HOSPITAL MANAGEMENT BETWEEN THE MODERN IMAGE AND AGING*DADULESCU Ana-Maria**Ph.D. student, Faculty of Engineering / Department of Engineering and Management, "Lucian Blaga"
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Abstract: *Hospital management has experienced significant progress with the evolution of the Romanian health system reform, it has made strides in terms of resource allocation and cost control, new systems for classification, evaluation and monitoring (DRGs, SIUI, CaPeSaRo) were implemented, some taken from other countries and adapted to local conditions, but not always integrated with the other components and sometimes incompletely implemented and developed. This material does not offer definite solutions to current problems. It only briefly addresses the main aspects of hospital activity, and points out some failures with whom hospital managers are presently faced. Once the problems are identified it creates prerequisites for solving them, it opens channels of research and development of new methodologies or correlation of the existing deficient workflows that can be corrected.*

Key words: hospital management, health, patient classification

Introduction

Hospitals are the most complex form of organization of the health system and also the largest consumers of resources. Modern medical management in a hospital is based on the concept of activities integration at all levels of the institution. The hospital's organization can be defined using the elements that describe the status of a hospital, referring to its private or public status, like management autonomy, financial risk, financial responsibility, organizational liability and social functions. [1] Overall it refers to an integration of policy areas such as healthcare, quality, finance, human resources, internal audit, environment, and safety. All these areas must act in concert to achieve a modern management of health services. Action was needed to control costs, manage financial resources effectively and efficiently, to direct human resources in achieving the specific objectives without duplication of activities in different sectors.

2. Sections

Since 1998 after switching from a preponderantly tax based financing system to a system of health care, namely the introduction of social health insurance, the question of change mechanism and organization service providers was raised.

Thus in 2003 the DRG system (Diagnosis Related Group) was implemented in Romania, a concept that emerged in the late 60s in the United States as a method of classifying patients in order to evaluate the hospitals with possible impact on hospital funding.

Technology has given a new perspective on opportunities to manage information from an operational and strategic point of view. All the mechanism by which the DRG system becomes functional are based on the software and on the ability of individuals involved to properly use these programs.

Hospitals should use a review system of clinical records collected electronically, so as to provide a larger percentage of correctly coded validated cases consistent with general clinical observation sheets. This way data analysis will be based on reality, hospital performance will be properly appreciated and conclusions will serve in decisions concerning performance improvement taken inside or outside the hospital.

For the DRG to become a funding system other components should be implemented. In 2005 it introduced the patient hospital bill and later in 2007 it created the foundation for a system of evaluation of hospital managers. Management contracts between heads of clinical wards and the manager were another step in cost control and routing resources. [2]

Indicators calculated by different methodologies circulated in parallel creating confusion in managerial analysis. For example, in case of surgical compartments or patients with acute pathology that needed medical assistance in the intensive care unit, indicator values "average length of stay" (ALOS) for the same sector are significantly different when analyzed by calculating with methodology that is the base

of assessment manager (the head of structure) and the calculated value in the DRG system used in financing the respective department. I focused on this indicator because, beyond the confusion in ward-level analysis it is effective for budgeting in the contracting phase of medical services with the National Health Insurance System. Generally,

Equation (1):

$$ALOS = \frac{\sum \text{inpatient days}}{\sum \text{numbers of patient}} ;$$

Total hospitalization days in DRG system are calculated exclusively as the sum of the inpatient days which are allocated to the clinical compartment which discharged the patient without taking into account the patient traceability through other structures in the unit, and the number of patients refers to the number of patients discharged. [3]

On the other hand in the compilation of performance indicators of hospital management, number of inpatient days refers to days actually spent in a ward, and the number of patients refers to admitted patients at a time on the ward including those transferred from other departments (beds occupied at any given time). [4]

In practice, if a patient has a traceability such as in the table below:

Table 1 : The patient traceability

Indicator	Clinical departament A – admitted patient section	Clinical departament B – transferred patient section	Clinical departament C – discharged patient section
Inpatient days	X	Y	Z

Table 2: Average length of stay in clinical wards

ALOS indicator	Clinical departament A – admitted patient section	Clinical departament B – transferred patient section	Clinical departament C – discharged patient section
DRG system	0	0	X + Y + Z
HPE system	X	Y	Z

Table 3: The values of patient turnover indicator

Patient turnover indicator	Clinical departament A – admitted patient section	Clinical departament B – transferred patient section	Clinical departament C – discharged patient section
DRG system	0	0	1
HPE system	1	1	1

Where X,Y,Z are the variables values and HPE = Hospital performance evaluation

Funding for Romanian hospitals is done prospectively; the financial risk belongs to the hospital. The overall budget is calculated based on case-mix during the prior year and on a number of patients calculated on a predetermined occupancy rate and an average length of stay calculated according to DRG.

Equation (2) :

$$\text{Number of patients} = \frac{\text{Occupancy rate} * \text{Number calendaristic days of period} * \text{Number of beds}}{\text{Average length of stay} * 100}$$

Table 4: The number of patients

Number of patients	Clinical departament A – admitted patient section	Clinical departament B – transferred patient section	Clinical departament C – discharged patient section
DRG system (N1)	0	0	$N1 = \frac{Const}{X + Y + Z}$
HPE system (N2)	$\frac{C}{X}$	$\frac{C}{Y}$	$N2 = \frac{Const}{Z}$

Where $Const = \text{constant value} = (\text{Occupancy rate} * \text{Number calendaristic days of period} * \text{Number of beds}) / 100$; $N1, N2 = \text{Number of patients}$; $HPE = \text{Hospital performance evaluation}$;

Given that the contract does not account for the number of beds from clinical wards through which the patient passed, $N1 < N2$ leading to significant reductions in contracted budget. Managers at all levels are faced with a choice between organizing activities according to financing data or seeking compliance with the hospital's performance indicators, thus reducing patient resource allocation.

