



THE DEVELOPMENT OF BASIC ECONOMIC INDICATORS IN THE SURGICAL AND GASTROENTEROLOGICAL WARDS OF FIFTH MULTIPROFILE HOSPITAL FOR ACTIVE TREATMENT – SOFIA JSC

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ABSTRACT

The public perceives hospital as fundamental element of healthcare system providing adequate treatment, hence they are of great political significance. Economic and financial crisis brought about great challenges for effectively managing the hospital with the limited resources to which we have access via its activity and its effective utilization for maintaining the quality of offered product. The purpose of the research, presented in the article is following the development of the basic economic indicators in the first and second surgical and gastroenterological wards of Fifth Multiprofile Hospital for Active Treatment – Sofia JSC in the period of 2007-2011.

Key words: basic economic indicators, hospital wards, economic and financial crisis, effective management.

The public perceives hospital as fundamental element of healthcare system providing adequate treatment, hence they are of great political significance. In financial point of view, hospital system could be assigned to the most significant costs in the entire healthcare system. Probably no force plays greater influence on economy that the efforts for controlling costs and improving the healthcare value.

In organizational aspect, hospital has dominated and still dominates the other elements of the healthcare system.

The pace of reforming the healthcare sector in Bulgaria is too slow in comparison with the hospital reform in Central and Eastern Europe. This partly reflects the sequence of economic shocks (especially during crisis), as well as the lack of political undertakings, the frequent governments changeover. Delaying the reform

initiation of the hospital sector with almost a decade (in comparison to the other states in the Central and Eastern Europe), as well as the consequential lagging with another decade caused severe problems, including:

- accelerating transfer of costs to patients via regulated and non-regulated payments;
- the lack of incentives for quality improvement;
- continuous wear-out of assets due to the lack of investments;
- occurrence of conflicts between the general practitioners and the hospital specialists;
- the low degree of operative independence of contractors;
- the lack of publicly accessible parameters for comparison within the state of medical indicators, as well as of the financial ones concerning hospitals activity;
- the late introduction of quality management system, even if not a perfect one;
- the lack of effective information system connecting the individual contractors of hospital aid, regulatory bodies and the paying institution (here we should note the availability of software only for the purposes of the National Health Insurance Fund).

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The implementation of healthcare policy in hospital sector depends on various contextual factors – the macroeconomic condition, the political system, the social values and the institutional structure of healthcare system. (1)

The analysis of resources usability in healthcare could include great number of indicators and various methods. In view of the fact healthcare activity is a multi-factor one in its essence and great deal of results do not entirely depend on medicine intervention, the economic analysis of particular factor's effectiveness should be performed *caeteris paribus*.

The necessity of defining and comparing economic indicators of hospitals comprising one group concerns the managers of stationary entities, so that they could perform juxtaposition of the hospital managed by them with other hospitals of the same group, via answering the following questions: Was maximum effect achieved on the basis of the technologically necessary combination of resources? Are costs per unit of activity or unit of healthcare effect minimized? Is it burdened in view of the individual factor capacity for production or of the healthcare institution? (2)

This issue is of great relevance for the funding institutions:

- the National Health Insurance Fund still using clinical paths but funding hospitals on the basis of forecast budgets and
- The Ministry of health, subsidizing the hospitals on the grounds "The methods for subsidizing the transformed state and municipal healthcare institutions for hospital aid and healthcare institutions for hospital aid with state and/or municipal participation in the capital".

The average annual values for the particular hospitals are defined on the basis of costs that were already incurred throughout the year. They are used for various analytical developments.

Currently these values are being used for *paying hospitals for their activity*. These average values are calculated on monthly basis and on their basis the sum is to be defined that the "buyer" – that is, the National Health Insurance Fund will pay the hospital. These values are taken for "prices". (3)

According to the Law on health insurance, as of the 1st of July 2000 the National Health Insurance Fund pays for the hospital services on the basis of National Framework Contract for the particular year on the grounds of agreements entered with the healthcare institutions for the performed activity. Payment is done according to the method "payment for unit of hospital service". The patient, treated on the grounds of "clinical path" is currently taken as measuring unit for hospital service. For each clinical path the National Framework Contract provides for a price that the National Health Insurance Fund pays for each received patient (referred to as "case" in the National Framework Contract). Each new National Framework Contract updates the prices of "clinical paths". (4)

As we all know, the value of financial costs of various hospitals is derivative of the patients received in them and the incurred costs for the treatment of every of them. Thus the analysis of these costs could outline the regularities and trends in the development of stationary medical aid and it is an interesting topic for the hospital management.

