ARTIFICIAL INTELLIGENCE IN MEDICINE: LEGAL, ETHICAL AND SOCIAL ASPECTS

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Abstract: In this article, the authors reflected the legal, ethical and social aspects of the introduction of artificial intelligence in the field of medicine. The authors used the dialectical method to understand the problematic aspects of qualitative changes in the healthcare system of Ukraine in connection with the quantitative increase in the use of artificial intelligence technology. The system method contributed to determining the nature of the impact of the introduction of artificial intelligence on the transformation of the structural elements of legislation in the healthcare sector. Analytical and formal-logical methods were useful in the process of identifying legal and ethical and social problems from the introduction of artificial intelligence and providing proposals for their solution. Emphasis was placed on the current state of the legal regulation of artificial intelligence in Ukraine and the problems of a legal, ethical and social nature that need to be addressed in the process of its implementation. The authors came to the conclusion that Ukraine is now at the initial stage of introducing artificial intelligence into public life. The problem of the lack of legislative work to streamline public relations associated with the use of artificial intelligence has been identified. Proposals are provided that can help mitigate the risks from the introduction of artificial intelligence.

Key words: Artificial intelligence, medicine, legal regulation, ethics, society

Inteligencia artificial en medicina: aspectos jurídicos, éticos y sociales

Resumen: En este artículo los autores reflejan los aspectos jurídicos, éticos y sociales de la introducción de la inteligencia artificial en el campo de la medicina. Utilizaron el método dialéctico para comprender los aspectos problemáticos de los cambios cualitativos en el sistema sanitario de Ucrania en relación con el aumento cuantitativo del uso de la tecnología de inteligencia artificial. El método sistémico contribuyó a determinar la naturaleza del impacto de la introducción de la inteligencia artificial en la transformación de los elementos estructurales de la legislación en el sector sanitario. Los métodos analíticos y lógico-formales fueron útiles en el proceso de identificación de los problemas jurídicos y éticos y sociales derivados de la introducción de la inteligencia artificial y de aportación de propuestas para su solución. Se hizo hincapié en el estado actual de la regulación jurídica de la inteligencia artificial en Ucrania y en los problemas de carácter jurídico, ético y social que deben abordarse en el proceso de su implantación. Los autores llegaron a la conclusión de que Ucrania se encuentra actualmente en la fase inicial de la introducción de la inteligencia artificial en la vida pública. Se ha identificado el problema de la falta de trabajo legislativo para racionalizar las relaciones públicas asociadas al uso de la inteligencia artificial. Se ofrecen propuestas que pueden ayudar a mitigar los riesgos derivados de la introducción de la inteligencia artificial.

Palabras clave: inteligencia artificial, medicina, regulación legal, ética, sociedad

Inteligência artificial em medicina: aspectos legais, éticos e sociais

Resumo: Nesse artigo, os autores refletem sobre os aspectos legais, éticos e sociais da introdução da inteligência artificial no campo da medicina. Os autores usaram o método dialético para compreender os aspectos problemáticos das mudanças qualitativas no sistema de cuidados à saúde da Ucrânia em conexão com o aumento quantitativo no uso da tecnologia de inteligência artificial. O método do sistema contribuiu para determinar a natureza do impacto da introdução da inteligência artificial na transformação dos elementos estruturais da legislação no setor de cuidados à saúde. Métodos lógico-analíticos e formais foram úteis no processo de identificar problemas legais, éticos e sociais para a introdução da inteligência artificial e fornecer propostas para sua solução. Ênfase foi dada ao estado atual da regulação da inteligência artificial na Ucrânia e os problemas de natureza ética, legal e social que necessitam ser abordados no processo de sua implementação. Os autores concluíram que a Ucrânia está agora em um estágio inicial de introdução da inteligência artificial na vida pública. O problema da falta de trabalho legislativo para agilizar as relações públicas com o uso de inteligência artificial foi identificado. Propostas foram fornecidas que podem ajudar a mitigar os riscos da introdução da inteligência artificial.

Palavras chave: inteligência artificial, medicina, regulação legal, ética, sociedade

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1. Introduction

The introduction of artificial intelligence systems in medicine is one of the most important modern trends in world healthcare. Increasingly, artificial intelligence is being used in various fields, simplifying our lives. It also has a significant impact on the overall interaction, perception of information, the purchase of goods and services. It does what people do, but more efficiently, quickly, and at a lower cost. How? Let's look at the overall picture.

