are the different inventory management technique that can be implemented in the Surat ware house?
- Which categories of drug are required for strict monitoring?
- What are the benefit of each inventory technique?

Aim To find out the different inventory management technique that can be implemented in the Surat ware house

Objective

- To find out the A, B &C Class of Drug for ABC Analysis of inventory control technique
- To find out Vital, Essential, and Desirable class of Drug for VED Analysis
- To find out how much percentage of inventory value that each category of Drug constitutes
- To find out which category of drug require strict monitoring

Data collection - secondary, 332 number of item was taken for the analysis

Methodology

ABC Analysis

- the data of annual Demand of each item of the Ware House for the financial year 20017-18were collected.
- The data were then transferred in an MS Excel spreadsheet.
- Then the expenditure of each item was calculated
- Then the cumulative percentage of expenditure and the cumulative percentage of number of items were calculated.
- This list was then subdivided into three categories that is A, B and C based on the cumulative Expenditure percentage of 70%, 20% and 10%, respectively

VED Analysis

All the drug is categorise as Vital, Essential, and Desirable with the discussion and view of the medical officer, Depot manager senior pharmacist and junior pharmacist.

Then all the data was transferred into excel spread sheet and each item was placed starting from vital then desirable and then essential item

Then the cumulative % value of each item was calculated

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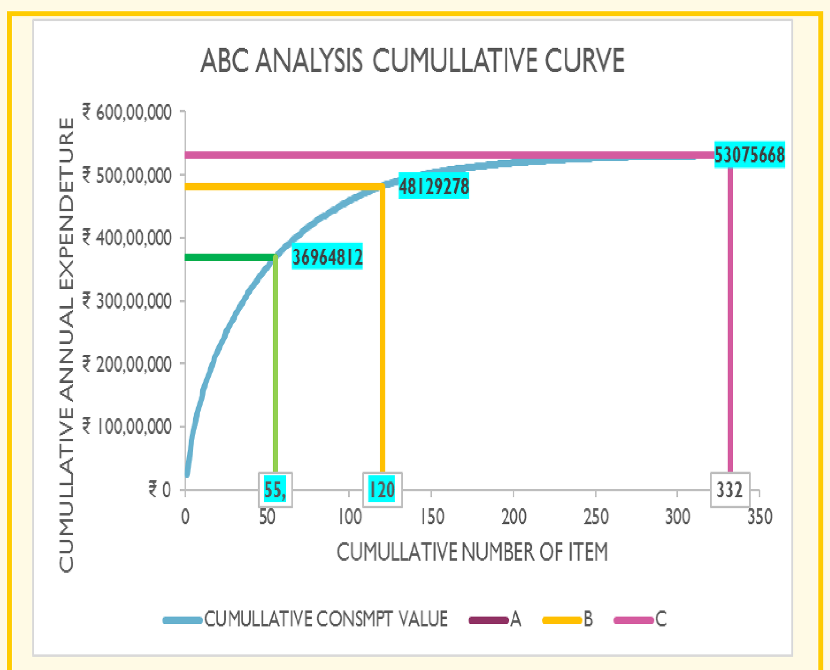
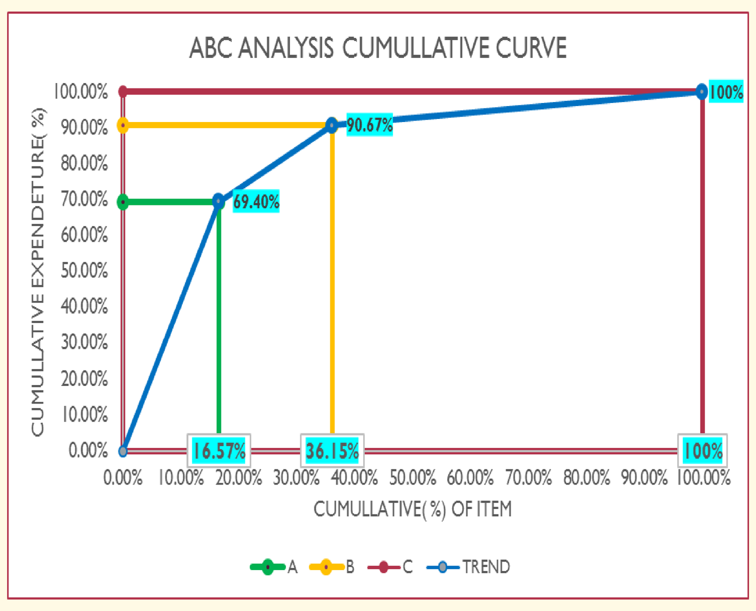
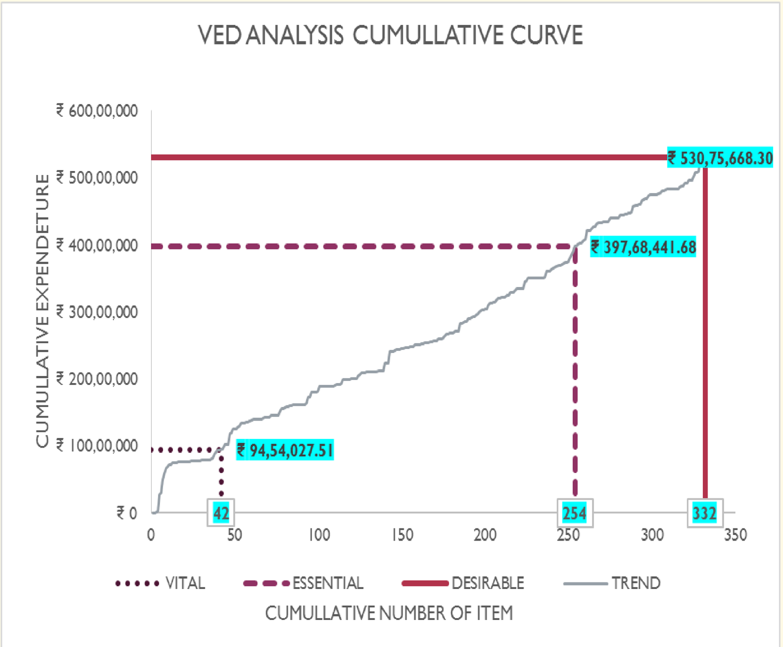
Analysis and Result



