



THE IMPORTANCE OF INFORMATION SYSTEMS IN MEDICINE (ISM)

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Abstract:

Medical information systems (MIS) are computer systems designed to manage medical data and processes. They play a crucial role in improving the efficiency of healthcare institutions, optimizing costs, and enhancing the quality of medical services.

Keywords: Electronic medical records, laboratory information systems, pharmaceutical systems, radiological information systems, telecommunication modules, financial and administrative modules.

INTRODUCTION

Currently, personal computers and the implementation of information technology have significantly increased in various fields, and the demand for specialized software for automating the treatment process and document circulation in medical institutions is growing. The main priorities in this area are outlined in the "Concept of Healthcare Informatization." One of the key areas in the development of the medical field is the use of Medical Information Systems (MIS). Additionally, an information system (IS) is a system designed to store, search, process, and transmit large volumes of data, consisting of computer equipment with a specific practical scope. A Medical Information System (MIS) is an information system intended for automating medical processes, consisting of a database of information, software, and other components.

BASICS OF MEDICAL INFORMATION SYSTEMS

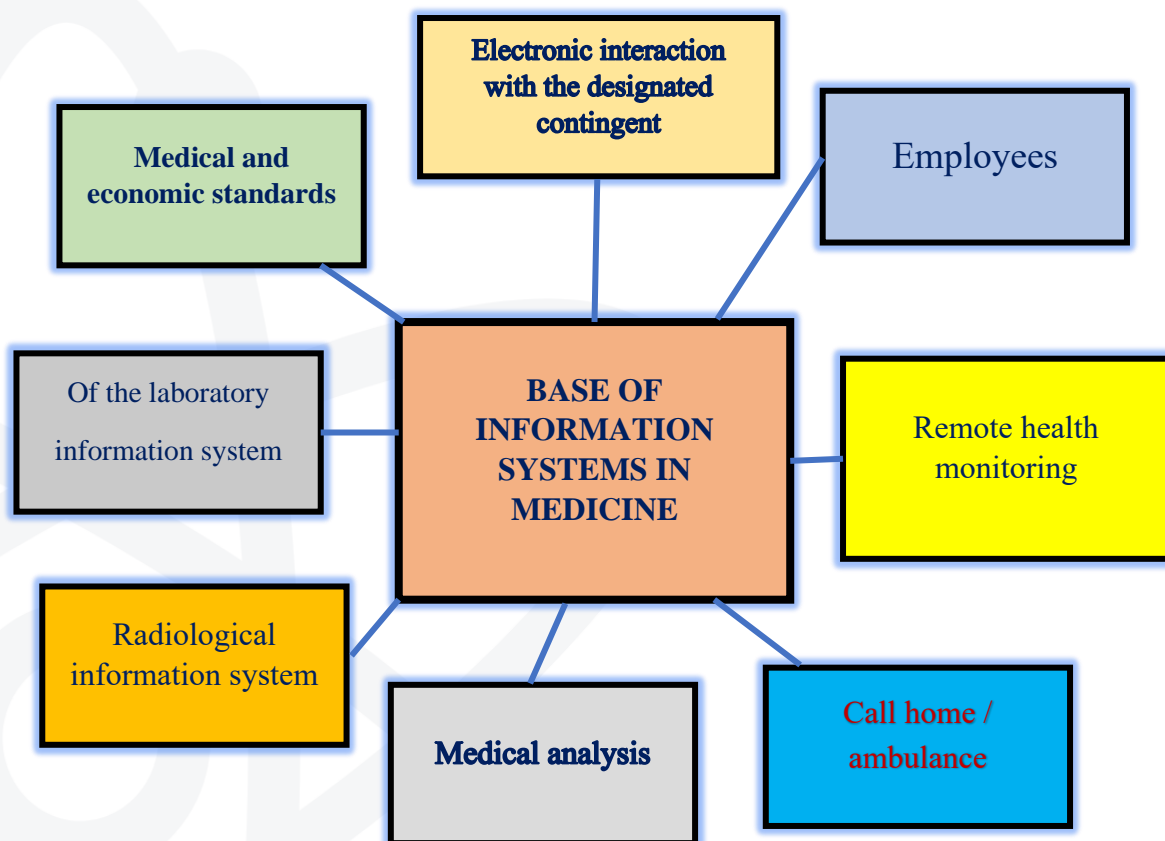
The main goal at this level is to provide computer support for the work of doctors in various specialties, as this allows for improved quality of preventive and laboratory diagnostic work, especially under conditions of time constraints where mass services are provided by qualified specialists.





The main functions and components of medical information systems are as follows:

1. Electronic Medical Records (EMR): Storing and managing patient information, including medical history, test results, diagnoses, and prescriptions.
2. Hospital Process Management: Modules for patient admission, doctor schedules, and planning of surgeries and procedures.
3. Laboratory Information Systems (LIS): Managing laboratory tests, including recording, monitoring, and accounting for results.
4. Pharmaceutical Systems: Managing drug inventories, writing prescriptions, and monitoring their usage.
5. Radiological Information Systems (RIS): Managing and storing radiological images and data.
6. Financial and Administrative Modules: Financial management, patient billing, insurance payments, and administrative tasks.
7. Telecommunication Modules: Enabling telemedicine consultations and remote monitoring of patients' conditions.



Advantages of Information Systems in Medicine:





- Improved Quality of Medical Services: Quick access to complete and accurate patient information enhances the quality of medical services.
- Increased Efficiency of Medical Staff: Enhances the efficiency of medical staff and optimizes work processes.
- Reduction in Medical Errors: Decreases the number of medical errors and improves patient safety.
- Cost Reduction: Reduces costs associated with managing documents and administrative tasks.
- Enhanced Decision-Making and Resource Planning: Provides the ability to analyze data, improving decision-making and resource planning.

Medical Information Systems (MIS) play a crucial role in modern medicine, helping to provide effective and high-quality services to patients.

Levels of Medical Information Systems in Healthcare Institutions:

MIS can be categorized into the following main groups:

- Consultation Center Information Systems: Designed to support the activities of relevant departments and provide information to doctors. Useful for consultations, diagnostics, and decision-making in emergency situations.
- Medical Service Information Banks: Contain consolidated data about the quality and quantity of staff, assigned population, basic statistical data, service areas, and other essential information.
- Personalized Registries: Based on data containing medical histories or outpatient records for assigned or monitored populations.
- Screening Systems: For early detection of diseases through preventive medical examinations, identifying risk groups, and patients in need of specialist assistance.
- Information Systems for Treatment and Prevention: Integrates all information into a single system based on the integration of various types of institution activities, automating different functions.
- Information Systems for Research Institutes and Medical Universities: Address three main tasks: technological informatization of research institutes and universities, educational processes, research activities, and management functions.

Conclusion:

The implementation of electronic document circulation within medical information systems (MIS) in our country improves automated workplaces and the quality of medical services provided to patients. It ensures accurate diagnosis, timely first aid, and efficient address management of patients. Quick access to complete and accurate





patient information enhances the quality of medical services and optimizes the efficiency of medical staff and work processes.

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