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Research Article

The Dynamics of Indonesia's Telemedicine Regulatory Transition: Harmonization, Data Protection, and Legal Responsibility

Helena Primadianti Sulistyaningrum*
Sriwijaya University, Indonesia

Febrian
Sriwijaya University, Indonesia

Putu Samawati
Sriwijaya University, Indonesia

ABSTRACT: The study aims to analyze the dynamics of Indonesian telemedicine regulations and examine the consistency of telemedicine norms to realize harmonization of telemedicine regulations. The rapid development of telemedicine in Indonesia has driven the need for adaptive and consistent regulations to manage remote healthcare services. Although there are already regulations to manage telemedicine, consistency of norms within these regulations remains a challenge. The results show that telemedicine regulations in Indonesia have gradually developed from 2014 to the present, but inconsistencies between legal instruments have the potential to create legal uncertainty for service providers and patients. The implementation of telemedicine requires consistent norms within a comprehensive regulatory framework as a form of harmonization in ensuring service quality, data protection, and patient privacy, as well as the responsibilities of the parties, which can be adopted from developed countries such as the United States and Singapore. In conclusion, Indonesian telemedicine regulations require harmonization of norms and strengthening of legal protection to effectively address technological dynamics and societal needs. Synchronizing professional standards, data protection, and legal accountability within comprehensive regulations is key to ensuring the sustainability of safe, reliable, and equitable telemedicine services.

KEYWORDS: Data protection, Health law, Indonesia's telemedicine, Legal responsibility, Regulatory transition.

*Corresponding author, email: helenaprimadiantis@gmail.com

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I. INTRODUCTION

Indonesia has a constitutional responsibility to guarantee and protect its citizens' right to health.[1] That is in line with the concept of Indonesia as a state of law as reflected in Paragraph IV of the Preamble to the 1945 Constitution of the Republic of Indonesia.[2] This is further embodied in the provisions of Article 28 H paragraph (1) of the 1945 Constitution, which relates to the welfare of the people in the health sector. In the provisions of this article, it is stated that everyone has the right to live in physical and spiritual prosperity, to have a place to live, to live in a good and healthy environment, and to receive good health services. A person will never be able to obtain his other rights and will not be placed on an equal footing in his condition without health. Then it is further emphasized in Article 34 paragraph (3) of the 1945 Constitution (Amendment IV), which states, "The state is responsible for the provision of adequate health care facilities and public service facilities." This can be realized, among other things, through good health care services for the community.

Indonesia, being an archipelagic country, requires health services that are equally accessible to all levels of society. Healthcare services are one indicator of the level of health for a dynamic society. The changing times have led to shifts and even changes in all forms of healthcare services.[3] Furthermore, the emergence of information and communication technology (ICT) has also penetrated the healthcare sector, enabling changes in current healthcare delivery methods. The application of ICT in the healthcare sector has become a requirement for healthcare organizations, not only in the government sector but also in the private sector, to ensure more efficient service operations.[4] The use of ICT for health has become a global issue and is one of the WSIS (World Summit on the Information Society) Geneva 2003 Action Plans to connect health centers and hospitals using information and communication technology, one of which is the implementation of E-health.[5] *E-health* is an ICT-based

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1 Adi Putra, "Constitutional Responsibility of the State for the Protection of the Right to Health in the Implementation of the Free Nutritious Meal Program" (2025) 4:4 Int Asia Law Money Laund IAML at 138.

2 The Fourth Paragraph of the Preamble to the 1945 Constitution states, "Then, to form a Government of the Republic of Indonesia that protects all the Indonesian people and all of Indonesia's homeland and to advance general welfare, to educate the nation's life, and to participate in implementing world order based on freedom, eternal peace and social justice, the Independence of the Indonesian Nation is formulated in a Constitution of the State of Indonesia, which is formed in a structure of the Republic of Indonesia with people's sovereignty based on the One Almighty God, just and civilized humanity, the Unity of Indonesia and Democracy guided by the wisdom of deliberation/representation, and by realizing social justice for all the people of Indonesia." From the fourth paragraph, it is stated that one of the objectives of the formation of the Republic of Indonesia is to advance general welfare, meaning that the people are an important community for a country to prosper to achieve its goals.

3 Chioma Anthonia Okolo et al, "Reviewing The Impact Of Health Information Technology On Healthcare Management Efficiency" (2024) 4:4 Int Med Sci Res J at 421.

4 Aziz Sheikh et al, "Health information technology and digital innovation for national learning health and care systems" (2021) 3:6 Lancet Digit Health at 11.

5 Sinta Rosadi, "Implikasi Penerapan Program E-Health Dihubungkan Dengan Perlindungan Data Pribadi" (2016) 9:3 Arena Huk at 404.

application related to the healthcare industry and aims to improve access, efficiency, effectiveness, and quality of medical processes.[6]

E-health is used to improve the quality of medical services so that it is easier for recipients and providers of health services to provide health services.[7] Regulations on *E-health* in Indonesia are not yet as we expected, even though electronic-based health services (*E-health*) have actually been recommended by the WHO since 2025. Indonesia would be one of the developing countries in Southeast Asia where in the era of the industrial revolution 4.0, it still faces various challenges in the field of health services, including limited facilities and infrastructure, social disparities in the provision of health services, the unequal distribution of health human resources that are not in line with the competencies of human resources needed by the community, and support for the need for health services that is still lacking.[8] However, previously, there had been several initiatives to implement *E-health* or what is known as *e-Kesehatan* in the Regulation of the Minister of Health, one of which was to support individual health services (electronic systems for recording and reporting hospitals, community health centers, and other health service facilities, as well as telemedicine).[9] This will certainly facilitate the handling of public health complaints, such as open access to healthcare services, and the need for human resources for healthcare, both medical and non-medical personnel, in Indonesia. It is hoped that this can be met through the effective and efficient use of telemedicine. The presence of telemedicine represents an innovation in digital healthcare services.[10]

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6 Maria Helena Da Fonseca et al, "E-Health Practices and Technologies: A Systematic Review from 2014 to 2019" (2021) 9:9 Healthcare 1–32 at 16.

7 Matija Kovačić, Maja Mutavdžija & Krešimir Buntak, "e-Health Application, Implementation and Challenges: A Literature Review" (2022) 13:1 Bus Syst Res J at 2.

8 Mohammad Hilman Mursalat, Efa Laela Fakhriah & Tri Handayani, "Problematika Yuridis Dan Prinsip Perlindungan Hukum Dalam Pelayanan Kesehatan Jarak Jauh Menggunakan Teknologi Informasi Dan Komunikasi" (2022) 4:1 J Poros Huk Padjadjaran at 97.

