ANALYSIS OF ECONOMIC EFFICIENCY OF MUNICIPAL HOSPITAL

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Abstract

A major problem in the world and in Bulgaria is the organization and structure of health care and funding of hospitals. Hospital care takes about 20% of the turnover of the population for medical care while consuming over 70% of healthcare costs.

The aim of our study was based on an analysis of indicators of hospital utilization and economic performance of the Hospital for Active Treatment of Samokov for the period 2007 -2013 year to bring out the existing trends. The data show increases in the cost of various hospital units product - passed sick bed days, the medicines. The reasons for this are: general inflationary processes specific medical inflation purchased medicines and supplies, the increased maintenance costs of hospital activity. However, there is an effort by management to reduce unnecessary costs and to optimize economic performance.

Keywords: *efficiency, economic indicators, revenues, costs, financial results*

Major problem worldwide and in our country is healthcare organization and structure and the manners of funding the healthcare institutions. The hospital cares are rendered to around 20% of the medical care turnover of the population and it takes up over 70% of the healthcare costs. The costs incurred for hospital services have some of the greatest shares of the total costs for health cares in most European and developed countries. According to the data provided by the Organization for Economic Co-operation and Development, on the average the hospital costs are around one-third of the total short-term healthcare costs in the European member-states of OECD in recent years. In some countries of the European region of WHO and in particular in the countries of the former Soviet republics the hospitalization costs have exceeded 70% as share of the total healthcare costs.

The objective of our research is to outline the existing trends on the basis of the analysis performed concerning the stationary usability and the economic indicators of Multi-profile hospital for active treatment Samokov for the period 2007 -2013.

The effectiveness of MBAL Samokov could be assessed on the grounds of the indicators for extensive and intensive use of the bed fund or the capacity and via the economic indicators that illustrate the prime cost of the resulting hospital product. Idiosyncratic expression of effectiveness is the dynamics of the motivational instrument – the salary.

The indicators of the bed-fund usability show very good values when it comes to the average stay, turnover and hospital lethality and potential for better extensive bed use.

Table 1. Basic indicators of stationary effectiveness

INDICATORS	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Bed-fund usability in %	73,95	70,87	67,69	64,94	63,58	65,10	67,86
Average stay	6,8	6,6	6,5	6,1	6,2	6,2	6,3
Turnover	39,5	39,1	37,9	38,9	37,7	38,2	39,4
Lethality in %	1,7	1,6	1,1	1,2	1,3	1,1	1,1

The value indicators outline the *objective and inevitable trend of prime cost increase for the various units of the hospital product* – received patient, bed-day, drug-day due to the general inflation processes, the specific medical inflation of the purchased medications and consumables, the increased maintenance costs of the hospital activity. Nevertheless, the management makes efforts to limit the unnecessary costs and optimize the economic indicators.

Table 2. Average costs of Multi-profile hospital for active treatment Samokov (BGN)

Average cost of:	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
... one received patient	513	502,51	493,78	449,60	476,62	537,43	504,23
... one food-day	0,91	1,02	0,89	0,99	0,89	0,89	0,93
... one bed-day	69,48	73,98	73,6	80,28	77,31	86,17	80,22
... one drug-day	10,53	8,92	9,58	9,92	10,15	11,54	11,14

The work motivation and the motivation to provide better, more effective and quality serving largely depend on labour remuneration. One should bear in mind that the management of Multi-profile hospital for active treatment Samokov pays significant attention to this effectiveness instrument and maintains growth rate of the average salary depending on the contribution – in general for the hospital and considering most of the personnel groups (according to table 3).

