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Research Article

Strategies to Enhance Financial Performance in Hospitals

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Abstract

Health is a basic human right. Modern health systems must guarantee the right of every citizen to enjoy the highest attainable level of physical, mental and social health and wellbeing. The purpose of a health system is to address the needs of the population across the relevant range of care, i.e. protection-prevention, treatment and rehabilitation. A strong health system is a crucial factor for citizens' overall wellbeing. The importance of the health system, as well as the health sector in general, is growing worldwide due to increasing life expectancy and rapid scientific and technological progress. With the COVID-19 pandemic, the health sector has come to the forefront. The crisis has highlighted the need to protect public health and ensure the adequacy of drugs, materials and infrastructure, as well as the need to promote the research and development of new vaccines, diagnostic tests and treatments. The health system faces significant pathologies, underfunding and understaffing problems in its departments, and above all inefficient distribution of materials and human resources. The public hospital operates as a system aimed at protecting and promoting the population's health. Public health policies, combined with high-level hospital care, are a pillar of the unified health system to which every person is entitled. Universal coverage, with a focus on ensuring the allocation of financial resources based on social interest, is the issue at stake. This paper attempts through a review of the literature to analyze strategies that could enhance cost efficiency in public hospitals.

Keywords: Hospital financial performance; Strategic financial management; Effectiveness; Efficiency

Introduction

The term "hospital financial performance" describes the degree to which equitable provision of appropriate medical services to the patient is achieved which meet the patient's expectations and improve their level of health, regardless of payment methods and contributions to society [1]. The financial performance of hospitals is a complex concept that combines elements of efficiency and effectiveness and describes the quality of medical acts as well as the ability to rationally manage available resources in a way that ensures patient satisfaction [2].

Strategic planning constitutes a management process, which is developed within the framework of the organization's vision and strategic management tools with the aim of developing systemic processes and linking them to possible future activities of the organization [3]. This position is confirmed by Kaplan & Norton (2001), who, moreover, refer to the Business Score Card (BSC) as a means of implementing the strategic plan of organizations. More specifically, they state that the objective of the BSC is to evaluate the performance of an external organization through the application of a traditional financial approach, which, however, also includes non-financial measures. The evaluation of a non-profit organization's performance using the BSC is primarily achieved through the collection of data that touches on four dimensions of the organization: customers, internal processes, staff training and

development, and finances [4].

The financial performance of an organization, as derived from contingency theory, is a function of the influence of both internal and external factors. In fact, it has been argued that lack of understanding of the external environment, strategic vision, customer linkage and internal processes acts as an inhibitor to the financial performance of the organization [5].

The quality of an organization's performance evaluation system is assessed by the extent to which it succeeds in ensuring that the organization provides high quality, low-cost services while meeting users' needs. However, it is worth noting that, particularly in the case of public sector organizations, the involvement of multiple parties increases the complexity of the performance measurement process [6]. The positive correlation between strategic planning and performance of non-profit organizations has been highlighted by various studies in the international literature [7].

Moreover, numerous studies in the international literature apply quantitative approaches to investigate the relationship between strategic planning and organizational performance through BSC building steps (Figure 1) [4,5,8-11].

Figure 1: BSC building steps. **Source:** Balanced Scorecard Institute.

In a similar study, the correlation between strategic planning and performance of non-profit organizations based on five dimensions of BSC was examined, identifying a strong correlation between them [12].

On the other hand, the results of a study conducted in Egypt two years later showed that the dimensions of strategic planning, mission, regulatory internal organization, customer and financials have a significant impact on the performance of non-profit organizations. In contrast, the effect of dimensions related to staff training and development, and volunteers, were shown to be statistically insignificant [13].

Finally, research that focused on the financial performance of non-governmental organizations in Sri Lanka identified strategic planning, internal processes, customers and staff training and development as key determinants [14].

Strategic financial management assessment

According to the World Health Organization (WHO) definition, health is defined as "a state of complete physical, mental and social well-being" and as such is a fundamental human right. Health is therefore one of the 17 UN Sustainable Development Goals (SDGs), which are part of the 2030 global agenda (Figure 2). More specifically, the third principle of the SDGs refers to "ensuring healthy lives and promoting well-being for all at all ages" [15].

