The Current Cost Computing System Regarding Continuous Hospitalization Diagnosis in Romania

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Abstract

Health care reform has produced changes in the health system infrastructure and personnel structure involved in providing health services in both the public and private sectors. Downsizing, streamlining and improving the management are the main objectives of these reforms. By analyzing the cost structure, hospital management will provide information to enable it to make decisions, "based on evidence" to optimize production and increase hospital performance. To achieve a competitive advantage and to increase the efficiency and performance in hospitals, the management accounting departments should have a constant communication with doctors and other stakeholders in order to meet their requirements and to adapt to the realities of the present.

The paper presents the impact of cost management on the hospital activities underlying the needs for professional approach in this field and bringing modern tools in the decision-making process. Underfunding of the health sector led to under-utilization of hospital care and, consequently, an extended transfer costs could create additional incentives for encoding erroneous diagnoses for an extended transfer cost to patients.

Keywords*:* *management accounting, hospital, health care, cost, Diagnosis Related Group.*

JEL classification: A23, I11, I15, M41, M48

Introduction

Accounting must be understood as an information system that allows the production and dissemination of information for decision making. Therefore, accounting can be considered the most important economic component of the information system. In Romania, the accounting system is organized by the dualist system concepts. It consists of two sections of accounting, financial and management, and external and internal. The information provided by accounting based decision making are thus both inside and outside the organization.

Financial Accounting describes the patrimonial circuit of the entity considered as a whole, in its own structure. Its main objective is to provide summary information about the financial position, performance and changes in financial position.

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Management Accounting provides information about the internal management of the organization, the criteria by which it calculates its costs and ensure internal performance measurement, at the level of the responsibility center (or of profit), function or product. As stated in "Comptabilité de gestion", management accounting is *"a system which uses accounting information to help managers and influence behavior by shaping relations between resources allocated and consumed or purposes"* (Bouquin, 2011, p. 37).

Management accounting is built to identify the links between the goals pursued and the resources committed to them (Paraschivescu, Ocneanu, 2005, p. 195).

The institution is not considered as a uniform entity, but as a complex group of means of techniques of responsibilities. If financial accounting interest was to know the nature of the expenditure and whether it corresponds to a particular supplier invoices, in management accounting we determine how much of this expense is allocated to a particular product or service to a particular sub-set of the institution (section , function, service, or technical material machine, workstation) or to a specific responsible. In the case of institutions, hospitals, the destination may be a clinical service, a patient or a hospital day.

Cost concept has existed since 1675, with the introduction of costing techniques, but most scholars place the emergence of the concept of cost at the beginning of the twentieth century. This is the period in which the Romanian literature highlighted the importance of the structure and of the content of the cost, in the paper called *"Treaty of accounting and administration*", published in Iasi in 1901, by Professor Petrescu C.

While in financial accounting the cost (expense) is defined as the amount of money paid, the services rendered or the property transferred, meaning the sacrifice made for a good or service purchased, the concept of cost in accounting management is closely linked to the consumption of resources to achieve the object the cost, not purchase. In other words, goods and services produced by an economic entity cannot be achieved without an expense and the cost means the consumption of resources (expenses) incurred in obtaining a good or service.

Even if both in theory and in practice the two concepts (expense and cost) were used as synonyms, the distinction between the concepts of expense in financial accounting and of cost in management accounting is essential in building of the inclusion or of the non-inclusion "expenses-costs", given that in the structure of the cost only tangible costs, as well as incurred expenses are considered from financial accounting, and are recognized as period costs and product costs in management accounting. *Costs of the period* include the expenditure incurred which not directly related to the acquisition or production of goods and services for resale, but are recognized by the outcome of the reference period, without seeking a connection with stock bought or sold. *Product cost* includes all costs associated with purchased goods or products manufactured for resale or consumption. (Puşcaş, 2009, p. 603).

