

DIGITALIZATION OF HEALTH SERVICES MANAGEMENT**Khakimova Dilnozakhon Sa'dulla qizi**

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Abstract. This article examines the digitization of medical service management, its impact on efficiency, and the process of optimizing the healthcare system through modern solutions. The study analyzes service quality in healthcare institutions, process automation, data monitoring, and the effectiveness of management decision-making. A digital platform called “DMED Monitoring” was developed to improve the management system through real-time monitoring of medical services and analytical indicators. The platform enables real-time tracking and analysis of service indicators, as well as timely decision-making. The implementation of this system resulted in increased transparency and improved quality of medical services. This approach confirms the importance of digital transformation and innovative management models in the healthcare sector. It also serves as an innovative solution in the digitalization of medical services.

Keywords: digitalization, medical services, DMED Monitoring, healthcare, management, monitoring.

INTRODUCTION. In recent years, Uzbekistan has been carrying out large-scale reforms to modernize the healthcare system and improve the quality of medical services provided to the population. In particular, the Strategy “Uzbekistan-2030” and the Concept for the Development of Higher Education identify the introduction of digital technologies, the development of innovative management models, and the training of highly qualified personnel for the medical sector as priority areas[1]. These documents emphasize the need to improve the quality of life of the population by digitizing healthcare processes and ensuring openness, transparency, and efficiency of medical services.

Traditional mechanisms for managing medical services are often limited by their high dependence on the human factor, complexities and delays in managing data flows, and poor decision-making systems. Therefore, optimizing management processes through modern digital solutions, providing objective analysis based on real-time monitoring, and creating the possibility of making rapid management decisions is emerging as a pressing scientific problem[2].

The main goal of this study is to develop and implement digital solutions aimed at increasing the efficiency of management in the healthcare system. For this purpose, a digital platform “DMED Monitoring” was developed, which serves to monitor the activities of medical services in real time, analyze processes and make quick management decisions. This system ensures transparency of service processes in healthcare institutions, conducts objective analysis based on statistical indicators, and creates the opportunity for rational use of resources.

The scientific significance of the research is that the DMED Monitoring platform serves the digital transformation of healthcare processes, creating a basis for the organization of management based on innovative, analytical and prognostic approaches. Also, the DMED developed by UZINFOCOM was developed to study the shortcomings of the medical system

and provide solutions to them. This system will be integrated into the fully tested DMED system. Thus, this research will serve to strengthen the digital reforms in the healthcare system of Uzbekistan and the role of information technologies in it[3].

METHODS. This study used a comprehensive scientific and methodological approach aimed at studying the processes of digitizing medical services management, assessing their effectiveness, and developing and testing the "DMED Monitoring" platform.

To analyze the current situation, the processes of providing medical services in multidisciplinary family clinics, mechanisms for collecting and analyzing statistical data were studied. Regulatory and legal documents, strategic programs for digitalization, and advanced foreign experiences in healthcare management were analyzed. In order to identify problems in the processes, interviews were conducted with medical workers, and existing information systems and their problems were studied in detail[4].

Statistical analysis methods were used to evaluate medical indicators:

- dynamic series analysis;
- variance analysis;
- correlation analysis;
- clustering elements.

A set of indicators to be included in the platform was developed and their units of measurement, value limits, and evaluation criteria were determined. The analyses were performed in Python, VS Cod, and Excel.

The system architecture was designed based on a modular approach. Backend (Node.js/Python), frontend (React/Vue) and database (PostgreSQL/MySQL) technologies were used. Functions for collecting, processing and converting data from various medical entities into indicators were implemented via REST API. User authentication, user role-based access rights, and encryption modules were used, in accordance with data protection and security protocols[5].

RESULTS. The "DMED Monitoring" system was implemented in a pilot mode in healthcare institutions. Functionality, ease of use (UX), data processing speed, and accuracy of analysis results were tested. An expert assessment was conducted with the participation of healthcare organization leaders, doctors, and IT specialists. Its functional effectiveness showed the following results.

- Firstly,** the efficiency of data collection and processing has increased. As a result,
- the time spent on data collection and analysis has been significantly reduced.
 - human error has decreased;
 - the accuracy of data processing has increased.

Secondly, the transparency of management processes has increased.

- real-time monitoring of indicators has been provided,
- the activities of responsible personnel have become transparent,
- deviations in medical service indicators have been quickly identified and measures have been taken.

Thirdly, the quality of medical services has improved.

