

Telemedicine in the Digital Era: Navigating the International Legal Landscape to Expand Global Healthcare Access

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Abstract

The global healthcare landscape faces mounting challenges, from resource constraints and rural healthcare access in Uzbekistan, to aging populations and rising chronic disease rates in Europe. Amidst these, the digital transformation in healthcare and the study of international legal aspects governing telemedicine services have emerged as crucial priorities. This article examines the international legal framework for telemedicine, analyzing key documents of the United Nations (UN), World Health Organization (WHO), International Telecommunication Union (ITU), and various regional bodies. It highlights the absence of a universal agreement that comprehensively addresses telemedicine regulation and data protection issues. The article explores national regulatory efforts and identifies gaps in the current fragmented approach. Recommendations include establishing a dedicated subsidiary body under the UN Committee on Economic, Social and Cultural Rights (CESCR) to oversee telemedicine-related matters and codifying scattered norms into a coherent framework. Strengthening the international legal basis for telemedicine can help expand access to vital healthcare services and improve global health outcomes.

Keywords: Telemedicine, COVID-19, digital technology, electronic medical services, health technologies, telemedicine technologies

I. INTRODUCTION

In the era of rapid technological advancements, the integration of information technologies (IT) across various sectors has become a paramount objective. The healthcare industry in particular stands to benefit greatly from the implementation of modern IT, which has the potential to revolutionize the way medical services are delivered and managed. As medicine progressively becomes a leading economic sector, the demand for qualified specialists, the efficient exchange of patient health information, and the continuous improvement of doctors' qualifications have never been higher.

Telemedicine, a rapidly evolving field that employs IT to provide remote medical services, has emerged as a key solution to address the challenges faced by the healthcare industry. By leveraging telemedicine technologies, healthcare providers can extend their reach to underserved areas, improve the quality of medical services, and increase patient accessibility. The digitalization of the health sector, coupled with the effective use of telemedicine technologies, IT, and telecommunication technologies, has the potential to transform the landscape of healthcare delivery.

The implementation of telemedicine technologies in all regions is a priority direction that aims to enhance the quality of medical services, streamline healthcare processes, and ultimately benefit the population. However, the successful implementation of these technologies in practice requires a thorough examination of international documents, an adaptation to international standards, and the incorporation of global best practices.

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Governments and healthcare organizations worldwide are investing significant resources in developing and implementing telemedicine solutions. These efforts include providing high-quality medical services to citizens using IT and telecommunication technologies; introducing these technologies in family polyclinics and rural medical centers; and creating unified centralized systems of telemedicine in the form of specialized scientific and practice centers. Additionally, extensive measures are being taken to improve electronic medical care networks based on advanced IT.

The further reform of the healthcare system, with a focus on telemedicine and digital health solutions, has been identified as a key priority by many countries. As a result, research in this area is gaining importance, as it seeks to address the challenges associated with the implementation of telemedicine and identify best practices for its effective use.

Accordingly, this article aims to explore the international legal basis for providing telemedicine services by examining the current status of telemedicine adoption, the legal and regulatory frameworks governing its use, and the challenges and opportunities associated with its implementation. By analyzing international documents, standards, and global experiences, the article seeks to contribute to the ongoing discourse on the role of telemedicine in improving healthcare access, quality, and efficiency.

The following sections delve deeper into the various aspects of telemedicine, including its definition, scope, and applications, and the international legal landscape surrounding telemedicine, including relevant treaties, guidelines, and regulations. Finally, the article discusses the challenges and barriers to the widespread adoption of telemedicine and proposes recommendations for overcoming these obstacles.

II. RESEARCH METHODOLOGY

The research conducted for this work examined and utilized materials from three primary areas: scientific controversy, official publications of international organizations, and the regulatory apparatus, which were further stratified into the international regulatory framework, foreign legislation, and the national regulatory framework. Among the publications examined were those penned by scientific researchers, including J.H. Tanne, E. Hayasaki, M. Von Zastrow, P. Pulla, P. Smith, A.G. Rada, J.B. Kramer, D.E. Brown, P.K. Kopar, G.C. Zografos, A.A. Bajanov, N.E. Gretsova, S.-H. Adeli, K. Kerwat, and M. Just. Official publications and other materials from international organizations were also referenced, including those from the United Nations (UN) and its specialized agencies (e.g., the World Health Organization [WHO]) and treaty bodies (e.g., the Committee on Economic, Social and Cultural Rights [CESCR]), as well as the European Committee of Social Rights (ECSR). The regulatory frameworks of the United Kingdom (UK), Italy, Germany, France, Iran, Russia, the Republic of Uzbekistan, and other countries were also investigated as part of this research. Particular emphasis was placed on the Republic of Uzbekistan, which is this author's home country.

