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Research Article

Legal Responsibility of Medical Personnel in Cases of Malpractice in Telemedicine

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Abstract: The COVID-19 pandemic has accelerated the adoption of telemedicine in Indonesia as a cross-regional alternative to conventional healthcare services. This technology-based medical practice offers increased accessibility and efficiency, yet it also presents legal challenges, particularly concerning physicians' liability in malpractice cases. This study aims to examine the legal responsibility of physicians in post-pandemic telemedicine using a normative juridical approach. It analyzes six key areas: the innovation and legal challenges of telemedicine; the concept of malpractice and legal liability; regulatory dynamics in Indonesia; malpractice risks in virtual practice; international legal comparisons (United States, United Kingdom, Singapore); and recommendations for legal reform. The method used was a normative legal study with statute and comparative approaches. The secondary data used consists of primary legal materials (laws and regulations), secondary sources (academic literature), and tertiary materials (dictionaries/encyclopedias). The data was then systematically reviewed with a descriptive-analytical approach. The findings indicate that although Law No. 17 of 2023 and Government Regulation No. 28 of 2024 recognize telemedicine practice, technical regulations have led to legal uncertainty for patients and physicians. In contrast, other countries have already established legal frameworks that emphasize doctors' responsibilities in virtual care as equivalent to those in in-person settings. In conclusion, Indonesia must successfully formulate implementing regulations governing service standards, digital informed consent, complaint mechanisms, and the delineation of responsibilities between medical practitioners and platform providers. Such legal reform is essential to ensure that telemedicine evolves as an innovation aligned with patient rights protection and the principles of legal justice.

Keywords: Legal Liability; Legal Reform; Malpractice; Patient Protection; Telemedicine

1. Introduction

The COVID-19 pandemic has accelerated the use of telemedicine globally, including in Indonesia. Online medical consultation services have become the main solution when direct interaction between doctors and patients is limited. This trend continues to be supported by the need for cross-regional health access and technological advances. Telemedicine platforms have experienced significant user growth in Indonesia. Data from the United States reveals that medical consultations via telehealth increased from less than 1% in 2019 to 23% in 2020. (Romdlon et al., 2021; Rowland et al., 2022a; Santoso et al., 2024; Stanberry, 2017)

Telemedicine offers a variety of benefits, such as time efficiency, ease of access, and solutions to the inequality of health service distribution. However, the shift from face-to-face interactions to virtual services also poses challenges, especially in terms of the legal liability of doctors. One of the biggest risks is malpractice, especially misdiagnosis due to the limitations of physical examinations. Studies show that 66% of malpractice claims in telemedicine are due to misdiagnosis – a higher figure than in conventional services. (Rowland et al., 2022b)

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Telemedicine regulations in Indonesia only cover services between health facilities (Ministry of Health Regulation No. 20 of 2019) and this does not yet regulate direct consultations between doctors and patients online. (Ministry of Health of the Republic of Indonesia, 2019) Since the pandemic, the Indonesian Medical Council has issued Regulation No. 74 of 2020 which provides a temporary legal basis for doctor-patient telemedicine practices . However, this regulation is temporary and will no longer apply after the health emergency status is lifted in August 2023. (Indonesian Medical Council, 2020)

This legal vacuum was addressed by the enactment of Law No. 17 of 2023 concerning Health (Health Law 2023) along with Government Regulation No. 28 of 2024 (Implementing Regulation of Law No. 17 of 2023), which explicitly recognizes the practice of telemedicine . This regulation provides a legal umbrella for telehealth and information technology-based medical consultations. However, the regulation still requires derivative regulations for technical implementation, including licensing arrangements, platform licensing , and a regulatory sandbox model to accommodate health technology innovations. (Law No. 17 of 2023, 2023) (Government Regulation No. 28 of 2024, 2024)

Doctors who provide telemedicine services remain bound by the same professional obligations as conventional practice. Doctors are required to have a valid STR and SIP, and are subject to medical service standards. If there is a misdiagnosis or negligence, the responsibility remains with the doctor, including potential disciplinary sanctions from the Indonesian Medical Discipline Honorary Council (MKDKI), civil lawsuits based on Article 1365 of the Civil Code, and even criminal if it meets the elements of gross negligence. (Estrada, 2024; Subekti & Tjitrosudibio, 2003)

The main problem currently faced is the lack of clarity on the legal responsibility mechanism in virtual telemedicine . Patients have the right to receive legal protection equal to conventional services, including the right to information, consent to medical procedures, and compensation if harmed, but the complaint and law enforcement mechanisms are still not well structured for this technology-based service. (Kusumaningrum, 2017; Mannas et al., 2023; Rustam & Sidipratomo, 2024)

Several countries have become role models in developing comprehensive and adaptive telemedicine regulations . The legal liability of physicians in the United States in telemedicine continues to follow the four elements of a malpractice lawsuit as in conventional practice, with the main challenges related to cross-state licensing and the importance of documentation of online consultations. The principles of " Good Medical Practice " in the United Kingdom continue to apply to remote consultations, where physicians are required to assess the appropriateness of teleconsultation and refer patients for in-person examinations if necessary, supported by the CNSGP insurance scheme. Meanwhile, Singapore has strengthened its regulation through the Healthcare Services Act (HCSA) which came into effect in 2022, requiring telemedicine services to be licensed on a service-based basis and emphasizing that

virtual service standards must be equivalent to in-person consultations, including the obligation to be transparent about technological limitations to patients. (Anggraini, 2022; Brazier & Cave, 2020; Brazier & Fovargue, 2015; Hutchinson et al., 1999; Intan Sabrina & Defi, 2021; Nittari et al., 2020a; Rensberger, 2000)