9 *Regulation of the Minister of Health of the Republic of Indonesia Number 46 of 2017 Concerning the National E-Health Strategy.*

10 Anita Burrell et al, "How Useful Are Digital Health Terms for Outcomes Research? An ISPOR Special Interest Group Report" (2022) 25:9 Value Health at 1474.
The term "Digital" in digital health services was chosen because, in the author's opinion, the term "digital" more accurately describes telemedicine as a health service that utilizes information and communication technology in accordance with the provisions of the Health Law. Broadly speaking, in the world of health, according to Anita Burrel, et al. in their article, there are 4 umbrella terms related to their relevance to health research results: digital health, electronic health, mobile health, and telehealth/telemedicine. For technology, the broadest terms are "digital" and "e" (electronic) which refers to the use of all digital, electronic, and computer technologies, followed by "tele" meaning "from a distance" which refers to telecommunications technology, and then "m" (mobile) which refers specifically to mobile telecommunications technology. For applications, health is "a state free from disease or injury" and "a person's mental or physical condition," which includes well-being, and is a broader concept than medicine, which is the prevention, diagnosis, and treatment of disease. Following this definition, digital health and eHealth can be considered the broadest and equivalent terms. Telehealth is a sub-term that encompasses telemedicine and m-health. To further clarify digital health in this research, the author prefers digital health over the other three terms because, in his study, the term digital health refers to the use and utilization of technology in healthcare services, emphasizing the use of technology, including telemedicine. Meanwhile, electronic health is also a healthcare service that utilizes information and communication technology, but more emphasis on health information systems and technology-based health services. Actually it is like what Anita Burrell stated that digital health and electronic health are broadly understood

Telemedicine is a form of ICT-based health service that is increasingly developing and is expected to be an innovation and solution to obstacles in accessing health services, and also the lack of medical personnel or health workers who provide services to achieve good quality health services.[11] Telemedicine was introduced around the 1970s. Then in 2007, WHO introduced telemedicine as a health service delivery facility, where distance is an important supporting factor so that all health care professionals took the initiative to use information and communication technology to deliver valid information that aims to facilitate the presentation or delivery of diagnosis, treatment and prevention of diseases and injuries, research and evaluation, and also for the continuing education of health care providers, and is intended for all in the interests of advancing individual and community health.[12]

This telemedicine service focuses on electronic healthcare services for patients in a clinical setting. Historically, the idea of telemedicine itself is not new. Radios were used to exchange health information in remote areas of the United States and Australia, dating back to the 1930s.[13] In Indonesia, telemedicine has grown significantly during the COVID-19 pandemic, with the use of teleconsultation services. This has helped address the need for access to healthcare services. Despite these benefits, the rapid adoption of telemedicine during the pandemic has exposed several challenges, including healthcare disparities and, especially in particular, privacy and security risks.[14] While regulations in Indonesia have provided a legal framework for telemedicine, numerous challenges and obstacles remain in its implementation. Therefore, this paper will examine the historical dynamics of telemedicine regulation as access to digital healthcare services. Understanding these regulatory dynamics will hopefully also provide an assessment of the consistency of norms in accommodating the development of telemedicine in Indonesia.

II. METHODOLOGY

This research is a doctrinal legal research that examines law as norms or rules written in positive legal sources such as statutory regulations.[15] This research is based on a literature review focusing on primary and secondary legal materials relevant to the regulation of telemedicine services in Indonesia. Data collection was conducted through a literature review

terms. However, the author concludes that, while telemedicine is also a common term in healthcare, it is more appropriately applied to the scope of digital health. Therefore, the author chose the term "Digital Health Services."

11 Leila Mona Ganiem, "Efek Telemedicine Pada Masyarakat (Kajian Hukum Media McLuhan: Tetrad)" (2020) 9:2 Interak J Ilmu Komun at 95.

12 Jeremiah Hilkiah Wijaya, Gilbert Sterling Octavius & Lie Rebecca Yen Hwei, "A Literature Review Of Telemedicine In Indonesia: Past, Present, And Future Prospective" (2022) 10:2 J Adm Kesehat Indones at 265.

13 Hassan A Aziz & Hiba Abochar, "Telemedicine" (2015) 28:4 Clin Lab Sci J at 257.

14 Sapiens, Senior Technical Business Analyst, Atlanta, USA et al, "Safeguarding Patient Confidentiality in Telemedicine: A Systematic Review of Privacy and Security Risks, and Best Practices for Data Protection" (2024) 07:06 Int J Curr Sci Res Rev at 3912.

15 Nasir Majeed, Amjad Hilal & Arshad Nawaz Khan, "Doctrinal Research in Law: Meaning, Scope and Methodology" (2023) 12:4 Bull Bus Econ BBE at 561.

of laws, government regulations, regulations of the Minister of Health, as well as legal documents, journals, and scientific articles discussing telemedicine. The approaches used include a statute approach to analyze applicable positive legal norms and a historical approach to understand the process of development and change of legal health norms[16] especially those related to telemedicine practices in Indonesia to trace the historical background of the formation of legal norms and examine the development of health regulations as part of the dynamics of health digitalization, while data analysis is carried out descriptively and qualitatively by describing, comparing, and interpreting legal provisions[17] to identify current regulatory gaps and implementation challenges.

III. DYNAMICS OF THE INDONESIAN TELEMEDICINE REGULATION TRANSITION

The development of technology certainly has a significant impact on the provision of healthcare services. Telemedicine in Indonesia was initially intended to provide equitable access to healthcare services throughout the country, including remote areas. Agreeing with Kori,[18] Patients in remote areas often have limited access to healthcare services and remote care, in this case, telemedicine, which bridges the gap in access to healthcare services. However, the existence of telemedicine ultimately provides increasing hope for easier access to healthcare services not only in remote areas but also throughout Indonesia. Thanks to telemedicine, medical services can now be provided via telecommunications, audio, visual, and data, which can connect healthcare facilities even though they are geographically separated.[19] Thus, differences in time, place, and distance are no longer obstacles to the therapeutic relationship between doctor and patient. In the next millennium, this type of healthcare is expected to develop rapidly, including in Indonesia.

Legal regulations regarding telemedicine in Indonesia are certainly inseparable from the increasingly rapid development and utilization of health technology and information. Current regulations refer to the provisions of the Republic of Indonesia Law Number 17 of 2023 concerning Health, which provides recognition for the existence of health technologies, one of which is telemedicine. The presentation of Law of the Republic of Indonesia Number 17 of 2023 concerning Health marks a significant milestone, finally providing explicit recognition and a legal basis for the provision of technology-based healthcare services, including telemedicine. This law not only regulates the definition and scope but also mandates the

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16 Peter Mahmud Marzuki, *Penelitian Hukum* (Jakarta: Kencana Prenada Medi Group, 2013) at 93.

17 Soerjono Soekanto & Sri Mamudji, *Penelitian Hukum Normatif: Suatu Tinjauan Singkat* (Jakarta, Indonesia: RajaGrafindo Persada, 2011) at 13.

18 Kori S Zachrison et al, "Are state telemedicine parity laws associated with greater use of telemedicine in the emergency department?" (2021) 2:1 JACEP Open at 2.

19 Martini Viviana et al, "Systematic Review: Tantangan Penerapan Telemedicine dalam Peningkatan Akses Pelayanan Kesehatan Pasca Pandemi Covid-19 di Indonesia" (2025) 10:1 J Ners at 1254–1255.

government to establish quality standards, licensing mechanisms, and legal protection for healthcare workers and patients in telemedicine services.

Telemedicine is a digital healthcare model that describes the use of information and telecommunications technology in clinical and administrative healthcare services between doctors and patients.[20] The development of telemedicine is inseparable from the regulatory dynamics that accompany it. As information and communication technology advances, telemedicine regulations are undergoing significant changes that reflect the needs and challenges of each time. Understanding the history of telemedicine regulation is key to seeing how the legal and policy framework has evolved. This analysis will describe the paradigm shift, at least in terms of substance, implementation, and policy responses to digital innovation in healthcare from the early period, the transition period, and the consolidation period. Thus, a historical discussion of telemedicine regulation serves as an important foundation before moving on to the evaluation of current regulations and future projections.