- A Class— 55 Number of drug constitute Rs.6964812 of total inventory
- B category– 65Number of drug constitute Rs.11164466 of total inventory value
- C Category-212 Number of item constitute Rs.494636 of the total inventor value



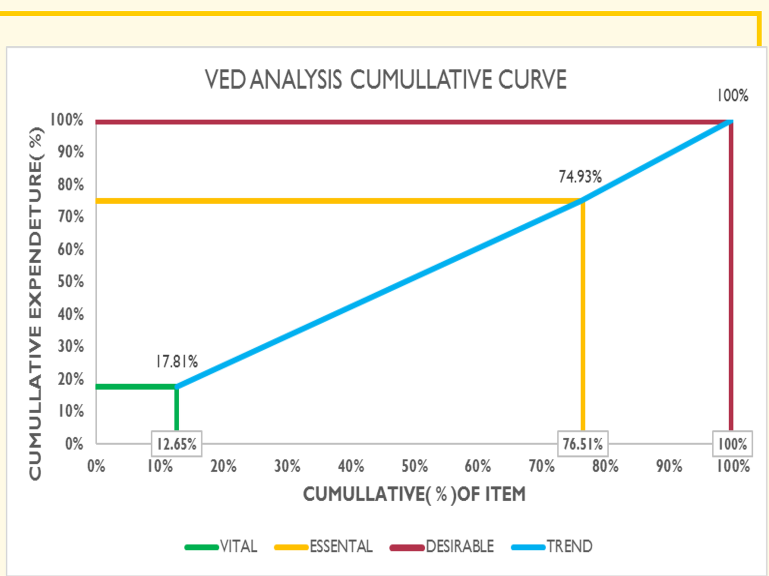
- from the above Graph, it was found that
- 16.57% of item constitute 69.40% of the inventory (A)
- 19.58%of item constitutes 21.27% of inventory (B)
- and 63.85% of item constitute 9.33% of item (C)



