Impact Factor: 9.9 ISSN-L: 2544-980X

Application of Information Technologies to Health Care Systems, Problems and Solutions

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Abstract: The article describes the problems and solutions of the application of healthcare systems to mobile communication devices in the modern information society, the mHealth system used in mobile communication devices and information technology tools used in this system, as well as the role and necessity of information technology in the healthcare system.

Key words: mHealth, Big Data system, Healthcare, Visi Mobile, Mobile health, information technologies, mobile use of information.

It is difficult to imagine our life without mobile phones in such a time when modern technologies are developing. Currently, our phone, which we carry in our hands, is turning into a multi-functional technical tool for us. Including clock, alarm clock, calendar, communication tool, chat, mail service, internet services, radio, listening to music, watching videos. This, in turn, creates the need to expand the capabilities of phones. Today, 1.9 billion of the world's population have their own personal mobile communication device. In our country, this indicator is one in two people who have a mobile phone.

In the current era, when digital technologies are developing at a rapid pace, several innovations are being created in the healthcare system. One of them is the mHealth system. Although the mHealth industry has applications for developed countries, in recent years the field has emerged mainly as an application for developing countries, driven by the rapid growth of mobile phone penetration in low-income countries. Therefore, this field is manifested mainly as a means of providing wider access to large segments of the population in developing countries, as well as improving the capabilities of health systems in such countries to provide quality medical services. In the mHealth space, projects work toward a variety of goals, including increasing access to health and health-related information, improving disease diagnosis and monitoring, and enabling more timely action on population health. information and opportunities for continuing medical education and professional development for medical personnel have been expanded.

mHealth is an acronym for mobile health, a term used in the medical field and for population health supported by mobile devices. From this point of view, the main goal of mHealth is to provide all patients with quality medical information and medicine to meet their needs in the field of health care.

The term is used to refer to the use of mobile communication devices such as mobile phones, tablet computers, and wearable devices such as personal digital assistants and smart watches for health services, information and data collection. The field of mHealth has emerged as a sub-segment of healthcare, the use of information and communication technologies (ICT) such as computers, mobile phones, communication satellites, patient monitors, etc. for healthcare services and information. . mHealth applications include the use of mobile devices in public and clinical health data collection, delivery and sharing of health information for practitioners, researchers and patients, real-time monitoring of patients' vital signs, etc. direct assistance

Mobile health is a term used to describe the use of mobile devices and wireless technology to advance healthcare and healthcare. For many, the best-known example of mHealth technologies is software tools for mobile phones and tablets related to managing physical condition (eg, weight) or fitness.

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There are two aspects to the functionality of mHealth: the use of mobile technologies by medical organizations to improve health care, and the use of these technologies for patients to monitor their own health.

The report of the UN Foundation presents 7 categories of programs in the field of mHealth:

1. Education and awareness;
2. Hotline;
3. Diagnosis and treatment support;
4. Communication and training for medical personnel;
5. Monitoring the spread of disease and epidemics;
6. Remote monitoring;
7. Remote data collection;

Today, mHealth is two main areas that are developing in parallel, interacting with each other, at different speeds. The first are technologies, devices, applications and services for the treatment and care of patients, and the second are systems and devices designed to monitor adherence to a healthy lifestyle and fitness. mHealth is not just a new technology, it is a completely new way of patient-physician interaction and patient care. This facilitates the interaction of both parties: the process of receiving medical care is simplified for the patient, the workload for the doctor from routine operations is reduced, and thus more time can be devoted to the actual diagnosis and treatment. Mobile use of information makes it easier to get information and speed up decision-making, and reduces the distance between the patient and the doctor. Doctors and nurses can communicate more efficiently and quickly. Hospitals and clinics are constantly looking to rethink patient care models and processes to improve patient care and safety.

Here are some other similar projects:

- to provide people with chronic diseases with health information and remote support for chronic diseases wherever they are needed Care Innovations (a joint venture between Intel and GE product).
- Visi Mobile is a system of small sensors worn on the body, which allows to record the deterioration of the patient's condition in time and connect him with his doctor, regardless of where he is.
- For example, the Glucovation Company has developed the SugarSenz continuous sugar control system, which can be used by diabetics and healthy people. The device is attached to the skin and periodically enters the skin and takes a blood sample for measurement. Or, with HealthWatch's built-in ECG sensors that allow clothing to be used as an ECG monitor, hWear T-shirts are also an optimal solution for patients with heart disease.

The technologies apply to the operating systems that make up the hardware of mobile devices while maintaining the confidentiality, integrity, and availability required to enhance trust. This can support the widespread adoption of mHealth technologies and services using low-cost multi-purpose mobile devices such as tablets, PCs, and smartphones. The operating systems driving these emerging devices include Google's Android, Apple's iPhone OS, Microsoft's Windows Mobile, and RIM's BlackBerry operating systems.

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