UDC: 35.351:32.323

Polulyakh Ruslan Anatolyovych,
graduate student of the Dept. of philosophy and social and political sciences, Odessa Regional Institute of Public Administration National Academy of State Administration, the head physician of the sanatorium "Odessa", 65009, Ukraine, Odessa region, Odessa, st. Genoa, 22a, tel.: 0984026435, e-mail: r_a_polulyah@ukr.net
ORCID: 0000–0003–1659–3448

Полюлях Руслан Анатолійович,
аспірант кафедри філософських та соціально-політичних наук, Одеський регіональний інститут державного управління Національної академії державного управління при Президентові України, головний лікар санаторію "Одеський", 65009, Україна, Одеська область, м. Одеса, вул. Генуезька, 22а, тел.: 0984026435, e-mail: r_a_polulyah@ukr.net
ORCID: 0000–0003–1659–3448

Полулях Руслан Анатольевич,
аспирант кафедры философских и социально-политических наук, Одесский региональный институт государственного управления Национальной академии государственного управления при Президенте Украины, главный врач санатория "Одесский", 65009, Украина, Одесская область, г. Одесса, ул. Генуэзская, 22а, тел.: 0984026435, e-mail: r_a_polulyah@ukr.net
ORCID: 0000–0003–1659–3448

E-MEDITSIN AS A KIND OF RELATIONSHIP OF STATE AND SOCIETY

Abstract. This article deals with topical issues for public administration in Ukraine and relations between the authorities and society through the construction of e-health systems. The system and its components did not spread in the community and in professional work of doctors and medical workers. Clearly not defined categories that relate to understanding of e-health, m-health, telehealth, electronic health cards (diagnosis and treatment), the electronic health card (patient care), personal health card (generic card for the consumer of medical services), "deleted patients", "remote physicians". The article shows the differences in the approaches to e-medicine in foreign countries and in Ukraine to create

conditions for every member of society to obtain medical services at any time and in any location, regardless of the distance of health facilities.

Keywords: public administration, relations between the state and society, e-health, mobile medicine, telemedicine, health teleohrana, electronic medical record, electronic health card, electronic personal health card.

ЕЛЕКТРОННА МЕДИЦИНА ЯК ВИД ВЗАЄМОВІДНОСИН ДЕРЖАВИ І СУСПІЛЬСТВА

Анотація. У статті висвітлюються питання, актуальні для державного управління України та взаємовідносин влади і суспільства через побудову системи електронної медицини. Ця система, а також її складові не отримали розповсюдження у суспільстві та у професійній діяльності лікарів і медичних працівників. Чітко не визначені категорії, які стосуються розуміння електронної медицини, мобільної охорони здоров'я, телеохорони здоров'я, електронної медичної картки (діагностування та лікування), електронної картки охорони здоров'я (догляд за пацієнтом), електронної персональної картки охорони здоров'я (узагальнена картка для споживача медичних послуг), "віддалені лікарі", "віддалені пацієнти". У статті показані відмінності у підходах до електронної медицини у зарубіжних державах і в Україні по створенню умов для кожного члена суспільства в отриманні медичних послуг у будь-який час і у будь-якій місцевості не залежно від відстані медичних закладів.

Ключові слова: державне управління, взаємовідносини держави і суспільства, електронна медицина, мобільна медицина, телемедицина, телеохорона здоров'я, електронна медична картка, електронна картка охорони здоров'я, електронна персональна картка охорони здоров'я.

ЕЛЕКТРОННАЯ МЕДИЦИНА КАК ВИД ВЗАИМООТНОШЕНИЙ ГОСУДАРСТВА И ОБЩЕСТВА

Аннотация. В статье рассматриваются актуальные вопросы для государственного управления Украины и взаимоотношений власти и общества через построение системы электронной медицины. Эта система, а также ее составляющие не получили распространения в обществе и в профессиональной деятельности врачей и медицинских работников. Четко не определены категории, которые касаются понимания электронной медицины, мобильного здравоохранения, телездравоохранения, электронной медицинской карточки (диагностика и лечение), электронной карточки охраны здоровья (уход за пациентом), персональной карточки охраны здоровья (обобщенная карточка для потребителя медицинских услуг), "удаленные пациенты", "удаленные врачи". В статье показаны различия в подходах к электронной медицине в зарубежных странах и в Украине по созданию условий для каждого члена общества в получении медицинских услуг в любое время и в любой местности не зависимо от расстояния медицинских учреждений.

