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Financing Efficiency on Albanian Tertiary Healthcare Facilities

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ABSTRACT

The expected introduction of Diagnosis Related Groups in Albanian Healthcare (DRGs) emphasizes the need of an adequate cost accounting system that sustains the financing of efficiency on healthcare tertiary facilities, and considers all factors of production allocated to each unit of output in order to lead the hospitals' financing to a more efficient allocation of resources.
This leads to an accurate analysis of the correlation between financing and the criterion used up to now by the Albanian Compulsory Healthcare Insurance Fund (CHIF) to allocate the financing. The data, that has been collected, was analyzed using descriptive statistics methods in particular, correlation analysis and significance test. By performing the statistical analyses, the results revealed that the financing of hospitals does not statistically describe the performance of the healthcare facility leading to an inefficient use of financing.
In order to sustain the use of DRGs, a paying system that promotes an efficient use of resources, leading to an increased quality of output, a different financing criterion must be chosen, so, all the factors of production are considered and allocated to each unit of output. Moreover, a standard information system must be used for all healthcare facilities.

Keywords: Albanian healthcare, Healthcare financing system, Financing efficiency.

INTRODUCTION:

The Albanian healthcare system is currently undergoing important steps in reforming its financing in relation to performance driven strategic pathways. 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 financing of all public hospitals occupies around 50% of entire CHIF budget as shown in Table 1, and its allocation is performed by CHIF significantly on historical base (Persiani, 2014) through Ministerial Decree without any regard to the performance of hospitals. Given this scenario, the Hospitals' financing isn't depending on the efficiency of the output produced, since there isn't any relationship between the total amount of Hospitals' financing and its efficiency. Referring to other countries, in Italy, the change in bed utilization over time is an expected result of the policies aimed at controlling health expenditure, increasing hospital efficiency and reducing waste. (Ferré F, 2014)
The health expenditure is also related with the hospital's cost accounting system, which, as follows, is explained and demonstrated for a common diagnosis. The cost per unit of output is measured and identified as the result of cost calculation. It depends on how accurately cost are identified as direct ones (such as drugs, medical materials, salaries, depreciation of equipment, etc.) and attributed to a specific output. Moreover, the identification of the indirect costs (such as electricity, water, facilities depreciation, administrative, fuel, etc.) and their distribution to the unit of output is crucial in order to ensure a fair unit cost. Another determining criteria in ensuring a fair distribution of indirect cost is the choice of the cost driver. The Guidance no. 1 date

31.01.2011 of the Health Insurance Institute[1] (ex-CHIF) determines the guidelines that allocate costs to the units of 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 the portion number of patients over the total number of patients.
According to the CHIF (CHIF, 2018), the average cost per unit of output significantly varies for each District hospital taken into analysis. For instance, a significant standard deviation is observed for the average cost of a common diagnosis, such as essential hypertension with average cost of 85.152 lekë with standard deviation of 44.601 lekë. The variation of the unit cost of output, given a specific diagnose, from a hospital to another, doesn't reflect the same variation to hospitals' amount of financing leading to a disproportionate and inefficient allocation of resources.

METHODOLOGY:

The data for this study were obtained from the Compulsory Health Insurance Fund (CHIF) for a 9-year time period 2009 – 2017, concerning University, District and Regional Hospitals in the Albanian territory. The data concerns the financing of the Albanian healthcare system, and also, for a 6-year period 2012-2017, there have been collected the performance indicators for each hospital and direct and indirect cost for each unit of output (according to ICD-9 system of classification).
The statistical analysis is performed on data presented by distribution frequencies for all hospitals. In order to perceive any kind of relationship between variables, correlation analysis has been performed. For the statistical analyzes IBM SPSS Statistics and Excel 2016 have been used. Data are organized to comply with a standard form since different healthcare facilities report data in different formats.
In order to establish that there aren't any performance driven criteria used to finance the Albanian Healthcare, an association between amount of financing and ALOS has been hypothesized in order to explain the efficient allocation of resources.

FINDINGS AND DISCUSSION:

All data obtained and considered for this study are presented in frequency Table 2 as subtotals for all Albanian Hospitals. The correlation between Total Days of Stay for all hospitals during 2012-2017 and the number of cases is significant ($p<0.01$) at $\alpha=0.01$ with $R=0.896$. Moreover, the correlation between total financing for all hospitals during the same period and the number of cases is significant ($p<0.01$) at $\alpha=0.01$ with $R=0.968$. Even though the financing is performed significantly on historical bases (Persiani, 2014), the statistical analysis reveals a strong correlation between financing and both, output and total length of days of stay illustrated at Table 3.
The average length of stay in hospitals (ALOS) is often used as an indicator of efficiency. All other things being equal, a shorter stay will reduce the cost per discharge and shift care from inpatient to less expensive post-acute settings. 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).
Financing the Albanian Healthcare System doesn't take into consideration the performance of the services. This hypothesis is validated by the correlation analysis performed with the data of hospital financing and the performance indicator Average Length of Stay (ALOS) collected in the time range from year 2012 to 2017 Table 4. The analysis shows that there isn't any relation ($p=0.675$, $\alpha=0.01$) between total amount of financing and the ALOS, so, a change in ALOS isn't reflected as a related change in Hospitals' financing Figure 1.

