

## Assessment of Pharmaceuticals Inventory Management Systems for the Years (2008,2009,2010) Using ABC-VEN Matrix Analysis at Addis Ababa University College of Health Sciences Tikur Anbessa (Black Lion) Specialized Hospital, 2012

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### Analysis of Medicines Expenditure at Tikur Anbessa Hospital

Tikur Anbessa Hospital is the largest general specialized referral hospital in Ethiopia having total of 600 beds. It is also a teaching hospital providing pre-service and in-service trainings in various fields and specialties. The hospital serves more than 818 patients per day. Majority of these patients receive a prescription containing one of more drugs. This indicates the need for proper organization of the hospital pharmacy in a manner that results in efficient and effective management of pharmaceuticals. The hospital pharmacy is expected to make sure that medicines needed by the majority of clients are available at all times in sufficient quantities.

ABC value analysis is an important tool used worldwide, in identifying items that need greater attention for control and seek major cost reduction by setting interventions on class A items where saving will be more noticeable. Subsequent analysis by VEN is useful to determine the relative expenditure by public health value which reflects public health needs and morbidity patterns.

### Methodology

The list of drugs and corresponding prices were retrieved from the receiving vouchers (models) documented in the hospital drug store. All drugs (including those supplied through aid) were listed in an excel spreadsheet in a descending order based on its total prices. Then drugs are classified as A, B or C as per requirements defined in the WHO criteria for ABC classification. The categorization by VEN is conducted in accordance with the experts' recommendation indicated in the hospital specific drug list.

### Result and Discussion

The total number of medicines received by black lion hospital through procurement and donation during the period of analysis was 337, 395, and 337 in 2008, 2009 and 2010 respectively. The total value spent on medicines during the corresponding years was found to be 1,990,927.43, 3,836,631.1 and 3,029,393.68 USD respectively. Out of the total number of medicines received during the three years, class A medicines represent 3.0, 0.3 and 1.5 percent of the total number of items. Although class A medicines represent small proportion of the items, they represent the largest proportion in value of items received in each year.

Analysis of expenditures for the three year indicates that Class A medicines consumed 79, 77 and 80 percent of the total budget in the year 2008, 2009 and 2010 respectively. Conversely, class C medicines representing 82, 88, and 81% of the items consumed about 5% of the budget in each year. Further review of class 'A' medicines of each year indicates that, Imatinib 100 mg alone represents 57%, 77% and 58%

of the value spent on medicines. It can be easily seen that Imatinib represents more than half of the total value of medicines received during the three years. It was also identified that Imatinib was received through donation. Moreover, the monetary value of imatinib is by far higher than the total sum of budget spent on medicine procurement from hospital's own budget and could have had a significant resource implications had it not been obtained through donation.

A closer look into spending on medicines indicates that the lion-share of the budget is spent on vital and essential medicines indicating that expenditures are focused on medicines that address the health needs of the majority of the population. But, it appears that the stringency of procedures and criteria followed during the classification of medicines as V, E or N is very doubtful. Because, the proportion of drugs categorized as V cover more than 50% percent of the total in the three years. The percentage of medicines that were not part of the facility medicines list was found to be 12.2, 30.6 and 12.7 percent during 2008, 2009 and 2010 respectively. The amount of budget consumed by medicines not in the hospital's list is high (2.2, 2.3, 0.6 in 2008, 2009 and 2010 respectively) and requires special attention (Table 1).

### Conclusion and Recommendation

The overall expenditure of the hospitals medicines budget deviated from the recommended values for medicines procurement. Because, less than 5% of medicines consumed greater than 75% of the overall medicines budget. Although reasonable proportion of budget is spent on the vital and essential medicines, there is still quite a large amount of budget being spent on medicines that are not within the hospitals medicines list. In addition, the amount of money shared by donated anti-neoplastic agents is extremely high and the hospital needs to give especial attention on sustaining the supply of these medicines when donation fund is exhausted. The authors recommend the hospital drug therapeutic committee to consider reviewing the VEN classification of items in the hospital's medicines list, reconcile the same with the ABC categorization and institute stringent controls on the procurement and inventory of 'A' class medicines.

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Relevant factors	Class A			Class B			Class C		
	2000	2001	2002	2000	2001	2002	2000	2001	2002
% total Items	2.99	0.25	1.48	14.54	11.4	17.8	82.5	88.35	80.7
% of total expenditure	78.68	77.27	80.20	16.21	17.79	16.19	5.1	4.93	4.94
% budget spent on V drugs	100	100	100	81.17	85.42	96.69	56.67	52.3	90.94
% budget spent on E drugs	0	0	0	6.24	6.23	3.31	39.85	26.39	21.95
% budget spent on N drugs	0	0	0	0	1.23	0	0.01	0.7	0.42
% budget spent on									
medicines not in the list	0	0	0	2.03	1.70	0	0.2	1.0	0.6

**Table 1:** Relevant factors.