
ЕҢБЕК, АЗАМАТТЫҚ ЖӘНЕ АЗАМАТТЫҚ ІС ЖҮРГІЗУ ҚҰҚЫҒЫНЫҢ ӨЗЕКТІ МӘСЕЛЕЛЕРІ АКТУАЛЬНЫЕ ПРОБЛЕМЫ ТРУДОВОГО, ГРАЖДАНСКОГО И ГРАЖДАНСКОГО ПРОЦЕССУАЛЬНОГО ПРАВА CURRENT ISSUES IN LABOUR, CIVIL AND CIVIL PROCEDURAL LAW

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Cross-border telemedicine in Kazakhstan and foreign jurisdictions: a comparative legal analysis and prospects for legislative modernization

The rapid development of telemedicine, particularly in the context of cross-border healthcare delivery, highlights the limitations of traditional legal frameworks based on the principle of territoriality. The aim of this study is to identify systemic gaps in the legal regulation of cross-border telemedicine in the Republic of Kazakhstan and to develop proposals for improving the relevant legislation, taking into account international experience. The methodological framework includes formal-legal, comparative-legal, and doctrinal research methods. The study analyzes the provisions of the Code of the Republic of Kazakhstan “On Public Health and the Healthcare System,” as well as relevant international legal instruments and foreign regulatory practices. The study identifies several systemic legal gaps in the regulation of cross-border telemedicine, including the absence of a statutory definition of cross-border telemedicine, insufficient regulation of foreign healthcare providers, fragmented legal protection of patients’ personal data, and the uncertain legal status of telemedicine platforms and artificial intelligence systems. The study substantiates priority directions for legal reform, including the institutionalization of telemedicine, the development of licensing mechanisms, and the creation of a comprehensive legal framework for integrating artificial intelligence into healthcare. The scientific novelty lies in the systematization of legal gaps and the development of proposals aimed at harmonizing national legislation with international standards.

Keywords: telemedicine, cross-border healthcare, artificial intelligence, legal regulation, legal liability, personal data protection.

Introduction

One of the most dynamic manifestations of the digital transformation of modern healthcare is telemedicine, which enables medical consultations, diagnostics, monitoring, and treatment through information and communication technologies [1, 2]. According to the World Health Organizations, digital technologies have become a key mechanism for increasing the accessibility, efficiency, and resilience of healthcare systems [3]. As a result, telemedicine has expanded beyond national healthcare systems and increasingly involves interactions among patients, healthcare organizations, and medical professionals located in different jurisdictions. Such interactions raise complex legal issues related to licensing, jurisdiction, professional liability, recogni-

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tion of electronic documents and signatures, cross-border transfer of medical data, protection of patient rights, and the use of artificial intelligence in clinical decision-making [4].

By enabling cross-border healthcare services without requiring the physical mobility of patients, telemedicine challenges traditional legal concepts based on the territorial nature of medical practice. Consequently, a new legal reality is emerging in which conflicts among national regulations governing licensing, medical confidentiality, personal data protection, and the recognition of electronic signatures become particularly acute [5].

The legal regulation of cross-border telemedicine has become an increasingly important issue across many jurisdictions. The European Union has established a comprehensive framework for cross-border healthcare through Directive 2011/24/EU on the application of patients' rights cross-border healthcare [6], while the United States, the United Kingdom, and several other countries have introduced specialized mechanisms for telemedicine licensing, medical confidentiality, data protection, and professional accountability [7, 8]. At the same time, international organizations, including the World Health Organization and the International Telecommunication Union, actively promote the development of legal and technical standards for digital health and telemedicine services [9].

In Kazakhstan, the digital transformation of healthcare has been identified as a strategic policy priority. Significant progress has been achieved through the implementation of digital health platforms, electronic health records, telemedicine networks, and remote medical services. The legal basis for these developments is provided by the Code of the Republic of Kazakhstan "On Public Health and the Healthcare System" of 7 July 2020 [10], the Law "On Personal Data and Their Protection" [11], the Law "On Electronic Document and Electronic Digital Signature" [12], and subordinate regulations governing remote medical services.