CONCLUSION:

Financing all public hospitals costs around 50% of entire CHIF budget. On the other hand, the primary healthcare most of the time doesn't serve as a gatekeeper, even though there's a referral system to drive the patients' pathway, who in most of cases bypasses it to access directly to the tertiary healthcare. This "bypassing" is of concern because it suggests that the referral system does not function well (David Hotchkiss, 2005). So, cost management with focus to efficiency becomes crucial and the cost per unit of output becomes its driven criteria. Based on the

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

analyses performed over the years, the healthcare system isn't financed based on performance but based on volumes. A decrease in the ALOS must be greeted as the product of a well performing healthcare system resulting in a decrease (ceteris paribus) in its financing for a better resource allocation.

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Figure 1: The relationship between Financing and ALOS

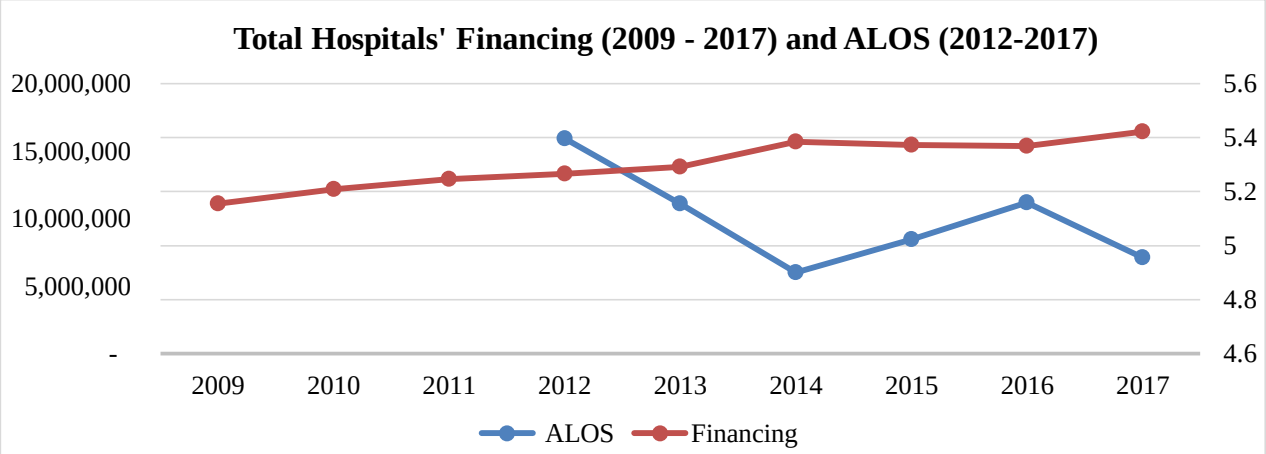

Table 1: Revenues and expenditure of the Compulsory Health Insurance Fund (CHIF) (values in millions of Lekë)[2]

	2015			2016			2017		
	Plan	**Fact**	**%**	**Plan**	**Fact**	**%**	**Plan**	**Fact**	**%**
Revenues	34,814	34,051	100%	35,794	35,922	100%	39,405	38,229	100%
from which:									
State budget	8,859	8,859	26.02%	8,020	8,020	22.33%	8,549	6,782	17.74%
Health Insurance	9,040	8,702	25.56%	10,452	10,699	29.78%	11,154	12,268	32.09%
Other revenues	161	156	0.46%	178	254	0.71%	178	92	0.24%
State budget for Hospital serv.	16,754	16,334	47.97%	17,144	16,949	47.18%	19,524	19,087	49.93%
Expenditures	34,814	32,529	100%	35,794	34,795	100%	39,404	39,089	100%
from which:									
Drugs' reimbursements	8,707	7,703	23.68%	8,776	8,671	24.92%	10,100	10,088	25.80%
Primary Health Care	7,441	6,778	20.84%	8,010	7,636	21.95%	8,061	8,021	20.50%
Administrative expenditures	820	718	2.21%	844	787	2.26%	879	866	2.20%
Investments	266	174	0.53%	250	71	0.20%	6	1	0.00%

[2] Exchange Rate 1 Lekë = 0.0075 Euro

Durres Hospital	826	826	2.54%	770	770	2.21%	834	834	2.10%
Other hospitals from 2009	16,754	16,330	50.20%	17,144	16,860	48.46%	19,524	19,279	49.30%

Source: Compulsory Health Insurance Fund (CHIF)

Table 2: Frequencies of Total Financing (in millions of Lekë), Total Output and Average Length of Stay

Year	Financing	Output	ALOS
2012	13,320.5	241,433	5.40
2013	13,835.5	246,008	5.16
2014	15,700.9	261,236	4.90
2015	15,440.8	303,472	5.02
2016	15,361.0	266,000	5.16
2017	16,423,8	279,007	4.96

Source: Compulsory Health Insurance Fund (CHIF)

Table 3: Correlation of Total Financing, Total Output (cases) and Total Length of Stay

		Financing	Output	TLOS
Financing	Pearson Correlation	1	.968	.879
	Sig. (2-tailed)		.000	.000
	N	346	226	232
Output	Pearson Correlation	.968	1	.896
	Sig. (2-tailed)	.000		.000
	N	226	235	235
TLOS	Pearson Correlation	.879	.896	1
	Sig. (2-tailed)	.000	.000	
	N	232	235	248

Table 4: Correlation of Total Financing and Average Length of Stay

		Financing	ALOS
Financing	Pearson Correlation	1	-.029
	Sig. (2-tailed)		.675
	N	346	218
ALOS	Pearson Correlation	-.029	1
	Sig. (2-tailed)	.675	
	N	218	234
