

Doctoral School of Social Sciences

Ph.D. field: Economics

## DOCTORAL THESIS

## OPTIMIZING THE USE OF FINANCIAL RESOURCES IN THE HEALTH SYSTEM

Phd student:

**Ioan-Sebastian MEZEI** 

PhD supervisor:

Prof. Lucian Aron BELAȘCU, Ph.D.



# CONTAINED

<b>C(</b>	<b>DNTAINED</b>	
$\sim$		
SUM	MARY	
INTR	ODUCTION	3
CHAF	PTER 1	
	RT APPROACHES TO HEALTH SYSTEMS	
1.1	Research in the literature on health systems	
1.2	Health Systems Models	
1.3	Health systems in the European Union	
1.4	Comparative analysis of health systems in the European Union	
1.5	Partial conclusions	
СНА	PTER 2	
-	EARCH METHODOLOGY, PURPOSE AND OBJECTIVES	
2.1.	Purpose and objectives of the research	
2.2.	Hypothesis and novelty of the study	
2.3.	Research methods	
CHAF	PTER 3	
	ECTS REGARDING THE HEALTH SYSTEM IN ROMANIA	
3.1.	The Romanian health system	
3.2.	Financing the health system in Romania	
3.3.	Underfunding of the health system in Romania, a direct impact on health indicators	
3.4.	Comparative statistical indicators on the state of health versus the European Union	
3.5.	Prevention in health, impact on health expenditure	70
3.6.	Partial conclusions	
CHAF	PTER 4	77
	ANIZATION AND FINANCING OF HOSPITALS IN ROMANIA	
4.1.	Organization and management of hospitals	
4.2.	Financing of hospital units	
4.3.	Partial conclusions	
CHAF	PTER 5	
	MIZING HEALTH SPENDING. CASE STUDY IN SIX EMERGENCY HOSPIT ANIA	
5.1.	Analysis of hospital expenditure at the level of the European Union	
5.2.	Quality and management indicators in hospital units in Romania	93
5.3.	Analysis of the main indicators of hospital units in the west of the country	94
5.4.	Comparative analysis of the evolution of the staff in the period $2012 - 2023$	101
5.5.	Comparative analysis on continuous hospitalizations in the period 2012 - 2023	125
5.6.	Comparative analysis of the financial evolution in the period $2012 - 2023$	141
5.7.	Recommendations on optimizing the use of financial resources in hospital units	145
CON	CLUSIONS	157

REFERENCES	
LIST OF ANNEXES	189
ANNEXES	192
LIST OF TABLES	253
LIST OF FORMULAS	254
LIST OF FIGURES	254
ABBREVIATION LIST	
KEYWORDS	259

#### KEYWORDS

Health Systems, Health Spending, Hospital Financing, Health Efficiency, Optimizing Health Spending

### SUMMARY

The health of a population should be one of the primary objectives for the governments of any country, on which the development and progress of a nation largely depends, therefore the health systems of each country should ensure the necessary performance to provide medical services, for the population, at the highest level of quality and performance. At the moment there is no perfect, universally valid health system that meets all the needs of medical services for the population, each state has implemented and adapted its own public health system based on one of the main existing health systems.

Although the health system in our country has undergone a series of important reforms, the results obtained are not able to bring the expected improvement in the health status of the population, our country registering each year one of the highest mortality rates among European countries, being always above the EU average and in last place in terms of treatable causes of mortality, Among the main causes being underfunding and inefficient use of allocated financial resources.

In this regard, we can talk about the chronic underfunding of the health system, the lack of vision and consistency in the application of the necessary reforms, excessive bureaucracy, the mismanagement of those responsible in the field, including through the existence of acts of corruption, or the interference of politics at the decision-making level, to the detriment of specialists. The underfunding of the health system, the countless changes of the national health strategy, the amendments brought to the law on health reform (over 1,400 amendments), as well as the endless tenure of ministers at the head of the Ministry of Health (27 ministers) were not likely to bring the desired improvement of the medical system. Even in these conditions, of underfunding of the health system, there are countless useless, unjustified expenses that do not benefit patients.

The doctoral thesis presents and analyzes the health system in Romania together with the main indicators related to the financing of the system, and through econometric research it was demonstrated the existence of a correlation between the financing of the health system and the main health indicators, namely life expectancy and preventable deaths. The chronic underfunding of the health system in Romania placing our country on the last places in the European Union statistics on life expectancy and on the first positions in terms of the number of preventable deaths.

The last chapter of the doctoral thesis is dedicated to quantitative research by aggregating data for six county emergency hospitals in the west of the country (from the counties: Alba, Arad, Caraş-Severin, Hunedoara, Sibiu and Timiş), for the period 2012 – 2023, analyzing and processing these data on the main hospital indicators, corroborated with the applicable regulations on the financing of medical services and correlated with those on the provision of medical services at the funded diagnosis. The research carried out starts from the research objectives and from the hypothesis that, although Romania allocates the lowest percentage of GDP to health among the European Union countries, the expenditures made are in a high percentage inefficient and do not necessarily bring benefits to the health of citizens.

The originality and uniqueness of this work lies in the fact that it is the only research in which the indicators included in the financing calculation are analyzed, over an extended period of 12 years (2012 - 2023), namely the Bed Utilization Index (UI), the Relative Value (VR) and exceedances of the Average Duration of Hospitalization (SMD) for the six selected county emergency hospitals. At present, there is no similar study that covers such a long period of time, namely comparative analyses on the effectiveness of the use of funds, performing, for the first time, a correlation between the indicators of the hospitals that are included in the financing

calculation formula, through quantitative analyses at the level of discharged cases, days of hospitalization, average length of hospitalization/case and the relative values of discharged and analyzed cases. Thus, a series of similar dysfunctions are highlighted at all hospitals, which lead to unjustified expenses with an impact on their budgets and which, through efficient management, can be reduced, and the resources obtained can be used for the development and improvement of the medical services offered, for the benefit of patients.

Although it is considered that the Romanian health system faces a major deficit in terms of medical staff in hospitals, through data processing, significant increases are observed in all hospitals, the health system registering a shortage of medical personnel only in certain medical specialties. The number of hospitalized patients is decreasing, and the number of beds has remained constant, which shows us that the increase in the number of employees in hospital units was not made based on efficiency analyses and taking into account addressability.

The results of the research show that in all six county emergency hospitals, for the analyzed period, a significant number of cases hospitalized in continuous hospitalization with a low level of complexity, respectively Relative Value (RV), (below 0.3) are reported, with important resources being used to treat these cases, although their complexity did not justify admission to continuous hospitalization.

Even if the present study covered a significant period of time, namely 12 years (2012 – 2023), a significant volume of data being obtained and processed, it is expected that in any research paper there will be certain limitations associated with this study. The main limitation would be related to the fact that only six county emergency hospitals were included in the study, the results of the study providing a relevant picture for the western region of the country, the results cannot be extrapolated to the entire country without detailed and extensive analyses. It should also be noted that the measures to optimize health expenditures identified by this study may be limited by the countless changes in the specific legislation, with a direct impact on the health system.

Considering the limitations presented above, a future direction of research could include an extension of the research to several county emergency hospitals in the country, respectively the realization of comparative analyses of other categories of hospital units (municipal and city hospitals), so as to obtain a representative sample at the country level.