There are more than six thousand rural settlements in Kazakhstan, of which almost eight hundred lack even the most basic primary health care facilities. The national Telemedicine Network unites 233 healthcare institutions, and in 2021, 21,667 telemedicine consultations were conducted [13]. However, despite more than twenty years of development experience, telemedicine in Kazakhstan does not meet modern needs. This is due not so much to technological limitations as to legal barriers, including the lack of comprehensive regulatory framework, uniform standards, licensing mechanisms, and clear rules for the allocating responsibilities [14, 15].

Despite these developments, the current legal framework remains primarily focused on domestic healthcare relations and does not provide a comprehensive model for regulating cross-border telemedicine. National legislation lacks a legal definition of cross-border telemedicine and does not establish specific requirements for foreign healthcare providers participating in consultations with patients located in Kazakhstan. It also contains no dedicated mechanisms for recognizing foreign electronic signatures and medical documentation and provides only limited regulation of international transfers of medical information. Furthermore, the legal implications of artificial intelligence technologies used in telemedicine remain largely unregulated.

Although the academic literature increasingly telemedicine, digital health governance, artificial intelligence in healthcare, and cross-border data protection [16-17], a significant research gap remains regarding the comprehensive legal regulation of cross-border telemedicine in Kazakhstan [18]. Most studies focus on the technological, organizational, or medical dimensions of telemedicine. Legal analyses, by contrast, often examine individual issues separately and rarely provide an integrated assessment of regulatory challenges and legislative modernization.

Accordingly, the relevance of this study lies in the need to develop a coherent legal framework capable of ensuring the safe, effective, and legally certain provision of cross-border telemedicine services in Kazakhstan while remaining consistent with international standards and best practices.

The purpose of this study is to identify systemic legal gaps in the regulation of cross-border telemedicine in the Republic of Kazakhstan and to develop substantiated proposals for legislative modernization based on a comparative legal analysis of foreign jurisdictions and international regulatory approaches.

To achieve this objective, the study pursues four tasks: analyzing the current legal framework governing telemedicine in Kazakhstan; examining international legal instruments and foreign regulatory models applicable to cross-border telemedicine; identifying key legal challenges related to licensing, jurisdiction, professional liability, data protection, electronic identification, and artificial intelligence; and formulating recommendations aimed at improving national legislation and harmonizing it with international standards.

The scientific novelty of the research lies in a legal analysis of cross-border telemedicine as an emerging legal institution, identifying regulatory gaps in Kazakh legislation and proposing a model for legislative

modernization. This model incorporates international best practices in digital healthcare governance and patient data protection in the context of artificial intelligence development.

Methods and Materials

The methodological framework combines formal-legal, comparative legal, doctrinal, and systemic approaches. This allowed a comprehensive analysis of cross-border telemedicine regulation and identification of directions for healthcare legislation modernization in Kazakhstan.

The formal-legal method was applied to examine current legislation on telemedicine, digital healthcare, medical data protection, licensing, and health information technologies. Special attention was given to norms regulating remote services, medical secrecy, personal data processing, electronic document flow, and professional liability.

The comparative legal method served as the main research tool. It was used to identify similarities and differences in regulating cross-border telemedicine in Kazakhstan and selected foreign jurisdictions. The selection was based on functional criteria.

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The European Union was included due to its supranational framework under Directive 2011/24/EU on cross-border healthcare. The United Kingdom was selected for its advanced regulation of digital health and artificial intelligence. The United States was included due to extensive experience in telemedicine licensing and interstate healthcare delivery. Turkey was chosen as a comparable civil-law jurisdiction with rapid digitalization. Spain, Finland, and Israel were also analyzed regarding professional liability and digital health governance.

The doctrinal method was used to examine legal scholarship on telemedicine, cross-border healthcare, AI in medicine, medical liability, and health data protection. Priority was given to Scopus and Web of Science publications from 2022–2026.

The systemic approach allowed telemedicine to be considered as an integrated legal institution. It was analyzed at the intersection of healthcare law, information law, data protection, civil liability, and international private law.

