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The Assessment of Benefit in the Health System

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Abstract

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In the Romanian socio-economic context, in a society marked by permanent discussions regarding the sub-funding of the health system, we intend to apply an instrument to measure costs and benefits in the health system, by analysing a part of the economic indicators as well as the income and expenditures between 2012-2014. We shall estimate the socio-economic impact owed to the implementation of certain economic actions and policies in health. The method used is the cost benefit analysis which, by minimizing costs, we must obtain the maximum benefits. The results will provide an overall picture of the system because, in this study, we involved only the economic indicators. The cost-benefits analysis applied in health will always be a topic of discussion; there will always be answers to the question: What do we need to do to have a satisfactory health system for the majority of those involved?

Keywords: Cost-benefits; health.

1. Introduction

A performant health system is the one focused on the citizens' needs (Vladescu, Astarastoae, Scintee, 2010), in other words, in order to evaluate the citizens' needs we first need to analyse the costs and benefits of activities in the health system. Currently, numerous tools are proposed and applied for the measurement of costs and benefits in health. Therefore, in the context of sub - financing the health system "the extremely intelligent use of available resources" is important (Olteanu, 2011).

Around 1808, Albert Galatin, clerk of the American Treasury, proposed the method of cost-benefit analysis, as work method regarding the water transportation. In 1844 Jules Dupuit, proposed the use of cost-benefit analysis in the public investment field. But this method started to be useful in the beginning of 1902, during the economic analysis of irrigation projects, namely in 1936, in preventing and combating floods. Until 1960, the cost-benefit analysis was closely related to the investment projects regarding water as economic resource. In about 10 years, around 1970, the cost efficiency analysis method started to be used also in other fields of interest for society.

Thus, the cost-benefit analysis estimates and sums up the money equivalent of present and future social costs and benefits, from the citizens' point of view, related to public investment projects, in order to decide whether they are for the public's interest (Mosteanu & Iacob, www.asociatiaeconomistilor.ro).

In health, in order to make the managerial act more efficient, besides the medical approaches, the other economic, sociological and ethical types of analysis were imposed. The involvement of the economic theory in the field of resource allocation from the health system materialised in instruments, judgements and models that help in the justified adoption of decisions (Blodureanu, 2004).

2. Materials and Methods

The Cost-Benefit Analysis is an analytical instrument, used to estimate (in terms of benefits and costs), the socio-economic impact given by the implementation of certain actions. The impact must be assessed in comparison with the predetermined objectives, the analysis being usually done by taking into account all individuals directly or indirectly affected by the action. (Ministry of the Economy and Finance, p. 5)

The objective of the Cost-Benefit Analysis resides in the identification and quantification of all possible action impacts in order to determine the appropriate costs and benefits. In principle, all types of impacts should be assessed: financial, economic, social, environmental, etc. (…). Thus, the cost-benefit analysis can be used as decision instrument for the evaluation of the utility of investments to be financed from public resources. (Ministry of the Economy and Finance, p. 6)

A description of the cost-benefit analysis method was made by Henley and Spash (1993) and by Randall (1987) which shows that "the purpose of the cost-benefit analysis is to highlight the fact that the sum of impact effects is not higher than the net benefit of society." The net benefit of society is the sum of monetary and non-monetary benefits given by a rational exploitation of the environment (Banacu, 2004).

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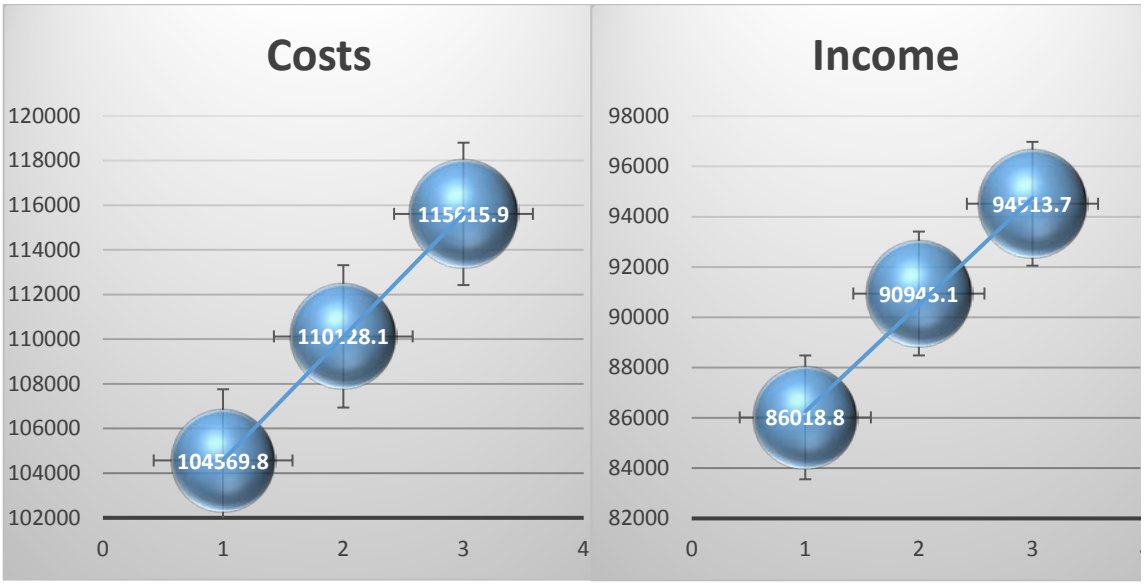
The statistical data used are public data from the site of the National Institute of Statistics and they cover the period between 2012-2014 (National Institute of Statistics).