A. Early Period (2014-2019): Legal Norms

The emergence of telemedicine in Indonesia cannot be separated from the development of policies in the National Health System, regulated by Government Regulation Number 46 of 2014 concerning the Health Information System (PP 46/2014). The regulation became the initial foundation for the digitization of the health sector by emphasizing the importance of integrated health data management and the utilization of information and communication technology in the delivery of health services. Although it does not explicitly explain the existence of telemedicine, PP 46/2014 serves as the initial foundational framework for the digitalization of health services, opening up opportunities for the use of communication technology in remote healthcare practices.

Subsequently, the implementation of policies utilizing information and communication technology in healthcare, particularly telemedicine, has been expanded as a strategy to enhance and equalize access to health services. Telemedicine is positioned as an instrument to address geographical limitations, shortages of healthcare personnel, and disparities in service facilities, especially in remote areas. This position is reinforced by the establishment of policies through the Minister of Health Regulation Number 90 of 2015 concerning the Implementation of Health Services Facilities in Remote and Very Remote Areas (Minister of Health Regulation 90/2015).This is evident in Article 15 of Minister of Health Regulation 90/2015 concerning the Provision of Healthcare Services in Remote and Very Remote Areas, which states that the development of healthcare service patterns in remote and very remote areas includes, among other things, telemedicine-based healthcare services.[21] Meanwhile, Article 19 states that

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[20] Abid Haleem et al, "Telemedicine for healthcare: Capabilities, features, barriers, and applications" (2021) 2 Sens Int at 2–3.

[21] The appendix to Minister of Health Regulation 90 of 2015 stipulates that telemedicine is a healthcare facility for remote and very remote areas. Telemedicine-based healthcare services are an effort to achieve equitable healthcare

telemedicine-based health services as referred to in Article 15 letter d aim to provide benefits in increasing the accuracy and speed of medical diagnosis and medical consultations at first-level health service facilities and advanced referral levels that do not have certain health workers.

Case studies in several remote areas of Lombok Island, West Nusa Tenggara, offer an in-depth primer on the implementation of telemedicine in emergency medical services.[22] The research shows that the implementation of telemedicine significantly improves accessibility, response time, and coordination for residents in obtaining medical consultations and emergency medical services in remote areas. Furthermore, there are also studies in several remote regions of East Nusa Tenggara, Papua, and Central Kalimantan.[23] In the study, telemedicine significantly improved access to healthcare services for people in remote areas. As many as 86% of respondents stated that telemedicine allows them to obtain medical consultations without having to travel far, and it can even reduce patient waiting times by 78%, thereby speeding up access to medical care and reducing patient travel cost by up to 50% and shortening travel time from an average of 2-5 hours to zero, as the service can be accessed from home.[24] Case studies have also been conducted in two remote areas in the Sumatra region,[25] The research results also showed that telemedicine can reduce the burden on physical health facilities, increase the efficiency of disease management, and expand access to health for people in remote areas.

The development of telemedicine as a solution for healthcare access has become a focus of the government in the national health program. Telemedicine is developed to facilitate access to healthcare services throughout Indonesia, from urban areas to remote regions. The project is done as an effort to ensure equitable access to quality healthcare services. A study in the city of Makassar noted that telemedicine is also functioning in local clinics and community health centers, and remote consultations have taken place in the Makassar area. Makassar has successfully developed a telemedicine system since 2014,[26] Specifically, a store-and-forward telemedicine service, tele-electrocardiography, and tele-ultrasonography. Research results show that 78% doctors are satisfied with the telemedicine system. As many as 69% said that telemedicine allows for faster diagnosis and treatment, 47% said poor internet

delivery, improve the quality of healthcare services in remote and very remote areas, and reduce referrals to hospitals, especially for emergency cases.

22 Hadi Kusuma Atmaja, Erien Luthfia, Ani Haryati, Muhammad Hasbi, Lale Wisnu Andrayani, Lina Sundayani, "The Role of Telemedicine in Emergency Medical Services in Remote Areas of West Nusa Tenggara: An Evaluative Study" (2024) 6:2 J Keperawatan Terpada Integr Nurs J at 34.

23 Rina Fitria Siska, Fricles Ariwisanto Sianturi, "Analisis Dampak Pemanfaatan Teknologi Telemedicine terhadap Akses Layanan Kesehatan di Daerah Terpencil" (2025) 3:1 J Kesehat Dan Kebidanan Nusantara at 26.

24 *Ibid* at 27.

25 Irma Nuraeni Salsabila, Shinta Meilinda, Riska Rahayu, Dina Nurul Fathiya, Aldo Hermaya Aditiya Nur Karsa, "Telemedicine: Healthcare Transformation in the Digital Era for Rural Communities" (2024) 1:1 Orient J at 3.

26 Dea Indria, Mohannad Alajlani, Hamish S F Fraser, "Clinicians perceptions of a telemedicine system: a mixed method study of Makassar City, Indonesia" (2020) 20:233 BMC Med Inf Decis Mak at 2.

connectivity is a significant obstacle in using the system, and 40% suggested infrastructure improvements, including internet and electricity connections.[27]

Although telemedicine has rapidly developed in both urban and remote areas, several previous studies have shown that there are still obstacles and challenges to its implementation. These obstacles are related to the condition of technology and internet infrastructure, which are still uneven, the readiness of healthcare and medical personnel in using telemedicine as a means of healthcare services, and the need for comprehensive regulations to protect patients.

Telemedicine practice in Indonesia was initially based on the general legal framework for health services in Law Number 36 of 2009 concerning Health (hereinafter referred to as the Old Health Law, which has now been revoked by Law Number 17 of 2023). This Old Health Law certainly serves as a fundamental foundation for all forms of health services, including health services provided remotely via telemedicine. Although the Old Health Law does not explicitly mention telemedicine, the basic principles of providing health services, such as patient rights, medical personnel obligations, and service standards stipulated in the law, still apply to health services via telemedicine. However, because the law is still general in nature, there are no specific specifications to accommodate the unique nature and characteristics of telemedicine practices that depend on the use of information and communication technology and interaction without physical presence (in person).[28] This shows that despite being a strong foundation, the old Health Law is not sufficient to comprehensively address the challenges and obstacles of telemedicine regulation.

Telemedicine grew from the setup of a health information system after the government created a national e-health strategy by passing Minister of Health Regulation Number 46 of 2017 concerning the National E-Health Strategy (hereinafter referred to as Minister of Health Regulation 46/2017). Minister of Health Regulation 46/2017 can also be said as the initial legal basis for the presence of telemedicine that requires further development. Then, the urgent need for telemedicine regulations as a basis for implementing telemedicine, especially in meeting basic health needs in improving accessibility, quality of health services and providing legal certainty in the development of telemedicine practices in Health Service Facilities, generally for all Indonesian people and especially for remote and very remote areas, then the enactment of Minister of Health Regulation Number 20 of 2019 concerning the Implementation of Telemedicine Between Health Service Facilities (hereinafter referred to as Minister of Health Regulation 20/2019). The existence of Minister of Health Regulation 20/2019 certainly fills the gap in the required regulation of telemedicine practices, and is the first specific regulation governing telemedicine.