The regulatory base included key national acts: the Code “On Public Health and Healthcare System” (2020), the Law “On Personal Data” (2013), the Law “On Electronic Document and Digital Signature” (2003), the Law “On Permits and Notifications” (2014), the Order on Remote Medical Services (2021), and the Healthcare Development Concept until 2026.

The international framework included Directive 2011/24/EU, GDPR Regulation 2016/679, European Health Data Space documents, WHO Global Strategy on Digital Health 2020–2025.

The empirical base consisted of WHO and European Commission reports, NHS analytical materials, scientific publications on digital health governance, and international studies on telemedicine, AI in healthcare, patient data protection, and professional liability.

The applied methodology and materials enabled identification of legal gaps in Kazakhstan’s cross-border telemedicine regulation, assessment of foreign models, and formulation of evidence-based proposals for improving national legislation in line with international standards.

Results

The comparative legal analysis conducted in this study demonstrates that the development of cross-border telemedicine creates a qualitatively new regulatory environment in which traditional territorial approaches to healthcare governance become increasingly insufficient. The results obtained allow the identification of several systemic legal deficiencies and provide a basis for proposing mechanisms for legislative modernization.

1. Absence of a legal definition of cross-border telemedicine and fragmentation of legal regulation. The analysis of the Code of the Republic of Kazakhstan “On Public Health and Healthcare System” and related subordinate legislation demonstrates that the current legal framework recognizes remote medical services but does not contain a legal definition of cross-border telemedicine. Existing regulation focuses primarily on domestic healthcare relationships and does not distinguish telemedicine involving foreign healthcare providers or international digital platforms.

Comparative analysis indicates that foreign jurisdictions increasingly treat cross-border healthcare as a separate legal phenomenon requiring special regulation. International organizations also emphasize the necessity of adapting healthcare legislation to the realities of digital medicine.

Therefore, the first scientific result of the study consists in establishing that the absence of a legal definition of cross-border telemedicine creates regulatory uncertainty regarding the scope of rights and obligations of participants and limits the effectiveness of existing healthcare legislation.

From the authors' perspective, cross-border telemedicine should be understood as the provision of medical services through information and communication technologies when at least one participant in the healthcare relationship is located outside the jurisdiction in which medical assistance is provided.

2. Lack of mechanisms regulating participation of foreign healthcare providers. The study demonstrates that Kazakhstan's legislation does not contain specific procedures governing the participation of foreign physicians and medical organizations in telemedicine consultations. Neither licensing rules nor existing healthcare legislation establish mechanisms for recognition of professional qualifications, registration procedures, or supervisory requirements applicable to foreign healthcare providers.

At the same time, comparative legal analysis shows that international practice increasingly relies on flexible regulatory mechanisms rather than the creation of separate telemedicine licenses. Interstate licensing models, registration procedures, and mutual recognition mechanisms allow states to maintain quality control while ensuring accessibility of digital healthcare services.

Consequently, the second scientific result of this study consists in substantiating that the principal regulatory problem lies not in the absence of a separate telemedicine license but in the absence of legal mechanisms governing access of foreign healthcare providers to the national healthcare system.

The findings indicate that Kazakhstan requires a registration-based model combined with procedures for recognition of professional qualifications rather than the establishment of an independent telemedicine licensing regime.

3. Inadequacy of traditional liability models in digital healthcare. The conducted analysis demonstrates that traditional approaches to medical liability are based on direct physician–patient relationships. However, cross-border telemedicine fundamentally changes the structure of healthcare decision-making. Medical consultations increasingly involve multiple participants, including attending physicians, foreign specialists, healthcare organizations, telemedicine platform operators and artificial intelligence systems.

As a result, existing liability mechanisms become fragmented and incapable of adequately distributing legal responsibility among all participants in digital healthcare relations.

This constitutes the third scientific result of the study. The findings demonstrate that traditional physician-centered liability models do not correspond to the realities of contemporary telemedicine.

Accordingly, the study substantiates the necessity of introducing a distributed responsibility model based on differentiation of obligations between healthcare professionals, medical institutions, digital platform operators and developers of artificial intelligence technologies.