Ключевые слова: государственное управление, взаимоотношения государства и общества, электронная медицина, мобильная медицина, телемедицина, телеохрана здоровья, электронная медицинская карточка, электронная карточка охраны здоровья, электронная персональная карточка охраны здоровья.

Target setting. The relevance of this article for science of the public administration is due to several factors. First, it refers to the modern processes of interaction between the government and society and the authorities and institutions at all levels and of all forms of ownership. Second, the development of the information society, the rapid globalization of communication processes in the world, the management of these processes on the part of the public administration of the world requires from Ukraine not only the accession to the international community, but also the rapid introduction in all spheres of the modern technologies, and also influence the formation of the new forms of cooperation between the state and society, and also the changing of the style of government. This requires the development of legislative and normative acts of public administration in various fields, including medicine and harmonizing cooperation with other states of the world.

In fact, no research, no scientific study that was devoted to the development of public administration by the e-medicine, and no questions were considered of relations between the state and population through the provision of e-health services of all kinds.

In our view, due to the fact that most opportunities research the introduction of new technologies into activities of the public administration and industry professionals, outside the attention of researchers forbear important issues relating to the system of government and the role of the system in the management of electronic processes in state. Also, the interest of professionals providing in-house electronic software for individual authorities, individual subjects of government, specific sector institutions, including medical, resulted into not considering the overall management system, the community (and its willingness and interest), and state meaningful impact on society in the construction of relations between the state and society. Consequently, these issues need to research and develop the most reasonable and appropriate system of electronic governance processes in Ukraine.

Analysis of recent researches and publications. Since 2000, popular in Ukraine have been studies of telemedicine (L. O. Ohremenko, 2000) [1] considers the development of telemedicine systems and the relationship of the customer and doctor switched between off-line and on-line through the consultation process. At the symposium ("Telemedicine (medical education, science, health"), also held at the time (2000), dealt with the analysis of telemedicine technologies in Ukraine, as well as telemedicine consultations system [2]. N. D. Tronoko and N. D. Halanhot (2001), based on an analysis of information technology in Western Europe and the CIS proposes the introduction of electronic data records of pa-

tients with diabetes. It provides information about the program BSTeleDiab which was used at that time in many countries, and for Ukraine was news [3].

V. N. Kazakov, V. G. Klymovytsky, A. V. Vladzimirsky (2002) highlight the theoretical, organizational and technical issues of telemedicine; systematize its theoretical and practical sections; describe the remote consultation, bioradiometry, monitoring, distance learning, instruction, remote manipulation, etc. [4]. In 2003 became popular the questions of distance training in specific areas of medicine (V. N. Kazakov) [5]. In 2005 summarizes the methods for evaluating the effectiveness of telemedicine (A. V. Vladzimirsky) [6]. In 2006 highlights the results of studies on the possibilities of practical application of telecommunication links in terms of urban and rural areas (S. V. Kalinchuk, N. R. Bayazytov) [7]. In 2011 summarizes the scientific and practical achievements of modern telemedicine, along with information about its use in certain clinical areas (A. V. Vladzimirsky) [8].

In today's domestic governance mainly focuses on a common policy on the use of ICT in the health system. Thus, V. M. Lobas (2012), analyzing the electronic public health management, focuses on the management and electronic document management distinguishes five components, namely: safety, facilities, servers, checks, reporting. The scientist says that it allows you to perform a number of tasks: providing document using for more users; access control based on user roles; assistance in maintaining and simple information retrieval; control of validity and compliance; reduce the number of duplicate information; facilitate the preparation of analytical information and reports; improve communication. He considers the principles of electronic management as a method of the government health care and interprets the "electronic management as a method of government health care based on the joint use of the protected computer and telecommunications platforms that automate the management functions" [9].

V. M. Babayev (2014) considers e-health as a complex and extensive facility for evaluation which combines a wide range of participants and services. He notes that "the key indicators focus attention on the use of the public Internet to search for information related to health, interact with health care organizations, purchasing drugs" [10].

Bold unsolved aspects of the problem to which the article is devoted to. However, it still has no clear legally recognized categories related to understanding of eMedicine, M-Health, Telemedicine, TeleHealth, electronicmedicalrecords, electronichealthrecords, andpersonalhealthrecords. There are many definitions of scientists, however, they are of controversial nature and not moved into the sphere of state management and use in practice. The focus often is on the document, which is implemented in the Ministry of Health and has not been introduced in hospitals. There are no national positions and strategies on the use of modern information and communication technologies in practice management of e-health and e-medicine.

The purpose of the article is to highlight the issues of formation in Ukraine of the electronic medicine

as a form of relationship between the state and society and demonstration of the differences in this regard between Ukraine and foreign countries.