Artificial intelligence is not a single technology, but rather a general term for the field of computer science. This area is dedicated to complex algorithms and software capable of performing human tasks: language and text recognition, data analysis, learning, problem solving. By analyzing complex data and recognizing its repetitive patterns, artificial intelligence-based technologies can draw conclusions without direct human intervention.

Artificial intelligence has a fairly wide range of applications. As the industry has developed, several types of artificial intelligence have emerged. The main areas of application of artificial intelligence are: machine learning, deep learning, natural language processing, image processing and language recognition.

Artificial intelligence can be used in all areas of activity. The healthcare industry is no exception. Artificial intelligence provides healthcare with accessible structured information about patients from different databases and the rapid development of methods for analyzing large amounts of data.

Armed with innovative artificial intelligence technologies, doctors can make more accurate diagnoses and improve treatment plans with realistic predictions. In addition, artificial intelligence is increasingly used in medicines development, patient monitoring and care. Due to the ability of artificial intelligence to cope with a growing database of patients, the entire healthcare industry is moving to a preventive, prophylactic level, rather than a reactionary one.

However, along with an objective improvement in the quality of medical services in connection with the use of artificial intelligence, we are faced with the need to solve those problems that are associated with its specific nature. Therefore, it is rather urgent to establish those risks of a legal, ethical and social nature that the introduction of artificial intelligence in the field of medicine brings with it and to develop proposals for leveling them.

2. Legal aspect of artificial intelligence in medicine

In Ukraine, the legal regulation of public relations related to the use of artificial intelligence is at the initial stage of its development. Thus, according to the Order of the Cabinet of Ministers of Ukraine dated December 02, 2020 No. 1556-p, the Concept for the Development of Artificial Intelligence in Ukraine*(1)* was approved. This Concept defines the goals, principles and objectives of the development of artificial intelligence technologies in Ukraine as one of the priority areas in the field of scientific and technological research. In this Concept for the first time in national legislation, the definition of the term "artificial intelligence" was given as an organized set of information technologies, with the use of which it is possible to perform complex, multipurpose tasks by using a system of scientific research methods and algorithms for processing information obtained or independently created during work, and also create and use their knowledge bases, decision-making models, algorithms for working with information and determine ways to achieve the goals. One of the problems in the field of artificial intelligence, according to this Concept, is the lack or imperfection of the legal regulation of artificial intelligence (including in the field of education, economics, public administration, cybersecurity, defense), as well as the imperfection of legislation on the protection of personal data. To do this, the state bodies are entrusted with the task of working out the issue of the need to regulate public relations in the field of the development of artificial intelligence at the legislative level. In the context of the healthcare sector, the task of researching and applying artificial intelligence technologies in the healthcare sector, in particular to counteract epidemics and pandemics, as well as forecasting and prevent-

ing potential epidemic outbreaks in the future, should be completed. That is to say, the state in this Concept actually ignores the problem of legal regulation of the use of artificial intelligence in medicine, limiting its attention only to the areas of education, science, economics, cybersecurity, information security, public administration and justice. This approach is conceptually imperfect due to the fact that it is in the field of medicine that artificial intelligence technology has one of the main directions of development. Large companies such as IBM, Microsoft, Google, Intel*(2)* are investing heavily in the development of artificial intelligence algorithms in the healthcare sector, which is a confirmation of the priority for them in this industry, because only if there is a strong demand for their own products of such tech giants make sense to spend artificial intelligence money on their development. This aspect corresponds to another reason for the need to regulate the national legislation on the use of artificial intelligence in the field of medicine - a significant public interest. Society is interested in improving the quality of the healthcare system, and the use of artificial intelligence in medicine is one of the promising areas that can bring the quality of medical services to a new level. Therefore, a more captious approach is needed on the part of the state to regulate the relevant public relations in both the public and private sectors.

According to the action plan for the implementation of the Concept for the development of artificial intelligence in Ukraine for 2021-2024, approved by the Order of the Cabinet of Ministers of Ukraine dated May 12, 2021 No. 438-p, the Concept for the development of electronic health (e-Health), approved by the Order of the Cabinet of Ministers of Ukraine dated December 28, 2020 No. 1671-p and the Action Plan for the implementation of the e-Health Development Concept approved by the Order of the Cabinet of Ministers of Ukraine dated September 29, 2021 No. 1175-p*(3,4,5)*, it can be concluded that the immediate goal set by the state healthcare is the introduction and enhanced development of a clinical decision support system, personalized medicine, telemedicine, systems for predicting healthcare needs, resource planning using artificial intelligence technologies. Again, conceptu-

ally, the state consolidates the results that it wants to achieve in the process of introducing artificial intelligence into the healthcare sector, but in no way does the relevant acts provide for the need to create a regulatory framework for these social relations. The lack of work in this direction can lead to legislative gaps, which can negate all the positive aspects of introducing artificial intelligence technology into the national healthcare system.