This study aims to analyze the legal responsibilities of doctors in post-COVID-19 pandemic telemedicine practices in Indonesia through a normative legal approach. The main focus of the study includes a study of the relationship between technological innovation and legal challenges, an explanation of the concept of malpractice in the context of digital services, and the dynamics of telemedicine regulations before and after the pandemic. In addition, this study examines the legal risks that arise in telemedicine practices , compares laws with the United States, England, and Singapore, and formulates recommendations for national legal reform to ensure patient protection and legal certainty for doctors in the era of digital health services.

2. Research Methods

This research is an interdisciplinary legal research that elaborates the health sector, especially the practice of information technology-based medical services (telemedicine), with a primary focus on the aspect of doctors' legal responsibility. The type of research used is normative legal research, which views law as a norm or rule that lives in the legal regulatory system. Normative legal research examines law from an internal perspective, with the main object being legal norms that regulate the relationship between medical personnel and patients in the context of digital health services.

The approaches used are the statute approach and the comparative approach . Then for data analysis, a descriptive-analytical-explanatory approach is used , with a juridical-normative type, namely examining the applicable legal norms that are relevant to telemedicine practices in Indonesia and comparing them with the legal framework in other countries (the United States, England, and Singapore). The purpose of this approach is to describe the contents of positive law, analyze regulatory gaps and disharmony, and explain the normative consequences and the need for legal reform that guarantees protection for patients and accountability of doctors in online services.

The data used in this study is secondary data, obtained through literature studies. The legal materials studied include:

Primary legal materials, namely all related laws and regulations in Indonesia, such as Law Number 17 of 2023 concerning Health, Law Number 29 of 2004 concerning Medical Practice, the Law on Information and Electronic Transactions, and the Indonesian Code of Medical Ethics (KODEKI).

Secondary legal materials, namely academic literature in the form of books, scientific journals, reports from professional institutions, and previous research results that are relevant to telemedicine practices and the legal responsibilities of the medical profession.

Tertiary legal materials, in the form of legal dictionaries, encyclopedias, glossaries, and other supporting reference documents to strengthen conceptual meaning and legal terminology.

Data collection techniques are carried out by literature review, through the collection, selection, and critical interpretation of written documents relevant to the research theme. The analysis process is carried out qualitatively, by describing legal norms, identifying regulatory gaps or conflicts, and evaluating the suitability between legal practices and the needs of modern medical services.

The analysis of this research data uses a deductive thinking method, namely reasoning from general legal principles and normative principles of justice towards conclusions that are specific to the case or context being studied, namely the legal responsibility of doctors in post-pandemic telemedicine practices in Indonesia. This method allows researchers to compile systematic arguments based on legitimate legal regulations and practices, while also proposing constructive and applicable legal reform solutions. (Soekanto, 2003)

3. Results And Discussion

3.1 Innovation And Legal Challenges In Telemedicine

The emergence of the COVID-19 pandemic in early 2020 was a turning point for the global healthcare system. In order to prevent the spread of the virus, various countries including Indonesia implemented large-scale social restrictions (PSBB), which directly limited face-to-face interactions between patients and medical personnel. (Firmansyah et al., 2020; Firmansyah & Haryanto, 2021a, 2021b) Telemedicine is a limited innovation in the realm of health services, experiencing extraordinary acceleration in adoption. Telemedicine or remote medical practice using information technology media is the main solution to ensure continuity of health services amidst physical limitations and mobility of the community. (Firmansyah, 2022)

Telemedicine practices before the pandemic in Indonesia were still very limited and tended to be interpreted as communication between health facilities (hospital-to-hospital), as stated in the Regulation of the Minister of Health No. 20 of 2019. This regulation regulates telemedicine as a consultation service between doctors located in different health facilities, such as teleradiology or telecardiology. There are no explicit regulations regarding direct practice between doctors and patients through technological devices. As a result, online consultation services by doctors to individual patients, although starting to be carried out informally by several health applications and platforms, are still in a legal gray area. (Firmansyah, 2021; Ministry of Health of the Republic of Indonesia, 2019; Wootton et al., 2017)

Due to the Covid-19 Pandemic, the Government through the Indonesian Medical Council (KKI) responded to the emergency by issuing Circular Letter Number 74 of 2020, which for the first time officially allowed direct telemedicine practices between doctors and

patients. This policy is adaptive and temporary, designed as a short-term solution during the pandemic. However, the impact is structural: online consultation services have become part of the new normal in accessing medical services. Various digital platforms such as Halodoc, Alodokter, and others have recorded a significant spike in users, even up to five times in less than a year. Telemedicine is no longer just an alternative choice, but has become one of the main channels for health services. (Firmansyah, 2022; Indonesian Medical Council, 2020)

Countries such as the United States and the United Kingdom have seen a sharp increase in the use of telehealth . The World Health Organization (WHO) is also encouraging its member states to develop digital health systems, as part of a resilience strategy for future health crises. (Fisk et al., 2020; Gobburi et al., 2025; Mueller, 2020; Saigí-Rubió et al., 2022)