4. Fragmentary regulation of cross-border transfer of medical data. The analysis revealed that Kazakhstan possesses a general legislative framework concerning personal data protection and medical confidentiality. However, these norms do not specifically regulate international transfer of health-related information.

The study demonstrates that medical information constitutes a particularly sensitive category of personal data, requiring enhanced legal safeguards. Comparative analysis further indicates that European regulation increasingly relies on sector-specific mechanisms aimed at ensuring security, transparency and accountability in processing health information.

Thus, the fourth scientific result consists in establishing that the existing legal framework of Kazakhstan provides only a general level of information protection and does not adequately address the risks associated with international exchange of medical data.

Consequently, legislative modernization should include the introduction of special legal safeguards governing cross-border transfer, storage and processing of electronic medical information.

5. Absence of a comprehensive legal framework for artificial intelligence in healthcare. The conducted analysis demonstrates that the rapid integration of artificial intelligence into healthcare significantly transforms traditional approaches to medical decision-making. International studies indicate that AI technologies increasingly influence diagnostics, treatment recommendations and risk assessment.

At the same time, the legal framework of Kazakhstan currently lacks specific provisions governing transparency requirements, algorithmic accountability, certification mechanisms and legal responsibility associated with AI systems.

This constitutes the fifth scientific result of the study. The findings establish that the absence of a comprehensive legal framework for artificial intelligence represents one of the most significant regulatory gaps affecting the future development of telemedicine.

Accordingly, the integration of artificial intelligence into healthcare requires the adoption of a risk-oriented regulatory approach based on transparency, explainability and protection of patient rights.

Model for Legislative Modernization of Cross-Border Telemedicine in Kazakhstan. An important result of the present study consists in the development of an integrated model for legislative modernization of cross-border telemedicine in Kazakhstan. Based on the identified legal deficiencies and comparative analysis of foreign jurisdictions, four interrelated directions of regulatory development have been substantiated.

The first direction involves the legal recognition of cross-border telemedicine through the introduction of its statutory definition into the Code of the Republic of Kazakhstan “On Public Health and Healthcare System” and its recognition as an independent form of healthcare delivery.

The second direction concerns the regulation of foreign healthcare providers through the establishment of registration procedures and mechanisms for recognition of professional qualifications applicable to foreign physicians participating in telemedicine consultations.

The third direction relates to strengthening legal safeguards for cross-border transfer and processing of medical information and harmonization of national legislation with internationally recognized standards of personal data protection.

The fourth direction consists in developing a comprehensive framework governing the use of artificial intelligence technologies in healthcare based on the principles of transparency, accountability and protection of patient rights.

Thus, the findings demonstrate that the principal barriers to the development of cross-border telemedicine in Kazakhstan are predominantly legal rather than technological. Therefore, legislative modernization should be based on an integrated approach combining healthcare law, digital governance mechanisms, information security standards and guarantees of patient rights.

Discussion

The results obtained in this study confirm that cross-border telemedicine represents not merely a technological extension of traditional healthcare but an emerging legal phenomenon that requires reconsideration of conventional regulatory approaches [3, 9, 18, 19]. The identified legal deficiencies are largely consistent with problems previously observed in other jurisdictions during the initial stages of digital healthcare development. Therefore, the findings of the present study should be considered within the broader context of contemporary scientific debates concerning the transformation of healthcare law in the digital era.

Cross-border telemedicine as an independent legal institution. One of the principal issues discussed in contemporary legal scholarship concerns the legal nature of telemedicine itself. At the same time, many states are allocating substantial financial resources to the development of digital medical technologies and equipment capable of transmitting medical data. Back in 2020, the UK Department of Health expected to save approximately £22 billion over five years through improvements in healthcare efficiency and the wider introduction of telemedicine technologies [20]. A relatively conservative approach regards telemedicine as merely a technological means of delivering conventional healthcare services, implying that existing legal mechanisms remain generally sufficient [21]. According to this perspective, telemedicine does not require the creation of new legal institutions but rather limited adaptation of traditional medical law.