The statement of basic materials. The analysis of some foreign sources shows that in the world there is also no unanimous understanding of the categories eMedicine, M-Health, Telemedicine, TeleHealth, electronicmedicalrecords, electronichealthrecords, andpersonalhealthrecords. Their interpretation is sufficiently broad and synonyms. However, one thing generalizes them: the systems of relations of the doctor and patient, as well as the state and society, such as email services allow a person to get effective and quality health services remotely at any convenient time.

In foreign countries is singled out a wide range of terms that describe the types of information and communication of the medical services. It is singled out eMedicineHealth category, which include everything: treatment, information, registration, educational activities [11]. Wikipedia definition concerns that eMedicine is an online clinical medical knowledge base founded in 1996 by S. Plantz and R. Lavelty. Also, the Internet provides consulting services of the web-doctor instead a person going to the hospital [12].

Other experts note that eMedicine combines traditional medicine with everyday technology to offer patients a convenient and affordable solution for health care, following the general conditions that can enable safe and accurate diagnosis without physical inspection. Patients and doctors communicate online. This technology makes affordable health care at any place and any time [13].

Also, it is believed that eMedicine is a technology that reduces the physical distance between doctors. Doctors themselves use technology to reduce the time necessary to discuss health policy, research new ideas, sharing the results of professional activity and more. Doctors are able to communicate around the world to share experiences. E-medicine has changed the work system of the doctors and gave them the opportunity to be more effective. It is changing the approach to doctor-patient relationship. Now it is not a relationship face-to-face, but it is formed their cooperation and exchange of broader information. The patient learns many things independently under the supervision of a doctor. Such interaction promotes the technological literacy of doctors and patients [14].

The literature contains practical guidance for the use of E-Medicine, E-Health, M-Health, Telemedicine (Halit Eren, John G. Webster). It is believed that it is providing coverage of modern telecommunications in modern medicine, particularly information and communication technology, the Internet, wireless networks, databases, telemetry allow transmission and information management in hospitals and centers, and outside these limits. This makes it possible to bridge the gap between scientists, engineers and medical staff by creating synergies in the related field of biometric engineering, information and communication technology, business and health care [15].

The experts determine that e-health is developing in the field of medical science and public health, where health services are delivered using ICT. The introduction of e-health has improved

the quality of care in different sectors of health and hospitals. E-health includes information on health and education over the Internet along with business services for patients. This increases the efficiency of delivering both information and services. Telemedicine belongs to the spectrum of clinical events (activities) that deliver medical services to the remote patients. It is regarded as one of the components of eHealth. E-health and telemedicine include a number of methods: remote monitoring, diagnosis, establishment of educational and health education materials and activities, providing health education. This means that the medical professional meets the patient via a computer or smartphone, not in real life. This is a type of remote interaction between the doctor and the patient [16].

There are views that e-health is to use the Internet to transfer medical information, and telemedicine is the use of information and communication technologies to exchange medical information. TeleHealth (TH) is the result of this exchange. TeleHealth, as the authors note, uses three methods: 1) to provide medical services to patients in remote location; 2) to train providers, administrators, patients and their families; 3) to collect data or to control the disease as part of public health, epidemiology, network Biodefense [17].

Telehealth is considered by some authors as being the most appropriate and correct term to describe the interaction between the doctor and patient. It is noted that in the UK and Europe eHealth term is used to describe digital health, which is technologically oriented to remote health care. The category eHealth came into circulation in 1999. At present, it describes not only medicine online, but almost everything related to computers and medicine. It is noted that the term was introduced by marketers, not scientists. This term was used along with terms such as e-commerce, e-business, e-solutions. It is believed that it was an attempt to show the opportunities of the Internet for health and medical professionals. The term Intel is used, as attention is focused, on the markets of the UK and Europe. The essence of it is that it is a concerted effort conducted by the leaders in the field of health care and industries to reap the benefits available through the Internet. The term Telemedicine is characterized as an attempt to improve the health of the patient through bilateral interaction in real interactive communication between the patient and the doctor practicing in a remote area. It is noted that the term Telemedicine is most commonly used in the markets of USA and Canada in the field of health care.

TeleHealth characterizes the position of the use of electronic information and telecommunications technologies to support international clinical and health care to patients and vocational education, which is associated with health, public health and health management. The technologies include videoconferencing, e-commerce, streaming multimedia, and wireless communications.

eHealth is different from Telemedicine by relating to the extension of the scope of health services in remote mode. Telemedicine refers specifically to remote clinical services. TeleHealth can relate to not remote clinical services, such as training provider, admi-

nistrative meetings, continuing medical education in addition to clinical services. It is noted that in the use of Telemedicine should be at least one clinician and TeleHealth can be used for medical purposes by anyone [18].