Figure 2: 17 Sustainable Development Goals. **Source:** UN, 2015.

Moreover, in addition to its undeniable value for people's survival and quality of life, health is a key variable in worker productivity. It is therefore not surprising that the World Economic Forum in Davos, which compiles and publishes annual reports for 141 countries, includes health among the 12 pillars that make up the Global Competitiveness Index (GCI) (Table 1) [16].

Pillars of the Global Competitiveness Index	
1	Institutions
2	Infrastructure
3	Macroeconomic Environment
4	Health and Primary Education
5	Higher Education and Training
6	Goods Market Efficiency
7	Labour Market Efficiency
8	Financial Market Development
9	Technological Readiness
10	Market Size
11	Business Sophistication
12	Innovation

Table 1: Pillars of the Global Competitiveness Index. **Source:** World Economic Forum, 2017-2018.

Health systems have a significant impact on the growth and resilience of national economies, and this impact was significantly amplified by the outbreak of the COVID-19 pandemic [17]. Given its fundamental role in the well-being of human societies, total health expenditure represents a significant percentage of national GDP, with the European average being 9.9 % in 2017. As for the Greek data, total health expenditure for the same year amounted to 8%, a significant decrease from the corresponding rate in 2010 (9.9%), as a consequence of the austerity measures implemented to address the fiscal crisis that hit the country in the past decade. The main consequence of these measures has been the rapid decrease in per capita health expenditure, which amounted to €1,348, while the corresponding average for the EU was €2,887 [18].

The under-funding of public health systems, because of the economic crisis, has a direct impact on the quality of services provided and their efficiency. Indeed, this impact was confirmed to the highest degree during the COVID-19 pandemic, when public hospitals were unable to meet the increased healthcare needs of the population, despite the suspension of many non-emergency medical services [17]. Under these circumstances, citizens requiring medical care for issues unrelated to COVID-19 were forced to turn to the private sector, resulting in a significant increase in the share of private expenditure as a percentage of total health care expenditure over the last decade. Indeed, Greece ranks among the EU countries with the highest private sector participation in healthcare, despite the fact that this acts as an impediment to the fulfilment of the fundamental principle of the national health system of equal access to quality healthcare for citizens [19]. More specifically, according to the available data, the private sector's share of total health expenditure in Greece is 40%, in contrast to the European average of 20% [20]. It should be noted that for the year 2017, 42% of total health expenditure in Greece was related to inpatient care, which demonstrates the fundamental role of hospital institutions within the national health system [17].

Based on all of the above, it is clear that understanding hospital efficiency is central to achieving the optimal allocation of the already limited resources available. Particularly in countries such as Greece, where the private sector has a significant share of total health expenditure, it is extremely important that the limited funds available for health care be used in the most efficient way. Indeed, other factors such as the ageing population and new medical technologies contribute to further intensifying this need [21].

The rising cost of health care, combined with the cuts in public spending imposed to deal with excessive public deficits, have led to increased interest in the scientific community in the area of analyzing the efficiency of health care systems. In this context, the WHO has stated objective is to develop health system financing strategies that do not make health care costs prohibitive for any citizen. More specifically, the WHO advocates the development of health systems that provide free health care to the needy, recognizes ensuring adequate financing as a top priority for systems, and highlights the need for optimal and efficient use of available resources [22].

A related study conducted in Canada assessed the efficiency of countries' health care systems based on 43 indicators corresponding to four key categories: availability, use and access to resources, quality and clinical performance [23]. Today, increasing efficiency is a key objective of healthcare policy makers globally. In fact, some countries, such as the US, are implementing reward systems for hospitals when they succeed in increasing their efficiency (Value- Based Purchasing - VBP program), providing them with additional incentives to provide quality medical services [24].

One factor that plays a key role in enhancing the efficiency of hospitals is related to the provision of quality services. More specifically, according to available research data, the provision of quality services, which increases patient satisfaction, has a positive effect on hospital revenues, so that efficiency, effectiveness, quality health services, patient satisfaction and financial sustainability of hospitals are directly related [25].