- a reduction in the time spent on patient care;
- a reduction in waiting times;
- an increase in the level of compliance with service standards has been observed.

These indicators have contributed to an increase in the quality of service and an increase in patient satisfaction. According to a survey, the majority of users found the system easy to use and noted that it was important for making management decisions[6].

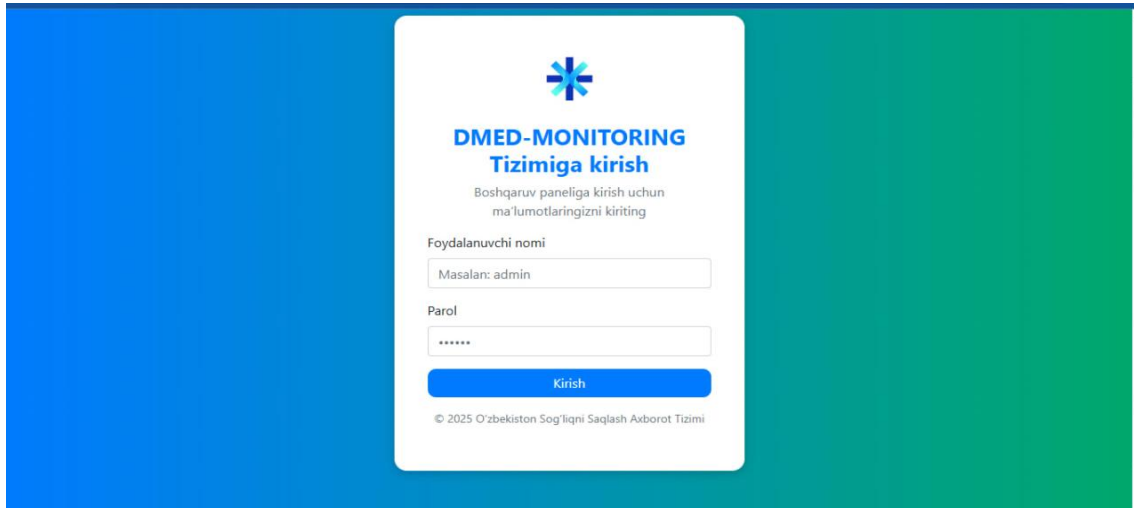
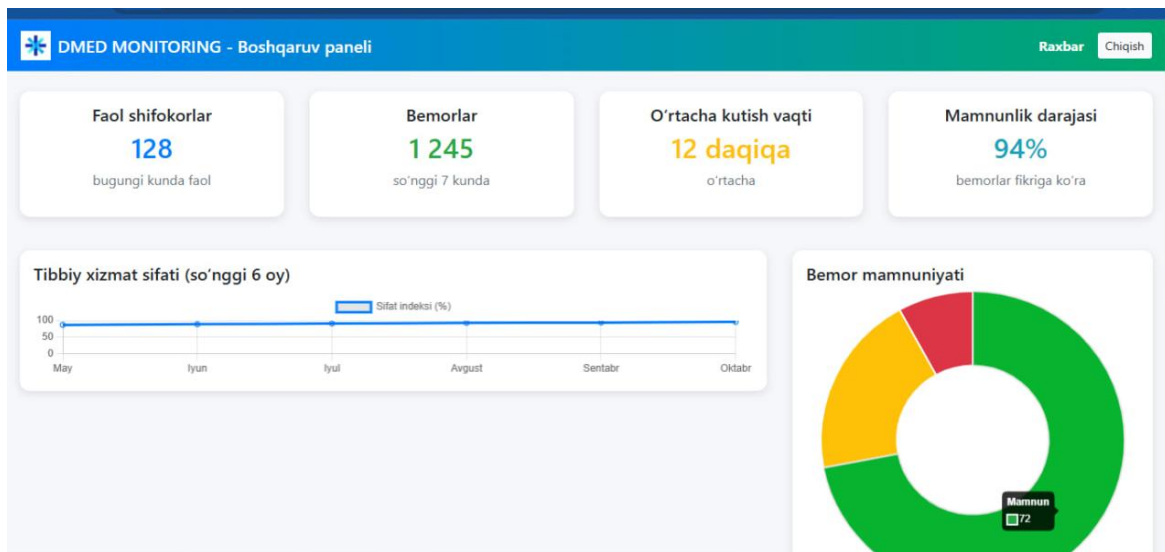
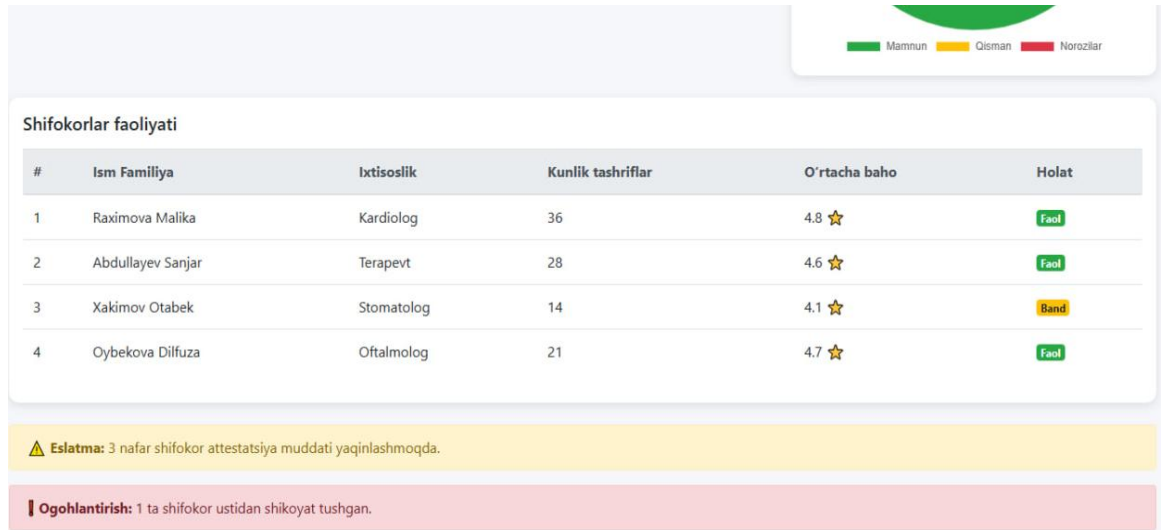