III. DIGITALIZED HEALTHCARE AND TELEMEDICINE: HUMAN RIGHTS INSTRUMENTS AND UN DOCUMENTS

The use of digital technologies in the healthcare system is reflected in nearly all international and regional instruments aimed at ensuring human rights. For example, article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) articulates the need to provide individuals with quality medical care using health technologies in the health sector.¹ The CESCR adopted General Comment no. 14 in 2000, which identifies several interrelated elements to ensure States' protection of their citizens' health rights. One of these elements includes the rights of individuals to freely receive, search for, and distribute information about their health using IT. However, General Comment no. 14 stipulates that they should do so only if the confidentiality of this information is maintained.² Also noteworthy is article 25 of the 1948 Universal Declaration of Human Rights, which specifies that everyone has the right to medical care,³ and article 19 of that instrument defines the right to the freedom to seek

¹ International Covenant on Economic, Social and Cultural Rights, opened for signature 16 Dec. 1966, 993 U.N.T.S. 3 (entered into force 3 January 1976), art. 12.

² UN Committee on Economic, Social and Cultural Rights (CESCR), General Comment no. 14: The Right to the Highest Attainable Standard of Health (art. 12 of the Covenant), 11 Aug. 2000, E/C.12/2000/4.

³ United Nations, "Universal Declaration of Human Rights," Paris: United Nations General Assembly, 1948.

and receive information. All of these norms are recognized as essential aspects of the field of telemedicine, contributing to increasing access to medical services and guaranteeing information rights.

UN-generated materials that are also relevant to telemedicine include the 1986 Declaration on the Right to Development, which describes the need for countries to develop the health sector and take all measures in their national legal systems to ensure that people enjoy these rights through the use of basic resources.⁴ In 1994, the use of health technologies, an essential element of health and human security, was first mentioned in the UN Development Program on New Dimensions of Human Security.⁵ Additionally, the UN's Millennium Development Goals (MDGs), which the General Assembly approved in 2000, include the full implementation of IT in the health sector.⁶ Also noteworthy in this context is the 17th goal of the proposed Framework Convention on Global Health (FCGH),⁷ which identifies the expansion of tripartite, regional, and international cooperation using existing UN mechanisms.

Indeed, in the era of globalization, numerous international documents (both binding and non-binding) are being developed and ratified by countries, IGOs, and NGOs to facilitate the use, implementation, and regulation of IT and telecommunication technologies across all areas. The relationship between binding treaties and non-binding interpretative documents demonstrates how “hard” and “soft” law instruments work together to provide a more comprehensive and adaptable approach to addressing the evolving landscape of digital health technologies and human rights. According to S. Marinelli, G. Basile, and D. Zaami, “[t]he World Health Organization has repeatedly emphasized the importance of [the] legal regulation of the field of telemedicine, which has been described as one of the factors of its development.”⁸ N.E. Gafurova, Associate Professor at Tashkent State Law University and Doctor of Philosophy in Legal Sciences, posits that the digitalization of medicine today entails the use of modern IT and its gradual introduction into all areas of medicine.⁹ However, this field has its own problematic aspects, such as the dissemination of patients’ personal data, the violation of human rights, and a lack of legal aspects protecting the confidentiality of personal data. For this reason, Gafurova contends that it is necessary to improve the legal framework for the digitalization of this field going forward.

IV. OTHER RELEVANT IGO AND NGO NORMS FOR HEALTHCARE AND TELEMEDICINE

In addition to the instruments mentioned above, a plethora of international, regional, and national documents (both binding and non-binding) contribute to the international normative framework for healthcare and telemedicine. The “hard” and “soft” law documents mentioned below have been drafted and promulgated by the WHO, the EU, the Commonwealth of Independent States (CIS), and the Eurasian Economic Union (EEU).

Historical Background: Establishment of the WHO

In 1923, a health organization was established under the purview of the League of Nations. Researchers have noted that the League of Nations Health Organization (LNHO) introduced statistical methods for disease and condition accounting and addressed many questions related to international healthcare practices.¹⁰ The LNHO served to create the necessary conditions for the effective work of the WHO, which was founded in 1948 under the auspices of the UN. The WHO has adopted several strategies regarding the digitalization of the healthcare sector and telemedicine.

⁴ UN General Assembly, *Declaration on the Right to Development*, A/RES/41/128 (Dec. 4, 1986), https://www.ohchr.org/sites/default/files/Documents/Issues/Development/DeclarationRightDevelopment_en.pdf.

⁵ United Nations Development Programme, *Human Development Report 1994: New Dimensions of Human Security* (New York: UNDP, 1994).

⁶ UN General Assembly, *United Nations Millennium Declaration*, A/RES/55/2 (Sep. 18, 2000).

⁷ Lawrence O. Gostin, “A Framework Convention on Global Health: Health for All, Justice for All,” *JAMA* 307, no. 19 (2012): 2087–92, <https://doi.org/10.1001/jama.2012.4395>.

