

**Project I. Inventory classification of medicines in sterlings
hospital, Vadodara**

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INTRODUCTION

- Pharmacy is one of the most extensive facilities of the hospital and one of the few area where large amount of money is spent on purchase and storage.
- Out of materials, drugs consumes a major portion of hospital budget.
- The hospital management has to ensure the availability of various drugs round the clock as these are essential and vital for patient care.

NEED FOR STUDY?

- Irrational drug use and poor drug management system are the main contributing factors for lack of medicine accessibility.
- Pilferage of costly drugs.
- It is impossible and unnecessary too, to monitor every drug used in the health system. High cost and high volume drugs come in priority. It is important first to trace the costlier medicinal products that consumes the major portion of the budget.

RESEARCH QUESTION

- Can the ABC-VED methods reduce the cost of inventory at sterling hospital?

OBJECTIVES

- To keep the inventory investment at minimum and to ensure resources are utilized properly.
- Ensure an uninterrupted flow of material of right quality, right quantity, and right place and at right time and with the right source.
- To ensure adequacy of stock at a given time.
- To avoid stock outs and shortages.
- To categorize drugs into three class.

METHODOLOGY

- Study area: Pharmacy department of the hospital
- Study type: Retrospective study
- Tools: ABC analysis, VED analysis, ABC-VED analysis matrix, Ms Excel.
- Technique: Secondary data of Pharmaceuticals for a period of 5 months(September 2015-january 2016) was collected from pharmacy of hospital.
- The data included only those drugs which were provided to the patients by the hospital and does not include the drugs for sales counter, surgical items, disposables, and dressing items.

ANALYSIS AND INTERPRETATION

ABC ANALYSIS

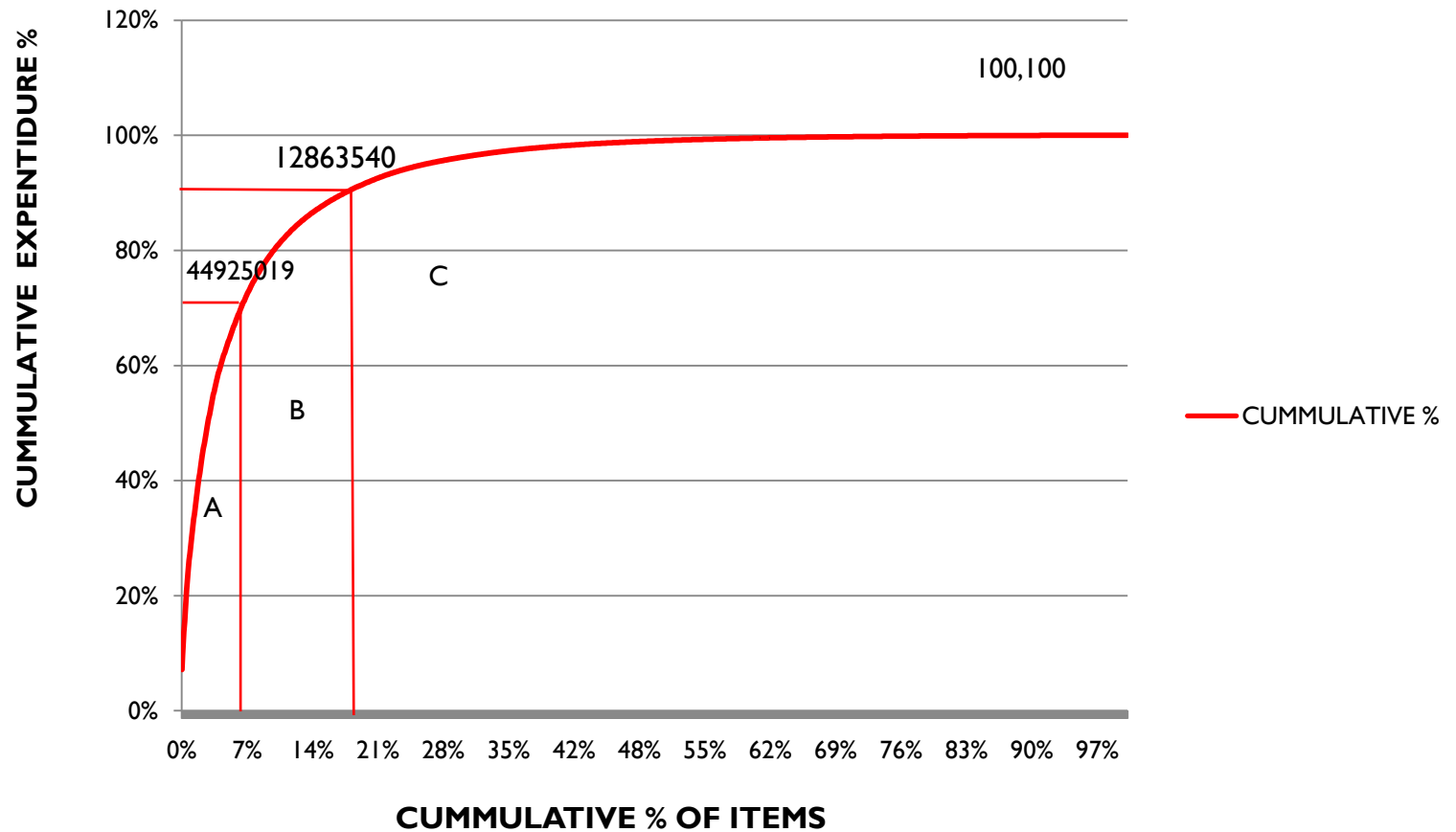
- It is a method of classifying items or activities according to their relative importance.
- The following logical steps are followed for the analysis:
- List all items purchased or consumed and enter the unit cost.
- Enter consumption quantities over a definite period of time.
- Calculate the value of consumption.
- Calculate the percentage of total value represented by each item.
- Rearrange the list. Rank items in descending order by total value, starting at the top with highest value.
- Calculate the cumulative percentage of the total value for each item at the top; add the percentage to that of the item below in the list.
- Choose cut of points for A, B and C category.

