

ABC VEN CROSTAB ANALYSIS: A DECISION MAKING SYSTEM APPLIED FOR ANTICANCER MEDICINES

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Background and importance:

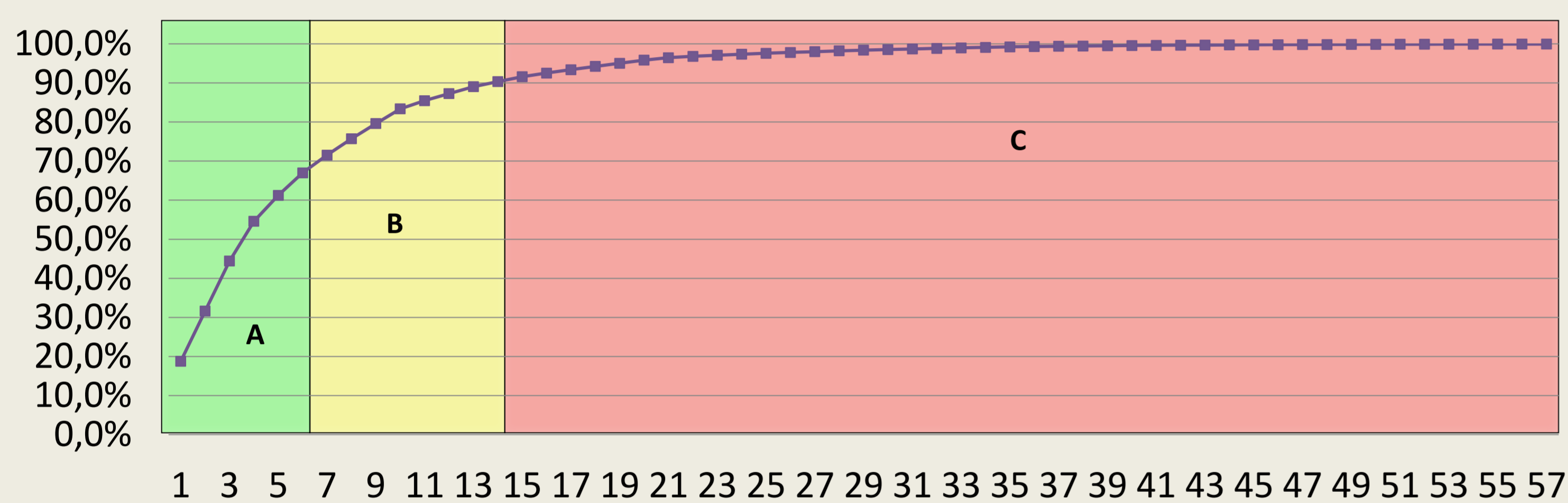
Health systems have limited resources and these should be used responsibly to optimize outcomes for patients. The ABC (Pareto analysis for expenditure) and VEN (Health impact) methodology was developed by the WHO to help hospitals evaluate current spending.

Aim and objectives:

A decision making system has been developed for inventory management of chemotherapy agents and medicines to treat their adverse reactions (CA-MtADR). As these medicines are high cost, we formulated an ABC-VEN matrix as a combination of two analytical tools, to evolve a budgeting optimizing management system.

Methods:

Dispensing data over the first 6 months of 2019 from Hematology, Oncology and Chemotherapy departments were collected. ABC analysis was performed: class A accounted for 72% of total expenditure, class B for 23% and class C for 5%, respectively.



Cumulative cost of medicines

VEN tool was further extended to a score index (summarizing characteristics of medicine's health impact) grouped into three classes:

- class V for vital,
- class E for essential and
- class N for non essential medicines

Characteristics of the drug and target condition	Vital	Essential	Non-essential
Occurrence of target condition	3	2	1
% of population affected	>5%	1-5%	<1%
Average number of patients treated per day in an average facility	>5	1-5	<1
Severity of target condition			
Life-threatening	Yes	Occasionally	Rarely
Disabling	Yes	Occasionally	Rarely
Therapeutic effect of drug			
Prevents serious disease	Yes	No	No
Cures serious disease	Yes	Yes	No
Treats minor, self-limited symptoms and conditions	No	Possibly	Yes
Has proven efficacy	Always	Usually	Maybe
Does not have proven efficacy	Never	Rarely	Maybe
Reference: http://apps.who.int/medicinedocs/en/d/Js4882e/8.2.html			