⁸ S. Marinelli, G. Basile, and S. Zaami, “Telemedicine, Telepsychiatry and COVID-19 Pandemic: Future Prospects for Global Health,” *Healthcare (Basel)* 10, no. 10 (2022): 2085, <https://doi.org/10.3390/healthcare10102085>.

⁹ Gafurova Nozimakhon Eldarovna, “Issues of Legal Regulation of Telemedicine in the Republic of Uzbekistan,” *Asian Pacific Journal of Environment and Cancer* 5, no. 1 (2022), <http://waocp.com/journal/index.php/apjec/article/view/1042>.

¹⁰ Iris Borowy, *Coming to Terms with World Health: The League of Nations Health Organisation 1921–1946* (Frankfurt am Main: Peter Lang, 2009), <https://www.peterlang.com/document/1054086>.

WHO Documents on E-health and Digitalization

WHO resolutions and documents are generally not legally binding but are considered highly persuasive “soft” law instruments. While not creating direct legal obligations, they often shape national policies and can become binding on member States that choose to implement them.

In 2005, the WHO’s World Health Assembly adopted Resolution WHA58.28 on e-health, which calls on member States to develop long-term programs for the digitalization of the health sector and the use of e-medicine. In 2013, the assembly adopted Resolution WHA66.24, calling on member States to develop interoperability, health standardization, and legislative mechanisms for e-health. Based on these resolutions, the 2018 World Health Assembly adopted Resolution WHA71.7 on the digitalization of the health system and tasked the WHO’s Director-General with the development of a global health strategy in consultation with member States.

In November 2020, at its 73rd session, the World Health Assembly endorsed the “Global Strategy on Digital Health 2020–2025.” The main goal of this strategy is to use digital telecommunication technologies in the healthcare sector, digitalize the healthcare system, develop telemedicine, and meet all the needs of patients and healthcare workers.¹¹

The European Union (EU)

In 1995, the EU began to create a legal framework regulating telemedicine and telemedicine services. The EU member States’ domestic legislation also has regulatory legal frameworks for the digitalization of the healthcare sector and the use of telemedicine methods.

The Charter of Fundamental Rights of the EU recognizes the protection of personal data as one of the basic human rights. In the context and regulation of telemedicine, the confidentiality of personal data needs to be protected, and special international standards have been developed in the EU for this purpose. These include Directive no. 95/46/EC, of October 24, 1995, on the processing and protection of personal data; Directive no. 98/34/EC, of June 22, 1998, on the dissemination and regulation of technical information; and Directive no. 2000/31/EC, of June 8, 2000, on services using information and telecommunication technologies. Directive no. 2011/24/EU, of March 9, 2011, addresses the rights of patients in the provision of cross-border medical services. Also noteworthy is EU Regulation no. 2016/679, of April 27, 2016, on the protection of individuals concerning the processing of personal data and the free movement of such data.

These EU norms include roadmaps, plans, and other mechanisms for the legal regulation of telemedicine services available to the citizens of EU member States.

The Commonwealth of Independent States (CIS)

The digital transformation in the healthcare sector, the introduction of telemedicine, and the legal regulation of telemedicine services began to evolve in the Commonwealth of Independent States (CIS) in 2010. Specifically, in October 2010, the CIS countries adopted the Model Law on Telemedicine Services,¹² which is considered important for harmonizing the national legislation of CIS countries. It contains a number of basic concepts related to telemedicine, including State policy, the coordination of services by organizations, the legal status of telemedicine system subjects, and proposed solutions to other issues and questions. The Model Law also establishes a framework for numerous agreements aimed at enhancing healthcare efficiency across geographical and social boundaries.

In November 2010, CIS nations signed an agreement on the cooperation, use, creation, and development of telemedicine systems.¹³ Specifically, the agreement stipulates that CIS States should regulate telemedicine in their domestic legislation, adopt the necessary regulatory legal norms, and determine the executive authorities’ powers under this system. The agreement also emphasizes the importance of addressing legal issues related to the collection,

¹¹ World Health Organization, *Global Strategy on Digital Health 2020–2025* (Geneva: World Health Organization, 2021), <https://www.who.int/docs/default-source/documents/g54dhdaa2a9f352b0445bafbc79ca799dce4d.pdf>.

¹² Inter-parliamentary Assembly of the State Parties of the CIS (2010), *Model Law on Telemedicine Services*, Resolution no. 35-7, <https://cis-legislation.com/document.fwx?rgn=62130>.

¹³ “The agreement on cooperation of the State Parties of the CIS in creation of compatible national telemedicine systems and their further development and use,” Nov. 19, 2010, <https://cis-legislation.com/document.fwx?rgn=32672>.

use, and confidentiality of medical information, as well as ensuring data protection in cross-border telemedicine services.

Overall, the use and organization of telemedicine services in the CIS countries help to ensure respect for the dignity of the person, proper processing of patient data, preservation of patient confidentiality, and protection against the misuse of patient data.