The rapid increase in the use of telemedicine services post-pandemic is not always accompanied by adequate legal infrastructure readiness. Although the telemedicine system has technologically developed and is widely accepted by the public and health practitioners, the legal framework that regulates it is still lagging behind in responding to these dynamics. The shift in medical interactions from physical to virtual space raises various legal issues that have not been fully answered. For example, can a doctor's legal responsibility in telemedicine practice be equated with face-to-face consultations? What is the legal position if a misdiagnosis occurs due to the limitations of online physical examinations? In addition, it is also important to question the extent to which patients' rights to compensation and privacy protection can still be guaranteed in the context of digital consultations. This phenomenon illustrates the paradox between the pace of technological innovation and the normative response of the legal system, where technological developments often progress faster than the formation of regulations that are able to regulate its use fairly and proportionally. (Erfanifa et al., 2024; Firmansyah, 2021, 2022; Hwei & Octavius, 2021)

After Indonesia's pandemic emergency status was revoked in 2023, KKI Circular Letter No. 74/2020 was declared no longer valid. A legal vacuum emerged, because the Medical Practice Law and the old Health Law (Law No. 36 of 2009) did not explicitly cover telemedicine practices between doctors and patients. Only with the enactment of Law No. 17 of 2023 concerning Health, telemedicine began to be recognized as a form of legal health service. Then in PP No. 28 of 2024, it further discusses telemedicine in the Health Law in the form of the implementation of telemedicine and the requirements for its implementation in general. However, these regulations are still normative and not yet operational technical. This raises new challenges in field implementation, especially in terms of legal responsibility, data protection, licensing mechanisms, and ethical accountability systems in the context of telemedicine .

This condition reflects the urgent need to fill the " legal vacuum " related to telemedicine . Telemedicine can pose complex legal risks. One of them is vulnerability to malpractice, because the diagnosis made by the doctor is only based on limited information from the patient without the support of a direct physical examination. In addition, the validity of informed consent given digitally, as well as the protection of the confidentiality of medical

records in electronic systems, are areas vulnerable to lawsuits. Patients who are harmed may have difficulty claiming their rights if there is no clear accountability mechanism or dispute resolution channel. (Erfanifa et al., 2024; Muliawan, 2022; Nasution & Ibrahim, 2024)

Not only in Indonesia, the tension between technological progress and legal lag also occurs in many other countries. Therefore, a comparison of laws with other jurisdictions is important to be used as a reference for developing a national legal framework. Countries such as the United States and the United Kingdom already have legal liability mechanisms that integrate telemedicine practices with established malpractice law principles. Meanwhile, Singapore has developed a risk -based licensing approach that is relevant for the digital health era. (Liu et al., 2009; Praise et al., 2022; Tay et al., 2020)

The evolution of telemedicine cannot be separated from the legal dynamics that accompany it. Telemedicine is not only about technological innovation in medical services, but also concerns the legal relationship between patients and doctors in the digital space. Strengthening the legal framework is a must to ensure that patient rights remain protected, while doctors are not in legal uncertainty. Without this, telemedicine has the potential to become an arena of legal risk that not only harms patients, but also weakens public trust in digital health innovation.

2.2 The Concept Of Malpractice And Legal Responsibility Of Doctors From A Normative Luridical Perspective

Medical malpractice is one of the most complex and sensitive legal issues in the realm of health care. The term malpractice generally refers to the actions or omissions of a medical professional that deviate from applicable professional standards, resulting in physical, psychological, or economic harm to the patient. Malpractice is the meeting point between professional responsibility and the legal rights of patients. When health services are provided in the context of telemedicine – which is remote, digital, and platform-based – the concept of malpractice experiences an expansion of meaning and at the same time raises new challenges in terms of enforcing the legal responsibility of doctors. (Haiti, 2017; Heryanto, 2010; Siregar, 2020; Widjaja et al., 2023)

Medical malpractice can be analyzed from a normative legal perspective based on three main domains: civil law (liability), criminal law (liability for unlawful acts of a delict nature), and administrative/ethical law (supervision by professional institutions and health regulators). There is no explicit definition of malpractice in a specific Indonesian law. However, legal doctrine and court practice have referred to the elements of professional negligence as known in civil law and in the lex artis doctrine in medicine.

The main reference for a doctor's liability to a patient is Article 1365 of the Civil Code, which states that "every unlawful act that causes harm to another person requires the person whose fault causes the loss to compensate for the loss." In a doctor's lawsuit in a malpractice case, the patient as the plaintiff must prove that there was (1) an unlawful act; (2) error or

negligence; (3) actual loss; and (4) a causal relationship between negligence and loss. Proving these elements is a challenge, especially in telemedicine practice , given the nature of the interaction between doctors and patients which is limited to digital media and without direct physical examination. (Novriansyah et al., 2021; Riza, 2018; Siregar, 2023; Sulistyani & Syamsu, 2015)

