

E-HEALTH REFORM IN THE APPLICATION OF ICT AND DIGITAL TECHNOLOGIES IN UZBEKISTAN

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Abstract. *The relevance of research. In the Republic of Uzbekistan, targeted work is being carried out on reform in the field of healthcare. One of its priority tasks is the implementation of ICT, digital technologies, telemedicine and further expansion of the type of services related to e-health. An analysis of the work being done in this area has shown that the introduction of ICT technologies, digitalization, and telemedicine in healthcare is not a simple matter; it requires time, financial costs and human resources. Perceptions of eHealth user groups vary significantly across countries depending on income level. Today, the country's republican medical centers are equipped with modern ICT, digital devices and high-quality devices, but a further stage is underway to provide regional and district institutions.*

Keywords: *United Nations, WHO, European Union, European Computer Driving License, e-health, digital technologies, innovation, ICT, telemedicine, advanced training of medical workers.*

Relevance. The use of telemedicine technologies makes it possible to organize remote consultations of local and foreign highly qualified specialists from leading medical centers for patients living in the regions, which will provide a chance of reducing deaths, in some cases by up to 30%. The third area of application of telemedicine is distance learning and advanced training of medical personnel. Presidential Decree “On comprehensive measures to radically improve the healthcare system of the Republic of Uzbekistan” No. UP-5590 dated December 7, 2018 approved the concept for the development of the country’s healthcare for 2019-2025, which provides for the widespread introduction of an “e-health” system into medical institutions, the creation of a complex of information systems and databases integrated on the basis of uniform national standards.

Purpose of the study. To study and analyze the existing practice of implementing e-health in our country, based on the positive experience of various countries, to develop proposals for further unification and implementation of e-health in the practice of medical institutions.

Materials and methods. The study reviewed the regulatory documentation on the development of digital technologies in healthcare, studied the application of WHO European Union recommendations in the field of ICT, the experience of using ICT and digital medical technologies in Uzbekistan and options for improving the qualifications of doctors using the example of the European Computer Driving License (ECDL). computer rights). The research methods included an analytical review of the literature from various countries, a study of the implementation of e-health in leading medical centers and at the primary health care level, and statistical processing of the data obtained.

Results. The World Health Assembly in its resolution (WHA 58.28 2005). on eHealth called on states to “explore the possibility of developing a long-term strategic plan for the development and implementation of eHealth services..., appropriately design information and communications technology infrastructure, and promote equitable, affordable and universal access

to the benefits they provide”. Countries and stakeholders are encouraged to focus their efforts on creating a coherent eHealth vision in line with national health priorities and resources, developing an action plan to implement the proposed vision, and establishing a framework for monitoring and evaluating eHealth work and progress. The study examined the regulatory documentation for the development of e-health, the introduction of digital technologies in various countries, the issue of applying the experience of WHO recommendations in the field of ICT, and the practice of introducing digital technologies in developed countries. It is recognized that such strategies and policies have already been developed in more than 120 WHO member countries, including low- and middle-income countries. In 2013 The Health Assembly adopted resolution WHA 66.24 on standardization and interoperability in eHealth, which called on States to “consider developing policies and legislative frameworks that are aligned with a national eHealth strategy.” Based on the opinions of experts on digital technologies and innovations, electronic document management is being introduced into the country’s healthcare practice, which creates new opportunities and privileges in the work of medical workers and in providing the population with affordable medical care. In e-health, there are four user groups: doctors, patients, hospital administrators, and health insurance companies, each of which has its own requirements for organizing telemedicine services. If we try to briefly formulate what telemedicine is, we can highlight the following. Firstly, it provides broad capabilities for monitoring, analysis and forecasting the health status of the population. Another equally important area of its application is the provision of medical care in remote and hard-to-reach areas, in extreme situations associated with natural and man-made disasters, during terrorist attacks, etc. This Decree defines the goals, objectives and main trends in further reform of e-health. [1]. The first experience of using telemedicine with the involvement of high-class professionals was carried out in 2019 in Jizzakh and Termez with online diagnostics using medical equipment manufactured by Watch Witz Technologies Pvt Ltd (India). The remote telemedicine system in diagnostics will allow citizens of Uzbekistan to receive high-quality advice from the best foreign experts while saving time, moral and material costs, and travel for a patient in need of treatment. At the same time, the development of telemedicine will help expand the possibilities of medical tourism to the country, attracting citizens of nearby countries (Turkmenistan, Tajikistan, Kazakhstan, Afghanistan, Kyrgyzstan, etc.) for consultation, diagnosis and treatment [7]. Accepted Presidential Decree dated November 12, 2020. No. UP-6110 “On measures to introduce fundamentally new mechanisms in the activities of primary health care institutions and further increase the efficiency of reforms carried out in the health care system” establishes the goals and objectives of reforming primary health care at the present stage [2]. The state program for 2020, in the year of development of science, education and the digital economy, provides for the development of the “Digital Uzbekistan-2030” strategy. After 2 years, the developed electronic software system “Digital Tashkent” will be implemented in other regions of the country. Today, 15 specialized medical centers, 11 multidisciplinary associations and 62 clinics in the city of Tashkent are connected to the “Unified Electronic Medical Record” and “Electronic Clinic” information systems with integration into private clinics. The National Chamber of Innovative Healthcare of the Republic of Uzbekistan and the Republican Specialized Scientific and Practical Medical Center of Cardiology have been conducting a joint project to introduce practical telemedicine at the Center since 2021. Based on the Memorandum drawn up, the Cardiology Center is working on a project to provide medical services using telemedicine in a number of regions (Tashkent region, the city of Karshi and Jizzakh, as well as the Chilanazar district