At the macroeconomic level, the availability of the necessary resources for health is represented by total health expenditure,

which is generally expressed as a percentage of GDP and per capita expenditure of the country concerned. On the other hand, at the microeconomic level, the corresponding figure is expressed in terms of the total capital invested and the cost of paying the staff of a hospital. All four aforementioned variables are widely used to evaluate the efficiency of the Greek public hospital sector [17].

Achieving maximum efficiency in terms of the allocation of available resources requires excellent financial management and an emphasis on quality service delivery. Conversely, Greece's limited and inadequate public spending on the healthcare system and reluctance to take significant initiatives to strengthen the system are expected to lead to further reductions in the operation of the country's public hospitals, while private sector participation is expected to show further increases [17].

Performance measurement: Effectiveness and efficiency

As mentioned above, performance evaluation of an organization is an extremely useful tool in the context of effective management. Performance evaluation of an organization is instrumental in enhancing transparency in management and provides important data to enhance the effectiveness and efficiency of an organization; however, this does not mean that all parties involved are in complete agreement on how to implement it [26].

The importance of efficiency is not limited to the economic sector but extends to many other aspects of social life, while the proper functioning of an organization can only be achieved if high levels of effectiveness and efficiency are combined [27]. Efficiency not accompanied by effectiveness leads to a situation he describes as "heroic failure", while, conversely, effectiveness without efficiency can ensure nothing but the survival of the organization [28]. Drucker emphasizes the primary role of effectiveness, which he understands as the achievement of the strategic objectives set, while, he points out, the role of efficiency enters in the context of the effort to fulfil the aforementioned objectives. However, he points out that shifting the emphasis to efficiency over effectiveness would be a major mistake since, in doing so, the organization would move away from its strategic objectives [27].

Today, it is widely accepted that proper performance evaluation, taking into account potential constraints, can be instrumental in increasing efficiency and effectiveness in the allocation of available resources for the benefit of society as a whole. Therefore, proper performance evaluation should be able to quantify the extent to which an organization (in this case a hospital) succeeds in meeting the needs of its customers (in these case patients). However, in order for that organization to survive and achieve long-term prosperity, it must meet the needs of its customers in the best possible way, achieving the best possible return on invested capital. Therefore, the most appropriate performance evaluation method should take into account both the effectiveness and the efficiency of the organization, since both of these variables affect the satisfaction of all stakeholders and the organization's future growth prospects [17].

It has been found that the combination of operational efficiency and appropriate strategic positioning gives the organization a significant competitive advantage, which significantly increases its performance [29]. This advantage is enhanced by the structure of the industry of operation and the organization's securing of the right position within it, which is the outcome of a successful strategy, while this advantage implies an increase in the organization's profitability to levels that exceed the industry average. According to the Structure-Conduct-Performance (SCP) strategy approach, high profit levels are attributed to the industry structure, the resulting level of attractiveness and the operational efficiency of the organization in question [30]. This strategy emphasizes the industry structure and the ability of individual organizations to secure and leverage market power to achieve maximum returns [31].

At the opposite end to the SCP strategy, which focuses mainly on the influence of the organization's external factors, is the resource-based theory, which seeks to explain the variations in performance of different organizations by analyzing the combination of their available resources and capabilities [32]. Today this theory has evolved into a dynamic capabilities approach, as it views the financial sustainability of an organization as a result of the alignment of available resources with the observed changes taking place in the external environment of the organization [33]. This alignment is directly related to an organization's ability to manage its "resource base" in the most advantageous way [34]. The resource base includes the set of valuable, scarce and irreplaceable resources that contribute to knowledge creation as well as storage, transfer, innovation, agility and resilience [17].

It is noted that, especially in the case of healthcare organizations, the knowledge creation process is of key importance for both dynamic capabilities and knowledge management applications, since the operation of these organizations is a direct function of the available data and information related to the various aspects of healthcare delivery [35].

Undoubtedly, within the process of knowledge creation and management, the people who staff an organization play a key role since, according to the WHO [22], human resources are "the most important of the health system inputs and, usually, the largest single item in the periodic health budget". Therefore, developing the capacity and knowledge of the people who staff health organizations is now, during the pandemic crisis, more necessary than ever and should be a strategic objective of hospitals [17,36].

