

## HEALTHCARE FINANCING THROUGH THE DEVELOPMENT OF MODERN INFORMATION SYSTEMS

**Bojan Kocić<sup>1</sup>, Oliver Popović<sup>2</sup>, Nikola Vasić<sup>3</sup>**

<sup>1</sup> *Toplica Academy of Applied Studies, Prokuplje, Serbia*

<sup>2</sup> *Toplica Academy of Applied Studies, Prokuplje, Serbia*

<sup>3</sup> *Belgrade Business and Arts Academy of Applied Studies, Belgrade, Serbia*

### Abstract

*Allocating funds from the budget as a condition for financing a public healthcare system represents a key challenge in all modern economies. The basic condition of collecting financial resources through public revenues is a special challenge for all economies of the world. However, even if there is a sufficient amount of money, distributed through public expenditures, it does not necessarily mean that the healthcare system will be adequately functional and the funds distributed proportionately. The application of information systems and software can significantly help to follow certain requirements of institutions in healthcare. This paper will cover certain solutions in the field of information technology and their role in the need to function in healthcare institutions.*

**Keywords:** finance, healthcare, information system.

### INTRODUCTION

Medical doctrine advocates a broader approach to defining the health and healthcare system. In this sense, health care could be defined as a set of institutions and activities that act on the preservation and improvement of health. However, this approach to the healthcare system is somewhat narrower compared to the healthcare system "which, apart from the activities of medical healthcare institutions, also includes all other measures aimed at preserving and improving health, that is, the healthcare system also includes other sectors that actively contribute to improving health". The healthcare system also includes health insurance, which incorporates the social security of citizens. The healthcare system refers to measures aimed at disease control and prevention, treatment and rehabilitation. Elements of the healthcare system are health facilities, health personnel, health technology and health procedures... The health system is divided into primary health care and the health system and specialist-consultary activity, whose task is to examine patients in specialist offices, including a significant part laboratory-diagnostic activities and part of therapeutic

and rehabilitation activities; the activity of stationary protection of health services (comprehensive healthcare) which assumes integral treatment, i.e. functional connection of all these activities. The goals of the healthcare system are (1) preserving and improving health (increasing the quality of life, increasing creative opportunities and increasing social security), (2) increasing labor productivity, (3) strengthening the country's defense capability and (4) increasing the contribution to the economic and social development of society; while the forms of health care are (1) primary health care (preventive and curative), (2) polyclinic-council healthcare and (3) inpatient health care. Therefore, the forms of functional organization of health care are (1) in primary care - health station, health center, medical center; (2) polyclinic-conciliar and inpatient care - polyclinics, general and special hospitals, special institutes, medical centers; (3) other institutions - institutes for health protection, first aid stations and pharmacies. Health economics, as a rule, is concerned with identifying the level and structure of health needs, finding the most effective methods for

this meeting health needs, assessing the state of health of the nation, determining input and output in health care and measuring gains - losses in case of meeting - not meeting health needs. In this context, the basic economic characteristics of health services, which are numerous and different in relation to economic goods and services, are important.

The improvement of health and quality of life implies the implementation of the concept of new public health through an intersectoral approach to the well-being of society, healthy public policy and the introduction of the concept of lifelong learning about health, healthy lifestyle and healthy choices. For everything stated here, it is necessary to ensure an adequate information system as well as the learning of IT skills for all participants and interested parties in the healthcare system in the Republic of Serbia.

One of the ways to improve health services is by financing the development of modern information system. Information systems influence more transparent and efficient access to health services. Then, by analyzing the data obtained by treating patients and monitoring their health status, more effective treatment can be done. More effective treatment can lead to significant savings in the healthcare system. From this we can conclude that financing the development of the information system would be very justified and desirable.