There are several main issues that must be resolved when establishing proper legal regulation of public relations related to the use of artificial intelligence. W. Kenneth Davis, Jr., Ashley Francois and Cheryl Camin Murray*(6)* identify ten legal aspects of introducing artificial intelligence into the healthcare system: 1. Legislative and regulatory requirements; 2. Ethical considerations; 3. Reimbursement; 4. Contract law; 5. Torts; 6. Antimonopoly legislation; 7. Employment and labor issues; 8. Privacy and security risks; 9. Intellectual property; 10. Compliance programs. Also, some scientists consider the issues of the legal personality of artificial intelligence and its consolidation at the legislative level. For example, Igor Milinkovic*(7)* believes that pragmatic considerations argue in favor of adopting a model of partial legal personality of artificial intelligence, while recognizing their full legal personality should be avoided. Karolina Ziemianin*(8)* also considers it necessary to consider the possibility of granting legal personality to artificial intelligence, but amendments to the legislation should be carried out gradually, taking into account the specifics of artificial intelligence and the level of its development. According to Visa A. J. Kurki*(9)*, artificial intelligence cannot be equated in legal status with a person, however, in the future, in the event of the emergence of intelligent artificial intelligence, the approach to the legal status of artificial intelligence may be changed. For the most part, the scientific community really proceeds from the fact that the legal personality of artificial intelligence should correspond to the level of development of the relevant technologies, indicating only the prospect of the existence of such a possibility in the future.

The legal personality of artificial intelligence is one of the components of another problem related to its use, namely the problem of liability for

harm caused by artificial intelligence or in connection with its use. Who should be responsible for this? In Resolution 2015/2103 (INL) of the European Parliament of February 16, 2017, with the recommendations of the European Commission on the Civil Law Rules on Robotics*(10)*, it was proposed to create a new one among the already known categories of subjects (individuals and legal entities) - "electronic person (personality)", which will have its own specific rights and obligations, but it is noted that artificial intelligence cannot be held liable for actions that caused harm to third parties. So, in accordance with paragraph "ad" of Resolution 2015/2103 (INL), liability for causing harm can be assigned to one of the so-called agents - human agents, namely: the manufacturer, operator, owner or user of artificial intelligence. At the same time, when establishing the scope of responsibility on the part of the agent, one of the main aspects is the fact of proving the possibility of predicting negative consequences and preventing them. Resolution 2015/2103 (INL) also provides that, in the future, the capabilities of artificial intelligence may finally surpass human intelligence (paragraph "P" of the Introduction). It is noted the need to develop new principles and rules that would provide transparency of the legal liability of third parties for the actions or inaction of robots that do not allow establishing causal relationships with the behavior of a particular person (paragraph "AB" Section "Liability"). The standard liability rules are not sufficient when the damage was caused by decisions that the robot made on its own; in these cases, it is impossible to determine the party that must pay compensation and compensate for the damage caused (paragraph "AF" Section "Liability"). According to O. Radutniy*(11)*, endowing artificial intelligence with the status of "electronic person (personality)" as a subject of legal relations should not meet with opposition in the field of legal doctrine and at the legislative level, just as it has stabilized regarding the place of legal entities in these public relations. Therefore, the appearance in the Criminal Code of Ukraine of a Section numbered XIV-2 and the conditional title "Measures of a criminal law nature in relation to electronic persons (personalities)" is seen as quite predictable. Signs of artificial intelligence as a subject of a crime can be: 1) an electronic person

(personality); 2) sanity, that is to say, the ability at the time of the commission of a crime to be aware of actions (or inaction) and manage them. However, such shifts in the legal doctrine can be expedient and justified only with a balanced analysis of proposals, a complete redesign of the entire system, harmonization at the level of sectoral and intersectoral relations and in inseparable unity with the fundamental constitutional principles and international obligations of Ukraine.