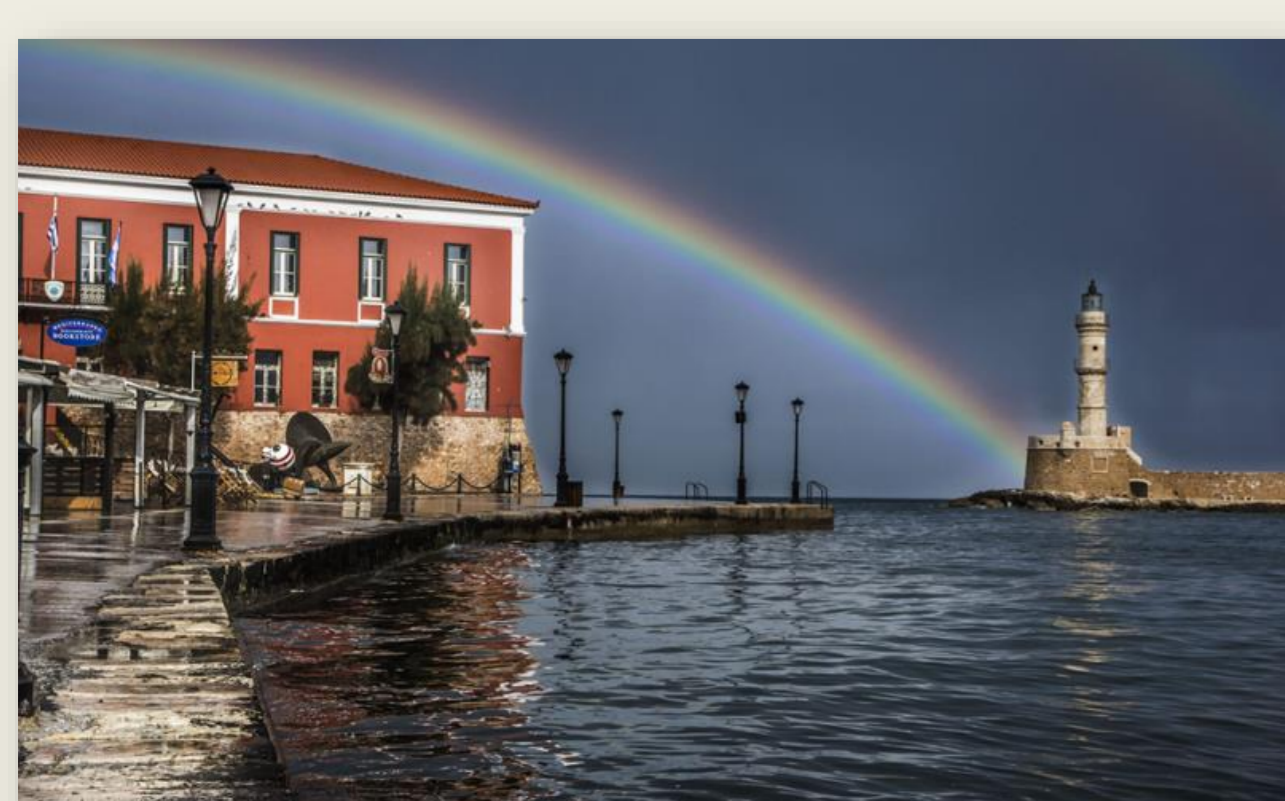
Extension of VEN tool to score index

Crosstab ABC-VEN analysis resulted in three major Categories:

- I (AV, BV, CV, AE),
- II (BE, CE) and
- III (AN, BN, CN)

Category	Crosstab ABC-VEN
I	AV, BV, CV, AE
II	BE, CE
III	AN, BN, CN

Crosstab ABC-VEN results



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Results:

57 CA-MtADR were analyzed. Expenditure of CA-MtADR was 40% of total medicines' expenditure in the hospital. According to ABC analysis, 7 medicines (12%) were in class A, 12 medicines (21%) in class B, and 38 (67%) in class C.

Category	Medicines (%)	Expenditure (%)
A	12	72
B	21	23
C	67	5

ABC Analysis results

According to VEN analysis 9 medicines (16%) are characterized as V, 43 (75%) as E and 5 (9%) as N.

Category	Medicines (%)	Expenditure (%)
V	16	31
E	75	69
N	9	~0

VEN Analysis results

According to ABC-VEN crosstab analysis:

Category I (e.g. daratumumab (ATC L01XC24)) included 16 medicines (28%), Category II (e.g. trastuzumab emtansine (ATC L01XC14)) included 36 medicines (63%) and Category III (e.g. pantoprazole (ATC A02BC02)) included 5 medicines (9%).

Category	Medicines (%)	Expenditure (%)
CAT. I	28	83
CAT. II	63	16
CAT. III	9	~0

ABC-VEN Crosstab Analysis results

Conclusion and relevance:

ABC-VEN crosstab analysis revealed three categories of corresponding priority:

CA-MtADR Category I, including expensive and/or vital medicines which need patient-oriented personalized stock management; CA-MtADR Category II, medicines of which should be overlooked with special consideration to ensure availability (due to essentiality) and CA-MtADR Category III, where stock is freely formed according to demand (due to low price).

ABC, VEN and ABC-VEN analysis assist in developing a robust approach to improve budgetary planning in hospitals.



<https://www.eahp.eu/25-11SG-005>