The Eurasian Economic Union (EEU) (and Uzbekistan)

In the first half of 2020, the Eurasian Economic Union (EEU) (Armenia, Belarus, Kazakhstan, Kyrgyzstan, and Russia) adopted many new decisions regarding the supply of the most necessary goods to protect and preserve public health and prevent and eliminate the consequences of the COVID-19 pandemic. According to M.V. Vilisov and D.D. Pastarmadzhieva, the EEU member States are currently making great progress towards digital development in the health sector.¹⁴ However, none of these countries have adopted specialized legislation on digitalization in this area.

This author's home country, the Republic of Uzbekistan, is currently an observer country of the EEU and also has no domestic legislation relevant to telemedicine. Today, the growing economic demands of Uzbekistan and the need to enter international markets underscore the importance of creating legal frameworks for cooperation among EEU member States in various sectors, including healthcare. Establishing information exchanges in critical areas such as economics, industry, agriculture, energy, transport, education, healthcare, and labor migration is crucial. Uzbekistan's participation as an observer in the EEU's activities represents an initial step in the integration process, which could potentially impact the development and spread of telemedicine in the country. However, this integration process also highlights the challenges in implementing telemedicine across different regulatory environments, echoing the global need for a comprehensive international legal framework for telemedicine services, as identified in the broader context of the digital healthcare transformation.

Non-Governmental Organizations (NGOs)

Several NGOs focus on healthcare issues. These include the World Medical Association (WMA), the World Association of Medical Law (WAML), and the International Association of Bioethics (IAB). With these associations' efforts, congresses and conferences are held where the development of legislation and issues of digitalization and regulation in the healthcare field are discussed, and relevant international documents are drafted. The International Telecommunication Union (ITU), the International Medical Informatics Association (IMIA), and the International Electrotechnical Commission (IEC) likewise contribute to the development of telemedicine.

Also of note is the International Labour Organization (ILO), which in 2006 adopted the Maritime Labour Convention (MLC).¹⁵ Article 4 of that instrument imposes an obligation on States to ensure that sailors receive medical advice from specialists at any time of the day or night via satellite or radio while on board ships. Moreover, this medical advice is provided free of charge, regardless of the ship's location or place of registration.¹⁶ The convention stipulates that there should be a list of radio stations and information on the qualifications of doctors available at the ports of ships for sailors who require medical advice.¹⁷

V. EFFORTS AND CHALLENGES IN DIGITALIZING HEALTHCARE AND IMPLEMENTING TELEMEDICINE

As the above developments attest, there is a growing recognition that human life and health are central to universal human values and that the advancement of digital health technologies has transnational implications for

¹⁴ M.V. Vilisov and D.D. Pastarmadzhieva, "Digital Policies: Comparisons Between EU, EEU and their Member [sic]-States," *PolitBook* 1, no. 6. (2020).

¹⁵ International Labour Organization (Feb. 23, 2006), *Maritime Labour Convention (MLC)*, https://normlex.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:91:0::NO::P91_ILO_CODE:C186.

¹⁶ World Health Assembly, "Seventy-sixth World Health Assembly" (Geneva, May 21–30, 2023), <https://www.who.int/about/governance/world-health-assembly/seventy-sixth-world-health-assembly>.

¹⁷ International Telecommunication Union, "World Telecommunication Development Conference (WTDC-98)" (Valletta, Malta, Mar. 2–Apr. 1, 1998).

universally recognized rights. However, this advancement faces numerous challenges as governments and organizations attempt to implement these evolving norms and policies. The following section describes these efforts and challenges as faced by the WHO, EU, ITU, and the author's own country, Uzbekistan. The challenges in Uzbekistan likely represent those that many other developing countries face in terms of implementing digital healthcare and telemedicine.

The WHO

In 2009, the WHO launched the Global Observatory for eHealth to evaluate the use of IT and telecommunication technologies in the field of health and to implement transnational projects—in particular, the provision of telemedicine services in developed and developing countries. In 2015, the Global Observatory conducted research in 114 countries, revealing that these nations faced several challenges in the digitalization of the healthcare sector, the use of IT and telecommunication technologies in that sector, and the implementation of telemedicine services. These challenges included a lack of qualified medical personnel, insufficient technical capabilities, and the absence of a regulatory mechanism, with the latter being one of the most significant issues, particularly in developing countries.¹⁸

Telemedicine development indeed varies significantly across global regions. Developed countries like the US, UK, and Australia lead in innovation with advanced infrastructure and regulatory support, actively creating and optimizing telehealth solutions. Developing nations such as China and India show mixed progress, with national strategies in place but challenges in implementation and infrastructure, particularly in rural areas. Underdeveloped countries, primarily in Africa and parts of Central Asia, are in the early stages, often lacking frameworks and facing significant infrastructure hurdles. The COVID-19 pandemic has universally accelerated telemedicine adoption, highlighting its potential to address healthcare access issues, particularly in less developed regions where international support is crucial for advancement.¹⁹