In the conception of **Fundătură D.** and his collaborators, the notion of spending assimilate those *"expenses which include amounts or values paid or payable: either for the value of goods, supplies, works and services consumed by an organization, and the benefits it was granted; or under a legal obligation that the firm must meet; or exceptionally, without consideration "*(Fundătură, 1992, p.54). As stated, the cost is "*a way of grouping or regrouping, according to certain criteria, the expenses, and combinations are as numerous as in a construction game "* (Possler, 2000, p. 16). On the other hand, the **Dictionary of Economics** (2001) defines cost as *"monetary expression of the consumption of inputs necessary for the production and sale of goods and services and resulted in various expenses incurred by businesses."*

Cost concept assumes different meanings, depending on the purpose for which it is determined, but certainly knowing the costs presents a decisive role in making decisions, evaluating goods and services, sales price justification and planning of future activities.

Costing methods are numerous, there is no single method. Selection of a particular method is based on the information available and the type of decision sought. Performance of management accounting can be evaluated by two distinct criteria: *reliability of accounting treatments*, cost formation model being the closest to reality, and *the relevance of the calculations performed*, dictated by the nature of the decisions to be taken.

To achieve any competitive advantage, the functional organizations inside the society are concerned with the adoption of strategies that integrate environmental opportunities, market and technology advantages in the most efficient way. Thus, we question the idea of the modernization, transformation of management accounting, an adjustment to the realities and the demands of the present, to the change in the tools, processes and working methods to meet current scientific and technical progress.

1. The need for cost calculation in hospitals in Romania

Health care reform has produced changes in the health system infrastructure and personnel structure involved in providing health services in both the public and private sectors. Downsizing, streamlining and improving the management are the main objectives of these reforms.

In all the countries, health system expenditure management is a major issue. Two of the most pressing challenges the health system in Romania is facing at the moment are under-financing and decentralized health units. According to **the Report of the selection of the health units with beds that cannot enter into contracts with health insurance funds**, published in Official Gazette 226 of 31 March 2011, spending in the health sector in Romania was traditionally low compared to the European average and even the former socialist countries. However, in recent years health budgets have increased in absolute terms from about 90 Euro / capita at over 200 Euro / capita in recent years. Despite this

growth, Romania occupies one of the last places in the European Union in terms of resources allocated to health. As a result, the management of health units and local authorities are concerned to ensure effective management of hospitals and at the same time, provide quality health services to citizens.

According to the findings and conclusions of the most recent works in health World Bank, used under the Bank's program to support the health sector in Romania, the country needs to increase its cost effectiveness for health services and the most important issue in this respect in the health sector is the predilection to the hospital. Approximately 53% of the health budget of the National Health Insurance is spent on care provided by the hospital, compared to 40%, how is the average in the OECD. Hospital expenditures usually exceed their current income, which leads to unnecessary gaps and poor quality care.

The subject of the hospitals is a sensitive and strategic health sector in any country, and have to face major challenges in terms of their role and place in a system which is passing through important difficulties lately. Institutions have the largest hospital staffing qualified and most modern technologies to provide assistance to people with serious pathology, complicated or requires emergency care. In addition to the core activity, in many hospitals there are educational and research activities. Along with the medical functions of diagnosis, treatment and care, the hospital longer has some nonspecific features, such as hotel business, corporate catering, laundry or an administrative or financial accounting. For all these reasons, the hospital is at the same time the most expensive health unit of the health care system. The major problems faced by hospital institutions relating to the impact of different configurations of hospitals on equity, access, quality, efficiency and getting the most out of resources.

In hospitals, measurement of costs is important as documenting decisions, based prices and tariffs in order to contract with private insurance companies to control costs, the consumption centers, the determination of beneficial activities and departments "locomotive" of the hospital (what types of patients gain and lose the cases), improved resource management, etc.

As noted by **Horngren Ch.** in "Cost accounting - a managerial approach" managers use accounting information to draw general path followed by the entity through implementation of optimal strategies for a predefined goal of *"managing each of the activities or functional areas they are responsible for and coordinate these activities or functions within the organization taken as a whole "* (Horngren, 2006, p. 2).

Quantifying how these activities of the organization affect the costs allow managers to take short-term decisions regarding services, to evaluate new practices in the provision of services, to plan or to quantify in financial terms the effects of work future to design effective management control systems to correct long term decisions (investment, cracking, etc.), to design systems cost per product, useful and accurate, to fix prices, to assess the profits and losses and to determine payment schemes.