Distribution of drugs into ABC classification

DRUG ANALYSIS	NET CONSUMPTION	NUMBER OF PERCENTAGE	CONSUMPTION VALUE	NUMBER OF ITEMS
A	70	6	4,49,25,019	91
B	20	11	1,28,63,540	158
C	10	82	64,74,758	1198
TOTAL	100	100	6,42,63,317	1447

The analysis classifies the item into three categories the first 6% of the items which accounts for approximately 70% of cumulative value (cost). 11% are category B items that accounts for a further 20% of cumulative value and remaining 82% are C items accounting for mere 10% of total value.

Graphical presentation of ABC analysis



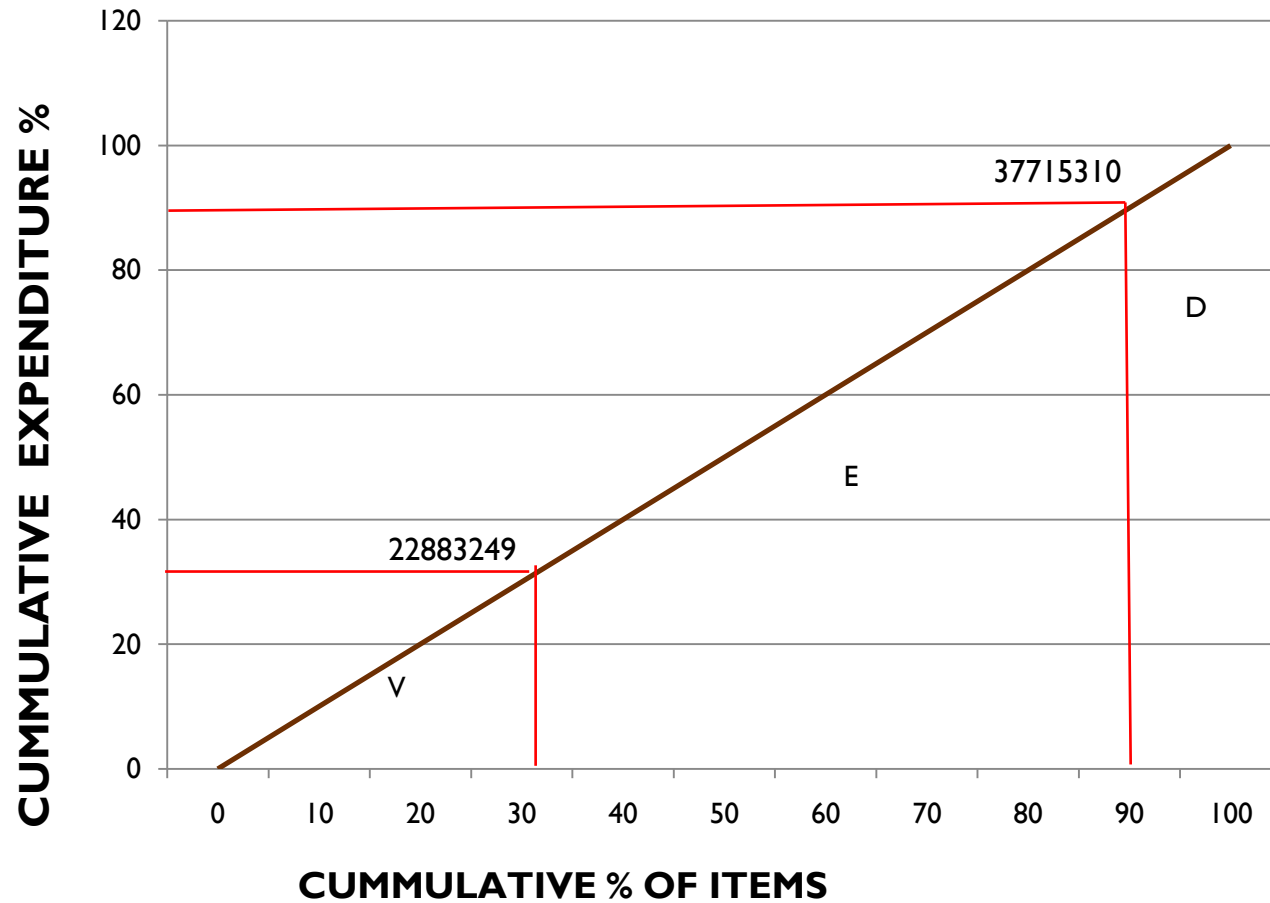
VED ANALYSIS

- The VED criticality analysis of all the listed items was performed by classifying the items into vital (V), essential (E) and desirable (D) categories.
- A panel of clinicians classified the drugs as Vital (V), Essential (E) and Desirable(D).

Distribution of drugs into VED classification

DRUG ANALYSIS	NUMBER OF DRUGS	PERCENTAGE OF DRUGS	CONSUMPTION VALUE	NET CONSUMPTION
V	426	29.44	22883249	35.61
E	876	60.54	37715310	58.69
D	145	10.02	3664758	5.70
	1447	100	64263317	100

Graphical presentation of VED analysis



ABC-VED ANALYSIS

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

- Maximum service is provided for Class I category.
- While for Class III category services can be minimum desirable.
- For Class II items service levels can be in between these two levels and average stock holding can be designed accordingly.

Distribution of drugs into VED classification

ABC-VED ANALYSIS					
Drugs	Combined Category	Number Of Drugs	Percentage Of Drug	Consumption Value	Net Consumption