The indicator **average cost per one received patient** results from dividing the costs in wards (total costs including costs for: personnel, food, medications, surgical costs) to the number of received patients. It is perceived that a hospital operates effectively if with certain financial resource it achieves greater effect, that is greater number of received patients; it could also serve as measurement when comparing and juxtaposing the indicators of similar types of healthcare institutions; it provides for the allocation of the basic type of costs, as well as defining the average ratio of direct and indirect costs average per annum for the treatment of a single patient. (5)

Similarly to the indicator for average cost per a single received patient, the indicator **average annual cost per bed-day** gives us the opportunity to perform analysis of the value and the average ratio of the basic types of costs incurred for a single day of hospital stay of patients. The average cost per bed-day eliminates the difference in the various average stay of patients. (3)

The indicator **average cost per food-day** is calculated as the costs for food in healthcare institutions is divided to the number of bed-days, reported for the period.

The indicator **average cost per medications day** is calculated as the medication costs of hospital wards are divided to the number of bed-days, reported for the period. (6)

The purpose of the research is following the development of the basic economic indicators in surgical and gastroenterological wards of Fifth Multiprofile Hospital for Active Treatment for the period of 2007-2011.

METHODOLOGY

The used methods are documentary and mathematical-statistical of the routine hospital accounting.

RESULTS AND DATA ANALYSIS

The changes in the values of the basic economic indicators of 1st and 2nd surgical wards (in the research their data are summarized) and the gastroenterological ward for the reported period is presented for better clearness as graph from **figure 1 to figure 5**.

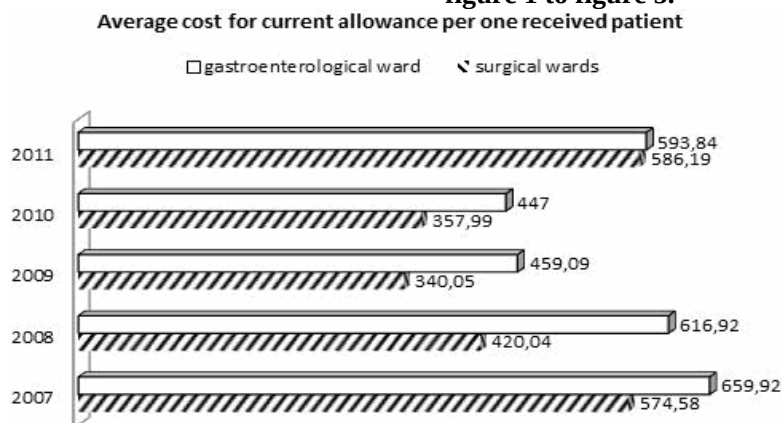


Figure 1. Average cost for current allowance per one received patient (in BGN)

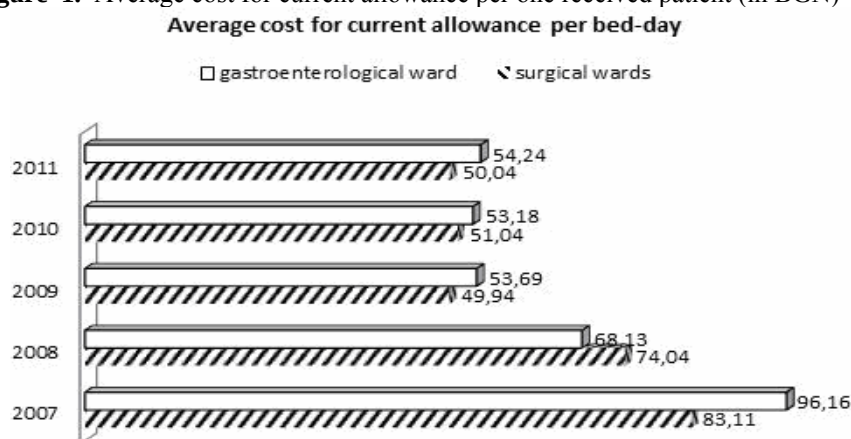


Figure 2. Average cost for current allowance per bed day (in BGN)