As this Herbert Simon (1954), Nobel Prize winner for economics, in a survey of top, the expectiation of the managers regarding management accounting are the following:

- to allow a finding (keeping score): "Things are going good or bad?"
- to draw attention (attention directing): "Why should they be interested in the problem?"
- to help to solve problems (problem solving), "between the different solutions, which is the best?" (Bouquin, 2000, p. 14)

By analyzing the cost structure, hospital management will provide information to enable it to make decisions, "based on evidence" to optimize production and increase hospital performance. Such a mode of hospital management is constantly evolving and led to the adoption of techniques that have facilitated its application in practice, among which use "dashboard" of information technologies and access to a support healthcare professionals (doctors, nurses) to best practice guidelines, the place of supply of services (computerized decision support).

The accounting of the hospital costs is required as a tool for management and operation for all hospital institutions, a key component in making strategic and operational decisions, because it allows:

- knowledge of cost of different activities carried out within the institution hospital, various functions that contribute to the production of health services, or a question of clinical features, medical technical or administrative;
- comparison of costs between institutions of the same type and size of hospital;Making cost projections for emerging activities;
- consumer Assessment of contribution of each center to global financial stability;
- identifying levers for improvement of the clinical, medical-technical, logistical or administrative activities;
- support and substantiate reorganization actions for the medical-economical management at the level of internal structure or the broader institution-wide hospital;
- facilitate prospective analysis as it allows management control to provide information on the results of such forward-looking management accounting.

The size and the structure of the costs, as well as their minimization, are landmarks that are considered when choosing a particular category of raw materials, the introduction of rationalization and invention in the activity, the organization and improvement of work and activity, etc. In this sense, the costs should be followed regularly at both hospitalized patients and the entire activity, compared with the standards of cost or cost estimates made previously to the business process, and should be tracked by their dynamics.

2. Critical analysis of management accounting system and cost calculation of hospitals in Romania

Management accounting is the key to increasing the performance of hospitals, since they contribute to the collection and use of intelligence that allow information based decision making. Obtaining this information requires accurate calculation of the various costs that are embedded in the cost by applying the most appropriate methods and techniques of management accounting and costing. The manager of the hospital will be able to know the deviations of the budgetary or standard expenditure, and the analysis of the causes that led to these deviations will be the support of decision making.

In 2002, Romania introduced fixed payment per case (Diagnosis Related Group - DRG). DRG classification system is, at that time, the basis for funding of hospitals and tool for monitoring, evaluation and control activities of all hospitals.

Until then, the hospital had a budget based on historical grounds, and then they were paid based on the number of days of hospitalization. The number of beds was overestimated and regulations in force at the time linked the number of doctors and nurses to the number of beds. This has led to increased hospital costs as wages, according to the regulations of Romania represents fixed costs. Hospital staff reductions in recent years have targeted specifically and non-medical support staff. Constant pressure for hiring new medical staff (doctors and nurses), especially in university hospitals, determine, therefore, growth and higher costs (Sava, Menon, 2007).

DRG is a system of classifying patients based on diagnosis, procedures and other clinical information, which provides the opportunity to make a correlation between the type of cases that the hospital treats (voiced by complexity index cases - ICM or houses -mix index) and their costs (Şcoala Naţională de Sănătate Publică şi Management Sanitar, 2006, p 90).

In the DRG, diagnostic groups are characterized by the clinical homogeneity (cases are similar) and homogeneity of costs (approximately equal consumption of resources).

In 2004, SNSPMS initiated a study to assess the level of patient hospital costs. The study was conducted in 27 hospital institutions, voluntarily entered into the project, each with its own method of calculating the cost per patient. The study required a minimum set of patient-level data (SMDP), with a minimum set of cost data at the patient level (SMCP). Analysis of data collected followed the proportion between the different types of hospital expenditure level compared to the national ratio, the most common DRGs for which cost data were sent to each of these DRGs proportion of direct costs and indirect direct costs per case, indirect costs per day of hospitalization in hospital case, and average case costs on each case with its relative values.