Meanwhile, the criminal responsibility of doctors can arise if the malpractice committed meets the elements of a crime in the Criminal Code, such as in Article 359 of the Criminal Code (negligence causing death) or Article 360 of the Criminal Code (negligence causing serious injury). For cases involving errors in diagnosis or medical actions that have fatal consequences, investigators can use these articles as the basis for investigation. However, in principle, proving criminal guilt in malpractice is not easy to do because it must show a form of gross negligence or actions that deviate significantly from reasonable medical practice standards (Budi Handoyo SH, 2020; Koswara, 2020; Pontoh, 2013; Yunanto & Helmi, 2024)

The responsibility of doctors in terms of administrative law and professional ethics is regulated in Law Number 29 of 2004 concerning Medical Practice, specifically Article 66, which gives patients or interested parties the right to file complaints about the actions of doctors with the Indonesian Medical Disciplinary Honorary Council (MKDKI). MKDKI has the authority to investigate alleged violations of discipline, ethics, or professional standards committed by doctors, including in telemedicine- based services . MKDKI decisions can be in the form of warnings, recommendations for coaching, or even revocation of practice permits for a certain period of time. This ethical and administrative path is often the main choice because it is more easily accessible and does not require a burden of proof as high as the criminal or civil path. (Aryani & Intarti, 2019; Kainde & Saimima, 2021)

The concept of a doctor's legal responsibility must be viewed normatively within the framework of the medical profession's position as a profession that has high ethical and technical standards. Medical actions carried out, either directly or remotely via telemedicine , must be subject to the lex artis (expertise standards) and the Indonesian medical code of ethics (KODEKI). KODEKI 2012, which is still in effect, emphasizes that in every medical service, doctors are required to provide services based on competence, honesty, and responsibility. Online medical consultations do not eliminate this obligation. Article 2 of KODEKI states that: "A doctor must always remember his obligation to protect the lives of human beings." This principle applies universally, including in the relationship between doctors and patients that takes place online. (Fitriono et al., 2016; Koswara, 2020)

The legal liability aspect of doctors becomes increasingly complex in telemedicine practice . First, interactions without physical examinations create limitations in the collection of comprehensive clinical data. Doctors must be more careful in making decisions, considering that misdiagnosis or delayed referrals have the potential to cause serious harm to patients. Second, the use of information technology poses the risk of data leakage, miscommunication, or even misunderstandings between doctors and patients that cannot always be clarified directly. Third, informed consent or approval for medical actions given

through digital media is often not well documented, making it a vulnerable point in legal disputes.

Fourth, there are challenges in determining legal jurisdiction when telemedicine services are conducted across administrative regions – for example, a practicing doctor in Jakarta serving a patient in Papua. This results in there being no clarity regarding the competent judicial forum in the event of a dispute. This issue needs legislative attention because it concerns the principle of legal certainty and access to justice for patients.

Doctors who provide services via telemedicine media still bear full legal responsibility in the normative legal concept, just like in face-to-face practice. The role of digital media does not eliminate legal standards or professional obligations. Therefore, existing positive legal provisions - such as in the Medical Practice Law, the Health Law, the Electronic Information and Transactions Law (UU ITE), and KODEKI - must be revised and harmonized to accommodate the new reality of technology-based medical practice. (Firmansyah, 2022)

This entire legal responsibility framework requires strengthening in the form of specific technical regulations, including the regulation of: (1) medical service standards in telemedicine ; (2) data documentation and storage procedures; (3) privacy protection and information security standards; and (4) professional accountability mechanisms under the supervision of professional organizations and regulators. Without clarity in this regard, both patients and doctors will remain in a state of legal uncertainty that is counterproductive to the development of the digital health system in Indonesia.

2.3 Telemedicine Regulation In Indonesia: Legal Dynamics Before, During, And After The Pandemic

The development of telemedicine as part of the transformation of health services cannot be separated from the dynamics of the legal regulations that govern it. Indonesia's legal framework regarding telemedicine has developed gradually, following the pace of community needs and responses to the global health crisis. Regulations that were initially limited and sectoral have undergone significant evolution during the COVID-19 pandemic, and are now entering a post-pandemic transitional phase. (Firmansyah, 2022)

telemedicine practices in Indonesia did not have a legal basis that explicitly regulates the relationship between doctors and patients via electronic media. The available regulations only cover telemedicine services between health facilities, as stated in the Regulation of the Minister of Health Number 20 of 2019 concerning the Implementation of Telemedicine Services Between Health Service Facilities. This Ministerial Regulation emphasizes that telemedicine can only be carried out by medical personnel between hospitals or health centers, especially in the form of consultations between health professionals (peer consultation), such as teleradiology, teleEKG, teleUSG, and clinical teleconsultation. There are no provisions that directly regulate the relationship between doctors and individual patients via teleplatform . (Firmansyah, 2022; Ministry of Health of the Republic of Indonesia, 2019)

This limited coverage creates a legal vacuum in field practice. Several private platforms have begun offering direct medical consultation services between doctors and patients via online applications. However, because it is not strictly regulated, this practice falls into a legal gray area. The absence of regulations regarding service standards, diagnostic authority, digital informed consent , and legal accountability in virtual doctor-patient relationships is a major obstacle in ensuring professional accountability and patient protection.