Table 3. Average salary considering the basic personnel groups of Multi-profile hospital for active treatment Samokov (BGN)

Average salary of:	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Doctors	504	512	630	724	728	798	822
Medical healthcare professionals	304	360	455	547	536	539	538
Each staff	275	272	372	376	370	370	437
Total for hospital	368	418	492	543	553	557	627

The data that define the hospital effectiveness results in the following **conclusions**:

- The hospital improves both aspects of using its own capacity – extensive and intensive bed use.
- There are margins for more optimal use of the bed fund from extensive point of view, in order to achieve average bed use of 70%. This could be done with the increased number of received patients.
- The turnover per bed and the average stay of one patient almost went up to their optimal level and we cannot expect significant dynamics in the future when it comes to these indicators.
- The value per received patient, per one bed-day and per drug-day continuously increases despite the capacity load. This is due to the general and specific inflation of the purchased commodities and services and results in increase of hospital costs.
- The average salary increases, even if insignificantly, and its increase is higher when it comes to the doctors being major group of medical personnel.

Financial and economic condition

Revenues

The hospital revenues increased with 9% on the average per annum for the period of 2007-2013 and went up to 5 million BGN. Above 80-90% of the revenues are revenues from the Regional Health Insurance Fund Sofia district and the revenues from funding provided by the Municipality are insignificant. The revenues from the Ministry of health significantly decreased because of the transfer of financial liabilities towards the National Health Insurance Fund and the revenues from paid services and fees increased. One should bear in mind the resourcefulness of the hospital management that manages to generate additional funding from Directorate "Social assistance" that pays for the hospital attendants employed under the programme.

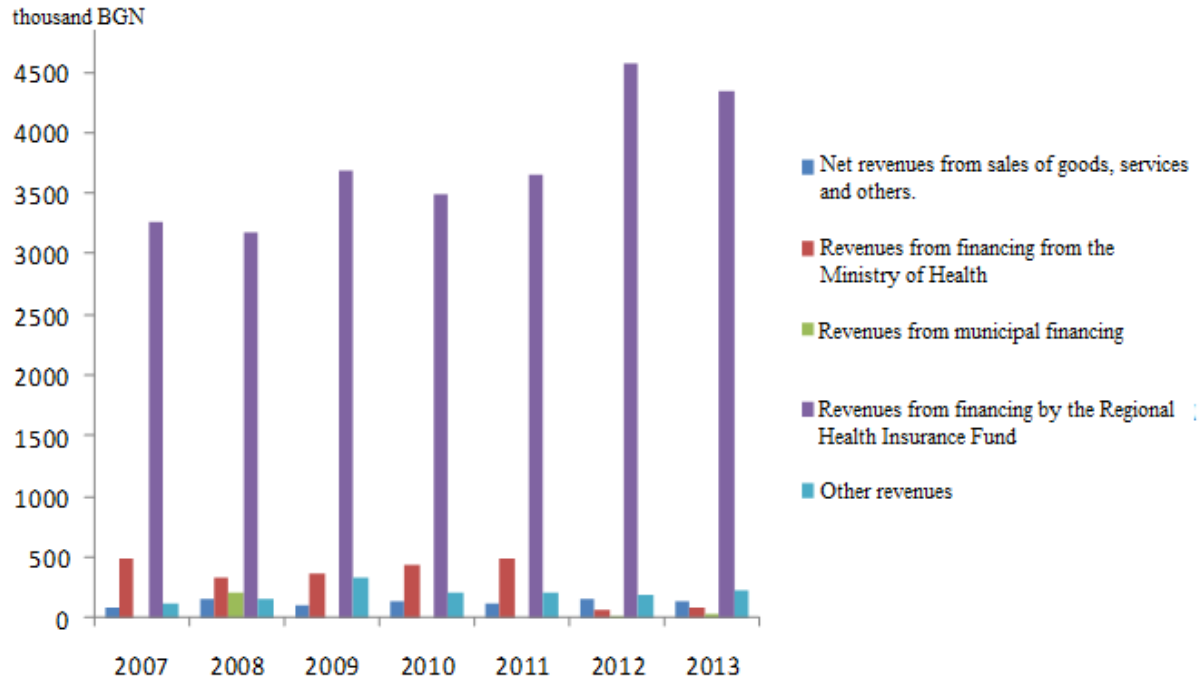


Figure 1. Types of revenues of Multi-profile hospital for active treatment Samokov for the period 2007-2013

