

The Unit Cost of Healthcare Services at Different Regional Hospitals in Albania

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Abstract:

The lack of a standardized unit cost for healthcare services, the absence of the Diagnosis Related Groups (DRGs) classification system and a cost accounting system based on full-costing, leads to a variability of referral costs for healthcare services for different regional hospitals in Albania. In this study, we considered 54 diagnoses completed for year 2017 classified based on ICD 9 that commons all eleven regional hospitals, their Average Length of Stay, the operating costs, medicinal costs, personnel costs and indirect costs to all eleven district hospitals. No difference on means for each diagnose on each district hospital has been hypothesized. The results have clearly concluded that there are statistically significantly differences among the unit cost of regional hospitals for all cases treated during year 2017. The results lead to, decisively consider the system of cost accounting using a standard information system and its cost driven criteria for all Albanian hospitals, their financing and their efficiency related to the unit of output.

Key words: Albanian healthcare, healthcare unit cost, financing healthcare, standard unit cost

INTRODUCTION

Currently, in Albania, there are 23 District hospitals, 11 Regional hospitals, 5 University hospitals, and 8 Private

hospitals contracted, for specific health services packages, by the Compulsory Health Insurance Fund (CHIF) (CHIF, 2018). The Albanian government is undertaking important decisions in its reforms regarding Albanian healthcare and its financing leading to a necessity of standardizing the cost accounting information system and, most importantly the unit cost of the services.

The Compulsory Health Institute Fund is entitled for the hospital's budget allocation, which is performed mainly on historical base (Persiani, 2014) through Ministerial Decree without any regard to the performance of hospitals. The information concerning the unit cost of cases is developed by each hospital and it is centralized by the CHIF to support planners on health decision making and resource allocation.

According to WHO – CHOICE, a program in the World Health Organization that helps countries decide health system priorities based on considerations of costs and impacts, there's a lack of unit cost data for health care services, especially in low- and middle-income countries. (Adam & Evans, 2006).

Among all eleven regional Albanian hospitals, Durres hospital is the only paying off its operating costs directly from the CHIF financing by reporting the most organized and relatively advanced accounting system compared with the rest of the regional hospitals. By these means, there is a major focus on unit cost of services, which are the driven force of Durres hospital cost accounting. On the other hand, as a general practice, is observed that the unit cost is the result of calculation, considering the allocation of direct costs to each unit of service, and the partition of indirect cost as a percentage of the portion of cases' days of stay over the total department's total days of stay. The method refers to the Guidance no. 1 date 31.01.2011 of the Health Insurance Institute¹ (ex-CHIF), which determines the guidelines that allocate costs to the units of

¹ Health Insurance Institute – Guidance no. 1 date 31.01.2011 “Calculating the Costs and the Economical and Technical Indicators.

output. According to the guidance, 80% of the indirect costs are distributed to each unit of output based on the portion of days of stay over the total number of days of stay. The other 20% is apportioned to other services (such as emergency, polyclinics, laboratories, etc.). Its allocation to the unit of output is implemented using number of inpatients for the specific diagnose over the total number of inpatients.

METHODOLOGY

The annual data for this study were obtained from the Compulsory Health Insurance Fund (CHIF) for year 2017, starting from January to December. The data concerns the eleven Regional Hospitals in the Albanian territory. There have also been collected the performance indicators for each hospital and direct and indirect cost for each case (according to ICD-9 system of classification). Unit cost refers to the cost of providing a single case. Its calculation is done dividing total cost for all cases by the number of cases for each diagnose.

The statistical analysis was performed on unit cost presented by distribution frequencies considering 54 diagnoses completed for year 2017 classified based on ICD 9 that commons all eleven regional hospitals. In order to compare means of the unit cost of the cases, the Analysis of Variance (ANOVA) has been completed at $\alpha=0.01$. For the statistical analyzes IBM SPSS Statistics version 20 and Excel 2016 have been used. Data were organized to comply with a standard format of reporting since different healthcare hospitals report data in different formats. For this analysis, 1. no difference on means for each district hospital and 2. no difference on means from each diagnose has been hypothesized.

FINDINGS AND DISCUSSION

The data obtained and considered for this study are presented in frequency graph on **Figure 1** as the average unit cost for the selected diagnoses for the Regional Albanian Hospitals. To establish any homogeneousness value for the unit cost for different hospitals and different diagnoses, the Analysis of Variability (ANOVA) has been performed. The analysis, showed that there's a significative statistical difference between groups $F(10,583) = 11.6$, $p < 0.001$, as presented in **Table 1**. Also, as presented in **Table 2**, the results of the analysis of variance between unit cost at different hospitals for the same diagnosis has showed that there's a significative statistical difference between groups $F(53,540) = 2.5$, $p < 0.001$.

The analysis shows that there is a significative statistical difference between the unit cost for each diagnose for each regional hospital which can be explained considering that, since the indirect cost assigned to the total cost for all hospitalizations is performed based on length of stay, a probable uniform unit cost can be obtained if we consider, instead of unit cost per case, unit cost per day of stay. This assumption deserves a further deepening. In this case, the ALOS as a performance indicator should be considered. The ALOS refers to the average number of days that patients spend in hospital. It is generally measured by dividing the total number of days stayed by all inpatients during a year by the number of admissions or discharges. (OECD, 2018). The length of stay can have a significant impact on profitability. In general, the shorter the length of stay, the greater the profitability (Gapenski, 2011).

CONCLUSION

Considering a unique unit cost in order to perform the financing of the Albanian regional hospitals isn't possible since

there isn't a uniformity of actual hospitals' financing. In order to promote efficiency, a very crucial importance must be given to the way hospitals' financing is done. Choosing the length of stay as a criterion to allocate the indirect costs will confidently assign indirect cost to unit cost of cases regardless the length of stay. The cost driver, as a partitions criteria of common and general costs, should represent a driven criteria to efficiency for all the Albanian hospitals and also for the financing system in general.

Acknowledgments

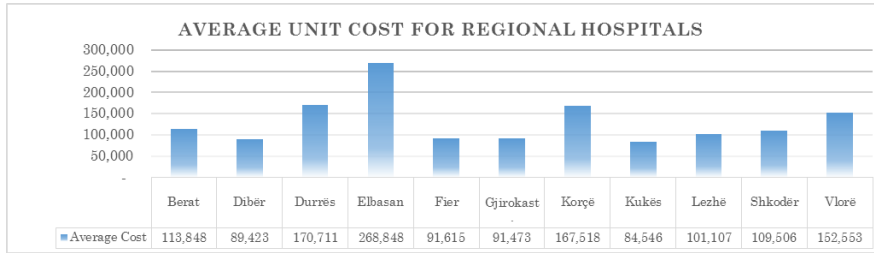
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FIGURES

Figure 1. Average Unit Cost for Regional Hospitals



TABLES

Table 1. Oneway ANOVA - Unit Cost of Diagnoses by Hospital

Unit_Cost

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.675E+12	10	1.675E+11	11.607	.000
Within Groups	8.416E+12	583	14434927258		
Total	1.009E+13	593			

Table 2. Oneway ANOVA - Unit Cost of Diagnoses by Diagnose

Unit_Cost

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.009E+12	53	37905222482	2.533	.000
Within Groups	8.082E+12	540	14966757992		
Total	1.009E+13	593			