The COVID-19 pandemic has become a pivotal moment in accelerating telemedicine regulation . When there was a spike in cases and restrictions on community activities, face-to-face health services became very limited. Recognizing the urgent need for alternative health services, the government and professional institutions responded with adaptive policies. (Firmansyah, 2022)

The initial step was taken by the Indonesian Medical Council (KKI) which issued Circular Letter Number 74 of 2020 concerning the Authority to Practice Medicine Through Electronic Media in the COVID-19 Emergency Situation. This circular letter officially allows doctors and dentists to provide online medical services to patients in the context of a national emergency. This provision contains the principle that services must continue to meet professional competency standards, maintain data confidentiality, and ensure accurate medical recording and documentation. (Indonesian Medical Council, 2020; Ramanda, 2021; Rayyan & Siregar, 2025; Supriyanto et al., 2025)

The Ministry of Health also issued Circular Letter Number HK.02.01/MENKES/303/2020 concerning the Provision of Health Services through the Utilization of Information and Communication Technology, which provides a broader legal umbrella for telemedicine service providers . This regulation recognizes the existence of private digital platforms and encourages the integration of online services into the national health system, while still emphasizing the principles of patient safety, data privacy, and medical practice standards. (Ministry of Health of the Republic of Indonesia, 2020)

Although these steps are emergency measures, both are important milestones in the legalization of virtual doctor-patient relations. However, it should be noted that the validity of these policies is limited during the pandemic emergency period, so they are only temporary. When the pandemic is declared over by the government in August 2023, the legal basis will automatically lose its binding force. Thus, a normative vacuum has emerged in the regulation of post-pandemic telemedicine practices , which requires a new, more permanent and systematic legal basis.

Responding to the legal needs in the post-pandemic era, the government has passed Law Number 17 of 2023 concerning Health, which is a new omnibus law-based legal framework for the health sector in Indonesia. This law brings important updates, including formal recognition of the provision of information technology-based health services, including telemedicine and telehealth . (Law No. 17 of 2023, 2023)

Article 152 and Article 153 of the 2023 Health Law state that the provision of health services can be carried out directly or through an electronic system. This law also mandates

the government to regulate standards for the provision, licensing, procedures, and legal protection for users of digital health services through implementing regulations. This normative recognition is an important milestone that lays the foundation for the establishment of a comprehensive telemedicine legal system. (Law No. 17 of 2023, 2023)

Article 558 of PP No. 28 of 2024 explains telemedicine which includes teleconsultation, telepharmacy, and other telemedicine services that develop in accordance with science and technology. The implementation of this telemedicine includes its use between health service facilities and between health service facilities and between health service facilities and the community. This PP also discusses further the requirements for the implementation of telemedicine (Government Regulation No. 28 of 2024, 2024)

However, until early 2025, derivative regulations of the 2023 Health Law have not been fully issued. Several Draft Government Regulations (RPP) and Draft Regulations of the Minister of Health (RPMK) are in the harmonization stage, including those regulating telemedicine quality standards , digital platform accreditation, health data protection, and legal accountability of medical personnel in online services. The legal gap (legal vacuum) in the operationalization of telemedicine services is very open at this time. This has an impact on legal uncertainty, both for doctors in carrying out their practices online, and for patients who want to claim their rights legally if negligence occurs.

telemedicine regulation in Indonesia show a shift from a closed approach to a more open and inclusive approach. However, the lack of synchronization between sectoral regulations and the lag in implementing technical regulations are still obstacles. Some of the legal issues that have emerged include:

a. There is no standard for medical services in an online context.
b. The ambiguity of the valid format of digital informed consent .

Lack of complaint handling mechanisms and legal responsibility of doctors in telemedicine .

The absence of an accreditation system for digital healthcare service provider platforms.

Doctors remain burdened with ethical and legal responsibilities in the absence of such technical arrangements based on general regulations. It is important for the government to immediately establish implementing regulations for the 2023 Health Law so that telemedicine practices can take place within a clear, fair legal corridor and guarantee certainty for all parties.

2.4 Risk Of Malpractice In Telemedicine Practice

Telemedicine as a form of innovation in health services brings many advantages, such as ease of access, time efficiency, and equal distribution of services. However, along with these benefits, this practice also presents new challenges in terms of law, especially related to the risk of malpractice. When medical services are carried out without direct physical examination and only through text, voice, or video-based communication, there is a potential for failure to collect complete clinical data, which can lead to errors in diagnosis, treatment, or medical

decision-making. This risk places telemedicine practices in a vulnerable position to malpractice lawsuits, especially when a specific and structured legal framework is not yet available. (Rowland et al., 2022b)

One of the main risks in telemedicine practice is the limited clinical information obtained by doctors. Doctors have the opportunity to perform direct physical examinations, observe vital signs, and interpret patient body language when the examination is carried out face-to-face. In contrast, in online consultations, medical information is often only based on the patient's subjective history, with limited visual observation that is sometimes hampered by camera quality, lighting, or internet signal. This situation opens up the opportunity for misdiagnosis or delays in determining the right intervention. (Bruhn, 2020; Fogel & Kvedar, 2019; Nittari et al., 2020b)

Another risk is inaccuracy in handling or referral. Doctors must be highly sensitive in determining whether a patient's condition can still be handled online or requires referral for direct examination. Inaccuracy in making such decisions, especially if it has a negative impact on patient safety, has the potential to become the object of lawsuits, both civil and ethical. (Bruhn, 2020; Fogel & Kvedar, 2019; Nittari et al., 2020b)

No less important are the risks that arise from the use of technology, such as connection disruptions during consultations, system errors in applications, or even failure to store and manage medical records digitally. When the application system experiences technical disruptions that cause medical information to be lost or misread, responsibility becomes unclear – whether on the doctor, the platform manager , or the technology provider. There is no clear legal regulation regarding the division of responsibility between the parties involved in the telemedicine ecosystem .