V-42 Number of item constitute value of worth Rs.94,54,027 of the total expenditure

E-212 Number of item constitute RS. 30314414 of the total expenditure

D-78 Number of item constitute Rs.13307227 of the total expenditure



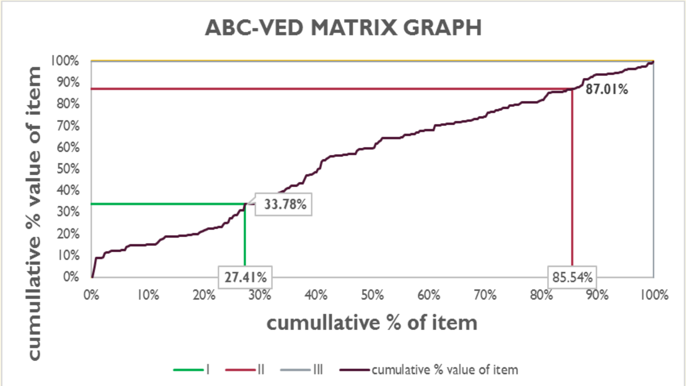
V-12.65% of item constitute 17.81% of the total expenditure of the inventory value

E-63.68% of item to be Essential which constitute 57.12%of the total expenditure of the inventory

D-23.41% of item is found to be Desirable constitute 25.07% of the total expenditure of the inventory

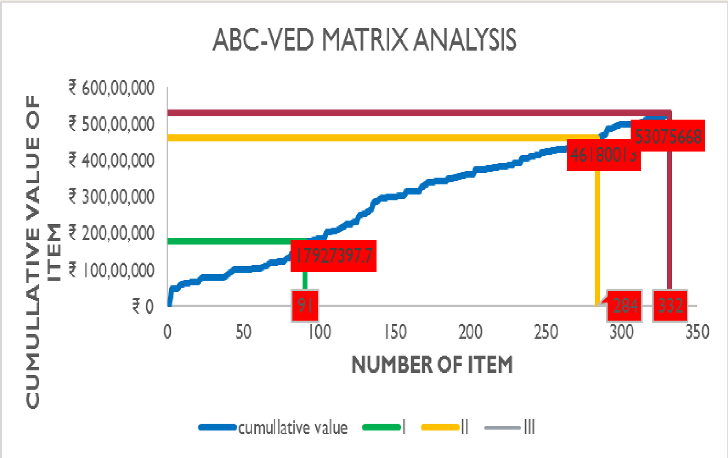
ABC-VED MATRIX ANALYSIS

CATEGORY	NUMBER OF ITEM	% OF ITEM	VALUE OF ITEM IN (RS.)	% VALUE OF ITEM
A	55	16.57%	36964812	69.40%
B	65	19.58%	11164466	21.27%
C	212	63.85%	4946390	9.33%
V	42	12.65%	9454027	17.81%
E	212	63.68%	30314414	57.12%
D	78	23.41%	13307227	25.07%
I	91	27.41%	17927397.7	33.78%
II	193	58.13%	28252615.3	53.23%
III	48	14.46%	6895655.31	12.99%



Category I-27.41% of item constitute 33.78% of total inventory value

- Category II-58.13% of item constitute53.23% of total inventory value
- Category II– 14.46% of item constitute 12.99% of total inventory value



Category I-91item constitute (Rs.1792739.7) of total inventory value

- Category II- 193 item constitute
- (Rs.4680013) of total inventory value
- Category III item are (48)14.46% which constitute 12.99% (Rs.6895655.3) of total inventory value

Conclusion- if only ABC will be preferred then A categories of drug required close monitoring and strict control by top management as it constitute 69.40% (₹36964812) of total inventory value followed by B and C if only the VED analysis will be preferred then effective control over vital, Essential and Desirable item can be maintained which account respectively 17.81%,57.12% and 25.07% of total inventory value and if the combination of ABC-VED Matrix will be followed then all the drug can be drug can be effectively monitored as Category I, II and III