#### **IT NEEDS FOR THE DEVELOPMENT OF HEALTHCARE FINANCING**

A digital transformation of the health care system is necessary, with the use of unique standardized protocols based on a common European format, in order to provide citizens with safe access to health data and their exchange in the Republic of Serbia and later in the EU. As a basic prerequisite for connection, adequate and timely exchange of information, it is necessary to have databases and knowledge at all levels of the health sector, supported by appropriate informatics and informational structural elements, with the aim of connecting into one system. This implies the vertical and horizontal exchange of data and information of all participants in the health sector. Therefore, it is important to develop

and adopt the Program of an integral health information system (e-health), as well as the improvement of the monitoring and evaluation system in terms of better monitoring of the performance of the health sector with a focus on public health and financing of health care.

#### **INTEGRATED HEALTH INFORMATION SYSTEM OF THE REPUBLIC OF SERBIA**

The integrated health information system of the Republic of Serbia (IZIS) is a central electronic system, in which all medical and health data of patients, data of health workers and associates, data of health institutions, health interventions and services performed in health institutions, data of electronic instructions and electronic prescriptions are stored and processed.

The integrated health information system ensures the unity of data in health care and a unique information and communication infrastructure for managing data collections and data transmission.

Easier and better planning in the field of health care and the creation of better health policies is made possible by the introduction of an integrated health information system. Applying the system increases the quality of services to patients, increases the transparency of information, increases the timely reporting of patients and the general public, ensures a transparent and objective attitude towards patients and improves access to health institutions, by reducing the waiting time for treatment.

IZIS enables the entry, collection, storage and exchange of data related to the health system in the Republic of Serbia. The system enables easy and efficient entry and updating of data through a simple and intuitive user interface. Data is stored and maintained in a central database. The system is integrated with existing systems, which are used in the Ministry of Health or in state-owned health institutions.

The integrated health information system of the Republic of Serbia provides access to health data for all participants in the health system in accordance with their rights, roles and responsibilities.

## IMPROVING HEALTH SERVICES

It can be seen that the lack of modern equipment significantly contributes to less efficient healthcare system. After a detailed insight into the functioning and organization of the Ministry and health institutions, it is possible to recommend certain measures through the conceived proposal that we will present. The proposal itself would refer to the implementation of the Strategy for the Development of Healthcare, which could only be implemented if the Health Information System of the Republic of Serbia goes through a new cycle of improvement.

Some of the measures to achieve this are the imposition of new standards in the management of health records and reporting. Second, better integration of existing functions and the addition of new ones, all in order to make decisions on the management of the health system in real time, further improves availability, quality, safety and efficiency of health care.

It is important for IZIS to be able to measure and report treatment outcomes according to standardized criteria in real time. To achieve this, the system should more effectively ensure the timeliness and unity of health data and a unified information and communication infrastructure for managing data groups and data transfer.

In order to achieve the goals, it is extremely important to establish a strategic direction and a plan for the further development of the

Integrated Health Information System of Serbia.

## CONCLUSION

In order to gain new insights into healthcare trends, and enable adequate strategic decision-making in this area, it is necessary to enable the analysis of a large amount of data that is generated through the existing healthcare information systems. Appropriate university institutions and research centers should be included in these activities, all with the aim of connecting all institutions in the Republic of Serbia, from the primary level through the secondary to the tertiary level of service provision. The process of defining the Program and Action Plan for the digitalization of health by the Working Group formed at the Coordinating Body for Digitization of Health is a first step for all further improvements.

## REFERENCE

- [1] P. Jurković, Osnove ekonomike društvenih djelatnosti, Ekonomski institut, Zagreb, 1986. p.153-154
- [2] P. Jurković, Osnove ekonomike društvenih djelatnosti, Ekonomski institut, Zagreb, 1986. p.144-147
- [3] S. Letica, Kriza i zdravstvo, Stvarnost, Zagreb, 1986., p. 24
- [4] Integrisani zdravstveni sistem Republike Srbije – IZIS (Integrated health system of Republic of Serbia), available at [www.mojdoktor.gov.rs](http://www.mojdoktor.gov.rs), 01.10.2022.