Telemedicine practice does not change the basic principles of legal liability of medical personnel. The elements of malpractice as regulated in Article 1365 of the Civil Code remain in effect, namely: the existence of an unlawful act (in the form of negligence or professional error), losses experienced by the patient, a causal relationship between the act and the loss, and the existence of an element of error. However, in telemedicine practice , the proof process becomes more complex because: (Subekti & Tjitrosudibio, 2003)

a. Physical evidence is limited;
b. The consultation process is not well documented;
c. Digital medical records often do not meet medical documentation standards;
d. The absence of a legally and ethically sound informed consent protocol.

Exploring the criminal approach, negligence articles in the Criminal Code such as Articles 359 and 360 can be used, but require gross negligence that is clearly proven. This is a major obstacle in the context of telemedicine , because its technology-based characteristics make the element of negligence can be covered by system factors, not just the personal actions of doctors. The role of forensic medical and IT experts is very important to assess whether medical decisions taken in telemedicine services are in accordance with practice standards or deviate.

Meanwhile, from an ethical and administrative aspect, the Indonesian Medical Disciplinary Honorary Council (MKDKI) has the authority to assess whether doctors have carried out services according to professional standards. Telemedicine cases can be the object of complaints if there are ethical violations or procedural errors. MKDKI considers negligence in online consultations to be as serious as negligence in face-to-face consultations, especially if doctors fail to explain the limitations of remote services or do not immediately refer patients in critical condition. (Aryani & Intarti, 2019; Haiti, 2017; Kainde & Saimima, 2021)

Rfforts between technology, medical ethics, and positive law are needed to reduce the risk of malpractice in telemedicine . Concrete steps that can be taken include:

a. Telemedicine service standards , including the types of diseases that can be treated online and their clinical limitations.
b. The obligation of doctors and platforms to record, store and document all interactions electronically so that they can be accessed for legal purposes.
c. Standardize a valid, verifiable digital informed consent format that addresses the limitations of remote services.
d. Improving legal and digital literacy for doctors and patients in understanding the rights, obligations, and risks of telemedicine services .

2.5 Comparison Of Doctors' Responsibility Laws In Telemedicine : A Study In The United States, United Kingdom, And Singapore

The development of telemedicine globally requires countries to adjust the legal framework to ensure the quality of service, patient protection, and professional accountability of medical personnel. Comparing the legal approaches of several jurisdictions that have previously developed telemedicine regulations is important as a normative reference. The United States, the United Kingdom, and Singapore are three countries with different legal systems and health services, but have similarities in their commitment to strengthening the accountability of doctors in the context of remote medical services. This comparison is useful for seeing how the principle of care (duty of care), legal responsibility, and enforcement mechanisms are implemented, especially in telemedicine practices .

2.5 1 United States: Common Law Malpractice and Multi-State Licensing

The United States adopts a common law legal system , where judicial precedent is the primary source of law. Malpractice lawsuits against physicians are very common, including in the context of telemedicine . The legal liability of physicians is based on the principle of negligence , which is when a physician fails to act according to reasonable professional standards in similar circumstances, resulting in harm to the patient. The four elements of malpractice remain applicable in online services, namely: duty of care , breach of duty , causation , and damages . (Paterick, 2022)

What is interesting about the US system is that medical license recognition is done at the state level. This means that a doctor who conducts teleconsultation to a patient in another state must be licensed in the state where the patient is located. Otherwise, the doctor can be considered to be practicing illegally. (Cody, 2013; Young & Alexander, 2010)

During the COVID-19 pandemic, many states relaxed cross-jurisdictional licensing requirements to facilitate access to telemedicine services . However, this policy was temporary. After the pandemic subsided, most states re-implemented stricter regulations regarding licensing of practices, and some even began requiring telemedicine-specific informed consent that explicitly explained the limitations and risks of virtual services. (Firmansyah, 2022)

Malpractice lawsuits involving telemedicine have begun to emerge, particularly involving misdiagnosis, delays in emergency care, or failure to refer patients. U.S. courts continue to assess whether the standard of care was met, regardless of the medium used.

2.5.2 English: Emphasis on Professional Ethics and the NHS Patient Protection Scheme

Telemedicine practice in the UK is integrated into the National Health Service (NHS), with direct oversight from the General Medical Council (GMC). The GMC publishes Good Medical Practice guidance that applies to all forms of medical practice, including remote services. The GMC Guidance on Remote Consultations and Prescribing (Guidance on Remote Consultations and Prescribing) states that doctors should ensure that a patient's condition is suitable for virtual care, and should refer to face-to-face care if they cannot meet the standard of clinical assessment online. (Khanji et al., 2023)

Common law English legal system prioritizes that lawsuits against doctors can be brought on the basis of clinical negligence . The standard of care is measured by the Bolam Test , namely whether the doctor's actions are in line with the standards of practice commonly practiced by the medical professional community at the time in question. This principle also applies to online consultations. This means that doctors cannot argue that misdiagnosis occurred due to the limitations of telemedicine ; they remain responsible for making accountable clinical decisions. (Warren Jones, 2000)

