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Trends in regulating the capabilities of artificial intelligence in the field of medicine in the era of globalizing international law

Abstract. *Today, artificial intelligence should be considered as one of the integral parts of human life, which is directly interconnected with new trends in the development of information and communication technologies in the life of society. The main difficulty in the study of artificial intelligence is its complexity, since the use is carried out at the junction of several areas of knowledge, which should include international law.*
The problems under consideration have not lost their relevance at the present time. In order to compare different legal systems within the framework of this study, it is proposed to analyze the norms of international law in order to establish the best model for possible adaptation of the legal norms of different states and bring them to a common denominator.
Many states note as one of the priority tasks the legal regulation of artificial intelligence and its use in various spheres of society, including in the field of healthcare. This task has gained increased urgency, including in connection with the development and spread of a new coronavirus infection, which further intensified the penetration of information and communication technologies into the everyday spheres of society, which was implemented, among other things, through the introduction of artificial intelligence technologies.
Keywords: *artificial intelligence, international law, medical law, international legal regulation.*

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Introduction

The development of information and communication technologies in modern society contributes to the solution of many problems that face the modern state. Technological solutions, techniques and methods, interconnected with the capabilities of artificial intelligence, are widely introduced into many areas of public life. Thus, according to experts, thanks to the introduction of artificial intelligence methods, by 2024 there will be a significant growth in the global economy, which will amount to at least 1 trillion US dollars. The versatility of artificial intelligence technologies can make it possible to integrate almost any area of human life. Thus, by 2030 it is planned to introduce unmanned vehicles, digital assistants, automated methods of providing first aid, etc.

The relevance of artificial intelligence as one of the areas of modern scientific and technological progress is explained by its wide possibilities and prospects for application in various fields of scientific knowledge, including medicine and pharmaceuticals. The introduction of artificial intelligence methods in practical medicine has a positive effect, since it reflects trends in the

realization of the right to health care and the receipt of high-quality and affordable medical care, provided and guaranteed by the norms of the Constitution of the Republic of Kazakhstan and the norms of international law.

Methodology

The current research work includes a number of analyzes of the laws and regulations of different countries and international organizations in the field of the use of artificial intelligence in healthcare.

The study used various research methods, including comparative legal analysis. The use of a comparative approach helped to identify the reasons for choosing this approach and to identify the benefits of comparing laws from different jurisdictions or time periods, for example, to find common ground or to find best practices and solutions. The comparative method helped to better understand our home jurisdiction by analyzing how other jurisdictions deal with the same issue. This method can also be used as a critical analytical tool to identify specific features of a law. The disadvantage of this method is the difficulty of finding materials from other jurisdictions.

Discussion

The digitalization of all sectors of the economy and public life has become a social trend that has required appropriate legal regulation, including in the field of improving the norms of international law. The new coronavirus infection (COVID-19) also required significant decisions in the development of information and communication technologies, since, through the use of artificial intelligence, methods began to be developed to counter the spread of COVID-19 and other new possible pandemics [1].

The rapid development of coronavirus infection, combined with its high mortality, has demonstrated an insufficient level of effectiveness of the human health protection system, especially during the first months of the spread of the infection, which made it possible to use artificial intelligence as a method of predictive analytics. Thus, data obtained through analysis can be used to build a predictive retrospective model that allows you to answer the question: "What can happen?" when certain conditions are met. At the same time, the use of the model under consideration makes it possible to evaluate the effectiveness of certain managerial decisions made at various levels in order to assess possible scenarios for the spread of diseases, the burden on medical organizations, the need for medicines, etc. The use of artificial intelligence as a method of predictive clinical analytics allows answering the question about the dynamics of the spread of the disease in a particular patient [2].

Despite the noted widespread cases of the use of artificial intelligence, the problem of legal regulation of the use of artificial intelligence remains the most problematic area.