Minister of Health Regulation 20/2019 specifically regulates the implementation of telemedicine, but only covers interactions between health care facilities, while direct services

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27 *Ibid* at 3–4.

28 Max Bonsapia, "Aspek Hukum Telemedicine Di Indonesia" (2025) 9:1 J Ilmu Hukum Juris at 264.

to patients through commercial digital platforms are not included in the regulations.[29] The rationale for enacting Minister of Health Regulation 20/2019 is that telemedicine is implemented to facilitate access to health services, especially in remote areas, and to improve service quality. It also aims to realize safe, high-quality telemedicine services between health care facilities, essentially supporting the national health program. This regulation also stipulates technical requirements, such as the competence of medical personnel and technological infrastructure standards, that must be met by health facilities. [30]

However, the limited scope of this regulation has been criticized because modern telemedicine is now often conducted directly between doctors and patients using online applications that are not fully covered by this regulation.[31] Minister of Health Regulation 20/2019 is insufficient as a guideline for implementing telemedicine in Indonesia, as its regulations are insufficiently detailed. The lack of clarification on registration and financing regulations is one of the shortcomings of this regulation. If this regulation is not clarified with implementing regulations, there is concern that telemedicine services will languish and fail to achieve their original goal of equitable healthcare delivery in Indonesia.[32]

Although Minister of Health Regulation 20/2019 explicitly only regulates the implementation of telemedicine between healthcare facilities, it has at least become a pioneer in providing telemedicine regulations. Minister of Health Regulation 20/2019 is a step forward, even though the regulation is not yet fully adapted to the rapid development of digital health technology today, as it lacks comprehensive guidelines for integrating telemedicine into various healthcare practices and addressing the needs of diverse patient populations, such as those in rural areas who may have limited access to healthcare services. Therefore, at this early period, it can be concluded that Indonesia's telemedicine regulations are indeed still sectoral and fragmented, but the existing regulations have become the initial legal foundation for implementing telemedicine to improve healthcare services throughout Indonesia, both in urban and remote areas.

B. Transition Period (2020-2022): Impact of the Pandemic and Accelerated Regulation

Telemedicine has grown significantly since the COVID-19 pandemic. The most rapidly expanding application of telemedicine is remote consultation services conducted through commercial digital platforms. A study conducted by Murima[33], The pandemic caused 44% of respondents to use telemedicine for the first time, and overall, telemedicine usage increased by 78.8% during the COVID-19 pandemic. Furthermore, data from the Ministry of

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29 Carolina Kuntardjo, "Dimensions of Ethics and Telemedicine in Indonesia: Enough of Permenkes Number 20 Year 2019 As a Frame of Telemedicine Practices in Indonesia?" (2020) 6:1 Soepra at 10.

30 *Ministry of Health Regulation number 20 of 2019 concerning the Implementation of Telemedicine Services between Healthcare Facilities.*

31 Kuntardjo, "Dimensions of Ethics and Telemedicine in Indonesia", *supra* note 29 at 12.

32 *Ibid.*

33 Widya Hapsari Murima et al, "Telemedicine Use In Health Facility During Covid-19 Pandemic: Literature Review" (2022) 10:2 J Adm Kesehat Indonesia at 255.

Communication and Informatics of the Republic of Indonesia (Kominfo RI) shows that the number of telemedicine users in Indonesia before the pandemic was 4 million. In June 2020, or the early period of the COVID-19 pandemic, the number of telemedicine users in Indonesia experienced a drastic increase to 15 million users. Kominfo RI recorded a rapid increase in the use of teleconferencing applications by 443 percent since the coronavirus pandemic in Indonesia.[34]

Telemedicine, according to Minister of Health Regulation 20/2019, is limited to services between health facilities, not consultation services between doctors and patients. This creates a legal vacuum in the practice of direct clinical teleconsultation between doctors and patients. The COVID-19 pandemic, since early 2020, has triggered the acceleration of telemedicine due to the implementation of physical contact restrictions to minimize the spread of the virus, making it a potential way to provide health services. Although the Minister of Health Regulation 20/2019 offers a legal framework, it still leaves normative space that requires emphasis and clarification. The pandemic situation has also forced the Indonesian Medical Council to accelerate efforts to control and prevent transmission and/or manage patients with the Corona Virus Disease (COVID-19). In this regard, the Indonesian Medical Council is an independent institution that has the function of regulating, approving, determining, and fostering doctors and dentists who practice medicine. To regulate the authority of doctors and dentists who have a registration certificate to practice medicine, especially in improving the quality of medical services through telemedicine during the COVID-19 pandemic, the Indonesian Medical Council Regulation Number 74 of 2020 concerning Clinical Authority and Medical Practice through Telemedicine during the Coronavirus (COVID-19) Pandemic in Indonesia was established. This regulation serves as a temporary legal umbrella to provide legal certainty for doctors and dentists in implementing remote medical practice (telemedicine) during the COVID-19 pandemic emergency.

The pandemic that requires social restrictions forces the implementation of telemedicine in public health services. Ultimately, the COVID-19 pandemic pushed the government to immediately implement a telemedicine policy that covers clinical services between doctors and patients. Therefore, the Government finally stipulated Circular Letter of the Minister of Health of the Republic of Indonesia Number HK.02.01/MENKES/303/2020 concerning the Provision of Health Services through the Utilization of Information and Communication Technology in the context of Preventing the Spread of Corona Virus Disease 2019 (COVID-19) on April 29, 2020. In the Circular Letter of the Ministry of Health, it is explained that the authority of doctors as providers of health services is determined to include: anamnesis, certain physical examinations conducted through audiovisual, providing recommendations/advices needed based on the results of supporting examinations, and/or

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[34] Henri Subiakto, "Penggunaan Aplikasi Telekonferensi Naik 443 Persen Sejak Pandemi", *Tempo* (2020), online: <https://www.tempo.co/digital/penggunaan-aplikasi-telekonferensi-naik-443-persen-sejak-pandemi-609632>.

the results of certain physical examinations, establishing a diagnosis, managing and treating patients, writing prescriptions for drugs and/or medical devices, and issuing referral letters for further examination or action to the laboratory and/or health care facilities according to the results of patient management.[35]

In the following year, the Minister of Health issued Decree of the Minister of Health of the Republic of Indonesia Number: HK.01.07/MENKES/4829/2021 concerning Guidelines for Health Services Through Telemedicine During the Corona Virus Disease 2019 (COVID-19) Pandemic as a mitigation effort through innovative use of information and communication technology in the form of telemedicine in providing health services during the COVID-19 pandemic. This decree also revoked the Circular Letter of the Minister of Health Number HK.02.01/MENKES/303/2020 concerning the Provision of Health Services Through the Utilization of Information and Communication Technology in the Context of Preventing the Spread of Covid-19.[36] The Decree of the Minister of Health Number HK.01.07/MENKES/4829/2021 has led to the creation of many telemedicine platforms in Indonesia, including KlikDokter, YesDok, Halodoc, Alodokter, Get Well, Milfield Dokter, ProDehat, KlinikGo, LinkSehat, SehatQ, and Good Doctor, to help provide telemedicine during the pandemic.[37]

During the COVID-19 pandemic, the need for telemedicine services not only affected the healthcare system in Indonesia but also worldwide. The utilization of telemedicine in Indonesia has increased in response to physical restrictions and the need for healthcare services, although it still faces obstacles such as limited infrastructure and legal regulations.[38] On the other hand, developed countries have quickly responded by expanding access to services and strengthening telemedicine regulations within their healthcare systems. Indonesia should be able to emulate developed countries that already have clear telemedicine regulations, such as the United States and Singapore.