The UK government, through the NHS, provides indemnity protection through the Clinical Negligence Scheme for General Practice (CNSGP), which also covers telemedicine consultations. This provides protection for patients using telemedicine in primary care. However, doctors are required to record all consultations, explain the risks of online services, and avoid using telemedicine for conditions that require a full physical assessment. The UK model emphasizes the importance of professional ethics and strict documentation, as well as an integrated system of safeguards within the national health service. This approach strengthens accountability and prevents abuse of telemedicine practices . (Connelly & Serpell, 2020)

2.5.3 Singapore: Integration of Ethics, Risk Regulation and Legislative Reform

Singapore has taken a progressive and integrated regulatory path. Singapore regulates telemedicine practices through the National Telemedicine Guidelines (NTG) 2015, issued by the Ministry of Health. These guidelines are not yet legally binding, but serve as a primary reference for medical personnel and online service platforms. The guidelines emphasize the principle of "equivalence of care," which states that the standard of care in telemedicine must be equivalent to face-to-face services. (Committee, 2015)

The Singapore Medical Council (SMC) has included telemedicine provisions in its Ethical Code and Ethical Guidelines (ECEG) 2016. The SMC requires doctors to explain the limitations of virtual services, maintain data confidentiality, and ensure patients understand the risks of using such services. If a violation occurs, the SMC can impose ethical sanctions ranging from warnings to revocation of practice registration. (Council, 2016)

Singapore strengthened its legal framework through the Healthcare Services Act (HCSA) 2020, which was gradually implemented from 2022 during the pandemic. The HCSA regulates service -based licensing , so that telemedicine service provider platforms must obtain official licenses as healthcare providers. This approach allows the government to directly supervise not only its medical personnel but also the technology entities that facilitate doctor-patient interactions. This model is considered adaptive to the risks of digital services and clarifies the legal accountability of each party. (Council, 2016; Yew, 2020)

These three countries show that the legal responsibilities of doctors in telemedicine are not fundamentally different from conventional practice. The differences are in the oversight mechanism, patient protection scheme, and licensing model. There are a number of important lessons that Indonesia can learn:

a. The expansion of medical service standards in the online context, as regulated in the UK and Singapore, is important to ensure patient safety and limit the room for free interpretation.
b. Patient protection schemes such as CNSGP in the UK or platform licensing integration in Singapore can be implemented in Indonesia to strengthen public trust in digital health services.
c. Documentation and informed consent need to be legally standardized so that they can be recognized as valid evidence in legal disputes.
d. Cross-border licensing and regulation of technology platform responsibilities must be immediately included in the derivative regulations of the 2023 Health Law.

2.6 Telemedicine Legal Reform In Indonesia To Bridge Innovation And Legal Justice

Legal reform in the field of telemedicine in Indonesia is an urgent need to bridge the advancement of health service technology with the principles of justice and legal certainty. Although telemedicine has become an essential component in the modern service system, the acceleration of the use of this technology has not been accompanied by the development of

equivalent regulations. This inequality creates legal vulnerabilities for both patients who are entitled to protection and quality of service, and for doctors who need clarity on their authority, responsibility, and legal protection in online practice. Therefore, a comprehensive and integrated legal framework is needed to avoid a vacuum of post-pandemic norms, where KKI Circular Letter No. 74 of 2020 is no longer valid. Although Health Law No. 17 of 2023 has affirmed the existence of information technology-based health services, the absence of implementing technical regulations has caused various sectoral regulations—such as the Medical Practice Law, the Consumer Protection Law, the ITE Law, and KODEKI—to be unable to address the complexity of digital medical interactions.

This reform should include the issuance of government regulations and health ministerial regulations as derivative regulations of the Health Law, which discuss telemedicine in detail, regulating definitions, operational standards, data security, and accreditation and reporting mechanisms. In addition, standardization of digital informed consent , the establishment of a telemedicine- based medical insurance scheme , and strengthening the authority of the MKDKI in the context of online services are crucial parts of this legislative agenda. New regulations also need to clearly distinguish between the professional responsibilities of medical personnel and the technical responsibilities of platform providers, in order to avoid overlapping legal authorities.

Another important aspect is patient empowerment through comprehensive digital legal education. Literacy on data rights, complaint mechanisms, and service limitations must be integrated into the application and strengthened through public campaigns. Cross-regulatory and institutional harmonization between the Ministry of Health, KKI, Kominfo, and data protection authorities needs to be built in the form of a cross-sectoral task force , to ensure optimal synergy of supervision and legal protection.

Finally, this legal reform must maintain a balance between encouraging technological innovation and ensuring legal accountability. The precautionary principle , proportionality, and responsiveness of the legal system to technological change are the normative foundations that must be adopted. Only with an adaptive, fair, and measurable legal framework can telemedicine develop as an integral part of an inclusive and trusted national health system.

4. Conclusion And Suggestions

The transformation of healthcare services through telemedicine has become inevitable in the post-COVID-19 pandemic era. The surge in the use of online services marks a paradigm shift in the relationship between doctors and patients, but is not accompanied by adequate regulatory readiness. The practice of telemedicine presents new challenges in terms of legal liability, especially when there is a misdiagnosis, delayed treatment, or data privacy violations. The applicable Indonesian regulatory framework still does not comprehensively regulate this virtual relationship, especially after the pandemic emergency status was revoked. This creates a normative vacuum that can threaten legal certainty for patients and doctors, as well as weaken the accountability of the medical profession online.