Accordingly, the relationship between artificial intelligence, medical care and fundamental rights and freedoms of citizens is obvious. Thus, the right to receive medical care is a key constitutional right guaranteed to any citizen and inviolable, regardless of his social, age, gender and other differences. Already today, artificial intelligence systems in the medical field are one of the most promising areas. Thus, the use of artificial intelligence in the diagnosis and prescription of treatment can reduce the risk of medical error by up to 70%.

So far, there are no multilateral international treaties – conventions adopted at the level of the United Nations, which would fix universally binding provisions regarding the regulation of artificial intelligence on a global scale. The creation of norms of international law of a universal nature, the effect of which would extend to all states of the world, is still ahead. Only separate documents have been adopted that contribute to the formation of the foundations of international legal regulation in the field of artificial intelligence and are advisory in nature, that is, there is legal regulation in the form of "soft law", but the number of such documents is increasing. And those documents that directly affect the legal regulation of AI systems in medicine and healthcare have been adopted over the past few years [3].

Thus, at the UNESCO level in 2021, the first global standard on artificial intelligence was adopted. The UNESCO Guidelines on the Ethical Aspects of Artificial Intelligence consider artificial intelligence as a technological system capable of processing data and information in a manner resembling intelligent behavior, typically including aspects such as reasoning, learning, recognition, prediction, planning and control. This recommendation has a separate chapter on health and social well-being. Thus, Member States are encouraged to strive to use effective AI systems to improve human health and protect the right to life, including to mitigate the impact of disease outbreaks, building and maintaining international solidarity in the fight against global health risks and uncertainties, and to ensure the deployment of systems AI in healthcare must comply with international law and their human rights obligations. Also, Member States are encouraged to pay particular attention to the regulation of prediction, detection and treatment decisions for healthcare in AI applications by: (a) providing oversight to minimize and mitigate bias; (b) ensuring that the professional, patient, caregiver, or service user is included on the team as a "domain expert" at all relevant stages of algorithm development; (c) giving due consideration to confidentiality due to the potential need for medical surveillance and ensuring compliance with all relevant national and international data protection requirements; (d) providing effective mechanisms to ensure that those whose personal data is analyzed know and give informed consent to the use and analysis of their data without hindering access to health care; (e) ensuring people are cared for and the final decision on diagnosis and treatment is always done by people, recognizing that AI systems can also help in their work; (f) ensure that AI systems are reviewed by an ethical research committee, as appropriate, prior to their clinical use. Member States are encouraged to develop recommendations on human-robot interaction and its impact on human relationships, based on research and aimed at the future development of robots, with particular attention to the mental and physical health of people. Particular attention should be paid to the use of robots in healthcare and care for the elderly and disabled, in education, as well as robots for use by children, toy robots, chatbots and companion robots for children and adults. In addition, artificial intelligence technologies should be applied to improve the safety and ergonomics of the use of robots, including in the working environment of a person and a robot. Particular attention should be paid to the possibility of using AI to manipulate and abuse human cognitive distortions. Member States should ensure that human-robot interaction is consistent with the same values and principles that apply to any other AI systems, including human rights and fundamental freedoms, promoting diversity, and protecting vulnerable people or people in vulnerable situations. Ethical issues related to AI-based systems for neurotechnologies and brain-computer interfaces should be considered in order to preserve human dignity and autonomy [4].

On September 13, 2021, the UN Human Rights Council published the report The right to privacy in the digital age, which analyzed the human rights risks associated with AI [5]. The paper focuses on the multifaceted impact of the ever-increasing use of AI on the enjoyment of the right to privacy and related rights. The need for a moratorium on the sale and use of AI systems that pose a serious danger to human rights is emphasized until appropriate security measures are taken.

The World Health Organization (WHO) Guidance on the Ethics and Governance of Artificial Intelligence for Health, published in July 2021 after two years of research, states that artificial intelligence is the ability of algorithms encoded in technology to learn from data in a way that could perform automated tasks without the need for explicit human programming of each step in the process. This guide is currently the only comprehensive WHO AI document covering a wide range of topics, including human rights. However, this document does not contain international legal obligations and is only advisory in nature. As a specialized agency of the United Nations and operating under the auspices of the United Nations, WHO is guided by all international human rights instruments adopted by the United Nations.