In order to control the situation there was a growing need to process information concerning the hospital, creating pressure on management staff to resort to more complex and stronger IT solutions. The hospital management system, known as a concept under the name of HIS (Healthcare Information Systems), was developed on general principles meant to answer questions like: How does one obtain easy access to information from different departments of the institution? How does one exchange information with other similar or related institutions? How does one efficiently manage an institution using information systems? At present solutions for managing a hospital have been developed, that integrate clinical, administrative, and financial components, meant to improve the efficiency of hospital management and, in the end of healthcare services.

The great centers thus have created, each at its own level, a patient's file that summarizes pathologic episodes and limited investigational route. Basically it discusses the functionality of each organization-wide information system in which the patient is the first source of information stored at the organization level, the doctor is data processor and the patient on the other hand is the beneficiary of a therapeutic plan built on the basis of information obtained. Isolated channels of communication exist between certain medical structures (hospitals, radiological centers, laboratories etc) for the exchange of medical information, but we cannot speak, even now, of a complete functionality of an information system at a community level.

In 2009 the SIUI (Unique Integrated Information System) was implemented nationwide through the National Health Insurance System as a component of hospital financing policy. The SIUI system is focused primarily on administrative patient data review, and less so on aspects of the individual's clinical history. Each structure has correspondents in medical software modules available to healthcare providers. Even if the databases (DRG and SIUI) are centralized at a national level information remains stuck in the institutions that manage the database without there being an exchange of information between all the structures involved.

Using the health card beginning with 2015 makes it possible to release a small part of the health system information to all healthcare providers. Information available is, at least in the current stage, the quantitative aspect of services received by the patient and their traceability. In terms of clinical medical activity, a centralised data system with clinical information regarding patients treated in medical centers, which can form the basis for common clinical expertise of practitioners in the system, in research, writing material, etc., is still not available. For this database to exist, society must take steps to organize a structure to manage the stored data, based on solid legislation and not the least, to allocate resources for such an activity. From a managerial point of view, the access to patient's clinical history could be the way to reduce investigation costs and shorten patient time spent in hospital so that hospital resources available locally are preserved.

The healthcare system in terms of human resources is part of a sector with unique features. The workforce is large, diverse, and includes specific professions represented by often very powerful associations or unions. Healthcare system professionals with specific occupations are loyal first to the patient and their profession and only after that to their employer.

Human resources in healthcare is one of the most important and costly resource in the health sector, causing additional expenses. Health system reforms were based primarily on structural changes on cost control, the introduction or development of market mechanisms and increased patient satisfaction and less so on the aspect related to human resources management in their entirety. Lately it has been recognized that promoting a new and progressive human resources management is the solution to improving health system performance. A motivated and adequately trained workforce is a basic element for providing quality health services, effective and fully prepared to respond to patients' expectations. The human resource management method used in healthcare can be either a stimulating or a braking factor for system reform goals. [6]

Currently used human resources performance indicators are designated to monitor current performance levels of an organization, without there being a uniform system of evaluation of individual performance. By finding an appropriate system of assessment and individual rewards based on

performance, problems such as lack of motivation, inefficient use of resources, low productivity, inadequate training, poor distribution of staff both within the organization and within the health care system will remain an obstacle in the evolution of the health system.

The quality of medical care can be monitored by its components: professional quality, patient satisfaction and total quality management. We can actually speak of a quality standardization in Romanian hospitals since 2010 when procedures, standards and methodology for the accreditation of hospitals were drafted and approved. Performance is assessed using nearly 2,000 indicators grouped in standards and references. Within each hospital reviewed the amount of data accumulated in the documentation process is significant which led to the development of IT solutions in this sector. Starting with 2015, for Romanian hospitals, through the QUALITY AND PERFORMANCE OF PUBLIC HEALTH SYSTEM IN ROMANIA project - CaPeSaRo, an application is made available that allows each hospital on the one hand and the authorized body on the other to evaluate and fully monitor aspects of quality standards, to follow the evolution in time and the degree of compliance to these standards. [7]

3. Conclusions

Significant progress has been recorded in the last decade in the economic – administrative area. Implementing IT solutions has created the possibility to evaluate hospitals, to create an image of hospital performance levels, enabling comparisons between hospitals, leading ultimately to:

- Increased efficiency by identifying resources for each type of patient
- Improving service quality by assessing and defining quality practice patterns
- Modeling activity and structure of the hospital (staff, departments etc.)
- Creating a results-based management and not the resources or processes.

One problem remains, in the human resources area, establishing a unitary system of individual performance evaluation in order to define criteria for rewarding consistent with results.

On the other hand the introduction of the DRG classification system made it possible to increase the technical efficiency of the hospital service provider through the ability to identify the types of patients through which resources are lost, to intervene in the processes that are underway to reduce costs, and to attract patients who are financially beneficial.

Service quality is a pressing and current issue of Romanian hospitals. The first steps have been made by developing standards, but the indicators to assess the fulfillment of these standards are not based on a calculation methodology which may generate inconsistency in interpretation both for the hospital staff, and for the team evaluators.

4. References

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