

Influence of Health Financing and Impact on Quality of Hospital Services - Case of Kosovo

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Abstract- The situation in the social and health sector in Kosovo despite efforts and engagements remains severe. According to World Bank reports, around 45% of the population are unemployed and about 15% of the population have difficulties in securing their elementary needs or living in extreme poverty. Health indicators remain among the lowest in the region.

Key words: health, health financing, health insurance, quality of services

I. INTRODUCTION

The ability to build, develop and maintain a strong healthcare system is essential for the overall wellbeing of the people. In this regard, ongoing reforms of the health system infrastructure, particularly those of funding, and the provision of health services are at the forefront of the global reform agenda. European countries that have a historic development with the foundation of an early legislation, today enjoy stable health systems and can continue their further development through the most well-known structures. Particularly, the issue of health care is among the most sensitive issues faced by Kosovar society, which passed a decade-long apartheid phase that ended with a war in which the lives of tens of thousands of people were lost. During the war, the health care system and the health insurance system were completely destroyed.

Kosovo has so far had another scheme of health financing, not health insurance. This current health system is financed with that the state collects from general taxes, where it creates the budget and allocates funds for the health activities from the budget.

Therefore, the analysis of the way of health financing in post-war Kosovo is an actual and very important topic to be addressed at professional scientific levels and will, in part, serve science and improve health services in our country.

II. BUDGET FOR HEALTH SECTOR FOR THE PERIOD 2008 – 2015

The allocation of the Kosovo budget for the category of expenditures in health within a fiscal year is based on the Law on "Budget of the Republic of Kosovo" for that fiscal year in our case for the years 2008-2015 where Article 3 of this law determines the budget appropriations from the Kosovo fund for the fiscal year, which is presented in the table attached to the law[1].

As shown in the table below (table no.1), the government budget is the main budgetary source of funding for the public healthcare system. From 85.84 million Euros in public sector spending in 2010, exactly 93 percent come from the government budget. Government budget support for hospitals takes the form of direct transfers from Treasury. Funds for HCGs are provided on the basis of transfers according to the formula to the respective owners of the municipalities.

In addition, patients should pay contributions for health services and medicines in hospitals and primary care centers, based on the price list issued by the MH, and where low-income groups are excluded. These comprise the remaining seven percent of budget funding and are considered as own source revenues[2], **table no.2**

Table no. 1. Budget expenditures in health in Kosovo for the period 2008 - 2015 mil €

Year	2008	2009	2010	2011	2012	2013	2014	2015
Kosovo Budget Expenditures	1,090,3	1,094,4	1,376,0	1,414,93	1,508.9	1,586,1	1,589,32	1,682,49
Public expenditures on health	70.7	68.6	70.3	79,08	88,17	96,16	114,71	116.99
In % of GDP	3.2	3.0	3.1	2.53	2.4	2.3	2.7	2.8
In % of Total Government budget	9.6	9.8	9.8	7.7	6.37	6.1	7.2	6.95

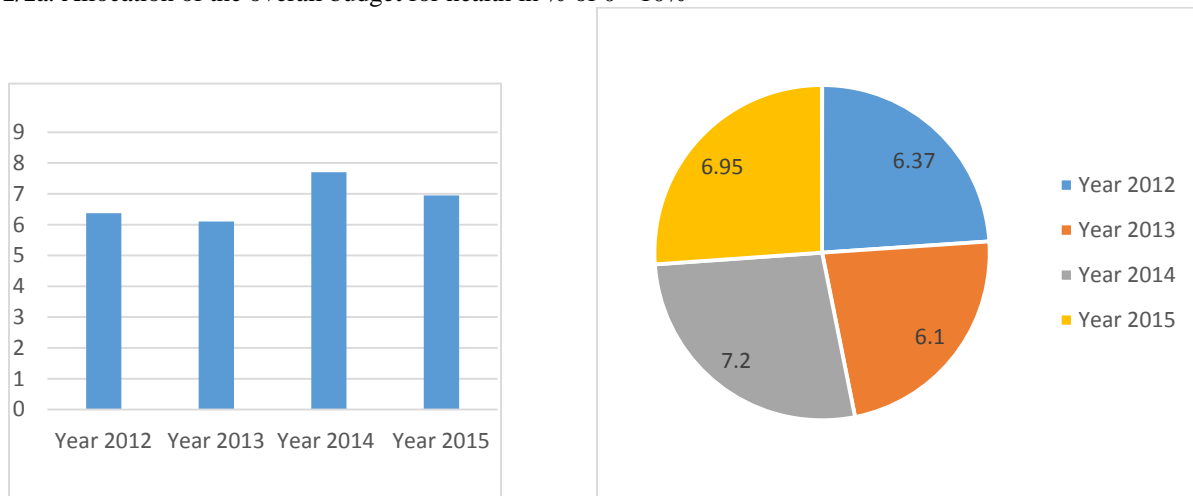
Source:MF, Expenditure Framework 2013-2015 estimation by authors