Also is singled out the category of electronicmedicalrecords, electronichealthrecords, andpersonalhealthrecords. Electronicmedicalrecords are considered as digital versions of paper charts in clinical settings. Electronicmedicalrecords contain information used for diagnosis and treatment. It is noted that an electronic format of such cards are more valuable than paper records as they track the data for a long time, monitor the patients and thus improve health services.

Electronichealthrecords, as noted by experts, are built to go beyond standard clinical data that include a wider range of perspectives on patient care. These records include details of the doctors who participate in the care of the patient. All of them can get information from this card to help the patient. This card allows you to share information with other health care providers such as laboratories and so on.

Personalhealthrecords contain the same types of information such as diagnoses of Electronichealthrecords, medications, family history, immunizations, contact information of the patients and health care providers. These cards are designed to configure, access and management the patients. The patients also can use these cards to keep and manage confidential information about the patient and his family [19].

Currently in Ukraine are not legally recognized by all those categories that are used in the leading countries of the world (including the EU) to characterize the processes of medical services using information and communication technologies. According to the list of categories that apply, but also according to their understanding is formed the system of government of e-medicine. And in the system are formed the subsystems of the relations between the state and society. We have only the definition that is provided in the "Strategy of Public Administration Reform in Ukraine 2016–2020" (the last approved by the Cabinet of Ministers of Ukraine on June 24, 2016 No. 474-p (Kyiv) "Some Issues of Public Administration Reform in Ukraine") [20]. eMedicine is characterized as an activity using electronic information resources in the health sector and ensure rapid access of the medical staff and patients to them.

There is an understanding of health care in the information society that is defined in the Law of Ukraine "On Basic Principles of the Information Society in Ukraine for 2007–2015" (Supreme Council of Ukraine (SCU), 2007, No. 12 Article 102) [21]. There is the paragraph 11 "Healthcare in the Information Society". It says that information and communication technologies in healthcare need "to improve the demographic situation, maintaining and promoting health, improving the quality and efficiency of health care, social justice and the rights of citizens to health care".

To achieve these objectives on governance of eMedicine it is considered appropriate "to encourage joint actions of state and local governments, health professionals, private sector with the involvement of international organizations to create reliable, high-quality,

affordable telemedicine systems, mass electronic medical and health facilities for home use".

It is also considered important for the development of e-medicine improving organizational and technological level of ICT development in public health preparedness for health professionals working with them; empowering provision of modern health services that should be provided by a legal and methodological definition of telemedicine services; access to the world's medical knowledge and relevant information on local resources in order to increase the effective implementation of national research and preventive health care programs (health care for men and women), including reproductive health, infectious diseases (AIDS, malaria, tuberculosis, etc.); development of standards of exchange of the medical information provided to ensure privacy.

Unfortunately, these objectives have not been fulfilled and declared this law prolonged.

Conclusions. In summary, we note that in the context of relations between the state and society the category eMedicine in Ukraine in the legal field is not defined by the category of "remote patients", "remote doctors", "interaction between experts", "prevention of medical error", "agreements, including insurance for the provision of health services", "creating conditions for communication and professional development of doctors", "e-pharmacy", "electronic prescriptions" and so on. This requires not only research, but also the development of the practical implementation in practice of eMedicine. It is in this direction will be carried out further studies.

REFERENCES

1. *Ohremenko L. O.* System of the Telemedicine Consultations Focused on Active Use of Diagnostic Imaging / L. O. Ohremenko, M. K. Novoselets, M. V. Kononov, O. V. Kononov, O. O. Sudakov // Storage and data processing. — 2000 — 2, № 4. — P. 48–56. — Bibliography: 5 titles. — Ukrainian.
2. *Symposium* "Telemedicine (Medical Education, Science, Health)", Kyiv, 25–26 May, 2000: Papers / Scientific research laboratory center of the National Medical University of O. O. Bogomolets, Kyiv City State Administration Department, Issues Commission "Telemedicine" of the Ministry of Health and Academy of Medical Sciences of Ukraine, National Agency of Ukraine for cosmetics, Ukrainian Association of e-medicine. — Kyiv, 2002. — 30 p. — Ukrainian.
3. *Tronko N. D.* The Use of Computer Systems and Information Technology in Practical Diabetology / N. D. Tronko, N. D. Halangot // Endocrinology. — 2001 — 6, № 1. — P. 89–94. — Bibliography: 16 title. — Russian.
4. *Kazakov V. N.* Telemedicine / V. N. Kazakov, V. G. Klimovitskiy, A. V. Vladzymyrskyy. — Donetsk: Nord, 2002. — 100 p. — Bibliography: P. 93–98 — Russian.
5. *Ryzhko P. P.* Problems of Distance Education at the Stage of the STI Care in Primary Health Link — Family Medicine / P. P. Ryzhko // Ukrainian Journal of Dermatology, Venereology, Cosmetology. — 2003. — № 3. — P. 92–95. — Bibliography: 19 titles — Ukrainian.
6. *Vladzimirsky A. V.* Methods of Research on the Effectiveness of Telemedicine / A. V. Vladzimirsky // Ukrainian Journal of Telemedicine and Medical Telematics. — 2005 — 3,