The United States developed telemedicine long before the pandemic; it already had its own comprehensive regulations. Since 1993, the United States has had the ATA (American Telemedicine Association), a non-profit organization that plays a strategic role in the development of telemedicine in the United States.[39] The guidelines developed by the ATA have become one of the sources of guidance for the implementation of telemedicine in the United States. Additionally, regarding patient personal data, security standards, financing, and

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35 Tri Priyo Anggoro & Atik Nurwahyuni, "Penerapan Telemedicine untuk Program Rujuk Balik Jaminan Kesehatan Nasional di Masa Pandemi Covid-19" (2022) 5:2 Media Karya Kesehatan at 260.

36 Muhamad Azhar & Utik Handayani, "Perlindungan Hukum Terhadap Korban Malpraktik Layanan Kesehatan Berbasis Telemedicine" (2023) 6:1 Law Dev Justice Rev at 55.

37 Muhammad Fakih, "Telemedicine in Indonesia During the Covid-19 Pandemic: Patient's Privacy Rights Protection Overview" (2022) 16:1 Fiat Justisia: J Ilmu Huk at 88.

38 Muhammad Fakih, *supra* note 37 at 98.

39 Wahyu Adrianto, Atika Frizka Frajina, "Tinjauan Perbandingan Penyelenggaraan Telemedicineantara Indonesia Dan Amerika Serikat" (2021) 1:2 J Huk Kesehat Indones at 78.

even interstate regulations have been governed by regulations such as HIPAA (Health Insurance Portability and Accountability Act), which establishes related rules that support the implementation of telemedicine.[40] The COVID-19 pandemic also affected the healthcare system in the United States, leading to rapid expansion and integration in making significant regulatory changes to provide broader access and reimbursement for telemedicine.[41] The use of telemedicine during the pandemic was very effective, similar to face-to-face services, although the results varied widely based on the type of services provided. In some cases, telemedicine has shown effectiveness comparable to in-person visits.[42] This shows the readiness of telemedicine during the pandemic.

Furthermore, Singapore, as a developed country neighboring Indonesia, also has comprehensive telemedicine regulation. Singapore, under the authority of the Ministry of Health, established guidelines in the National Telemedicine Guidelines (NTG) 2015, overseen by the Singapore Medical Council (SMC), to establish professional standards, licensing requirements, and obligations for doctors in telemedicine. The NTG serves as the primary guideline for providing telemedicine services that are comparable to face-to-face services.[43] In 2018, the Singapore Ministry of Health also established a regulatory sandbox related to the Licensing Experimentation and Adaptation Program (LEAP) to review telemedicine practice and other innovative services, thus fostering joint regulation in partnership with stakeholders.[44] In response to the COVID-19 pandemic, Singapore strengthened its existing legal framework through the Healthcare Service Act (HCSA) to enhance operational oversight and patient safety. Telemedicine practices are permitted if performed by SMC-registered physicians and must refer to the SMC and NTG Code of Ethics and Ethical Guidelines in planning and providing care to patients.[45]

In this transition period, the impact of the COVID-19 pandemic has been significant, prompting Indonesia to accelerate the issuance of regulations. Indonesia has indeed provided regulations that legalize telemedicine as a healthcare service during the pandemic, but the existing regulations are still sectoral in nature, only granting legality specifically to the use of telemedicine (teleconsultation) in healthcare services. However, in terms of data protection or security, it has not been specifically regulated. This is different from the regulatory

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40 Fatnan Setyo Hariwibowo, *Analisis Regulasi Telemedicine: Perlindungan Hukum dan Implikasi bagi Tenaga Kesehatan* (2024) at 154.

41 Julia Shaver, "The State of Telehealth Before and After the COVID-19 Pandemic" (2022) 49:4 Prim Care Clin Off Pract at 519.

42 *Ibid.*

43 Low Cheng Ooi, Low Yi Mei, "Beyond the Pandemic: TELEHEALTH" in *SMA Cent Med Ethics Prof CMEP*, March edn (SMA News, 2025) at 12.

44 Rani Tiyas Budiyanti et al, "Studi Komparasi Regulasi Telekonsultasi Antara Indonesia Dengan Singapura" (2022) 4:1 J Crepido J Mengenai Dasar-Dasar Pemikir Huk Filsafat Dan Ilmu Huk at 8.

45 Naimah, Bambang Tri Bawono & Jawade Hafidz, "Comparative Study of the Regulation of Health Service Providers Through Telemedicine Between Indonesia and Singapore" (2024) 4:1 Proceedings Int Conf Law Dev Public Welf at 109.

acceleration seen in the United States and Singapore, which already had comprehensive regulations in place, thus only enhancing or reinforcing the existing regulations. The change certainly makes it easier for them to use telemedicine services while paying attention to patient protection. A comprehensive regulatory arrangement needs to be implemented in Indonesia to move toward more effective telemedicine services.

Telemedicine regulation in Indonesia during the pandemic is a form of emergency regulatory adaptation. Substantially, the regulation has shown a rapid legal response in ensuring access to remote healthcare services amidst social restrictions through the decree of the Minister of Health Number HK.01.07/MENKES/4829/2021. In addition, the regulations that have been established can fill the legal void of the Minister of Health Regulation 20/2019 in providing legality to telemedicine services, particularly teleconsultation, during the pandemic. However, because the regulation is still at the administrative policy level, its legal construction has not yet been fully integrated with the law, leaving unresolved issues regarding the certainty of professional standards, the limits of the parties' responsibilities, and the guarantee of patient data protection. Therefore, a more systemic legal framework is still needed.

C. Consolidation Period (2023-2025): Harmonization, Implementation, Policy Direction

In 2023, the Indonesian government finally lifted the COVID-19 pandemic status by presenting Presidential Decree No. 17 of 2023 concerning the Declaration of the End of the Corona Virus Disease 2019 (COVID-19) Pandemic Status in Indonesia, which revoked the COVID-19 pandemic emergency status in Indonesia. Although the COVID-19 pandemic emergency status has been lifted, the use of telemedicine still needs to be encouraged.[46] This is crucial because expanding the use of telemedicine is a priority on the Indonesian Ministry of Health's 2024 digital health transformation agenda. Although its legal implementation was only implemented during the pandemic, telemedicine will continue to evolve as technology's influence expands into the services needed by the community. The WHO also emphasizes the long-term sustainability of telemedicine to address various health issues.[47]

Indonesia recognised the use of information and communication technology both for clinical services and public health through the Law Number 17 of 2023 concerning Health (the Health Law).[48] This Health Law provides a stronger legal basis for the implementation of telemedicine, including the definition of telehealth and telemedicine. The Health Law provides the basis for developing more comprehensive implementing regulations in accordance with the mandate of Article 172 paragraph (5) which states that further provisions

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[46] Bagus Satrio Santoso, Rani Tiyas Budiyanti & Nurhasmadiar Nandini, "Analisis Pemanfaatan Layanan Telemedicine Pasca Pandemi Covid-19 Di Jawa Tengah" (2024) 12:2 J Manaj Kesehat Indones at 120.