Table 4. Revenues of Multi-profile hospital for active treatment Samokov for the period 2007 – 2013 (in thousand BGN)

Kind of revenue	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
TOTAL REVENUE	4055	4198	4558	4 277	4 476	5 045	4821
Revenues from sales of services	75	162	94	131	127	150	130
Revenue funding							
RHIF – Sofia refion	3260	3174	3696	3 501	3 658	4 576	4350
Municipality of Samokov	0	200	0	0	0	11	38
Ministry of Health	487	323	358	435	483	71	75
Other revenues	116	161	334	210	207	197	216

The data that define the revenues of Multi-profile hospital for active treatment Samokov outlines the following **trends**:

- The total financial resources increased in 2011 and in 2012 and they provide better hospital sustainability and provide it with the opportunity to achieve its objectives and intentions.
- Systematic increase of the revenues provided by the Regional Health Insurance Fund Sofia district (in particular in 2012) and the revenues from the consumer fees, the paid services and other sales. Additional revenues are generated from the funding provided by Directorate "Social assistance" under programme that bears the labour costs for hospital attendants (former unemployeds).
- The funding provided by the Ministry of health was reduced and in 2012 it only included the operations of the Territorial Expert Doctors' Commission and the haemodialysis is covered by the National Health Insurance Fund. The municipality funds individual repair works and investments of the hospital.

Costs

The continuous increase of commodity and service prices; the low prices of clinical pathways (that not fully cover the prime cost); the non-denial of non-insured patients; reception of patients with actual complications whose treatment requires new generation medications of significantly higher delivery prices; the actual increase of the personnel remuneration have inevitable effect on the final cost amount in the period 2007-2013.

The total hospital costs in 2011 amounted to 4 470 thousand BGN compared to 4 242 thousand BGN in 2010. The cost for 2012 increased with 12% compared to 2011 and went up to 5 041 thousand BGN.

We expect to witness smooth cost increase in the years to come and it would be due to the following factors:

- Increase of remunerations of the people employed in the hospital in conformity with the Branch collective employment agreement, increase of the minimal salary and insurance thresholds and other regulations;
- Increase of consumables and medications' prices and the prices of power sources (hence of the independent services) in the years to come.

Table 5. Costs of Multi-profile hospital for active treatment Samokov for the period 2007 – 2013(thousand BGN)

Type of expenditure	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
TOTAL COST	4029	4189	4546	4 242	4 470	5 041	4798
COSTS BY ECONOMIC ELEMENTS	4027	4187	4545	4 240	4 467	5 037	4794
Cost of materials	1396	1279	1402	1 294	1 443	1 731	1585
Medicines and supplies	967	806	917	874	942	1 132	1035
External service expenditure	409	513	519	226	232	293	255
Depreciation	291	286	271	265	195	197	173
Wage costs with insurance	1781	1960	2198	2 315	2 501	2 677	2645
Other costs	150	149	155	140	96	139	136
Financial costs	2	2	1	2	3	4	4