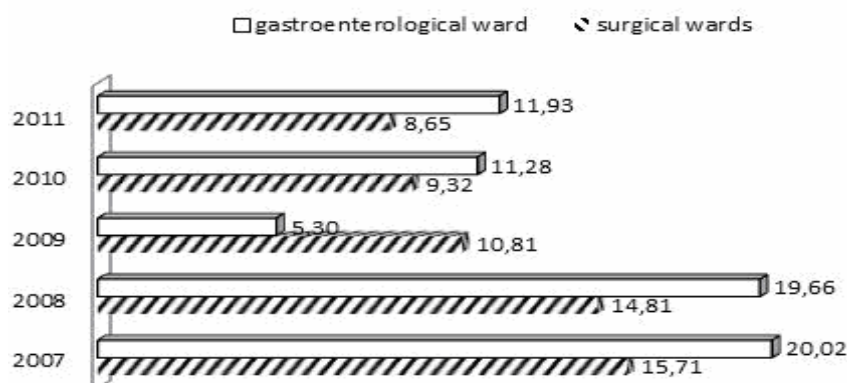


Figure 3. Average cost for current allowance per medications day (in BGN)

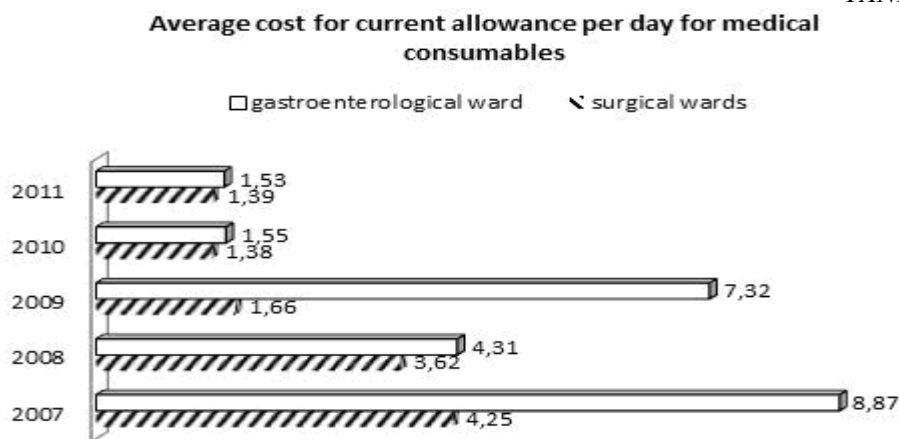


Figure 4. Average cost for current allowance per day for medical consumables (in BGN)

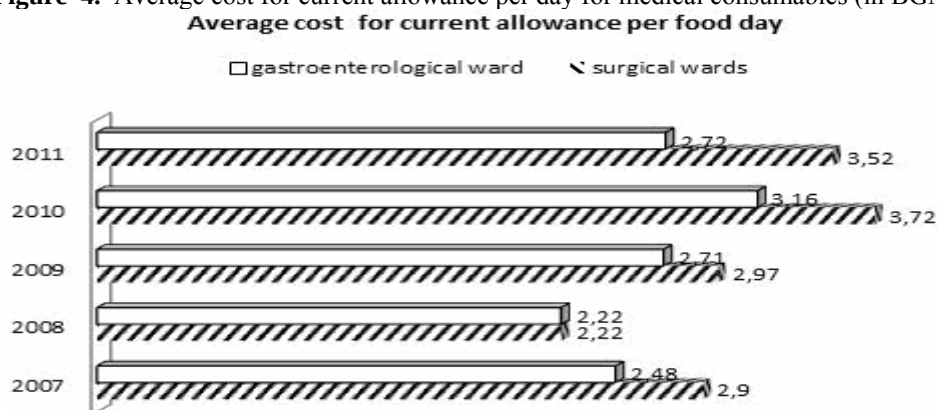


Figure 5. Average cost for current allowance per food day (in BGN)

The presented data about economic indicators of the stationary provide the following information:

Having an **average cost per single received patient** for 2007, the value of surgical wards is 574,58 BGN, followed by a decrease in order to reach 340,05 BGN in 2009 (a decrease of 40,82%). In the following years, the value started increasing and achieved an increase of 72,38% in 2011, i.e. 586,19 BGN. In general for the reviewed five-year period the value increase of this indicator is with 2,02%. For the gastroenterology ward the value of the indicator from 659,92 BGN in 2007 again significantly decreased with 30,43% in 2009, going down to 459,09 BGN. Until the end of the reported period we mark new increase with 29,35% to 593,84 BGN. As a whole, the decrease for the period of 2007-2011 is of 10,01%.

In view of the indicator **average cost per bed-day** the noted differences are the following: its value for surgical wards from 96,16 BGN for 2007 decreased with 44,17% and got down to

53,69 BGN for 2009. Small increase followed to 2011 up to 54,24 BGN. The total decrease of the value of this indicator for the five-year period is with 43,59%. This is the trend we noted for the gastroenterological ward. Great decrease with 39,91% as of 2007 was witnessed when from 83,11 BGN it got down to 49,94 BGN for 2009. Consequently there is an insignificant increase to 2011 when the value equalled 50,04 BGN. During the reviewed period the total decrease was with 39,79%.