DEA, Efficiency and Financial Data

Data Development Analysis (DEA) is an extremely useful tool for evaluating performance, particularly in situations where

it is based on a comparatively small data set. This method is widely used for performance evaluation and benchmarking of best practices and a further application is in the field of competitiveness monitoring. Considering that performance measurement plays a key role in the value creation process, performance measurement has emerged as an important performance evaluation factor that hospitals should include in the development of investments in structure, process and human resources [37].

However, the implementation of best practices to achieve efficiency is not a sufficient condition for creating competitive advantage in changing conditions in the external environment, i.e. technical efficiency does not necessarily imply the financial sustainability of the organization. On the contrary, it has been found that a combination of efficiency, effectiveness and alignment of internal and external organizational environments is the best strategy [38].

Of course, it cannot be denied that increased efficiency implies increased profitability, but this has to be about broader economic measures. The study conducted by Rosko, et al. investigated the relationship between efficiency and profitability in hospitals and concluded that there is a positive correlation between size, industry concentration and profitability. Furthermore, the researchers found that firm-level economies imply cost containment and enhanced bargaining power of systems, resulting in increased profits. The size of large hospitals' operations implies a greater ability to secure better prices from suppliers and insurance systems, establish their brand name in their area of operation, and create economies of scale in their strategies [24].

On the other hand, hospitals characterized by significantly lower profit margins are considered more susceptible to potential economic pressures from the external environment [39]. Consequently, poor financial performance has a direct impact on the quality of healthcare services provided and citizens' access to them, as it often leads to a reduction of services and hospital shutdowns [40]. Indeed, a related study conducted in the US found a strong positive correlation between financial performance and quality of care provided [41].

The degree of comparability of input and output data has a direct impact on the validity of the DEA model results and, in general, the financial data, which are also subject to testing, are characterized by greater uniformity. The majority of studies that evaluate the efficiency and performance of healthcare organizations through the application of this model, as a rule, include the following variables: number of beds, size of medical staff, number of administrative staff, number of special and non-medical devices, pharmaceuticals and other medical materials [42-45].

For the measurement of efficiency, the scale of revenues is chosen, while for the measurement of financial efficiency, the measure of Cash Flows from Operations (CFFO) is chosen. Competitiveness, financial sustainability and good governance are a function of ongoing effectiveness and efficiency. Therefore, the application of the DEA method to measure performance using output variables (revenue and CFFO) that express efficiency and effectiveness leads to the development of well-established indicators that can lead to improved results over measuring technical efficiency alone [17].

In general, an organization's revenues are evidence of the implementation of a successful strategy by the organization, which gives it an advantage over its competitors and ensures its sustainability. The reliability of revenue is checked by comparing the ratio of revenue to annual sales and the corresponding ratio for the previous year. Value creation is achieved when profits and return on capital exceed costs. However, such profits must be derived from actual revenues and expenses since accrued income may distort accounting profits under certain circumstances. Therefore, they are replaced by CFFO, which are less prone to manipulation. CFFO flows are of particular importance to hospitals since they ensure the necessary liquidity through activities that can finance an increase in revenue necessary for the growth of the financial entity [46].

The utilization of CFFOs to measure performance acts as a disincentive to defraud stakeholders since it leaves no room for committing financial irregularities. Therefore, the revenue of hospitals expresses the efficiency of their operation while CFFO is derived from the efficiency achieved. The combination of these two variables ensures the financial sustainability of hospitals through government funding and the achievement of a satisfactory return on capital employed [17].

By linking organizational growth and value creation through variable outputs (revenue and CFFO) in the DEA model, multiple benefits are achieved. On the one hand, it becomes easier to identify potential wastes of available resources and, on the other hand, maximum reliability of results is achieved by preventing potential errors [46].

Conclusion

The public hospital is responsible for receiving deprived citizens through public insurance coverage and subsidies when appropriate. At the same time, it is the duty of the state to ensure that the quality services required are adequately paid for in order to continue to be provided, otherwise public hospitals will not survive and the gap in required services will have to be filled by additional public expenditure, something which is becoming increasingly difficult due to fiscal austerity measures. It is therefore clear that the troubled public health sector still has a long way to go towards mature and effective strategies that enhance the performance of public hospitals, with further state involvement through funding

being of major importance.

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