In general, three main approaches to the prospects for regulating the legal status of artificial intelligence can be formed: 1. Perception of artificial intelligence solely as an object of legal relations; 2. Perception of artificial intelligence solely as a subject of legal relations; 3. Perception of artificial intelligence as one that can be both an object and a subject of various legal relations. In our opinion, artificial intelligence can be perceived solely as an object of public relations, since the current level of development of artificial intelligence technology does not allow establishing certain rights and obligations for it. At the same time, the very possibility of such a scenario in the future, when artificial intelligence will be compared in its capabilities with a person and acquire the appropriate qualities that will allow it to be the subject of legal liability, cannot be leveled. At the moment, it is logical to extend the status of a source of increased danger to artificial intelligence technology. According to Art. 1187 of the Civil Code of Ukraine dated January 16, 2003 No. 435-IV*(12)*, damage caused by a source of increased danger is compensated by a person who, on the appropriate legal basis (property right, other real right, work agreement, lease, etc.) owns a vehicle, mechanism, other object, the use, storage or maintenance of which creates an increased danger. Therefore, the harm caused by artificial intelligence or the decision of a person related to its use must be compensated by the person who, on the basis of ownership or other legal basis, owns it. M. Burov*(13)* also notes that artificial intelligence should be perceived as a source of increased danger and considered taking into account all the specific conditions for liability for harm caused by the source of increased danger, already established by the norms of the current legislation of Ukraine. In the context of

medicine, the issue of liability in connection with the use of artificial intelligence should be clearly regulated in relevant legislation. Under current liability laws, an artificial intelligence manufacturer could potentially be liable for medical error related to the use of artificial intelligence technology. This possibility is based on the principle of product liability, according to which harm caused by the use of a product is evidence of some defect in it. If harm is caused due to a manufacturing defect in artificial intelligence algorithms, existing liability rules most often place the blame on its manufacturers. However, it is often difficult to understand how these algorithms come to their conclusions, so determining whether the user or the manufacturer is at fault is problematic. Since the behavior of artificial intelligence is not entirely predictable and the result of the interaction between several human and non-human agents that make up a sociotechnical system, it is difficult to determine a causal relationship between the harm done and the actions of a particular person or legal entity. Expert Group on Liability and New Technologies*(14)* notes that strict manufacturer liability should play a key role in recovering damages caused by defective products and their components, whether they are in tangible or digital form. The manufacturer shall be held strictly liable for defects in new digital technologies, even if said defects appeared after the product was put into circulation, if the manufacturer is still in control of updating or upgrading the technology. Therefore, at the regulatory level, there should be a clear delineation between the areas of responsibility of the manufacturer, healthcare institution and the actual user (doctor, operator) in order to prevent disputes in the future.

Separately, emphasis should be placed on the problem of cybersecurity in the healthcare sector, which is one of the most important in the context of protecting the right to privacy. In the context of the right to confidentiality, it is necessary to analyze the international legal standards that are put forward for working with information in the field of healthcare. Thus, the European Charter of Patients' Rights*(15)* enshrines the right of everyone to the confidentiality of personal information, including information about their state of health and possible diagnostic or therapeutic pro-

cedures, as well as to protect their confidentiality during diagnostic examinations. According to Art. 17 of the Law of Ukraine "On the execution of decisions and the application of the practice of the European Court of Human Rights" dated February 23, 2006 No. 3477-IV*(16)*. The 1950 Convention for the Protection of Human Rights and Fundamental Freedoms and the practice of the European Court of Human Rights (ECHR) is a source of law in Ukraine and should be applied by the courts when considering cases. Article 8 of the Convention for the Protection of Human Rights and Fundamental Freedoms*(17)* stipulates that everyone has the right to respect for his/her private and family life, to his/her own housing and correspondence. Public authorities may not interfere with the exercise of this right, except when the interference is lawful and necessary in a democratic society in the interests of the national and public security or economic well-being of the country, for the prevention of riots or crimes, for the protection of health or morals, or for the protection of human right and freedoms of others. In case Z v. Finland*(18)*, the ECHR noted that the protection of personal data, not only medical data, is extremely important for a person to exercise his/her right to respect for private and family life, guaranteed by Article 8 of this Convention. Respect for the confidentiality of information about one's health status is an integral principle of the legal systems of the countries parties to the Convention. Decisive is not only respect for the medical confidentiality of the patient, but also ensuring his/her confidence in the medical profession and medical services in general. Without such protection, individuals in need of medical care may be discouraged from providing personal and intimate information that may be necessary to receive appropriate treatment, as well as from seeking such care and thus exposing themselves and their health, and in case of infectious disease and public health, in danger. Thus, native law must provide sufficient safeguards to prevent the transfer or disclosure of medical secrecy, which may be contrary to the provisions of Article 8 of this Convention. However, we understand that the development of artificial intelligence technology involves working with large databases, which accordingly creates risks of violating patients' privacy rights. On the part of the state, at the