3. Results

I studied the period between 2012-2014 from the point of view of total income and expenses. The analysis indicates there is an ascending economic deficit so that, if in 2012 the deficit was -18551 million lei RON, in 2013 it was -19183 Million lei RON, and in 2014 it reached -21102.2 Million lei RON. If the overall costs are higher than the income, then it is obvious that in health we are dealing with the same trend. One can notice in Figure 1 (a) and (b) the evolution of income and expenses between 2012-2014.

After applying the calculation formula (1) and if from the health expenses we subtract the income and annual investments we obtain the cash flow formula for the period 2012-2014. Figure 2 shows very clearly the fact that the highest cash flow was recorded in 2014 (90350 Million lei RON) and the lowest cash flow was recorded in 2012 (825110.7 Million lei RON).



(a) **(b)**

Fig. 1. Income, costs: (a) Income; (b) Costs;

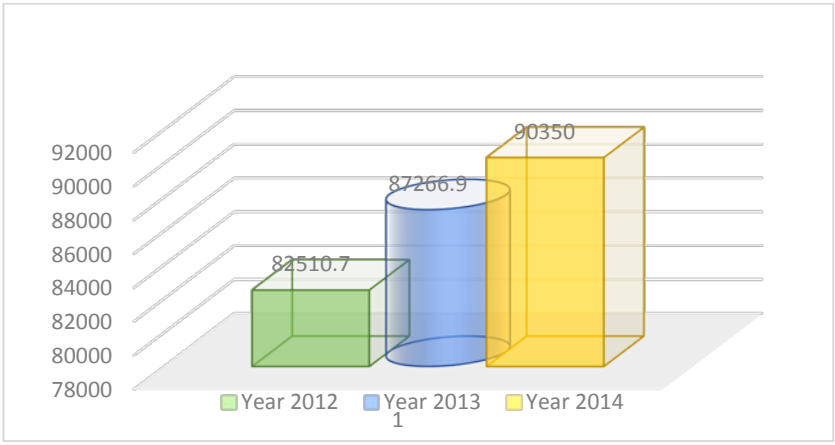


Fig. 2. Cash flow in health;

Table 1. Income, costs, investments (2012-2014)

	Year 2012	**Year 2013**	**Year 2014**
Income	86018.8	90945.1	94513.7
Costs	104569.8	110128.1	115615.9
Costs with health	2224.6	2725.3	3143.6
Investments in health and social care	1283.5	952.9	1020.1

Source: http://statistici.insse.ro/shop/index.jsp?page=tempo2&lang=ro&context=30
Measurement unit: Million lei RON

For an efficient assessment of the benefit in health services, the following formula was used:

$$F_s = V_s - C_s - I_s, \tag{1}$$

Where:

$F_s = cash\_flow; V_s = income\_year\_s; C_s = costs\_year\_s; I_s = investments\_year\_s.$

4. Discussion

After a simple analysis, one can notice that the cost-benefit analysis is a method that provides immediate results if all indicators are taken into account. In this part, I only highlighted 4 economic indicators (cash flow, income, expenses and investments). The study will continue by exploring also human and social resources (doctors, nurses, patients). The cost-benefit analysis is an economic-mathematical instrument which helps the decision making process in terms of economic resources allocation by minimizing the expenses and by maximizing the benefit.

5. Conclusions

Considering the mobility of economic and social factors involved in the decision making process, one can say that the process of minimizing costs and maximizing benefits is quite arduous and difficult. The health policies do not provide efficient solutions due to the economic and political instability of the last years, and the cost-benefit analysis applied in health will always be a current topic of discussion (Nica & Sandu, 2013).

When anticipating consequences or estimating the probability of an alternative, the researchers count on the technical analyses of managerial sciences, especially from economy and operational research such as prognosis, simulation, cost-benefit analysis, linear programming, critical path method and Markov models (Enachescu & Florescu, 2007, p. 5)

The paper "The assessment of benefit in the health system" applies the econometric of cost-benefit, thereby utilizing a small number of indicators. The scientific literature does not produce one econometric model, with global applications, as such, it is interesting not to dwell on the ethical allocation of resources, but on the principle of the benefit ethics and on the ethics of the access to health services. (Dragomiristeanu, 2006).The original intake of the paper consists of the economic indicators employed and of the results achieved.

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