AI has been and is being used in some wealthy countries to improve the speed and accuracy of diagnosing and screening diseases; provide clinical care; strengthening health research and

drug development; and supporting various public health activities such as disease control, epidemic control, and health system management.

AI also allows patients to better monitor their health and better understand their changing needs. It will also enable countries with limited resources and rural communities with limited access to health workers or healthcare workers to close gaps in access to health services.

The aforementioned WHO recommendation outlines 6 core principles for the ethical use of artificial intelligence in the medical field. This guide is the first consensus report on the ethical use of AI in healthcare settings.

This white paper outlines the future of AI in healthcare and its potential to help clinicians treat patients, especially in resource-limited areas. But he also notes that such technologies do not solve health problems quickly, especially in low- and middle-income countries, and that governments and regulators need to carefully examine where and how AI is being used in healthcare.

According to the WHO, AI must reflect the diversity of socioeconomic conditions and health status in order to avoid health inequalities. In addition, AI systems need to be trained to better reflect the diversity of communities.

"They must be accompanied by digital skills training, community engagement and awareness, especially if their roles and functions are automated to create and autonomy for the millions of healthcare professionals, service providers and patients who need to become digitally literate or retrained and work with machines. who may resist the decision," the WHO said in a statement.

According to the World Health Organization, ethical and human rights obligations should be at the center of the discussion, as artificial intelligence is ubiquitous in the healthcare ecosystem. Those implementing AI technology must address ethical and human rights issues at every stage of the design, development, and deployment process.

In its guidance, WHO puts forward the following 6 ethical principles:

Protection of autonomy: people have the right to control their health and have the final say in all decisions. Decisions should not be made by machines alone, and doctors can override them at any time. Artificial intelligence should not be used to help anyone without their consent, and patient data should be protected.

Ensuring human security. Developers must constantly ensure that any AIs work correctly and do no harm.

Ensuring transparency: Developers should publish information about the architecture of AI tools. Since AI systems are black boxes, it is difficult for researchers and clinicians to understand how they make decisions. WHO users and regulators want to be transparent enough to fully understand and verify.

Responsibility incentives: When something is wrong with artificial intelligence technology, for example, if a decision made by a device harms a patient, there should be mechanisms to determine who is responsible (for example, manufacturers and clinical users).

Ensuring Equity: Tools are available in multiple languages and are trained to work with different datasets. A careful study of the most common algorithms in healthcare over the past few years has shown that some of them have racial overtones.

Developing sustainable AI systems: Developers should keep their tools updated, and institutions should be able to make adjustments if a tool seems to be ineffective. Agencies or companies should only use tools that can be repaired, even in resource-limited healthcare systems [6].

The Ministry of Health of the Republic of Kazakhstan, in order to ensure the availability of specialized medical care to the rural population, within the framework of the Code of the Republic of Kazakhstan "On the health of the people and the healthcare system", in 14 regions, in the cities of Astana and Almaty, the National Telemedicine Network of the Republic of Kazakhstan has been created and is successfully operating [7]. The current sanitary and epidemiological situation is an active catalyst for the development of such technologies that provide remote interaction

between people. Although the existing risks are not capable of drastically affecting this process, it is not possible to deny their significance for the integration and spread of telemedicine. In this regard, the current regulatory framework does not provide it with complete freedom of action and establishes a certain framework for law enforcement:

– diagnosis, determination of treatment and remote monitoring of the patient's health status are appointed by the attending physician after a full-time appointment;

– an online consultation should be carried out for the purpose of prevention, collection, analysis of patient complaints and anamnesis data, evaluation of the effectiveness of therapeutic and diagnostic measures, medical monitoring of the patient's health, or deciding on the need for an in-person appointment.