While health spending as a percentage of GDP has remained stable over time, it has been reduced as a percentage of government spending over the past five years. By 2008-2010, Kosovo has spent about ten percent of the total government spending on health, corresponding to the amount of about 33 Euros per capita per year[3]. Since then, the proportion has dropped steadily up to 6.37 percent in 2012 [4] and 6.1 percent in 2013 to mark a slight increase in 2014 to 7.2 percent[5] and in 2015 it was 6.95 percent or

expressed in funding for per capita healthcare costs about 51 Euros per capita per year[6]. Unlike the states of the region, the government does not seem to be using increasing revenues to increase spending in this sector.

During 2014, 81 436 patients were hospitalized at the University Clinical Center with 479,998 days of healing[7]. Also, 20,496 operations were performed. For one year, 377 829 ambulatory visits were performed and 583 280 were special diagnostic services, and 747 141 laboratory services, total of services in UCCK were performed 2 683 235 services[8], see chart no.1.

Chart no. 1/1a. Allocation of the overall budget for health in % of 0 - 10%



Source: Ministry of Finance of RKS, chart no.1 / 1a calculation by authors

III. FINANCING OF KOSOVO HEALTH SYSTEM

Public health expenditures aim at covering all the needs of the population for the preventive / vaccinative system, outpatient care and the hospital system. A complete, organized and efficient healthcare system is an important prerequisite for increasing the quality of life in general, increasing job skills and longevity.

Health financing is mainly managed at the central level by the MoF with a very limited involvement of the MoH and very small autonomy of health institutions.

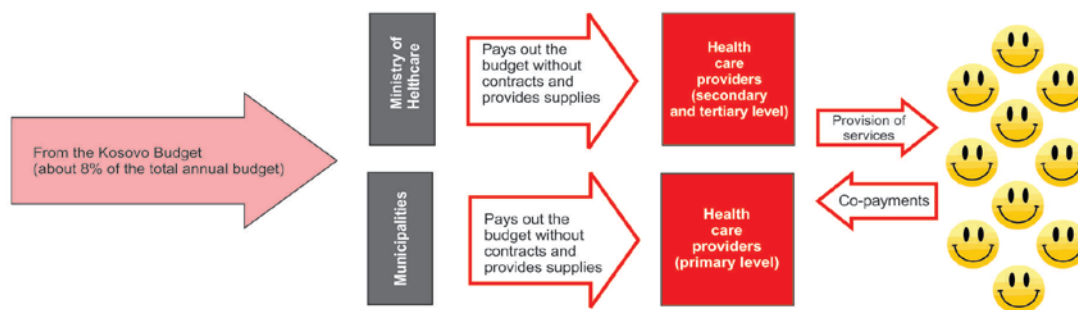


Figure no. 1. The current system of funding and organization of health care in Kosovo

The income of health institutions is not kept in the health sector but derives from the treasury of the state in accordance with the Law on Public Financial Management and Accountability. There is no mandatory public health insurance[9]. Ministry of Health receives 22 percent of total health funds, secondary and tertiary hospitals receive 51 percent, while municipalities receive the remaining 26 percent of the budget allocation for health care[10].

The budget is designed based on past spending, without any correlation with the needs of the population and without a strategy of priorities. Budget execution monitoring is mainly done by the MoF and the health institutions are not responsible for the use of drugs, employment and exclusion of personnel and capital investments. Therefore, institutional accountability is small and incentives are not intended to improve productivity, efficiency, and quality[11].

The Kosovo Government has been looking for alternative ways to organize a health financing system. There have been many public discussions but even behind closed doors as well as the tendency to learn from health insurance experiences from other countries[12].

In previous years, health insurance has become an important topic in health sector discussions. This topic has included representatives from the Government, civil society and the media.

However, so far, there have been no concrete results at the policy level. Perhaps the exception is the approval by the Government and Parliament of the Law on Health which sets out the step for the health insurance system and the approval of the law on health insurance[13]. The delay in health system financing reform is keeping an unfavorable status quo of the health care system, with unsatisfactory performance for Kosovo citizens. This situation is getting worse every day, more and more.

One of the chain effects from this situation is the increase in the number of patients seeking help abroad. Among other things, this means a continuous flow of funds abroad and the use of services at a higher price.