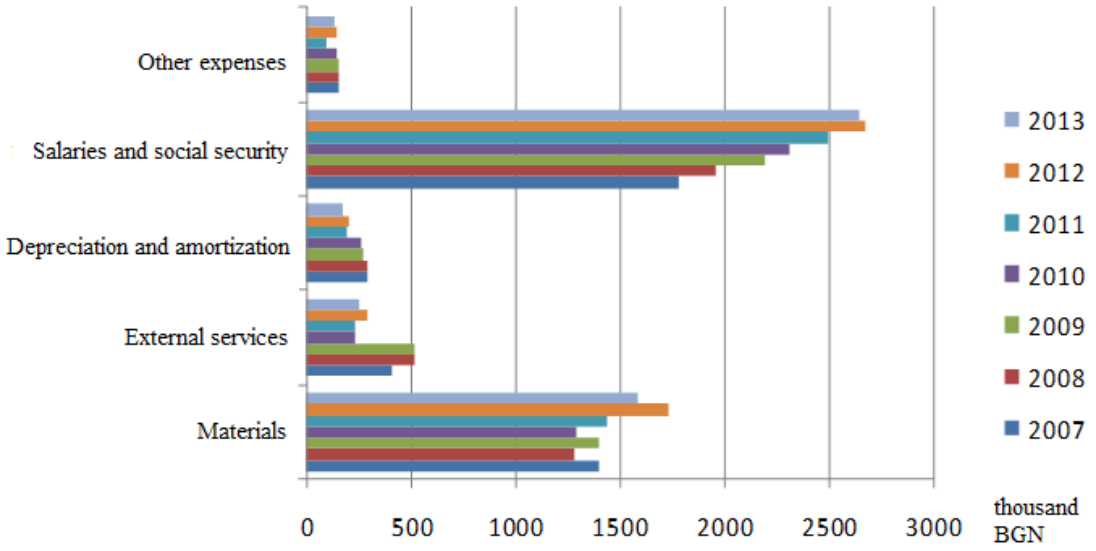


Figure 2. Cost types for the operations of Multi-profile hospital for active treatment Samokov for the period 2007 – 2013

The data about the hospital costs define the following **trends**:

- The total costs increased during the analyzed period despite the economies and the financial support provided by Directorate "Social assistance". The increase is due to the national and medical inflation, to the new branch arrangements on the collective employment agreement that defines the necessary increase of salaries and social contributions.
- The highest hospital costs are disbursed for labour and social contributions (54-56%), but they will keep growing in view of strengthening the personnel motivation in the environment of accelerated competition.
- The second most significant cost is incurred for materials, including for medications and consumables, food and other materials. It also went up from 30 to 34%.
- All other cost types continuously increase because the overheads increase and the acquired new fixed assets get more expensive. The hospital has difficulties controlling the costs for district heating, lighting, water that mainly depend on the price of electricity, water etc.

Financial result

The hospital achieved positive financial result in recent years. This illustrates hospital's successful management compared to the other indebted and unprofitable hospital healthcare institutions.

Table 6.Financial result of Multi-profile hospital for active treatment Samokov for the period 2007-2013 (in thousand BGN)

INDICATOR	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Financial result	**19**	**9**	**10**	**29**	**4**	**2**	**22**

Liabilities and effectiveness of revenues and costs

Hospital's indebtedness is at the average levels when it comes to municipal multi-profile hospital and it has no overdue liabilities.

Table 7. Liabilities and effectiveness of Multi-profile hospital for active treatment Samokov for the period 2007 -2013

Liabilities and effectiveness (thousand BGN)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Total liabilities	**401**	**237**	**658**	**433**	**132**	**243**	**478**
Coefficient cost efficiency	**1,0**	**1,0**	**1,0**	**1,0**	**1,0**	**1,0**	**1,0**
Coefficient of efficiency of revenue	**0,99**	**0,99**	**0,99**	**0,99**	**0,99**	**0,99**	**1,0**

Effectiveness coefficients of the revenues and costs are in the optimal limits.

Conclusions

1. The value indicators present the objective and inevitable trend of the prime cost increase of the various hospital product items.
2. The value per received patient, per one bed-day and per drug-day continuously increases despite the capacity load. This is due to the general and specific inflation of the purchased commodities and services and results in increase of hospital costs.
3. The total financial resources increased in 2011 and in 2012 and they provide better hospital sustainability and provide it with the opportunity to achieve its objectives and intentions.
4. The highest hospital costs are disbursed for labour and social contributions (54-56%), but they will keep growing in view of strengthening the personnel motivation in the environment of accelerated competition.

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