At the same time, it should be understood that it is not subject to independent licensing as a separate service, and its use will be lawful only through the use of the Unified State Information System and only for those services for which a particular clinic has a valid license identified in this system. In addition, for its functioning, a necessary condition is the mandatory recognition of patients and medical workers (included in a special register) through the Unified Identification and Authentication System [8].

The study of the possibilities of using artificial intelligence from the point of view of international law began to develop since the 1990s, that is, from the moment the actual use of robotics in various areas of public life began. Since 2017, national programs in the field of artificial intelligence have been actively developed and put into practice. Such states include China, Canada, Japan, France, etc.

In the Republic of Kazakhstan, AI legislation is just beginning to develop. Thus, the State Program "Digital Kazakhstan" distinguishes artificial intelligence among many innovative technologies. To date, it is planned to introduce artificial intelligence in industry, in particular in the mining and manufacturing sectors, as well as the use of this technology in healthcare and the creation of a smart city infrastructure [9].

According to the action plan for the implementation of the State Program "Digital Kazakhstan", in December 2019, a virtual consultant based on artificial intelligence on the public services portal was to be introduced into management practice, and starting from 2017, the Ministry of Health of the Republic of Kazakhstan annually reports on the implementation of technology AI in healthcare (clause 37 of the Plan for the implementation of the State Program "Digital Kazakhstan").

In addition, the State Program for Industrial and Innovative Development of the Republic of Kazakhstan for 2020-2025 provides for the training of qualified personnel, including in the field of artificial intelligence [10].

However, there is no single legal act that would regulate legal relations in the field of artificial intelligence in the Republic of Kazakhstan today. It should be noted that these steps in the regulation of artificial intelligence technologies in the Republic of Kazakhstan comply with the requirements of the Concept of Cooperation between the Member States of the Commonwealth of Independent States in the field of digital development of society and the Priority Action Plan for its implementation dated June 11, 2021. By this act, among other areas of joint activity , called the need for the development of digital platforms and technologies of the participating States. Ultimately, this will reduce the digital divide between the CIS countries and form common approaches to the regulation of new technologies [11].

A different consolidated approach to the definition of the term "artificial intelligence" continued to exist in the points of view of various scientists until the adoption of the above legal acts.

However, at least the possibility of their evaluation from the point of view of legally established prohibitions will already indicate the possibility of considering intellectual systems as a subject of law. The indicated problem determines the lack of uniformity of opinions about the nature of artificial intelligence, its types, independence, security, criteria of reasonableness, as well as about what place it is predetermined in the existing legal field [12].

The main tasks set by the development and implementation of artificial intelligence methods include:

– design and development of software using artificial intelligence;

– availability and quality of data used in the field of artificial intelligence;

– protection of human rights and freedoms when using artificial intelligence systems, bringing them into line with generally accepted principles and norms of international law.

The need for legal support in line with the norms of international law is explained, first of all, by the importance of preventing the threats of the rash use of artificial intelligence that violates the rights and legitimate interests of citizens, which can harm life and health.

Despite the presence of legal regulation of artificial intelligence in various states, the bills lack sufficient specific wording that complicates the application of modern technologies in practice. The solution to this problem may be the adoption of a specialized legal act that will regulate the development and application of artificial intelligence technologies, including in the healthcare sector.

Results

The main problems associated with the lack of a unified legal regulation in the field of artificial intelligence include:

– Data breach refers to any breach of security that results in "accidental or unlawful destruction, loss, alteration, unauthorized disclosure or access to personal data". Data breaches are common in the healthcare sector and have many causes. — from malware and hacks to accidental or intentional disclosure of personal health information by healthcare professionals. One study found that in 2016 and 2017 there were more than 1,300 PHI data breaches in 27 countries. In 2019, a data breach in Singapore exposed the personal information of more than 14,000 people living with HIV [13]. Data breaches violate a person's right to privacy and undermine trust in the healthcare system. As technology advances and healthcare systems become more complex, the potential for data breaches increases. To combat this risk, health systems must invest in information security and data protection, but not all health systems may have the resources to do so.