IV. MODEL AND METHODOLOGY

In order to measure the impacts of health financing in Kosovo, this research is based on econometric findings. Specifically, healing days, number of beds, number of operations, outpatient visits, laboratory services, and other hospital services will be treated as endogenous variables or variables dependent on the hospital budget. Otherwise, the hospital budget will be treated as a non-dependent variable that presumes to have positive impact and correlation in the above-mentioned endogenous variables.

$$Y_i = a + b_1X_{1i} + b_2X_{2i} + b_3X_{3i} + b_4X_{4i} + b_5X_{5i} + \epsilon$$

Econometric tests initially measure coefficients, continuing with F-test tests to identify the model best described by the population. Another test is the t-test through which the population averaged as well as autocorrelation testing through the Durbin Watson test. Finally, the correlation testing between the variables is done through the Pearson Product Moment test to identify the fact that the hospital budget has a positive correlation with the hospital services provided.

V. RESULTS

The table below summarizes the results of the tests based on the above-mentioned model which treats the non-budget variable and recovery days, number of beds, number of operations, outpatient visits and laboratory services as well as other hospital services as variables. From the coefficient testing it is evident that the data is very close to the regression line, which means that the variability of the nonvariant variables causes variability in the variable. More precisely, budget changes cause changes in most hospital services (See table below).

Table 1. The results of Simple Linear Regression

	Healing days	No. of hospitalized	No. Of operations	Visits in ambulants	Laboratory services	Other hospital services
R	.093	.992	.993	.936	.829	.986
R square	.009	.985	.987	.876	.688	.972
R adjusted	-.157	.982	.985	.856	.636	.967
f-test significance	.827	.000	.000	.001	.011	.000
t-test significance	.229	.000	.000	.001	.031	.000
Durbin Watson	1.386	1.763	1.074	1.5360	1.403	2.391

values of coefficient testing results to be high for all variables except for recovery days resulting to be low in value of .093. More than 90% of variability, number of beds, number of operations, outpatient visits, laboratory services and other hospital services is directly related to variability at the budget level for health in Kosovo.

Table 2. Correlatin Test "Pearson"

Correlations

		Budget	Healing days	No. of hospitalised	No. of operations	Ambulative visits	Laboratory	
Budget	Pearson Correlation	1	.093	.992	.993	.936	.829	.986
	Sig. (1-tailed)		.413	.000	.000	.000	.005	.000
	N	8	8	8	8	8	8	8
Healing days	Pearson Correlation	.093	1	.199	.155	.303	.564	.147
	Sig. (1-tailed)	.413		.318	.357	.233	.073	.364
	N	8	8	8	8	8	8	8
No. of hospitalised	Pearson Correlation	.992	.199	1	.993	.963	.880	.983
	Sig. (1-tailed)	.000	.318		.000	.000	.002	.000
	N	8	8	8	8	8	8	8
No. of operations	Pearson Correlation	.993	.155	.993	1	.951	.844	.985
	Sig. (1-tailed)	.000	.357	.000		.000	.004	.000
	N	8	8	8	8	8	8	8
Ambulative visits	Pearson Correlation	.936	.303	.963	.951	1	.917	.927
	Sig. (1-tailed)	.000	.233	.000	.000		.001	.000
	N	8	8	8	8	8	8	8
Laboratory	Pearson Correlation	.829	.564	.880	.844	.917	1	.863
	Sig. (1-tailed)	.005	.073	.002	.004	.001		.003
	N	8	8	8	8	8	8	8
Other	Pearson Correlation	.986	.147	.983	.985	.927	.863	1
	Sig. (1-tailed)	.000	.364	.000	.000	.000	.003	
	N	8	8	8	8	8	8	8

Based on the Durbin Watson tests, tests for independent variables giving an indication of less than 2 in all cases with the exception of the endogenous variable to other services. This means that in all cases we have positive evidence of positive correlation.

A positive correlation can be seen in the table below, from the "Pearson product Moment" tests. With the exception of the endogenous "day of recovery" variable, for the confidence interval of 95%, the values "p" are smaller than .05, which means that the zero hypotheses are rejected and alternative hypotheses are accepted. The alternative hypothesis states that we have a positive correlation between the exogenous and the endogenous variables with the exception of the variable "days of healing" when this hypothesis can not be excluded.

VI. CONCLUSIONS

Based on the results of this study it can be concluded that the University Clinical Center of Kosovo despite many services and hard work that still has deficiencies in its functioning, which were also expressed by the participants in the research.

From the research we can conclude that special attention should be paid to the budget allocated to UCCK and in general for the health of Kosovo which does not meet the needs and demands of citizens for the provision of health services to the desired level so that these services matched to EU standards.

Also, based on this study, we conclude that the Government of Kosovo respectively Ministry of Health draft new policies that respond to the needs of the population by raising financial funds and establish mechanisms for supervision and evaluation of work in health institutions.