regulatory level, clear guarantees should be established to protect the confidentiality of patients in connection with the use of artificial intelligence, which should take into account the specifics of the relevant technology. Blake Murdoch[19] notes that this requires innovative technological solutions to ensure that governments, through their own regulatory policies, ensure that data custodians are using the best and the safest practices to protect patient privacy. Indeed, we agree that, in general, the solution to the problem of ensuring the right to privacy in the context of the introduction of artificial intelligence technology in the healthcare sector is seen in the search for new technical solutions that ensure the protection of patient data and their consolidation at the legislative level.

3. Ethical and social aspect of artificial intelligence in medicine

Researchers from the World Health Organization[20] noted that in order to reduce the risks in the creation and use of artificial intelligence, it is necessary to adhere to six principles called to ensure the safety of technology in the healthcare sector:

• protection of human autonomy - people must control the healthcare system and medical decisions, as well as count on privacy;

• promoting the welfare and safety of people, as well as the public interest - developers must ensure the safety, accuracy and efficiency of technologies;

• ensuring transparency and comprehensibility - developers of artificial intelligence systems should publish enough information for public consultation;

• increasing responsibility and accountability – stakeholders should be held liability for the misuse of technology;

• ensuring inclusiveness and equity – equal use and access to medical artificial intelligence, regardless of belonging to social groups;

• advancing agile and sustainable artificial intelligence – continuous and transparent evaluation of

technology in use to determine its response to expectations and requirements. Yurii Karpenko[21] also proposes to create a Code of Ethics for artificial intelligence systems, suggesting that five principles should be taken as a basis: 1) the principle of usefulness - artificial intelligence should benefit citizens in all countries of the world, stimulating sustainable development and well-being; 2) the principle of legality - artificial intelligence systems should be designed in such a way as to respect the rule of law, human rights and democratic values, and also, if necessary, guarantee the possibility of human intervention in the work of artificial intelligence; 3) the principle of transparency - ensuring transparency in the disclosure of information about artificial intelligence systems so that citizens have access to information about the results of the work of its algorithms and can appeal them; 4) the principle of stability - artificial intelligence systems must function reliably and safely throughout their entire life cycle, and potential risks must be constantly assessed and managed; 5) the principle of responsibility - organizations and individuals developing, implementing or operating artificial intelligence systems should be held liability for their proper functioning. The application of relevant principles is an important component of reducing the ethical and social risks associated with the use of artificial intelligence. They indicate those problematic aspects that should be taken into account by authorized entities in the development of technology, its technical support, use and adoption of power-administrative decisions to regulate these social relations. These areas, which should receive increased attention, are the right of individuals to the confidentiality of their family and private life; the safety, efficiency and public interest of new technologies; equality of access to artificial intelligence technology and the absence of discrimination on various grounds; proper control of the use of new technologies; prevention of social problems. O. Radutniy notes that one of the priorities should be to ensure the transparency of any artificial intelligence algorithms, two-way communication between them and a person, guaranteeing the ability to check each step of the decision-making process, obtaining a clear explanation of the decisions made not only by a specialist, but also by an independent observer. The disadvantages of human commu-

nication problems should not be transferred to the interaction between humans and artificial intelligence. It is these actions that can prevent the occurrence of errors in the work of artificial intelligence and the misinterpretation of its conclusions by end users. This will become a guarantee of public confidence in artificial intelligence, which will lead to its more widespread use.