– Differentiated care has been repeatedly documented as a result of algorithmic bias in AI and other automated processes. This phenomenon may, for example, increase discrimination in criminal justice and preventive policing, promote discriminatory employment decisions, or conduct targeted Internet marketing campaigns with discriminatory effects. In healthcare, research examining the application of AI has also shown that algorithms do not provide equally accurate predictions of health outcomes based on race, gender, or socioeconomic status. This raises concerns that AI will further reinforce discrimination and prejudice against individuals on these grounds.

– Feature creep occurs when data that is collected for a particular purpose (such as personal information provided as part of a health screening) is used for another purpose (such as checking immigration status). This concern is relevant to all forms of digital health technology, but is particularly relevant to biometrics where, for example, biometric data collected for digital health purposes may be used for forensics or criminal prosecution.

One of the most complete regulations that exists today in the industry under study is the Resolution of the European Parliament "On the rules of civil law in the field of robotics" dated February 16, 2017 No. 2015/2103, which, meanwhile, is only advisory in nature [14]. The resolution enshrines the principles of robotics, including responsibility (including ethical ones) and the legal status of information systems.

Conclusion

One of the proposals aimed at the formation of a unified regulatory framework should include the possibility of creating a specialized body under the auspices of the UN, following the example of the European Union Agency for Robotics and Artificial Intelligence, which could

come up with a recommendatory initiative in the field of a national concept for the development of artificial intelligence in the field of medicine and healthcare, including at the international level, and give appropriate recommendations and proposals on the legal regulation of the application and use of artificial intelligence not only in the field of medicine and healthcare, but also in other areas of human life.

At present, it is important to take the following steps aimed at legal regulation of the use of artificial intelligence:

– consider the possibility of creating a legal act regulating the possibility of free depersonalization of personal data and the subsequent use of depersonalized data, including for the purposes of developing artificial intelligence technologies, with mandatory control to prevent harm to the life and health of citizens, violation of human and civil rights and freedoms; ensuring a special procedure for access to data collected by state bodies for the purpose of their processing using artificial intelligence;

– develop a legal act providing for the possibility of creating conditions and guarantees for providing special regimes for access to databases obtained as a result of collection and processing using artificial intelligence in order to conduct scientific research, create new artificial intelligence technologies and develop technological solutions for them basis.

– at the national level, supplement the provisions on the use of equipment based on AI systems, especially in the treatment and diagnosis of cancer patients with the Code of the Republic of Kazakhstan "On the health of the people and the healthcare system", determine the responsibility for a malfunction, treatment error when using medical equipment based on AI systems .

Thus, based on the study, we can conclude that the use of artificial intelligence in the healthcare sector will solve many practical problems related to providing a reliable, affordable and high-quality solution. Artificial intelligence improves the accuracy of diagnostics, facilitates the speed of development and release of drugs used for treatment.

In conclusion, it is worth noting that the two considered areas of health care actually represent modern digital medicine. The identified risks of their implementation can be divided into permanent and temporary (surmountable), while the main threat that worries the public is the possibility of adverse consequences for the life and health of the patient. However, it is not possible to deny that traditional methods of treatment are not without the possibility of causing similar harm.

References

1. Гаврилов Д.В., Кирилкина А.В., Серова Л.В. Алгоритм формирования подозрения на новую коронавирусную инфекцию на основе анализа симптомов для использования в системе поддержки принятия врачебных решений // Врач и информационные технологии. – 2020. – № 4. – С. 52.

2. Егорова М.А., Минбалеев А.В., Кожевина О.В. Основные направления правового регулирования искусственного интеллекта в условиях пандемии // Вестник СПбГУ. Серия 14. Право. – 2021. – №2. – С. 251.

3. Фершт В.М., Латкин А.П., Иванова В.Н. Современные подходы к использованию искусственного интеллекта в медицине // Территория новых возможностей. – 2020. – №1. – С. 122.