[47] Waseem Jerjes & Daniel Harding, "Telemedicine in the post-COVID era: balancing accessibility, equity, and sustainability in primary healthcare" (2024) 6 Front Digit Health 1432871 at 3.

[48] Muhammad Haris Makarim & Enggar Wijayanto, "Digital-Based Health Law System Transformation In Indonesia: Legal Protection For Patients And Healthcare Workers" (2024) 16:1 Dialogia Iurid at 29.

regarding the implementation of Telemedicine are regulated by Government Regulation. Subsequently, on July 26, 2024, the Government issued Government Regulation Number 28 of 2024 concerning the Implementing Regulations of Law Number 17 of 2023 concerning Health (the Government Regulation Number 28 of 2024). This Law regulates the implementation of the Health Law, including the elaboration of terms, the scope of health services (including telemedicine), the role of the government/region, licensing aspects, and the implementation of services in more detail than the law.

This Health Regulation (Health Law and Government Regulation) is a crucial administrative step that binds healthcare providers, bringing telemedicine from sectoral regulations to the national health legal framework. This Regulation at least provides a basic framework for implementing telemedicine, as outlined in Articles 558-564. However, key regulatory issues remain, such as professional standards, patient health data protection (privacy and security), legal responsibilities of stakeholders, licensing and oversight of private digital platform providers (digital start-ups), financing and integration with the Social Health Insurance (JKN)/Social Security Administering Body (BPJS), quality standards, informed consent, and electronic medical records.

Furthermore, issues related to patient health data protection remain a challenge. Telemedicine enhanced by the use of Artificial Intelligence (AI) provides its own challenges in providing legal protection.[49] Currently, the policy on protecting patient privacy data in telemedicine, especially consultation-based telemedicine, still refers to the Law Number 27 of 2022 concerning Personal Data Protection (PDP Law). Under the PDP Law regime, telemedicine applications in Indonesia can be categorized as data controllers. This is because most telemedicine applications determine the specific purpose of data processing, in accordance with the definition of a data controller under the PDP Law, so that at the very least their implementation must be based on the principles contained in Article 16 paragraph (2) of the PDP Law, namely the principles of legal compliance and transparency, purpose limitation, data minimization, accuracy, storage limitation, integrity and confidentiality, and accountability. However, telemedicine has not fully implemented the principles of personal data protection in the PDP Law.[50] Therefore, there needs to be consistency in comprehensive telemedicine regulatory norms so that telemedicine can become a digital health service innovation whose data helps improve access to health services for the community.

If we examine the early history of telemedicine regulation, it can be concluded that Indonesian telemedicine regulation has not had a well-established policy design since its early development, but telemedicine has gradually evolved in response to technological dynamics and the challenge of equitable health access in Indonesia. In the early stages, the state placed telemedicine within the framework of granting legality to the digitalization of the healthcare

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[49] Kevin Raihan & Sinta Dewi Rosadi, "Have AI-Enhanced Telemedicines in Indonesia Adopted the Principles of Personal Data Protection?" (2024) 13:2 Yust J Huk at 152.

[50] *Ibid* at 155.

system, albeit still limited. This has resulted in a relatively narrow space for innovative development, with protections remaining primarily procedural. In the next stage, the COVID-19 pandemic became a driving force in accelerating regulations to provide emergency healthcare services due to interaction restrictions. However, despite the rapid development of telemedicine during that period, concerns about patient safety and protection persisted.

The use of telemedicine in Indonesia has not been optimal due to sectoral regulations and the challenges of uneven development of information technology infrastructure.[51] Within the framework of Indonesian law, there is a need for harmonization between various legal sources governing the implementation of telemedicine. The momentum of the pandemic forced rapid regulatory changes, which ultimately encouraged the integration of telemedicine into the national digital health system. But this change hasn't yet been fully matched by consistency and harmonization among regulations, which has led to ongoing confusion about the legal responsibilities of doctors, healthcare facilities, and digital platform providers, particularly regarding issues such as data privacy, patient consent, and liability in case of malpractice. Therefore, strengthening the regulatory framework in the future not only requires normative recognition of telemedicine as a permanent part of the health system but also the restructuring of the legal accountability system to be more structured and proportional to the characteristics of technology-based health services. The Minister of Health Regulation 20/2019 can certainly serve as a foundation for further developing telemedicine regulations, particularly in providing a more comprehensive legal framework that aligns with the Health Law and the Government Regulation Number 28 of 2024 to ensure patient protection.

IV. HARMONIZATION AND CONSISTENCY OF NORMS IN INDONESIAN TELEMEDICINE REGULATIONS

Medical personnel (doctors/dentists) and other health workers are essential components of a health system, especially for Indonesia as an archipelagic country, which has uneven population distribution in small and big islands in the country. A health system cannot function without adequate support from health workers. The availability of adequate health workers has a strong positive correlation with the reach of health services and health outcomes.[52] The distribution of medical personnel and health workers has not yet been fully realized in various provincial areas and also various islands in Indonesia, becoming a problem that must be overcome in improving public health services.

According to data from the Indonesian Ministry of Health, the number of medical personnel (general practitioners and specialists) in Indonesia is 202,967. Meanwhile,

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[51] Jeremiah Hilkiah Wijaya, Gilbert Sterling Octavius & Lie Rebecca Yen Hwei, "A Literature Review Of Telemedicine In Indonesia: Past, Present, And Future Prospective" (2022) 10:2 J Adm Kesehat Indonesia at 267.

[52] Farizal Rizky Muharram et al, "Adequacy and Distribution of the Health Workforce in Indonesia" (2024) 13:2 WHO South-East Asia J Public Health at 48.

Indonesia's population is projected to be approximately 281,603,779 by 2024.[53] The ratio of the number of doctors is not proportional to the number of residents throughout Indonesia, resulting in a lack of equal distribution of intensive health services to the community.[54] Based on data from the Basic Health Research (Riskesdas)[55] Public access to clinics, independent doctors' practices, or dentists explains that approximately 37.3% find it easy to access health services, while 31.1% find it difficult, and even 31.5% find it very difficult to access health services. The shortage of doctors is a risky issue that triggers obstacles to accessing health services due to the insufficient number of doctors, which ultimately impacts the quality of health services.

Telemedicine is a growing form of ICT-based healthcare services that is expected to be an innovation and solution to address barriers to access and the shortage of medical personnel and healthcare providers, helping to achieve high-quality healthcare. Telemedicine is a digital healthcare model that describes the use of information and telecommunications technology in clinical and administrative healthcare services between doctors and patients.[56] This telemedicine service focuses on electronic healthcare services for patients in a clinical setting. Historically, the idea of telemedicine itself is not new. Radios were used to exchange health information in remote areas of the United States and Australia, dating back to the 1930s.[57]

Following the enactment of Law Number 17 of 2023 concerning Health, the "Health Omnibus Law," on August 8, 2023, which had previously sparked controversy in the community, one of which was the definition of telemedicine, indicating the initial legality of telemedicine services in Indonesia. Subsequently, in July 2024, Government Regulation Number 28 of 2024 concerning the Implementing Regulations of Law Number 17 of 2023 concerning Health was assigned as an implementation of the Health Law. The Health Government Regulation provides a basic framework for telemedicine services, but the law still requires further regulation in legislation. Article 558 of the Health Regulation also emphasizes that telemedicine services are provided both between health care facilities and between health care facilities and the community. Furthermore, it is explained that health care facilities can independently organize telemedicine or collaborate with registered electronic system providers in accordance with statutory provisions. The implementation of

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53 Absori et al, "Doctor Placement's Policy and Its Implications in Indonesia: Legal Qualitative Study" (2022) 10:E Open Access Maced J Med Sci at 389.