CLASS I	AV+AE+AD +BV+CV	483	33.38	52641294	81.91
CLASS II	BE+CE+BD	835	57.71	10868778	16.91
CLASS III	CD	129	8.91	753245	1.17
TOTAL		1447	100	64263317	100.00

CONCLUSION

- Through this study it was found that 483 products are in to the category I and 835 products are into category II and 129 products are into category III.
- The study has analysed the inventory of drugs as per their cost and criticality. It is expected to guide the management to delegate the responsibility to different staff and apply the management technique.
- Moreover it will facilitate the management in controlling the cost and ensure the availability of vital and essential items in the hospital which will be in the interest of patients and the administration.

RECOMMENDATION

- High usage items (A) for which low cost alternative is available. The information can be useful in selecting cost effective medicines leading to major cost reduction.
- Ensure availability of all vital and essential drugs.
- Appoint qualified pharmacist to maintain stock.
- Introduce the computerized tracking system/barcode technology.
- Strict control and regular check required for category I items by top management personals. Head of supply chain department should be given its responsibility.
- Moderate attention should be paid to category II items by middle level management personals. Pharmacists should be given its responsibility.
- Low level attention is required for category III items by low level management personals. Junior pharmacist should be given its responsibility.
- The stock should be reviewed according to ABC-VED matrix analysis on a regular basis.



Thank you