of Tashkent). Fulfilling the agreements of the Memorandum, the National Chamber provided a set of cardiac telemetry equipment for free use for the Cardiology Center. The transferred equipment includes: the UNET complex and 15 Ucard-100 electrocardiographs. Electrocardiograms (ECG) of the country's regions obtained from Ucard-100 electrocardiographs are transmitted to the UNET of the Innovative Center for Telemedicine, where specialist doctors from the Center analyze the received ECG data on the UNET. This makes it possible to screen chronic patients, conduct preventive examinations, and timely diagnose cardiovascular diseases in the regions. In Uzbekistan, in 2020, the practice of using telemedicine was launched for the first time in the newly organized first telemedicine clinic in the city of Muynak, Republic of Karakalpakstan. Where on July 7, 2020, professors and doctors of the Republican Specialized Scientific and Practical Center of Pediatrics conducted a remote medical examination of children under 18 years of age. The use of telemedicine online allowed consultants to examine the patient in real time, conduct examinations of internal organs using ultrasound, examine the skin with a dermatoscope, study the condition of the ear with an otoscope, and study cardiovascular diseases using an electronic stethoscope, tonometer, pulse oximeter and ECG. Thanks to the introduction of electronic technologies, doctors can diagnose and treat a patient using the same examination methods as when examining a patient live (offline). Today, patients from the regions do not need to travel to Tashkent as a result. it is planned to create similar clinics in distant others [8]. In order to apply advanced electronic technologies, create a common e-health base in medical institutions of all types, step-by-step work is being carried out as specified in the Resolution of the President of the Republic of Uzbekistan dated May 25, 2021. No. PP-5124 "On additional measures for the comprehensive development of the healthcare sector" [5]

Conclusions. The study revealed that the implementation of digital technologies and telemedicine in different countries is at different levels. In some countries, work to introduce digital technologies and telemedicine lags behind reforms in medical science and practice. Further implementation of digitalization of healthcare, telemedicine, and modern technologies of modern robotics and sensors, virtual and augmented reality systems in medical rehabilitation and medical education, as well as the introduction of cyber systems and information security of medical data will allow in the near future a further stage of reforms in the field of digital technologies and telemedicine. Digital diagnostics in the primary level of the healthcare system, further provision of medical devices, instruments, devices for remote diagnosis of the body, and technical systems for diagnosing the body will allow for high-quality medical examinations and screenings, which will create the opportunity to meet the needs of the population for quality medical services. Digitalization of healthcare with the creation of a single information space will expand opportunities for the exchange of experience, holding joint consultations, master classes and consultations by qualified specialists between medical organizations.

REFERENCES

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2. Presidential Decree dated November 12, 2020. No. UP-6110 "On measures to introduce fundamentally new mechanisms into the activities of primary health care institutions and further improve the efficiency of reforms carried out in the health care system."

3. Presidential Decree “On approval of the Strategy “Digital Uzbekistan-2030” and measures for its effective implementation”, No. UP-6079 dated 10/06/2021 in the country from 04/12/2022.
4. Resolution of the President of the Republic of Uzbekistan dated May 25, 2021. “On additional measures for the comprehensive development of the healthcare sector” No. PP-5124.