4. Привалов С.А. Технологии искусственного интеллекта в сфере обеспечения права на охрану здоровья, доступную и качественную медицинскую помощь: перспективы и проблемы регулирования // Вестник СГЮА. – 2021. – №4(141). – С. 39.

5. A/HRC/48/31: The right to privacy in the digital age - Report of the United Nations High Commissioner for Human Rights. [Electronic resource] – URL: https://www.ohchr.org/en/documents/thematic-reports/ahrc4831-right-privacy-digital-age-report-united-nations-high (accessed: 14.04.2023).

6. Ethics and governance of artificial intelligence for health: WHO guidance. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.

7. Кодекс Республики Казахстан от 7 июля 2020 года № 360-VI ЗРК «О здоровье народа и системе здравоохранения». Информационно-правовая система нормативных правовых актов Республики Казахстан. [Electronic resource] – URL: https://adilet.zan.kz/rus/docs/K2000000360 (accessed: 19.10.2021).

8. РГП на ПХВ «Республиканский центр электронного здравоохранения»: официальный сайт. [Electronic resource] – URL: http://ezdrav.kz/posetitelyam/telemeditsina (accessed: 19.10.2022).

9. Постановление Правительства Республики Казахстан от 12 декабря 2017 года № 827 «Об утверждении Государственной программы «Цифровой Казахстан». [Electronic resource] – URL: https://adilet.zan.kz/rus/docs/P1700000827 (accessed: 03.10.2022).

10. Постановление Правительства Республики Казахстан от 31 декабря 2019 года № 1050 «Об утверждении Государственной программы индустриально-инновационного развития Республики Казахстан на 2020-2025 годы». [Electronic resource] – URL: https://adilet.zan.kz/rus/docs/P1900001050 (accessed: 03.10.2022).

11. Соглашение об информационном взаимодействии государств – участников СНГ в области цифрового развития общества от 11 июня 2021 года. [Electronic resource] – URL: http://cis.minsk.by/reestr/ru/index.html#reestr/view/text?doc=6288 (accessed: 03.10.2022).

12. Филипова И.А. Правовое регулирование искусственного интеллекта: учебное пособие, 2-е издание, обновленное и дополненное. – Нижний Новгород: Нижегородский госуниверситет, 2022. – 275 с.

13. Leyl S. "Singapore HIV data leak shakes a vulnerable community," BBC News (February 22, 2019). [Electronic resource] – URL: https://www.bbc.com/news/world-asia-47288219 (accessed: 14.12.2022).

14. Резолюция Европейского парламента «О правилах гражданского права в области робототехники» от 16.02.2017 г. № 2015/2103. [Electronic resource] – URL: https://www.europarl.europa.eu/RegData/etudes/STUD/2016/571379/IPOL_STU(2016)571379_EN.pdf (accessed: 14.12.2022).

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Жаһандану халықаралық құқық дәуіріндегі медицина саласындағы жасанды интеллект мүмкіндіктерін реттеу тенденциялары

Аңдатпа. Бүгінгі таңда жасанды интеллект қоғамдағы ақпараттық-коммуникациялық технологиялар дамуының жаңа тенденцияларымен тікелей байланысты адам өмірінің ажырамас бөліктерінің бірі ретінде қарастырылуы керек. Жасанды интеллектті зерттеудегі негізгі қиындық оның күрделілігі болып табылады, өйткені пайдалану халықаралық құқықты қамтитын бірнеше білім саласының түйіскен жерінде жүзеге асырылады.

Қарастырылып отырған мәселе қазіргі уақытта да өзектілігін жойған жоқ. Әртүрлі құқықтық жүйелерді салыстыру үшін бұл зерттеу әртүрлі мемлекеттердің құқықтық нормаларын ықтимал бейімдеудің ең жақсы үлгісін құру және оларды ортақ белгіге келтіру мақсатында халықаралық құқық нормаларын талдауды көздейді.

