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CURRENT ASPECTS OF DIGITALIZATION IN THE AREA OF PUBLIC HEALTH IN UKRAINE IN CONDITIONS OF EPIDEMIOLOGICAL THREATS

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Introduction. At present, in Ukraine and around the world, the issue of public health development is becoming relevant given the spread of coronavirus infection COVID-19. In this context, it is worth considering the process of digitization of public health and related issues of personal data protection, restriction of personal freedoms for public welfare, the effectiveness of BIG-DATA and LONG-DATA for global management decisions to combat future epidemics.

Analysis of recent research. Researchers O. Karpenko, J. Denisyuk, V. Deputy, I. Maly, G. Muravytska (Karpenko et al., 2020 ; Karpenko, Maly et al., 2020), G. Demoshenko (Demoshenko, 2020), E. Yefimov (Yefimov, 2020), T. Vasilieva, S. Leonov (Vasilieva, 2020) and other scientists in their works emphasize the growing influence of the digital economy on the development of society, justify the need for digital communications in the activities of state institutions and local governments, including in the field of health. Representatives of the Ukrainian Institute of the Future (Ukraine 2030E - a country with a developed digital economy, 2020) and developers of the Digital Agenda of Ukraine-2020 (Digital Agenda of Ukraine-2020, 2019) offer their digital transformation projects in the country, including in the field of health care. However, the introduction of electronic tools in the field of public health has not yet been sufficiently reflected in recent publications by researchers.

The aim is to analyze the current state of digitalization in the field of public health in Ukraine and the world, and to identify further areas of application of information and communication technology tools in this area.

Research: Experts of the Ukrainian Institute of the Future believe that the systematic implementation of national digital transformation projects is a key indicator of the implementation of real structural changes, including in such areas as health care (Ukraine 2030E - a country with a developed digital economy, 2020). Also, domestic specialists in the field of computer technology have created their own strategic document - the project "Digital Agenda of Ukraine-2020" (Digital Agenda of Ukraine-2020, 2019). The project also proposes a significant modernization of the health care sector.

"Digital Agenda of Ukraine 2020" offers as a necessary condition to achieve this goal - the creation of a national system Electronic Health Record (EHR). EHR is a dynamic set of systematized electronic data on the state of health of an

individual patient, which provides information exchange between participants in the process of production and consumption of medical services (Digital Agenda of Ukraine-2020, 2019). Thus, a vicious circle of digital information is formed not only in the field of providing medical services to the population, but also in other areas - disease prevention, medical statistics, monitoring the health of the nation, surveillance, interaction with social services.

In another project developed at the Ukrainian Institute of the Future - "Ukraine 2030E - a country with a developed digital economy" (Ukraine 2030E - a country with a developed digital economy, 2020), provided at the level of:

- strategic technologies: widespread introduction of digital jobs; open state data as a tool for evaluating and monitoring the work of government and the state, etc.; digital government platforms (ERP, CRM, etc.); blockchain.

- cloud strategies: introduction of cloud computing technology. The main advantage is that cloud users (government agencies, local governments) do not need to invest significant amounts of money in building their own, often redundant ICT infrastructure, and it is advisable to pay only for its actual use, according to current demand.

- e-government: development and support of central registers, registers, cadastres, identifiers, directories and other critical information elements of the architecture (on the blockchain), which are used in the process of providing services directly by providers;

- electronic identification: the use of technical tools for mass identification of citizens through the use, introduction of affordable, secure and convenient means of alternative identification, including BankID (identification through a bank) and MobileID (identification through a mobile operator).

- digitalization of the social sphere: building a communication ecosystem of social services, departments, non-governmental organizations, service providers for joint concerted action to meet the needs of citizens.

Thus, using and creating demand for modern IT solutions, introducing the most modern electronic administrative services and implementing innovative models, the state should serve as an example in the transition to digital technologies for all of Ukraine (Ukraine 2030E - a country with a developed digital economy, 2020).

During 2017-2020, a number of systemic changes and digital transformations in healthcare took place in Ukraine. The Law of Ukraine "On State Financial Guarantees of Medical Care" (Law of Ukraine "On State Financial Guarantees of Medical Care", 2017), Resolution of the Cabinet of Ministers of Ukraine of April 25, 2018 № 411 "Some issues of the electronic health care system" (Resolution Cabinet of Ministers of Ukraine of April 25, 2018 № 411, 2018), a number of bylaws in which the electronic health care system and digital tools are defined as fundamental for the development of the sphere. It is

determined that the electronic health care system includes a central database and electronic medical information systems, between which the automated exchange of information, data and documents through an open software interface (API) is provided.

In addition, the Order of the Cabinet of Ministers of Ukraine of 28 December 2020 №1671-r approved the Concept of e-health development (Concept of e-health development, approved by the Order of the Cabinet of Ministers of Ukraine of 28 December 2020, 2020). The Concept defines e-health (e-health, eNealth) - an ecosystem of harmonious and mutually acceptable information relations of all participants in the medical environment of the state, based on cost-effective and safe use of information and communication technologies aimed at supporting the security system health, including health services, preventive health care, medical literature and medical education, knowledge and research.

The document declares the following purpose:

- formation of a unified state policy on the development of e-health, ensuring its effective implementation;
- formation of a single medical information space as a set of databases and data banks, technologies for their maintenance and use, information and telecommunications systems and networks operating on the basis of common principles and general rules, providing information interaction of different parties and meeting their information needs, as well as interoperability, integration and harmonious relationship with related areas;
- use the benefits of big data processing and intelligent systems to forecast health care needs, resource planning in the field;
- debureaucratization and administrative simplification for health care providers;
- transparency and public availability of generalized data on e-health development;
- focus of the electronic health care system on the patient, involving citizens in caring for their own health, quality control of services received, in particular by providing access to their own medical data and their disposal, as well as convenient access to relevant impersonal open data (Concept development of electronic health care, approved by the Order of the Cabinet of Ministers of Ukraine of December 28 2020, 2020).

Thus, the Concept of eHealth Development introduces a large-scale digital transformation of the entire healthcare sector, including public health. The digitalization of health care, including public health at the regional level, needs further development.

Conclusions: New technologies are used by governments around the world to implement effective e-government, provide quality public services. The study found that e-government tools play a leading role in public policy-making,

including in the field of public health. Today, Ukraine is laying the groundwork for the digital transformation of public health. The necessary legislative and regulatory framework for the development of e-government has been developed, including in terms of morbidity prevention, monitoring and assessment of public health, promotion of healthy lifestyles, anti-epidemiological measures, formation of health culture and development of health-preserving regional and local visions. Further research should focus on aspects of human-centered, humanistic public health policy. This policy direction is especially relevant in the context of global quarantine, anti-epidemiological measures and the strengthening of digital control, when humanity is faced with forced social atomization and the introduction of covid-passports.

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