As described above in section II, the WHO's World Health Assembly has adopted several resolutions that pertain to e-health, which include implementation guidance. In 2005, Resolution WHA58.28 on e-health, called on WHO member States to develop long-term strategic plans for the development of electronic health systems.²⁰ The resolution emphasized the importance of correctly designing electronic health services infrastructure and promoting their use through IT and communication technologies to ensure the universal benefits of these systems. The resolution also urged member States and interested parties to use their best efforts to incorporate e-health concepts into national legislation and to develop an electronic health action plan (concept) based on available resources.²¹ These national action plans aimed to establish the foundations for implementing electronic healthcare and monitoring and assessing the achievements and progress made in this area. It is noteworthy that strategic plans have been developed in more than 120 WHO member States.²²

In 2013, the World Health Assembly adopted Resolution WHA66.24, which focused on the digitalization of the health sector, the use of IT and telecommunication technologies, and the creation of national legislative mechanisms for electronic healthcare in member States.²³ Subsequently, in May 2018, at its 71st session, the World Health Assembly adopted Resolution WHA71.7, which primarily addressed the digitalization of the healthcare system and the development of a global strategy for digitalizing domestic healthcare sectors.²⁴ In Resolution WHA71.7, the World Health Assembly provided recommendations on digital health, including the publication of

¹⁸ Global Observatory for eHealth, *Global Survey on eHealth* (Geneva: World Health Organization, 2015).

¹⁹ Sonu Bhaskar et al., "Telemedicine Across the Globe-Position Paper From the COVID-19 Pandemic Health System Resilience PROGRAM (REPROGRAM) International Consortium (Part 1)," *Frontiers in Public Health* 8 (Oct. 16, 2020): 556720, <https://doi.org/10.3389/fpubh.2020.556720>.

²⁰ World Health Assembly, Resolution WHA58.28, "eHealth," Fifty-eighth World Health Assembly (Geneva: World Health Organization, May 25, 2005).

²¹ Ibid.

²² World Health Organization, *Global Diffusion of eHealth: Making Universal Health Coverage Achievable. Report of the Third Global Survey on eHealth* (Geneva: World Health Organization, 2016).

²³ World Health Assembly, Resolution WHA66.24, "eHealth Standardization and Interoperability," Sixty-sixth World Health Assembly (Geneva: World Health Organization, May 27, 2013).

²⁴ World Health Assembly, Resolution WHA71.7, "Digital Health," Seventy-first World Health Assembly (Geneva: World Health Organization, May 26, 2018).

a scientific manual based on ten WHO-conducted scientific studies on the digitalization of the healthcare system.²⁵ The strategy's common concept focuses on accelerating the digitalization of the healthcare system, aiming to improve each individual's health through affordable, scalable, and reliable digital solutions as well as preventing epidemics and diseases using an individualized approach.²⁶

In March 2019, during the 146th session of the WHO's Executive Board, the above-mentioned "Global Strategy on Digital Health 2020–2025" was developed.²⁷ This strategy was later adopted by the World Health Assembly at its 73rd session through Resolution WHA73(28).²⁸ The Global Strategy was based on recommendations from the UN General Assembly, World Health Assembly resolutions, WHO regional reports, and the UN's expert groups on digitalization and innovation.²⁹ The main goal of the Global Strategy on Digital Health is to strengthen health systems, develop digital health technologies, and protect the health of patients and healthcare employees.³⁰ To achieve these objectives the strategy specifies that countries should utilize technologies, goods, and services in all areas.

When doctors provide telemedicine services, the use of patient databases is indispensable. As such, the Global Strategy emphasizes the necessity of adopting a regulatory document to preserve the privacy of personal data when using telemedicine services.³¹ It is envisaged that States will create a regulatory framework to ensure the privacy of this personal data.³² The implementation of the Global Strategy requires the digitalization of the healthcare sector by all member States, the establishment of an electronic health system, and the assurance of the safety of patients' personal data by member States.³³

According to the WHO, the factors that prevent the spread of effective telemedicine use are a lack of resources for its implementation; insufficient infrastructure development and technical knowledge; and the dearth of an international legal framework that protects the privacy of patients' personal data across borders. It is generally understood that the implementation of any international or national health strategy is more straightforward and effective in the WHO's high-income member States, while this type of implementation poses greater challenges in low- and middle-income countries.³⁴ Nevertheless, to develop the health sector, member States should ensure the cost-effectiveness, quality, safety, and stability of using digital technologies based on different countries' experiences.³⁵

The WHO and Europe

On August 1, 2022, the WHO adopted the "Regional Digital Health Action Plan for the WHO European Region 2023–2030," which includes three strategic goals aimed at ensuring human rights: developing standards and guidelines to address problems; studying the potential of foreign countries to digitalize the healthcare sector and use telemedicine technologies; and providing distance education to augment medical workers' knowledge about the digitalization process.³⁶

Just one month later, on September 13, 2022, the WHO approved a resolution on "Using the Digital Transformation to Improve the Health of the European Population 2023–2030,"³⁷ calling on EU member States to do the following:

²⁵ Ibid.