Figure 1. Login window to the control panel for the Dmed monitoring system administrator





Shifokorlar faoliyati

#	Ism Familiya	Ixtisoslik	Kunlik tashriflar	O'rtacha baho	Holat
1	Raximova Malika	Kardiolog	36	4.8 ★	Faol
2	Abdullayev Sanjar	Terapevt	28	4.6 ★	Faol
3	Xakimov Otabek	Stomatolog	14	4.1 ★	Band
4	Oybekova Difuza	Oftalmolog	21	4.7 ★	Faol

▲ Eslatma: 3 nafar shifokor attestatsiya muddati yaqinlashmoqda.

! Ogohlantirish: 1 ta shifokor ustidan shikoyat tushgan.

Figure 2. Control panel for managing the Dmed monitoring system

DISCUSSION. The results of this study show that the digitalization of healthcare management processes plays an important role in ensuring transparency in the healthcare system, accelerating management decisions, improving the efficiency of services, and establishing a rational use of resources. This has led to a significant increase in quality indicators compared to traditional management systems[7].

The data obtained during the study confirmed that the DMED Monitoring platform increased the speed of collecting and processing statistical data, reduced errors due to the human factor, reduced patient waiting time, and increased satisfaction.

It also created the opportunity for strategic management of healthcare processes based on analytical indicators. One of the significant results for the healthcare system was the ability to predict the dynamics of diseases and service loads using the platform, as well as the possibility of redistributing available resources[8].

The practical significance of the DMED Monitoring system is manifested in the following:

- transparency of management processes is ensured;
- deviations in service quality are identified early and measures are taken;
- rational use of resources is increased;
- strategic planning is created;
- patient satisfaction is increased.

This approach is fully consistent with the priorities set out in the Uzbekistan-2030 Strategy for the Digitalization of the Healthcare System. It also serves to train modern personnel by integrating digital skills into the educational process in the medical field, as stipulated in the Concept for the Development of Higher Education[9].

CONCLUSION. Based on the results of the study, the following proposals are put forward:

- Implementation of the DMED Monitoring platform throughout the republic;
- Integration of the system with other medical information systems;
- Organization of regular digital literacy for employees;
- Addition of forecasting modules based on artificial intelligence to the platform;
- Introduction of DMED indicators as a standard in assessing the performance of healthcare institutions.

In conclusion, it is worth noting that the DMED Monitoring platform offers a comprehensive approach to medical services management and enables rapid management decisions based on real-time analytics. This makes it a promising solution for the modernization and sustainable development of the healthcare system.

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