Evaluations and analyzes allowed the identification of difficulties in determining the relative values of average costs and the associated data that can be currently provided by hospitals. The international conference "The cost and quality

of care", organized by Tarus Media 30-31.03.2012 Bucharest from Dr. Vasile Cepoi, Secretary of State for Health, pointed out that *"We have a no cost assessment even among the patient, the less disease",* announcing that there is a project of Ministry Administration and Internal Affairs, financed from European funds, which will estimate the costs on patients and disease on the basis of a number of pilot hospitals. By completing this project, the Ministry of Health will seek cost information through a computer application that exists since 2006.

Following settled case-based funding, hospitals are encouraged to obtain a level lower than cost price for each type of DRG, to save resources.

Current DRG system in Romania is affected by certain failures and inequities in the system. The main problem of this system is its immaturity, the use of a set of relative values obtained from Australian system, which is not in accordance with the cost structure of Romania. Our country has gone through a transition from a DRG system to another over several years, and inadequate data on hospital costs made use important weights cost share from the Australian DRG system. Incorrect encoding (intentional or unintentional) associated with inappropriate omission from payers and other monitoring issues meant that the benefits of such payments based on resolved cases were minimal and possibly even counterproductive.

Underfunding of the health sector led to under-utilization of hospital care and, consequently, an extended transfer costs and create additional incentives for encoding erroneous diagnoses for an extended transfer cost to patients. This was due mostly:

- Low validity of the information used for setting initial clinical groups and associated costs DRG;
- Lack of adequate or consistent risk adjustment;
- Erroneous coding subsequent intentional or inadvertent;
- Missing the regular recalibration (DRG weights were not adjusted as DRGs were introduced 15 years ago) - a prerequisite for an effective DRG.

A report on technical assistance to review the content and process of listing for the basic package of health services and technologies for Romania, conducted by international NICE refer the following:

✓ Physicians at all levels of support are not used efficiently and to maximum effect;

✓ Apparently primary care does not receive adequate priority and may be underfunded compared to other sectors of health care, GPs are highly constrained (and sometimes paradoxical) in their capacity to practice efficiently and effectively;

✓ Professionals working in outpatient and (especially) hospitals are often used as the first point of support;

✓ Structuring agreements to calculate per capita and limitations of the payment of the fees for services under the Framework Agreement leading to under-utilization of general practitioners and specialists in ambulatory care, and loss of

incentives for effective primary care, therefore prevention activities in primary care are prioritized, thereby increasing the burden on tertiary care sector and undermining the efficiency of the entire healthcare system.

The objective of managers of hospitals and authorities in the field, in relation to improving the DRG system should be obtained and the gradual inclusion of all fixed and variable costs, including salaries, investment costs, emergency department costs and the cost of pharmaceuticals and other technologies health. The inclusion of all the possible costs will allow adequate funding and in this way will reduce informal payments and transfer costs to patients. Proper data collection is a fundamental requirement for this process.

Conclusions

Management accounting in hospital institutions provides information needed in order to develop internal reports and analyzes used by the entity's management decision making, both in terms of predicting the allocation of resources and their use. Knowledge of the costs is a compulsory for the manager, and is used to increase the efficiency of hospitals.

Management accounting is organized such that the information obtained to satisfy both the requirements of the existing health information and changing needs.

To increase the performance of hospitals in terms of resource allocation, which is already quite limited, there must be a continuous communication between doctors and Accounting Department for efficiency. Changes in the clinical practice affects the cost and quality of care, and these differences together with the identification of unnecessary consumption should be clarified and presented so that clinicians understand the reason behind the need for efficiency, especially as we face an aging population, which supposes an increased demand for hospital care and resources needed to provide it.

The Ministry of Health should consider a financial rebalancing of hospitals, by increasing the amounts claimed on the basis of solved cases that better reflect actual costs, together with a decrease in the number of hospitalizations (due to the introduction of co-payments and the contracted amounts). This creates the potential for an increased quality of hospital services and for an necessary and differentiated increase in revenues of medical staff. Increasing the amount reimbursed to hospital would lead to a new dimension of public-private competition and an opportunity for private insurance.

Moreover, the costs of hospitals can be almost halved by implementing and promoting the practice protocols.

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