²⁶ Ibid.

²⁷ World Health Organization, *Global Strategy* (n 12).

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

³¹ Ibid.

³² World Health Organization, *Global Strategy* (n 12).

³³ Ibid.

³⁴ Ibid.

³⁵ Ibid.

³⁶ World Health Organization Regional Office for Europe, "European Regional Plan for Digital Health for 2023–2030," Copenhagen: WHO Regional Office for Europe, 2022.

³⁷ World Health Organization Regional Office for Europe, "Resolution on the Regional Action Plan 'Using the Digital Transformation to Improve the Health of the European Population 2023–2030,'" Copenhagen: WHO Regional Office for Europe, 2022.

1. Prioritize the use of digital transformation in the healthcare sector and develop standards for the use of necessary technologies in emergency situations.
2. Develop national legal standards and regulatory documents on the digitalization of the healthcare system and the use of telemedicine technologies.
3. Develop healthcare standards in collaboration with governments, medical organizations, scientific research institutes, non-governmental organizations (NGOs), and companies.
4. Create a normative legal framework covering citizens' rights and medical institution employees vis-à-vis the digitalization of the healthcare sector.

The resolution indicates that the WHO's European Regional Director should submit a report to the Regional Committee twice a year on the work it has carried out.³⁸

The European Union

Turning again to the EU, Directive 2011/24/EU, of March 9, 2011, was promulgated regarding the rights of patients in the provision of cross-border medical services. Specifically, articles 24 and 25 of this directive outline the following patient rights when receiving telemedicine services³⁹:

1. The right to medical care in EU member States;
2. The right to receive all information related to treatment;
3. The right to receive insurance compensation;
4. The right to study and receive information on the quality and safety standards of telemedicine in EU member States;
5. The right to claim compensation for damage caused by treatment in accordance with national legislation;
6. The right to apply and complain through the legislation of the EU member State where the telemedicine service was provided; and
7. The right to recover expenses incurred for telemedicine services provided by a medical organization located in another country.

Further, article 4 of this directive stipulates that when cross-border medical services are provided by an EU member State, they will be implemented through the legal framework of the respective country.⁴⁰ Additionally, EU member States should fully explain to applicants the standards for the provision of cross-border national medical services, specifying which national medical institution will provide telemedicine services, how they are implemented, what types of services are provided, their costs, and other relevant information.⁴¹ According to article 6 of Directive 2011/24/EU, information about the medical centers providing cross-border health services is collected by EU member States and submitted to the European Commission.⁴² The European Commission and EU member States are required to provide these datasets to their citizens.⁴³ The directive also indicates that EU member States should assist one another in the implementation of the provisions specified and ensure the safety of patient information.⁴⁴ Furthermore, the directive prescribes that EU member States should conclude regulatory agreements for the provision of cross-border medical services and telemedicine services to border regions.⁴⁵

Overall, however, there have been significant challenges to harmonizing telemedicine standards in the EU. As of this writing, there are no common EU standards regulating the field of telemedicine or approaches to the

³⁸ Ibid.

³⁹ European Parliament and Council, Directive 2011/24/EU on the Application of Patients' Rights in Cross-Border Healthcare, arts. 24-25, *Official Journal of the European Union*, Apr. 4, 2011.

⁴⁰ European Parliament and Council, Directive 2011/24/EU on the Application of Patients' Rights in Cross-Border Healthcare, art. 4, *Official Journal of the European Union*, Apr. 4, 2011.

⁴¹ Ibid.

⁴² European Parliament and Council, Directive 2011/24/EU on the Application of Patients' Rights in Cross-Border Healthcare, art. 6, *Official Journal of the European Union*, Apr. 4, 2011.

⁴³ Ibid.

⁴⁴ European Parliament and Council, Directive 2011/24/EU on the Application of Patients' Rights in Cross-Border Healthcare, *Official Journal of the European Union*, Apr. 4, 2011.

⁴⁵ Ibid.

concept of telemedicine. The EU, however, has emphasized to member States the need to regulate the existing problems in this area, including the integration of medical data, issues of legal responsibility, the protection of personal data, and problems that arise when ensuring medical confidentiality with national legislation.