Another social problem that should be paid attention to is the possibility of replacing human intelligence with artificial intelligence, which will lead to a decrease in the competence of medical workers and the dismissal of a large number of people from healthcare institutions. This will lead to an increase in the unemployment rate in the state, which will aggravate the social situation of many people and cause the spread of various social deviations in society, as well as make society directly dependent on the use of artificial intelligence, which will reduce the quality of the cognitive abilities of human intelligence. Such conclusions are not categorical, but only aim to demonstrate the worst perspective model for the use of artificial intelligence. The main purpose of using artificial intelligence should be the general development of society, and not profit making by tech giants, since the Demand Offer model does not take into account possible social risks from the introduction of new technologies. Florent Bordot*(22)* in his research establishes a relationship between the introduction of artificial intelligence and an increase in unemployment, although he also points out the lack of research in this direction. It is quite clear that there is a corresponding correlation across different social groups, level of education, age and other indicators on the impact of the introduction of artificial intelligence on the unemployment rate. That is why it is important to deepen the research of this topic in order to develop practical recommendations that can prevent the occurrence of relevant social problems.

The ethical and social aspect of the activity of artificial intelligence would not have been fully disclosed if another important problem had not been highlighted - discrimination. So, not uncommon cases outside the medical industry are the presence of discriminatory and erroneous conclusions of artificial intelligence algorithms based on race, sexual orientation, religion, etc.

For example, the COMPAS program, which was used in the US judiciary to assess risk, determined the likelihood of recidivism for black prisoners twice as often rather for white prisoners based on their racial basis only*(23)*. There have also been cases where the camera incorrectly detected the blinking of Asian people*(24)*. Sharona Hoffman and Andy Podgurski*(25)* note in this regard that many algorithms are «black box» medicine, and even their developers often cannot fully explain how they function. As the use of artificial intelligence is rapidly expanding in healthcare, it is important that vendors recognize these dangers and understand that some of them can lead to ethical issues and liability. Artificial intelligence algorithms accept biases that are embedded into the training data or that are the result of training data that is not sufficiently diverse and representative. These problems can lead to patient harm and unlawful discrimination. That is to say, there is a problem of imperfection of algorithms that can make logical errors and cause false conclusions. The solution to this problem lies in the improvement of artificial intelligence technology in the context of the transparency and understandability of its algorithms.

4. Conclusion

In general, Ukraine is at the initial stage of introducing artificial intelligence technology into state and public life. Today, at the regulatory and legal level, the state consolidates the results that it wants to achieve in the process of introducing artificial intelligence into the healthcare sector, however, in no way does the relevant acts provide for the need to create a regulatory framework for these social relations. In our opinion, the lack of work in this direction can lead to legislative gaps, which can negate all the positive aspects of introducing artificial intelligence technology into the national healthcare system.

Issues of the legal status of artificial intelligence should be based on three main approaches: 1. Perception of artificial intelligence solely as an object of legal relations; 2. Perception of artificial intelligence solely as a subject of legal relations; 3. Perception of artificial intelligence as one that can be both an object and a subject of various legal relations. In our opinion, artificial intelligen-

ce can be perceived solely as an object of public relations, since the current level of development of artificial intelligence technology does not allow establishing certain rights and obligations for it. At the same time, it is impossible to level the very possibility of such a scenario in the future, when artificial intelligence will be compared in its capabilities with a person and acquire the appropriate qualities that will allow it to be a subject of public legal relations. Therefore, the harm caused by artificial intelligence or the decision of a person related to its use must be compensated by the person who owns it on the basis of ownership or other legal grounds. At the regulatory level, there should be a clear delineation between the areas of responsibility of the manufacturer, healthcare institution and the actual user (doctor, operator) in order to prevent disputes in the future.

In the context of protecting the human right to privacy, we understand that the development of artificial intelligence technology involves working with large databases, which creates corresponding risks. Therefore, on the part of the state at the regulatory level, clear guarantees should be established to protect the confidentiality of patients in connection with the use of artificial intelligence, which should take into account the specifics of the relevant technology. The solution to the problem of ensuring the right to confidentiality in the context of the introduction of artificial intelligence technology in the healthcare sector is seen in the search for new technical solutions that ensure the protection of patient data and their consolidation at the legislative level.

To reduce the ethical and social risks associated with the use of artificial intelligence, it is necessary to comply with such scientifically based principles of working with artificial intelligence: protecting human autonomy; promoting the welfare and safety of people and the public interest; ensuring transparency and clarity; increasing responsibility and accountability; ensuring inclusiveness and equity; advancing agile and sustainable artificial intelligence; legitimacy and responsibility. It is these principles that should be laid down in the development of artificial intelligence in the aspect of ensuring the right of individuals to the confidentiality of their family and personal life; the safety, efficiency and public interest of new technologies; equality of access to artificial intelligence technology and the absence of discrimination on various grounds; proper control over the use of new technologies; preventing social problems.

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