Concerning the indicator for **average cost per medications day** we have the following data: in 2007 for the surgical wards it equalled 20,02 BGN. In 2009 we witnessed drastic decrease of the value of this indicator with 73,53% - going down to 5,30 BGN. In the next two years it decreased once again and for 2011 it was 11,93 BGN. The decrease is with 125,09%. During the period 2007-2011 generally the decrease was with 40,41%. In the gastroenterological ward they disbursed 15,71 BGN in 2007, followed by a trend of continuous decrease that

expressed as relative share equalled 44,94% and in 2011 the value indicator equalled 8,65 BGN.

Concerning the indicator **average cost per day for medical consumables**, the data about the reviewed five-year period are the following: for the surgical wards it started in 2007 with 8,87 BGN and after a decrease and increase it ended up with a significant decrease (with 82,75%) in the last two years going down to 1,53 BGN. In view of the gastroenterological ward we noted the trend of value decrease of this indicator. From 4,25 BGN in 2007 its value decreased with 67,29% in 2011 – to 1,39 BGN.

Concerning the indicator for **average cost per food day**, the difference is about the following numbers and per cent: for 2007 surgical wards disbursed on the average per one food day 2,48 BGN. After a slight decrease in the following year, gradual increase was noted going in 2010 up to 3,16 BGN (increase with 27,42%). Another decrease followed in 2011 with 13,92% to 2,72 BGN. As a whole, we have an increase for the period of 2007-2011 with 9,68%. In view of the gastroenterological ward, the data on the average cost per one food day are the following: from 2,90 BGN for 2007 the value of the indicator slightly decreased in the next year, but consequently increased up to 3,52 BGN for 2011, i.e. the increase for the entire period is with 21,38%.

DISCUSSION

In view of the values change of the indicator average cost per one received patient, the most drastic decrease was in 2010, when it correspondingly got down to 357,99 BGN for the surgical wards and 447 BGN for the gastroenterological ward.

Significant decrease of the values of the indicator average cost per medications day was noted in 2009 for the surgical wards going down to 5,30 BGN. Great decrease was noted for the average cost of allowance per day for medical consumables, more expressly for the surgical wards.

We also noted the significant difference of the value of medical consumables between the surgical and gastroenterological ward in 2007 and especially in 2009.

The continuously increasing resources for healthcare make the healthcare managers face

the problem of a more effective allocation and disbursement of healthcare resources.

Effectiveness concerns the achieved final treatment results, being of great importance for patients, as well as the economic results for the invested resources in the treatment activity and the achieved results. (7)

Because of the concentration of significant volume of personnel, material and financial resources in Fifth Multiprofile Hospital for Active Treatment Sofia JSC, the issue about their usage is especially important.

Competency in healthcare management is a strategic task for the resource management and not just for their re-allocation. (8)

CONCLUSIONS

1. As a result of the economic and financial crisis in 2009 and the consequential revenues decrease on behalf of the National Health Insurance Fund with the introduction of fixed budgets and limits per month, funding decrease on behalf of Sofia municipality and the Ministry of health, the management of Fifth Multiprofile Hospital for Active Treatment Sofia achieved the following:

- decrease in the end of the report period of the average cost for current maintenance per bed-day, medications day, medical consumables day in the reported wards;
- in view of the surgical and gastroenterological wards of Fifth Multiprofile Hospital for Active Treatment Sofia we noted drastic decrease of the average cost for current maintenance per bed-day, showing that the management made efforts to cope with the uncontrollable medications prescription;
- increase was also noted for the indicator average cost for one received patient during the last year of the reviewed period, as well as in the average cost for current maintenance per one food day.

2. The indicators for the costs of allowance of a single received patient in hospitals bind the incurred costs with the implemented activity and provide information about the “price” of certain type of medical aid. The reviewed data about the average value per single received patient could serve for establishing the national level of average values – in general and for the individual groups of Multiprofile hospitals for active treatment that is to serve for costs planning, as well as searching for opportunities for compensation allowances to these values. These compensation allowances could reflect

namely the presence of certain “individual” factors in each individual group of Multi-profile hospitals for active treatment.

3. In the circumstances of chronic deficit of financial resources and continuous increase of requirements towards hospitals on behalf of the Ministry of health and the National Health Insurance Fund in view of improving the healthcare services quality, the problem about the effective utilization of the available resources and financial results optimization is of ever increasing significance.

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