54 Likke Prawidya Putri et al, "A critical review of definitions of rural areas in Indonesia and implications for health workforce policy and research" (2022) 20:1 Health Res Policy Syst at 11.

55 Mahindra Awwaludin Romdlon, Lutfi Kalbu Adi & Aris Aji Kurniawan, "Telemedicine dalam Konstruksi Hukum di Indonesia" (2021) 21:2 Kosmik Huk at 144.

56 Rohmatul Hajiriah Nurhayati, I Wayan Parsa, & Sagung Putri ME Purwani, "Legal Protection for Patients in Telemedic Services in Indonesia" (2025) 5:3 J Law Polit Humanit at 2180.

57 Aziz & Abochar, *supra* note 13 at 257.

telemedicine requires comprehensive regulation in a Government Regulation, as mandated by the Health Law.[58]

The current development of telemedicine can be seen as an opportunity to expand public access to healthcare services. On the other hand, this presents new challenges in adapting to various types of healthcare services for the public. Therefore, the government must immediately develop comprehensive regulations.[59] Learning from other sectors, delays in anticipating and adapting to the rapid development of information and communication technology will give rise to new, more complex problems.[60] Based on literature studies, various ethical and legal issues can arise in the implementation of telemedicine. According to Solimini et al, there are many legal and ethical issues in telemedicine services, such as misdiagnosis, malpractice, and professional responsibility, informed consent and autonomy in remote therapy, patient privacy and confidentiality, equal access, professional-patient relationships, and quality of care.[61] Furthermore, physician and patient responsibilities, commercialization, and the need for information and evaluation also emerge as ethical and legal issues in telemedicine services. Furthermore, telemedicine requires infrastructure readiness to be accessible to all communities.

The development of telemedicine regulations in Indonesia faces significant challenges in maintaining consistency in norms between medical professional standards, informed consent, patient data protection and privacy, as well as the legal responsibilities of parties involved. The development of telemedicine regulations in Indonesia faces significant challenges in maintaining consistency between informed consent as a part of professional standards, patient data protection and privacy, and legal responsibilities. Regulations in the healthcare sector tend to focus on clinical and operational aspects.[62] This disharmony creates the risk of breaches and weakens patient protection on the one hand, as seen in several incidents of massive data breaches.[63] Kaspersky data shows that 30% of healthcare providers have experienced cases where employees compromised patients' personal data during telemedicine consultations.[64] In addition, there are reports regarding alleged data leaks from government

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58 Tiara Tiolince, "Indonesian Telemedicine Regulation to Provide Legal Protection for Patient" (2023) 1:2 J Sustain Dev Regul Issues JSDERI at 91.

59 Marlia Hafny Afrilies & Yuris Tri Naili, "Legal Aspects of Telemedicine Health Services in the Perspective of Health Law in Indonesia in the Digital Era" (2023) 1:1 J Adv Health Inform Res at 44.

60 Mohamad Intan Sabrina & Irma Ruslina Defi, "Telemedicine Guidelines in South East Asia—A Scoping Review" (2021) 11 Front Neurol at 9.

61 Renata Solimini et al, "Ethical and Legal Challenges of Telemedicine in the Era of the COVID-19 Pandemic" (2021) 57:12 Medicina (Mex) at 8.

62 B Hangga Harinawantara, Nadya Zhafira Asfihani, & Ahmad Ma'mun Fikri, "Assessing the Urgency of Government Regulation Number 28 of 2024 on Telemedicine and Digital Consumer Protection" (2025) 5:4 Res Horiz at 54.

63 RK Gorea, "Legal aspects of telemedicine: telemedical jurisprudence" (2005) 5:1 J Punjab Acad Forensic Med Toxicol at 4.

64 Desy Seryowati, "Riset: 30% Layanan Telemedicine Sebut Pegawai Bahayakan Data Pasien" (7 January 2022), online: <https://katadata.co.id/digital/teknologi/61d7e4ee9e2c6/riset-30-layanan-telemedicine-sebut-pegawai-bahayakan-data-pasien>.

or state institution applications on the Electronic Health Alert Card (eHAC) application, which is said to have impacted 1.3 million of its users.[65]

A. Patient Data Protection and Privacy

From a technical perspective, telemedicine platforms must meet standards for information security, audio and video interaction quality, and technological infrastructure readiness to ensure smooth service delivery.[66] Furthermore, patient data protection is a central issue because telemedicine relies on the transmission of sensitive health data through digital platforms. In Indonesia, the PDP Law serves as the primary legal umbrella governing the processing of personal data. The law governs that personal data protection directs processes on and guard personal data to guarantee the constitutional rights of its subjects.[67] The term "personal data" as defined in the PDP Law also includes patient personal data, which is considered specific personal data. Specific personal data is personal data whose processing could result in greater impacts on the data subject, including discrimination and greater harm to the data subject. This protection of personal health data includes the obligation to obtain explicit consent, and to ensure data security and confidentiality.[68]

The Health Law itself has not fully integrated technical standards for data security, resulting in frequent legal loopholes and inconsistent implementation. Consequently, the risk of data leaks and misuse of patient information increases, particularly if telemedicine platforms fail to meet standards for encryption, authentication, and digital security audits. Although there is a sufficient legal basis for data protection, such as the PDP Law and various other health sector regulations, operational implementation still faces challenges. These obstacles include weak data security infrastructure, low digital literacy among medical personnel and patients, a lack of specific technical guidelines, and limited oversight and law enforcement against data protection violations.[69] Furthermore, there is also the possibility that internal parties could misuse personal data. Research shows that many cases of patient data breaches are caused by irresponsible staff or partners, either through negligence or criminal motives.[70] This suggests the need for regular audits and stricter internal oversight of data access. Cyberattacks such as ransomware, phishing, and malware are becoming more common targeting healthcare

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65 BBC News Indonesia, "Data eHAC milik 1,3 juta penggunanya dilaporkan bocor, "Keamanan Data Tidak Prioritas", online: <https://www.bbc.com/indonesia/indonesia-58393345>.

66 Shinta Hadiyantina et al, "Construction of Telemedicine Implementation License Arrangements Application Based in Indonesia" (2024) 17:2 Arena Huk at 416.

67 Ampuan; Park Situmeang Jihyun; Sudirman, Lu; Silviani, Ninne Zahara; Agustini, Shenti, "Evaluating Data Breach Notification Protocols: Comparative Analysis of Indonesia and South Korea" (2025) 12: 1 Lentera Hukum at 51.

68 Bob Wahyudin et al, "Legal Protection for Doctors in Telemedicine Services: Government Responsibility in Supporting SDGs 3 and 9 in Indonesia" (2025) 5:3 J Lifestyle SDGs Rev at 13.

69 Gunawan Widjaja, "Implementasi Perlindungan Data Pribadi Pasien Dalam Layanan Telemedicine Di Indonesia: Analisis Regulasi Dan Tantangan Praktis" (2025) 3:2 JK J Kesehat at 155.

