



## MOBILE SOFTWARE FOR MEDICAL INFORMATION SYSTEMS

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Continuous improvement of the level of health care is a priority task for developed countries. Thanks to the introduction of new information technologies, medical services are beginning to be provided to the population at a fundamentally new level.

Software for medical institutions allows you to solve the issues of the availability of medical care, provide it promptly, prescribe the correct and timely treatment. Moreover, the complex of preventive measures provided with the help of software helps to prevent the risk of disease or prevent too frequent exacerbations.

Information technology (IT) in the modern world is used everywhere. Healthcare is no exception. Modern IT developments have a positive impact on the development of new ways of organizing medical care for the population. A large number of countries have long been actively using new technologies in the health sector. Conducting teleconsultations of patients and staff, exchange of information about patients between various institutions, remote recording of physiological parameters, monitoring of operations in real time — all these opportunities are provided by the introduction of information technology in medicine. This brings the informatization of healthcare to a new level of development, having a positive effect on all aspects of its activities.

In modern conditions, the provision of services to patients of medical institutions is carried out with the continuous development of information technologies, equipping medical institutions with new devices and devices, the interface of which

allows these systems to be combined with computers into one whole. The development of medical equipment and technologies for servicing patients should be reflected in all areas of activity of medical institutions in the form of the creation and implementation of specialized medical programs, projects of complex automation of medical institutions, the introduction of telemedicine technologies [1].

The intensification of the work of medical personnel, the introduction of modern medical technical devices leads to an increase in the amount of information that a medical worker must process. This testifies in favor of the need to use special software systems to solve a variety of tasks in medical institutions, ranging from simple economic tasks to complex decision-making problems associated with managing a medical institution or identifying the condition of patients.

When developing information management systems for medical institutions, there are problems of optimal design, effective development of a unified software product, development of models and methods of software for data and knowledge processing. The development of new approaches to structuring and processing information is ultimately aimed at ensuring a high level of medical services provided to patients of medical institutions.

The relevance of the research focus is also justified by the fact that at present there is a need for the effective development of a number of priority areas of production and service, one of which includes medical institutions.



It is necessary, in order to increase the speed and quality of the provision of medical services, the development of means of expressing medical information and means for its processing and transmission that meet international standards. This problem belongs to the class of complex and difficult to formalize problems, the solution of which is associated with the use of both formal and heuristic approaches to the development of models that adequately describe the processes of medical activity, the processes of collection, processing, storage and transmission of information, as well as the design of special software systems for a comprehensive informatization of the activities of medical institutions.

For the development of special software systems, the design of information and control systems for medical purposes, methods of system analysis are used that are effective for solving management problems in various fields, including research and modeling of the functioning of medical institutions. The study of the functioning of medical institutions within the framework of the thesis is carried out on the basis of the system analysis methodology [2, 3], which combines formal and heuristic approaches, and has many mathematical methods in its arsenal. With regard to the problems of informatization of medical institutions, it is obvious the need to develop methods of system analysis in the direction of developing new methods for modeling the processes of functioning of medical institutions, developing methods for making decisions in the tasks of medical personnel. A feature of these tasks is the difficulty of formalizing the parameters of patients, a priori uncertainty in decision-making, which requires the use of artificial intelligence methods to solve the assigned tasks.

In the practice of medical practice, the formalization of task parameters may not

always be clearly defined and "measurable" in physical units. The parameters can be defined as a set of qualitative indicators, the formalization of which is possible only by methods of the theory of fuzzy sets, with the use of expert knowledge. Decision-making problems are also solved as problems of situational control using methods of fuzzy logic, the theory of artificial intelligence [4].

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