However, a growing number of scholars advocate a broader understanding of digital healthcare. They emphasize that telemedicine fundamentally changes the structure of legal relations by involving multiple actors, crossing national borders and creating new forms of information exchange [5, 17]. Consequently, telemedicine should be viewed as an interdisciplinary legal phenomenon situated at the intersection of healthcare law, information law, international private law and data protection regulation.

The results of the present study support the latter approach. The absence of a legal definition of cross-border telemedicine in Kazakhstan demonstrates that existing legislation remains predominantly focused on territorial healthcare relations and does not adequately reflect the realities of digital medicine. Therefore, cross-border telemedicine should be recognized as an independent legal institution requiring specific regulatory mechanisms.

This conclusion appears reliable because similar developments can be observed in the regulatory evolution of European healthcare systems and international standards adopted by the World Health Organization [3, 9].

Regulatory approaches to licensing foreign healthcare providers. The issue of licensing represents another area characterized by competing theoretical approaches. Some scholars support the establishment of special telemedicine licenses as a means of ensuring state control over healthcare quality [22]. Such an approach is based on the assumption that digital healthcare creates sufficiently unique risks to justify independent licensing procedures [23].

In contrast, contemporary comparative legal studies increasingly support more flexible regulatory mechanisms [21, 24]. The experience of the United States demonstrates that regulatory coordination may be achieved through interstate licensing compacts and mutual recognition mechanisms. Similarly, several European jurisdictions rely on registration procedures and professional qualification recognition rather than creating separate telemedicine licenses.

The findings of this study do not support the necessity of establishing an independent telemedicine licensing regime in Kazakhstan. Such an approach could increase administrative burdens and create additional barriers to access to specialized medical services.

Instead, the results indicate that a registration-based model combined with mechanisms for recognition of foreign professional qualifications appears to be a more proportionate and legally efficient solution. This conclusion corresponds to contemporary international trends and therefore may be regarded as sufficiently substantiated [21–23].

Transformation of professional liability in digital healthcare. The issue of professional liability remains one of the most controversial areas in telemedicine regulation. Traditional healthcare law is largely based on a physician-centered model in which legal responsibility is concentrated primarily on the attending doctor [25]. Such an approach presupposes relatively simple bilateral relationships between physician and patient.

Nevertheless, recent studies increasingly demonstrate that digital healthcare environments involve multiple participants whose actions collectively influence medical outcomes [17, 26]. Healthcare organizations, digital platform operators, software developers and artificial intelligence systems increasingly participate in clinical decision-making processes.

Gerke, Minssen and Cohen [25] argue that conventional liability mechanisms become insufficient in the context of AI-assisted medicine. Similar conclusions are reached by other researchers who emphasize that responsibility should be distributed among all participants involved in digital healthcare delivery [26].

The results obtained in the present study support these positions. Cross-border telemedicine significantly complicates the attribution of legal responsibility because medical decisions may be produced collectively rather than individually.

Consequently, the traditional physician-centered model appears incapable of adequately addressing contemporary realities. A distributed responsibility framework based on differentiation of obligations between healthcare professionals, medical institutions and technological intermediaries represents a more balanced and legally sustainable approach.

The consistency between the findings of the present study and contemporary international scholarship enhances the reliability of the obtained results.

Protection of medical data: general versus sector-specific regulation. Another important issue concerns the extent to which general personal data legislation is capable of protecting health-related information. Existing legislation in Kazakhstan establishes fundamental guarantees concerning personal data protection and medical confidentiality [11, 27]. From a formal perspective, these provisions provide a necessary basis for information security.

However, a number of scholars argue that medical information possesses unique characteristics requiring special legal safeguards [28]. Unauthorized disclosure of health-related data may affect not only privacy but also employment opportunities, insurance coverage and social rights. Therefore, healthcare information should be regarded as a particularly sensitive category of personal data.

European legal development reflects this understanding. The General Data Protection Regulation and subsequent initiatives aimed at establishing the European Health Data Space demonstrate a gradual transition from general principles of personal data protection toward sector-specific regulation of health information [29].