Көптеген мемлекеттер жасанды интеллектті құқықтық реттеуді және оны қоғамның әртүрлі салаларында, соның ішінде денсаулық сақтау саласында пайдалануды басым міндеттердің бірі ретінде атап өтеді. Бұл міндет, оның ішінде жаңа коронавирустық инфекцияның дамуы мен таралуына байланысты өзектілігі арта түсті, бұл ақпараттық-коммуникациялық технологиялардың қоғамның күнделікті салаларына енуін одан әрі күшейтті, ол да жасанды интеллект технологияларын енгізу арқылы жүзеге асырылды.

Түйін сөздер: жасанды интеллект, халықаралық құқық, медициналық құқық, медицина, халықаралық құқықтық реттеу.

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Тенденции в регулировании возможностей искусственного интеллекта в сфере медицины в эпоху глобализирующегося международного права

Аннотация. На сегодняшний день искусственный интеллект следует рассматривать как одну из неотъемлемых частей жизни человека, что напрямую взаимосвязано с новыми тенденциями в развитии информационно-коммуникационных технологий в жизни общества. Основную сложность при исследовании искусственного интеллекта вызывает его комплексность, поскольку использование осуществляется на стыке нескольких областей знаний, к числу которых следует отнести и международное право.

Рассматриваемая проблематика не утратила свою актуальность и в настоящее время. С целью сопоставления различных правовых систем в рамках настоящего исследования предполагается проанализировать нормы международного права с целью установления наилучшей модели для возможной адаптации правовых норм различных государств и приведение их к единому знаменателю.

Многими государствами отмечается в качестве одной из приоритетных задач правовое регулирование искусственного интеллекта и использование его в различных сферах жизни общества, в том числе и в области здравоохранения. Повышенную актуальность данная задача приобрела в том числе и в связи с развитием и распространением новой коронавирусной инфекции, которая еще больше активизировала процессы проникновения информационно-коммуникационных технологий в повседневные сферы общества, что было реализовано в том числе и путем внедрения технологий искусственного интеллекта.

Ключевые слова: искусственный интеллект, международное право, медицинское право, медицина, международно-правовое регулирование.

References

1. Gavrilov D.V., Kirilkina A.V., Serova L.V. Algoritm formirovaniya podozreniya na novuyu koronavirusnuyu infekciyu na osnove analiza simptomov dlya ispol'zovaniya v sisteme podderzhki prinyatiya vrachebnyh reshenij, Vrach i informacionnye tekhnologii [Algorithm for forming suspicion of a new coronavirus infection based on symptom analysis for use in a medical decision support system, Doctor and Information Technologies], 4, 52 (2020). [in Russian]

2. Egorova M.A., Minbaleev A.V., Kozhevina O.V. Osnovnye napravleniya pravovogo regulirovaniya iskusstvennogo intellekta v usloviyah pandemii, Vestnik SPbGU. Seriya 14. Pravo [Main directions of legal regulation of artificial intelligence in a pandemic, Bulletin of St. Petersburg State University. Episode 14. Law], 2, 251 (2021). [in Russian]

3. Fersht V.M., Latkin A.P., Ivanova V.N. Sovremennye podhody k ispol'zovaniyu iskusstvennogo intellekta v medicine, Territoriya novyh vozmozhnostej [Modern approaches to the use of artificial intelligence in medicine, Territory of new opportunities], 1, 122 (2020). [in Russian]

4. Privalov S.A. Tekhnologii iskusstvennogo intellekta v sfere obespecheniya prava na ohranu zdorov'ya, dostupnuyu i kachestvennuyu medicinskuyu pomoshch': perspektivy i problemy regulirovaniya, Vestnik SGYUA [Artificial intelligence technologies in the field of ensuring the right to health care, affordable and high-quality medical care: prospects and problems of regulation, Bulletin of the SSLA], 4(141), 39 (2021). [in Russian]

5. A/HRC/48/31: The right to privacy in the digital age - Report of the United Nations High Commissioner for Human Rights. [Electronic resource] – Available at: https://www.ohchr.org/en/documents/thematic-reports/ahrc4831-right-privacy-digital-age-report-united-nations-high (accessed: 14.04.2023).