№ 1. — P. 35–40. — Bibliography: 31 titles. — Russian.
7. *Kalinchuk S. V.* Prospects for the Introduction of the Telemedicine Technologies for the Elderly in the Odessa Region / S. V. Kalinchuk, N. R. Bayazitov // Zaporozhye Medical Journal — 2006. — № 6. — P. 74–77. — Bibliography: 7 titles. — Russian.
8. *Vladzimirsky A. V.* Telemedicine: Monography / A. V. Vladzimirsky. — Donetsk: Knowledge, Donetsk Branch, 2011. — 436 p. — (CuratioSineDistantia!). — Bibliography: P. 416–436 — Russian.
9. *Lobas V. M.* Electronic Means of Public Health Management: Textbook / V. N. Lobas, A. V. Vladzimirsky, V. V. Mozgovoj. — Donetsk: Publisher "Knowledge", 2012. — 222 p.
10. *Babayev V. N.* Text of lectures on "E-government" [for the students of the 5 course specialty 8.03060101 "Management and administration" full-time] / V. M. Babayev, M. M. Novikova, S. O. Gaiduchenko; Kharkiv National University of Urban Economy of A. M. Beketov. — X.: NUMG, 2014. — 139 p.
11. *eMedicine* Health [Electronic resource]. — Access mode: http: // www. emedicinehealth.com/script/main/hp.asp
12. *Whatise* Medicine? [Electronic resource]. — Access mode: https: // melthmelthmelth. wordpress. com/about/
13. *Frequently* asked questions about UAB eMedicine: Whatis UAB eMedicine? [Electronic resource]. — Access mode: https: // uabmedicine. zipnosis. com/faq
14. *What* is e-medicine and what does it mean for the medical profession? [Electronic resource]. — Access mode: http: // blog. sculapio. com/what-is-e-medicine-and-what-does-it-mean-for-the-medical-profession
15. *Halit Eren, John G. Webster.* The E-Medicine, E-Health, M-Health, Telemedicine, and Telehealth Handbook (Two Volume Set) [Electronic resource]. — Access mode: https: // www. crcpress. com/The-E-Medicine-E-Health-M-Health-Telemedicine-and-Telehealth-Handbook/Eren-Webster/p/book/9781482236552
16. *What* is the difference between ehealth and telemedicine? [Electronic resource]. — Access mode: https: // www. quora. com/What-is-the-difference-between-ehealth-and-telemedicine
17. *What* is the difference between e-health, telemedicine, and telehealth? [Electronic resource]. — Access mode: http: // www. randyamy. com/what-is-the-difference-between-e-health-telemedicine-and-telehealth
18. *What* is the Difference between Telemedicine, Telehealth ande Health? [Electronic resource]. — Access mode: http: // liveclinic. com/blog/digital-health/difference-telemedicine-telehealth-ehealth/
19. *What* are the difference sbetween electronic medical records, electronichealthrecords, and personalhealthrecords? [Electronic resource]. — Access mode: https: // www. healthit. gov/providers-professionals/faqs/what-are-differences-between-electronic-medical-records-electronic
20. *Cabinet* of Ministers of Ukraine on June 24, 2016 No. 474-p, (Kyiv) "Some Issues of Public Administration Reform in Ukraine" [Electronic resource]. — Access mode: http: // zakon4. rada. gov. ua/laws/show/530–92-%3C043F%3E
21. *Law* of Ukraine "On Basic Principles of Information Society Development in Ukraine for years 2007–2015" (Supreme Council of Ukraine (SCU), 2007, No. 12, Article 102) Electronic resource]. — Access mode: http: // zakon4. rada. gov. ua/laws/show/530–92-%3C043F%3E