The results of the present study confirm that Kazakhstan's legislation currently provides only a general framework and does not fully address the risks associated with cross-border transfer of medical data.

The European model appears particularly valuable because it combines the principles of information security, transparency and accountability while maintaining a high level of protection of patient rights. Such

an approach seems more suitable for Kazakhstan than less centralized regulatory models because it allows gradual modernization without requiring radical institutional reforms.

Artificial intelligence and emerging regulatory paradigms. The increasing integration of artificial intelligence into healthcare has generated substantial scientific debate. Early discussions focused primarily on technological efficiency and diagnostic accuracy [17]. More recent studies, however, emphasize that the principal legal challenges concern transparency, explainability, accountability and protection of fundamental rights [26, 27].

Kazakhstan scholars similarly underline the necessity of developing legal mechanisms governing digital technologies and artificial intelligence [14, 15, 19]. Nevertheless, the existing regulatory framework remains fragmented and does not establish comprehensive requirements concerning algorithmic accountability, certification procedures or allocation of legal responsibility.

International experience demonstrates that regulatory policy is gradually shifting toward risk-oriented approaches. The recommendations of the World Health Organization and emerging European standards increasingly emphasize proportional regulation based on the level of risk posed by AI technologies [4, 9].

The findings of the present study support this tendency. The adoption of rigid and excessively restrictive rules may impede technological development, whereas the absence of regulation may undermine legal certainty and public trust.

Therefore, a risk-based model grounded in transparency, explainability and accountability appears to provide the most balanced solution.

Applicability of the European regulatory model to Kazakhstan. The comparative analysis conducted in this study demonstrates that effective regulation of cross-border telemedicine cannot be achieved through isolated legislative amendments but requires an integrated regulatory framework combining healthcare law, digital governance mechanisms, data protection standards, and guarantees of patient rights [3, 9]. This conclusion becomes particularly important in light of the growing use of artificial intelligence in healthcare, which creates additional regulatory challenges. Unlike conventional telemedicine technologies, AI systems may directly influence clinical decision-making through diagnostic support, risk assessment, and treatment recommendations [30]. Contemporary studies emphasize that the principal legal concerns extend beyond technical accuracy and include transparency, explainability, accountability, and protection of patient rights [31, 32]. These issues have constitutional significance, since opacity of algorithmic decision-making may undermine the principles of legal certainty, equality, and effective judicial protection.

At the same time, the current legal framework of Kazakhstan does not recognize telemedicine as an independent type of medical care and treats it primarily as a form of information and communication interaction between physician and patient [32]. Such an approach considerably limits the regulatory potential of telemedicine and creates only an appearance of legal certainty. These deficiencies become even more evident in cross-border settings, where patients receiving consultations from foreign specialists may encounter difficulties in determining applicable law, identifying the competent jurisdiction, and obtaining effective legal remedies. Consequently, the existence of formal legal provisions alone is insufficient to address the complex legal relationships arising in digital healthcare.

Although the United States has developed relatively flexible mechanisms for telemedicine licensing, its regulatory system remains highly fragmented and characterized by significant variations among states [22–24]. Such a decentralized model appears difficult to reconcile with Kazakhstan's unitary legal system. In contrast, the European approach is based on harmonized standards and coordinated regulatory mechanisms. The GDPR framework, the European Health Data Space initiative, and emerging approaches to artificial intelligence regulation collectively illustrate a coherent model aimed at balancing technological innovation with the protection of fundamental rights [4, 29].

From the authors' perspective, the European approach appears more compatible with Kazakhstan's legal traditions and institutional structure. Its significance lies not in the direct transplantation of foreign legal norms but in providing methodological guidance for the gradual modernization of national legislation. Therefore, the results obtained in this study may be considered sufficiently reliable, as they are supported by both comparative legal analysis and contemporary scientific doctrine. The findings suggest that legislative modernization in Kazakhstan should be based on an integrated European-oriented model capable of ensuring legal certainty, protection of patient rights, and adaptability to technological innovation.