70 Wirandi Dalimunte, Ismaidar & Marice Simarmata, "Patient Legal Protection in the Digital Era and Study of Telemedicine Services in Indonesia Master of Health Law" (2021) 10:1 Lega Lata J Imu Huk at 46–47.

institutions.[71] In addition to causing financial losses, these attacks can also endanger patient safety if important medical data is lost or encrypted.

When examined, it is evident that the implementation of telemedicine in Indonesia reflects a sectoral dualism where health regulations emphasize professional standards for telemedicine services, while the PDP Law emphasizes data governance. The absence of integrated implementing regulations creates overlaps and potential normative conflicts. Indonesia's legal framework for patient data protection in telemedicine faces significant challenges in integrating its different regulations. Inconsistent interpretation and enforcement of the law, along with regional disparities in digital infrastructure, ultimately weaken efforts to protect patient data. Sectoral and fragmented data protection regulations risk causing inconsistent law enforcement and legal uncertainty.

Therefore, regulatory harmonization and strong law enforcement are urgently needed to address these challenges. While regulations do not yet explicitly address specific forms and procedures for informed consent in telemedicine, the PDP Law requires patient consent to the processing of personal data as part of informed consent. Integrating these principles requires telemedicine platforms and healthcare providers to provide full transparency and valid documentation in accordance with legal norms and healthcare ethics.

B. Legal Responsibility of Telemedicine

Telemedicine, as an innovation in digital healthcare services, brings complex legal challenges because it eliminates face-to-face interaction between doctors and patients. This gives rise to the legal responsibilities of the parties involved in telemedicine practices. In general, legal responsibilities in telemedicine encompass aspects of professional responsibility, patient protection, and mechanisms for resolving potential medical disputes that may arise in its implementation.[72] Telemedicine has altered the contractual relationship and professional responsibilities between service providers and patients, impacting legal obligations in cases of malpractice or potential diagnostic errors.[73]

Despite providing services remotely, doctors practicing telemedicine in Indonesia bear legal responsibilities comparable to those in conventional medical practice.[74] In the provisions of the Health Law, it is also explained that doctors in providing healthcare services are obligated to adhere to professional standards, standards of care, and standard operating procedures. This indicates that doctors must ensure that the diagnosis and treatment provided remain accurate and in accordance with medical standards, even if conducted without a direct physical examination. However, the limitations of physical examinations pose a major

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71 Andysah Putera Utama Siahaan et al, "Crime Aspect of Telemedicine on Health Technology" (2018) 9:10 Int J Civ Eng Technol IJCIET at 483–484.

72 B. Hangga Harinawantara, Nadya Zhafira Asfihani, & Ahmad Ma'mun Fikri, *supra* note 62 at 1569.

73 Irma Seliana & Teddy Prima Anggriawan, "Legal Protection of Telemedicine Consumers: an Analysis of the Consumer Protection Act and Health Regulations in Indonesia" (2025) 25:2 Perspekt Huk at 294.

74 Bonsapia, *supra* note 28 at 264.

challenge, so doctors need to be more meticulous in interpreting the symptoms reported by patients and, if necessary, can recommend an in-person examination.

In the previous discussion, the United States has HIPAA, which establishes national standards regarding the security and confidentiality of health information in telemedicine. Therefore, if service providers fail to comply with HIPAA, such as in the case of data breaches, they will face civil liability and administrative fines.[75] In addition, regarding medical responsibility, the implementation of telemedicine in the United States must meet the same professional standards as in-person services and is bound by medical licenses in each state where the patient is located.[76]

Unlike Singapore, which has a more centralized legal framework, all forms of telemedicine practice fall under the NTG supervised by the SMC and MOH, where all doctors providing telemedicine services must be registered and licensed, ensuring the same professional standards and competencies in both face-to-face and remote services.[77] Based on these guidelines, all forms of clinical services and medical ethical obligations apply to provisions of telemedicine services, and if violated, they will result in professional liability and disciplinary action by the SMC.[78]

The United States and Singapore have more developed legal systems for dealing with telemedicine legal issues than Indonesia. However, the United States has state-level regulations, and Singapore has more centralized ones, which can lead to variations in how telemedicine is practiced and regulated across different jurisdictions. In essence, a study of telemedicine regulations in the United States and Singapore suggests that these two countries can serve as role models for Indonesia in regulating telemedicine. Indonesian telemedicine regulations should define the professional responsibilities of healthcare workers, including the obligation to maintain fairness, accuracy, and compliance with medical standards in the provision of services, while also ensuring the security and confidentiality of patient data. They are obligated to ensure that their devices and applications are reliable and do not pose a risk of malpractice. Furthermore, they are responsible for any consequences arising from negligence or irregularities in the use of telemedicine technology. These ethical and legal aspects are reinforced by applicable health regulations and professional codes of ethics, but also present new challenges in oversight and accountability governing digital interactions between doctors and patients.

In telemedicine services, the principles of maintaining public trust and the effectiveness of telemedicine, data protection, informed consent, and professional responsibility must be formulated in comprehensive regulations, with clear security standards and strict law

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75 Ivanova J et al, "Regulation and Compliance in Telemedicine: Viewpoint" (2025) 27:e53558 J Med Internet Res at 1–2.

76 *Ibid* at 2.

77 Naimah, Bambang Tri Bawono & Jawade Hafidz, *supra* note 45 at 108–109.

78 Rani Tiyas Budiyanti et al, *supra* note 44 at 8–9.

enforcement in this digital age. Collaborative efforts between the government, service providers, and healthcare professionals are crucial for the effective implementation of these regulations. Therefore, future regulations must adopt a comprehensive approach that combines technological, legal, and ethical aspects so that telemedicine can develop sustainably and safely for all parties involved. Furthermore, a comparison between the United States and Singapore can inform the development of telemedicine regulations, defining the rights and obligations of medical personnel and platforms to protect and uphold patient rights.

V. CONCLUSION

The dynamics of telemedicine regulation in Indonesia continue to evolve but remain sectoral in several existing laws and regulations, making it a significant challenge to provide legal certainty for the implementation of telemedicine as part of the healthcare system. However, the existing regulations can serve as an initial foundation in refining the implementation of telemedicine to be more coordinated. This goal can be achieved by enhancing the consistency and harmonization of telemedicine regulations based on three main pillars: informed consent as an integral part of professional standards, data protection and patient privacy, and the responsibilities of the parties involved in the provision of telemedicine (doctors and healthcare services). These three aspects should ideally move toward harmonization between health regulations and digital regulations in a more integrated regulatory framework.

Therefore, we need to strengthen telemedicine's harmonization and consistency by establishing specific and comprehensive telemedicine regulations. Furthermore, creating specific regulations can provide an important foundation for ensuring safe, quality, and accountable services for patients during the digital health transformation. Therefore, legal protection in the implementation of telemedicine primarily relates to informed consent, patient health data, and the legal responsibilities of the parties involved. Ideally, the situation requires a systemic response by strengthening specific regulations and infrastructure, enhancing education and training for all parties, and encouraging regulatory harmonization and increased oversight capacity. Collaboration between the government, health institutions, technology providers, and the community is essential to ensure that innovations in telemedicine continue to align with the protection of privacy rights and the sense of security for every Indonesian patient.

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COMPETING INTEREST

The author of the article states that there are no conflicts of interest.

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