The lack of common EU-wide standards has led to individual member States developing their own definitions and regulations for telemedicine, which can vary significantly. For example, the French *Health Code* adopted in 2018 (*Code de La Santé Publique*) provides a specific definition of telemedicine goals that may not align perfectly with those of other EU countries. According to this code, the goals of telemedicine are “diagnosis, disease prevention, rehabilitation of the patient after the disease, monitoring of the patient’s condition, receiving advice from experts about health, prescribing medicines, receiving and conducting medical procedures.”⁴⁶

The ITU

In addition to the WHO and the EU, the ITU has adopted many resolutions and held conferences on the digitalization of the health sector, the introduction of telecommunication technologies, and the use of telemedicine technologies.⁴⁷ In 1998, the ITU held the World Telecommunication Development Conference in Malta, where it called for continued study of the potential for using telecommunication technologies in the health field.⁴⁸

In 1999, at the ITU’s symposium on the “Development of Telemedicine within the Framework of Developing Countries” in Buenos Aires, the ITU supported agreements on the development of telemedicine and the use of digital technologies in individual nations.⁴⁹ The main goal emphasized the need to expand international cooperation in medicine, transfer information over long distances, and attract medical specialists.⁵⁰ In 2008, the ITU released draft principles and guidance on e-health (“Implementing e-Health in Developing Countries”), based on the following proposals that were made to the ITU’s member States: the development of telemedicine technologies in the health sector, development of projects, delivery of information about telemedicine services to the population, involvement of specialists in this field, and the creation of a working group.⁵¹ Additionally, the e-health document called on international organizations to finance project programs in developing countries.⁵²

In 2010, the ITU held a conference in Mexico on the high priority of scaling up telecommunications initiatives in e-health.⁵³ Resolution no. 183 on Electronic Health, which was adopted at the conference, wherein member States the digitalization of the healthcare sector, the use of information and telecommunication technologies, and the development of standards for these.⁵⁴ Furthermore, within the framework of the conference, the “Strategic Plan for 2012–2015” was approved, which pledged to assist developing countries in creating standards for the electrification of the health sector; provide necessary educational literature on IT and telecommunications to increase capacity in this field; and focus existing networks in developing countries on fostering e-healthcare.⁵⁵

⁴⁶ W. Genieys and P. Hassenteufel, “Health Policy in France,” in *Research Handbook on Health Care Policy*, ed. M. Powell, T. I. Agartan, and D. Béland (Cheltenham, UK: Edward Elgar Publishing, 2024), 536–52.

⁴⁷ International Telecommunication Union, “Strategic Plan for 2012–2015,” Geneva: International Telecommunication Union, 2010.

⁴⁸ World Telecommunication Development Conference (WTDC-98), Valletta, Malta. (1998) <https://www.itu.int/en/ITU-D/Conferences/WTDC/Documents/BDT-WTDC-1998-FINALREPORT-PDF-E.PDF>.

⁴⁹ International Telecommunication Union, “BDT’s Steadfast Commitment to Telemedicine,” accessed June 6, 2024, <https://www.itu.int/itunews/issue/1999/05/infodev.html>.

⁵⁰ Ibid.

⁵¹ International Telecommunication Union, “Implementing e-Health in Developing Countries Guidance and Principles” (Sep. 2008 Draft), https://itu.int/ITU-D/cyb/app/docs/e-Health_prefinal_15092008.PDF.

⁵² Ibid.

⁵³ The ITU Plenipotentiary Conference 2010 (PP-10), Guadalajara, Mexico (2010), <https://www.itu.int/plenipotentiary/2010/index.html>.

⁵⁴ Resolution 183 was first adopted at the ITU Plenipotentiary Conference in 2010 in Guadalajara, Mexico, <https://search.itu.int/history/HistoryDigitalCollectionDocLibrary/4.19.43.en.100.pdf>.

⁵⁵ FROM RESOLUTION 71 (Rev. Guadalajara, 2010), Strategic Plan for the Union for 2012–2015, <https://www.itu.int/en/ITU-T/stratops/Pages/strategicplan.aspx>.

Uzbekistan

Regarding this author's own country, Uzbekistan, the nation has faced (and continues to face) several challenges in implementing and expanding telemedicine services for its citizens. In 2000, Uzbekistan was a participant in the NATO Partnership for Peace Management System (PIMS) telemedicine project, wherein Uzbekistan's National Centre of Emergency Medicine reported poor coordination, causing delays in responses to clinical inquiries.⁵⁶ For an emergency center, waiting three to five days for answers to cases was deemed impractical, hindering the adoption of a telemedicine system. Similarly, the East Military Hospital in Fergana reported very slow internet access, which created frustration among physicians and staff using the system for telemedicine.⁵⁷ These technical limitations severely impacted the usability and effectiveness of telemedicine systems at that time.

At the core of these challenges has indeed been the nation's telecommunications infrastructure, which is relatively well-developed in major cities like Tashkent and Samarqand, but falls short in rural areas.⁵⁸ Indeed, Uzbekistan's geography, with its remote and rural areas, presents logistical challenges for implementing and maintaining telemedicine systems across the country. The difficulties in transportation and access to these areas further emphasize the need for telemedicine but also complicate its implementation. Financial constraints present another major obstacle to the establishment of telemedicine services. Since the end of Soviet domination, Uzbekistan has faced economic instability that has affected living and health standards.⁵⁹ These financial limitations restrict the country's ability to invest in the necessary infrastructure and technology for a comprehensive telemedicine system.