Conclusions

The conducted study demonstrates that the development of cross-border telemedicine represents one of the most significant challenges for contemporary healthcare law. The comparative legal analysis confirms that the existing regulatory framework of the Republic of Kazakhstan provides a legal basis for domestic telemedicine services but remains insufficient for governing transnational digital healthcare relations. The objective of the study, namely identifying systemic legal deficiencies and developing proposals for legislative modernization based on comparative analysis of foreign jurisdictions and international approaches, has therefore been achieved.

The findings of the study allow the formulation of several conclusions.

First, cross-border telemedicine should be recognized as an independent legal institution rather than merely a technological variation of traditional healthcare services. The absence of a statutory definition creates regulatory uncertainty and limits the effectiveness of existing healthcare legislation. Therefore, the Code of the Republic of Kazakhstan “On Public Health and Healthcare System” should be supplemented with a legal definition of cross-border telemedicine and provisions determining the scope of rights and obligations of participants in digital healthcare relations.

Second, the principal regulatory problem associated with participation of foreign healthcare providers does not consist in the absence of a separate telemedicine license but in the lack of legal mechanisms governing access to the national healthcare system. Consequently, legislative modernization should provide for procedures of registration and recognition of professional qualifications applicable to foreign physicians and healthcare organizations participating in telemedicine consultations.

Third, the traditional physician-centered model of professional liability no longer adequately reflects the realities of digital healthcare. Since medical decision-making increasingly involves healthcare institutions, foreign specialists, digital platforms and artificial intelligence systems, a distributed responsibility model should be introduced. Such a model should differentiate the legal obligations of healthcare professionals, medical organizations, telemedicine platform operators and developers of digital technologies.

Fourth, the existing legal framework concerning personal data protection and medical confidentiality provides only general safeguards and does not fully address the specific risks associated with international exchange of health information. Therefore, Kazakhstan’s legislation should establish special requirements governing cross-border transfer, storage and processing of medical data, taking into account internationally recognized standards of information security and protection of patient rights.

Fifth, the rapid integration of artificial intelligence into healthcare necessitates the development of a comprehensive regulatory framework. National legislation should establish principles of transparency, explainability, accountability and human oversight in the use of AI systems in medicine. A risk-oriented approach appears to be the most appropriate mechanism for balancing technological innovation with protection of patients’ rights.

Sixth, comparative legal analysis demonstrates that isolated legislative amendments are insufficient for effective regulation of cross-border telemedicine. Successful regulatory systems are based on integrated approaches combining healthcare law, digital governance mechanisms, data protection standards and guarantees of fundamental rights. Accordingly, legislative modernization in Kazakhstan should be implemented through a coherent and interconnected regulatory framework rather than fragmented amendments.

Seventh, among the foreign models examined, the European approach appears to be the most compatible with the legal system and institutional structure of the Republic of Kazakhstan. The European experience concerning the protection of health data, digital governance and regulation of artificial intelligence provides methodological guidance for the gradual modernization of national legislation while preserving legal certainty and a high level of protection of patient rights.

Eighth, the results of this study substantiate the necessity of establishing a comprehensive model for regulating cross-border telemedicine in Kazakhstan based on four interconnected directions: legal recognition of cross-border telemedicine, regulation of foreign healthcare providers, strengthening legal safeguards for international transfer of medical data and development of mechanisms governing the use of artificial intelligence in healthcare.

Therefore, the modernization of healthcare legislation should be regarded not merely as a response to technological changes but also as a strategic direction for ensuring access to healthcare, legal certainty, and the protection of patients’ rights in the context of the digital transformation of healthcare. In this regard, the present study substantiates the need for the modernization of healthcare legislation based on an integrated

approach that combines healthcare law, digital governance mechanisms, information security standards, and safeguards for patient rights.