Improving the management of healthcare institutions is one of the key factors to be taken into account by the bodies dealing with the selection of managers in order for health institutions to function at EU level by recruiting adequate and professional human resources that are prepared for health management of these institutions.

Lack of supply of medicines, medical supplies, lack of medical equipment, failure to function properly, poor maintenance and service life have shown an inadequate functioning of health services.

Based on the research we have noticed that with the increase of the budget the quality of the health services is increased.

This research confirms that the improvement of the health sector is not on the government agenda and the share of spending on health in the budget of only 2 to 3% of GDP does not reflect even close to meeting the health needs of the population, which confirms us fully **"The level of funding of the health system in Kosovo is not in line with the health needs of the population"**.

This research shows that the more the budget will be and the services will be more qualitative.

VII. RECOMANDATIONS

- Give priority to the health sector respectively UCCK.
- UCCK budget increase based on the needs of the population.
- Supplying with medical materials and medications
- Equipment with contemporary work equipment.
- Decentralization of clinics and services at UCCK.
- Planning the development of constituent units of UCCK
- Develop health plans and programs for work
- Strict monitoring of the realization of these programs
- Assessment of achievements

- Professional oversight of the work of UCCK's constituent units in fulfilling their duties.
- Proper systematization of human resources according to EU needs and standards
- The Government of Kosovo should have a clear vision about the fact that without finance there are no health services.
- Based on the special circumstances of Kosovo, the application of the combined health financing system would be more sustainable.

APPENDIX
Variables Entered/Removed^a

Mode	Variables Entered	Variables Removed	Method
1	Budget ^b	.	Enter

a. Dependent Variable: Days of healing

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.093 ^a	.009	-.157	39217.255	.009	.052	1	6	.827	1.386

a. Predictors: (Constant), Budget

b. Dependent Variable: Days of healing

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	80603007.108	1	80603007.108	.052	.827 ^b
	Residual	9227958716.767	6	1537993119.461		
	Total	9308561723.875	7			

a. Dependent Variable: Days of healing

b. Predictors: (Constant), Budget

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1 (Constant)	51293.453	17630.418		2.909	.027	8153.374	94433.532			
Budget	.000	.001	.093	.229	.827	-.002	.003	.093	.093	.093

a. Dependent Variable: Days of healing

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	51708.15	62070.36	53786.38	3393.334	8
Residual	-40094.957	60013.398	.000	36308.123	8
Std. Predicted Value	-.612	2.441	.000	1.000	8

Std. Residual	-1.022	1.530	.000	.926	8
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a. Dependent Variable: Days of healing

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4314318469.064	1	4314318469.064	384.971	.000 ^b
	Residual	67241134.811	6	11206855.802		
	Total	4381559603.875	7			

a. Dependent Variable: No of hospitalized

b. Predictors: (Constant), Budgete

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.992 ^a	.985	.982	3347.664	.985	384.971	1	6	.000	1.763

a. Predictors: (Constant), Budget

b. Dependent Variable: No of hospitalized

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4314318469.064	1	4314318469.064	384.971	.000 ^b
	Residual	67241134.811	6	11206855.802		
	Total	4381559603.875	7			

a. Dependent Variable: No of hospitalized

b. Predictors: (Constant), Budget

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
		1	(Constant)	3640.871							
	Buxheti	.002	.000	.992	19.621	.000	.002	.002	.992	.992	.992

a. Dependent Variable: No of hospitalized

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	6674.87	82485.98	21879.37	24826.019	8
Residual	-5619.082	5222.653	.000	3099.335	8
Std. Predicted Value	-.612	2.441	.000	1.000	8
Std. Residual	-1.679	1.560	.000	.926	8

a. Dependent Variable: No of hospitalized

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Buxheti ^b	.	Enter

a. Dependent Variable: No. of operations

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.993 ^a	.987	.985	787.330	.987	454.473	1	6	.000	1.074

a. Predictors: (Constant), Budget
b. Dependent Variable: No. of operations

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	281722405.410	1	281722405.410	454.473	.000 ^b
	Residual	3719331.465	6	619888.577		
	Total	285441736.875	7			

a. Dependent Variable: No. of operations
b. Predictors: (Constant), Budget

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	281722405.410	1	281722405.410	454.473	.000 ^b
	Residual	3719331.465	6	619888.577		
	Total	285441736.875	7			

a. Dependent Variable: No. of operations
b. Predictors: (Constant), Budget

Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1241.80	20614.38	5127.13	6343.978	8
Residual	-1099.792	1068.141	.000	728.926	8
Std. Predicted Value	-.612	2.441	.000	1.000	8
Std. Residual	-1.397	1.357	.000	.926	8

a. Dependent Variable: No. of operations

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