The regulatory and policy landscape also presents challenges. While the government has recognized the need for telemedicine and established a national telemedicine coordinator in 1999⁶⁰, Uzbekistan still faces challenges in developing and implementing comprehensive policies to support telemedicine. The gradual deregulation of the telecommunication market is a positive step, but more policy work is needed to create an enabling environment for telemedicine. These multifaceted challenges highlight the complex landscape that Uzbekistan must navigate to fully realize the potential of telemedicine in improving healthcare access and quality across the country.

On the other hand, however, there has been significant growth in internet usage in Uzbekistan over the past two decades. As of January 2023, there were 26.74 million internet users in the country, representing an internet penetration rate of 76.6% of the total population.⁶¹ This marks a substantial increase from the 1.2% penetration rate reported in 2003.⁶² The median fixed internet connection speed in Uzbekistan was 45.17 Mbps at the start of 2023, showing a 24.7% increase over the previous year.⁶³ The enhanced internet infrastructure and speeds have created greater potential for the use of various online applications, including telemedicine. The significant increase in both user numbers and connection speeds suggests that the limitations on real-time telemedicine applications and large medical file transfers that existed at the beginning of the 2000s have been substantially reduced, although they still do exist.

CONCLUSION: RESULTS AND DISCUSSION

Based on the findings presented above, it is evident that there is a pressing need to introduce an international mechanism to effectively regulate and coordinate the digitalization of healthcare and the implementation of telemedicine services. Drawing from article 12 of the ICESCR and the CESCR's General Comment no. 14, this author believes that it would be highly effective to establish an auxiliary body within the framework of the CESCR for

⁵⁶ C.R. Doarn, F. Adilova, and D. Lam, "A Review of Telemedicine in Uzbekistan," *Journal of Telemedicine and Telecare* 11, no. 3 (2005): 135–39.

⁵⁷ Ibid.

⁵⁸ At the beginning of 2023, 50.6% of Uzbekistan's population lived in urban centers. Simon Kemp, "Digital 2023: Uzbekistan," Datareportal (Feb. 14, 2023), <https://datareportal.com/reports/digital-2023-uzbekistan>.

⁵⁹ C.R. Doarn, F. Adilova, and D. Lam, "A Review of Telemedicine in Uzbekistan" (n 57).

⁶⁰ Ibid.

⁶¹ Simon Kemp, "Digital 2023: Uzbekistan," Datareportal (Feb. 14, 2023), <https://datareportal.com/reports/digital-2023-uzbekistan>.

⁶² See C.R. Doarn, F. Adilova, and D. Lam, "A Review of Telemedicine in Uzbekistan" (n 57).

⁶³ Simon Kemp, "Digital 2023" (n 62); Simon Kemp, "Digital 2022: Uzbekistan," Datareportal (Feb. 15, 2022), <https://datareportal.com/reports/digital-2022-uzbekistan>.

this purpose. This subsidiary body would be responsible for overseeing a wide range of issues related to the use of technologies in the digitalization of health and telemedicine.

More specifically, the proposed subsidiary body would play a crucial role in harmonizing related documents adopted by the WHO, the ITU, and other relevant international organizations. By doing so, it would serve as a unifying entity and resource for countries that wish to voluntarily create documents aimed at the legal regulation of telemedicine. Under the proposed name of the “UN Specialized Body on Digitalization and Telemedicine,” this entity could be established as a subsidiary organ under article 7 of the UN Charter and created by a resolution of the UN General Assembly or the Economic and Social Council (ECOSOC). Furthermore, this body would serve as a depository for State reports on the implementation of the regulatory system, and when necessary, it would organize a team of experts consisting of employees from leading medical institutions and those well-versed in IT and telecommunication technologies. This expert team would be tasked with analyzing information, which would ultimately lead to the effective domestic use of telemedicine technologies in the health sector.

In sum, this current study of international, regional, and national documents regulating telemedicine services reveals that inter-State domestic regulatory mechanisms are currently being developed to protect telemedicine services and personal data. However, a comprehensive and universal international legal agreement that encompasses all telemedicine services and ensures the safety of patient data has not yet been established. Moreover, there is a lack of systematic coordination due to the fragmented nature of the existing international documents related to telemedicine’s implementation and the needed protection of individual health information. To address these issues, it would indeed be highly efficacious to codify these norms into a cohesive and coherent framework.

The international community must thus work together to establish a robust and effective international mechanism for regulating and coordinating the digitalization of healthcare and the implementation of telemedicine services. By doing so, the benefits of these technologies could be maximized while protecting the rights and privacy of patients worldwide.