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Қазақстандағы және шетелдік юрисдикциялардағы трансшекаралық телемедицина: салыстырмалы-құқықтық талдау және заңнаманы жаңғырту мүмкіндіктері

Телемедицинаның қарқынды дамуы, әсіресе трансшекаралық медициналық қызмет көрсету жағдайында, денсаулық сақтау саласындағы аумақтық қағидасына негізделген дәстүрлі құқықтық тетіктердің тиімділігі мәселесін айқындайды. Бұл үрдіс құқықтық реттеудің жаңа тәсілдерін талап етеді. Зерттеудің мақсаты — Қазақстан Республикасында трансшекаралық телемедицинаны құқықтық реттеудегі жүйелі олқылықтарды анықтау және халықаралық тәжірибені ескере отырып, заңнаманы жетілдіру бойынша ұсыныстар әзірлеу. Зерттеудің әдістемелік негізін формальды-заңдық, салыстырмалы-құқықтық және доктриналық әдістер құрайды. Зерттеу барысында Қазақстан Республикасының «Халық денсаулығы және денсаулық сақтау жүйесі туралы» кодексінің нормалары, сондай-ақ халықаралық құқықтық актілер мен телемедицинаны реттеудің шетелдік тәжірибесі талданды. Зерттеу нәтижесінде трансшекаралық телемедицинаны құқықтық реттеудегі бірқатар жүйелі құқықтық олқылықтар анықталды, оның ішінде трансшекаралық телемедицинаның заңнамалық анықтамасының болмауы, шетелдік медициналық қызмет көрсетушілер қызметінің жеткіліксіз реттелуі, пациенттердің дербес деректерін қорғауды құқықтық реттеудің фрагментарлығы, сондай-ақ телемедициналық платформалар мен жасанды интеллект жүйелерінің құқықтық мәртебесінің айқындалмауы. Осы негізде мақалада құқықтық реттеуді жетілдіру үшін телемедицинаны дербес медициналық көмек нысаны ретінде тану, лицензиялау тетіктерін жетілдіру және жасанды интеллект технологияларын денсаулық сақтау жүйесіне интеграциялаудың кешенді құқықтық негізін қалыптастыру ұсынылады. Зерттеудің ғылыми жаңалығы трансшекаралық телемедицинаның құқықтық олқылықтарын жүйелеу және ұлттық заңнаманы халықаралық стандарттармен үйлестіруге бағытталған ұсыныстар әзірлеу.

Кілт сөздер: телемедицина, трансшекаралық денсаулық сақтау, жасанды интеллект, құқықтық реттеу, заңи жауапкершілік, дербес деректерді қорғау.

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Трансграничная телемедицина в Казахстане и зарубежных юрисдикциях: сравнительно-правовой анализ и перспективы законодательной модернизации

Стремительное развитие телемедицины, особенно в условиях трансграничного оказания медицинских услуг, актуализирует проблему эффективности традиционных правовых механизмов, основанных на принципе территориальности в здравоохранении. Целью настоящего исследования является выявление системных пробелов правового регулирования трансграничной телемедицины в Республике Казахстан, а также разработка предложений по совершенствованию законодательства с учетом международного опыта. Методологическую основу исследования составляют формально-юридический, сравнительно-правовой и доктринальный метод. Проанализированы положения Кодекса Республики Казахстан «О здоровье народа и системе здравоохранения», а также международные правовые акты и зарубежная практика регулирования телемедицины. В результате исследования выявлены ключевые правовые проблемы, включая отсутствие законодательного определения трансграничной телемедицины, недостаточное регулирование деятельности иностранных поставщиков медицинских услуг, несовершенство правовых механизмов защиты персональных данных пациентов, а также неопределенность правового статуса телемедицинских платформ и систем искусственного интеллекта. Обоснованы основные направления совершенствования правового регулирования, включая институционализацию телемедицины как самостоятельной формы медицинской помощи, разработку механизмов лицензирования и формирование комплексной правовой базы для интеграции технологии искусственного интеллекта в сферу здравоохранения. Научная новизна исследования заключается в систематизации правовых пробелов трансграничной телемедицины и разработке комплексных предложений, направленных на гармонизацию национального законодательства с международными стандартами и лучшими зарубежными практиками.

Ключевые слова: телемедицина, трансграничное здравоохранение, правовое регулирование, искусственный интеллект, юридическая ответственность, защита персональных данных.

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