6. Ethics and governance of artificial intelligence for health: WHO guidance. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.

7. Kodeks Respubliki Kazahstan ot 7 iyulya 2020 goda № 360-VI ZRK «O zdorov'e naroda i sisteme zdravoohraneniya». Informacionno-pravovaya sistema normativnyh pravovyh aktov Respubliki Kazahstan [Code of the Republic of Kazakhstan dated July 7, 2020 No. 360-VI ZRK "On the health of the people and the healthcare system." Information and legal system of normative legal acts of the Republic of Kazakhstan]. [Electronic resource] – Available at: https://adilet.zan.kz/rus/docs/K2000000360 (accessed: 19.10.2021). [in Russian]

8. RGP na PHV «Respublikanskij centr elektronnogo zdravoohraneniya»: oficial'nyj sajt [RSE at the RVC "Republican Center for Electronic Health Care": official website]. [Electronic resource] – Available at: http://ezdrav.kz/posetitelyam/telemeditsina (accessed: 19.10.2022). [in Russian]

9. Postanovlenie Pravitel'stva Respubliki Kazahstan ot 12 dekabrya 2017 goda № 827 «Ob utverzhdenii Gosudarstvennoj programmy «Cifrovoj Kazahstan» [Decree of the Government of the Republic of Kazakhstan dated December 12, 2017 No. 827 "On approval of the State Program "Digital Kazakhstan"]. [Electronic resource] – Available at: https://adilet.zan.kz/rus/docs/P1700000827 (accessed: 03.10.2022). [in Russian]

10. Postanovlenie Pravitel'stva Respubliki Kazahstan ot 31 dekabrya 2019 goda № 1050 «Ob utverzhdenii Gosudarstvennoj programmy industrial'no-innovacionnogo razvitiya Respubliki Kazahstan na 2020 – 2025 gody» [Decree of the Government of the Republic of Kazakhstan dated December 31, 2019 No. 1050 "On approval of the State Program for Industrial and Innovative Development of the Republic of Kazakhstan for 2020 – 2025"]. [Electronic resource] – Available at: https://adilet.zan.kz/rus/docs/P1900001050 (accessed: 03.10.2022). [in Russian]

11. Soglashenie ob informacionnom vzaimodejstvii gosudarstv – uchastnikov SNG v oblasti cifrovogo razvitiya obshchestva ot 11 iyunya 2021 goda [Agreement on information interaction between CIS member states in the field of digital development of society dated June 11, 2021]. [Electronic resource] – Available at: http://cis.minsk.by/reestr/ru/index.html#reestr/view/text?doc=6288 (accessed: 03.10.2022). [in Russian]

12. Filipova I.A. Pravovoe regulirovanie iskusstvennogo intellekta: uchebnoe posobie, 2-e izdanie, obnovlennoe i dopolnennoe [Legal regulation of artificial intelligence: textbook, 2nd edition, updated and expanded] (Nizhnij Novgorod: Nizhegorodskij gosuniversitet, 2022, 275 s.) [Nizhny Novgorod: Nizhny Novgorod State University, 2022, 275 p.]. [in Russian]

13. Leyl S. "Singapore HIV data leak shakes a vulnerable community," BBC News (February 22, 2019). [Electronic resource] – Available at: https://www.bbc.com/news/world-asia-47288219 (accessed: 14.12.2022).

14. Rezolyuciya Evropejskogo parlamenta «O pravilah grazhdanskogo prava v oblasti robototekhniki» ot 16.02.2017 g. № 2015/2103 [Resolution of the European Parliament "On civil law rules in the field of robotics" dated 16.02.2017 No. 2015/2103]. [Electronic resource] – Available at: https://www.europarl.europa.eu/RegData/etudes/STUD/2016/571379/IPOL_STU(2016)571379_EN.pdf (accessed: 14.12.2022). [in Russian]

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