Through comparative studies with jurisdictions such as the United States, the United Kingdom, and Singapore, it appears that the legal liability of doctors in telemedicine remains based on the principles of prudence and professionalism that are equivalent to conventional practices. The establishment of digital service standards, electronic informed consent mechanisms , negligence reporting systems, and integration of cross-sectoral supervision are key steps in ensuring fair and adaptive legal protection. Indonesia needs to immediately draft derivative regulations from the 2023 Health Law that regulate telemedicine practices in detail , so that health technology innovation does not become a source of legal uncertainty, but rather a means of realizing inclusive, safe, and legally responsible services.

Reference

[1] A. M. T. Anggraini, "Legal Protection of Patients in Telemedicine Services: Implementation and Challenges," *KnE Social Sciences*, pp. 306–316, 2022.

[2] F. N. Aryani and A. Intarti, "Legal Responsibility for Malpractice by Medical Personnel Based on Law Number 29 of 2004 Concerning Medical Practice," *Wacana Paramarta: Journal of Legal Science*, vol. 18, no. 1, pp. 51–60, 2019.

[3] M. Brazier and E. Cave, "The practice of medicine today," in *Medicine, Patients and the Law* (6th ed.), Manchester University Press, pp. 3–30, 2020.

[4] M. Brazier and S. Fovargue, "Transforming wrong into right: What is 'proper medical treatment'?," in *The Legitimacy of Medical Treatment*, Routledge, pp. 12–31, 2015.

[5] H. K. Bruhn, "Telemedicine: dos and don'ts to mitigate liability risk," *Journal of the American Association for Pediatric Ophthalmology and Strabismus*, vol. 24, no. 4, pp. 195–196, 2020. https://doi.org/10.1016/j.jaapos.2020.07.002

[6] B. Handoyo, SH, MH, "Legal Review of the Enforcement of Medical Malpractice Law in Health Services from a Criminal Law Perspective," *AT-TASYRI': SCIENTIFIC JOURNAL OF MUAMALAH PROGRAM*, vol. 12, no. 01, pp. 47–62, 2020.

[7] C. R. Cody, "Professional licenses and substantive due process: can states compel physicians to provide their services," *Wm. & Mary Bill Rts. J.*, vol. 22, pp. 941–?, 2013.

[8] National Telemedicine Advisory Committee, *National Telemedicine Guidelines of Singapore*, 2015.

[9] A. Connelly and M. Serpell, "Clinical negligence," *Anesthesia & Intensive Care Medicine*, vol. 21, no. 10, pp. 524–527, 2020. https://doi.org/10.1016/j.mpaic.2020.07.006

[10] S. D. Council, *Ethical Code and Ethical Guidelines*, 2016.

[11] A. Erfanifa *et al.*, "Advantages and Disadvantages of Telemedicine in Medicine: A Review Study," *Journal of Zabol Medical School*, 2024.

[12] D. Estrada, "Legal Protection for Doctors in Carrying Out Medical Practice Related to Alleged Disciplinary Violations Resulting in Malpractice," *ALADALAH: Journal of Politics, Social, Law and Humanities*, vol. 2, no. 2, pp. 137–153, 2024.

[13] Y. Firmansyah, "A Hospital's Legal Responsibility For Patient Rights During The Covid-19 Pandemic-A Review From The Health Sector's Law Regulations," *Indonesian Journal of Social Science*, vol. 2, no. 08, pp. 1392–1406, 2021.

[14] Y. Firmansyah, *Legal review of telehealth, telemedicine, and teleconsultation in relation to guaranteeing personal data protection*, Veteran National Development University, Jakarta, 2022.

[15] Y. Firmansyah and I. Haryanto, "Contamination In Covid-19 Sample – The Iceberg Phenomenon and Pandora Box (Law and Sociology Perspective)," *Indonesian Journal of Social Technology*, 2021. https://doi.org/10.36418/jist.v2i7.199

[16] Y. Firmansyah and I. Haryanto, "Two Dark Sides of Covid-19: The Dilemma Between Transparency of Covid-19 Patient Identity Data and Transparency of Public Data in Order to Reduce Stigmatization: A Sociological Perspective," *Metta: Multidisciplinary Journal of Science*, vol. 1, no. 2, pp. 73–85, 2021.

[17] Y. Firmansyah, H. Hendsun, and I. Buntara, "Insomnia Incidence During Large-Scale Social Restrictions (PSBB) in Jakarta Due to the Covid-19 Pandemic," *HEARTY*, vol. 8, no. 2, pp. 76–83, 2020.

[18] M. Fisk, A. Livingstone, and S. W. Pit, "Telehealth in the context of COVID-19: changing perspectives in Australia, the United Kingdom, and the United States," *Journal of Medical Internet Research*, vol. 22, no. 6, e19264, 2020.

[19] R. A. Fitriono, B. Setyanto, and R. Ginting, "Enforcement of Malpractice Law Through a Penal Mediation Approach," *Yustisia*, vol. 5, no. 1, pp. 148–161, 2016.

[20] A. L. Fogel and J. C. Kvedar, "Reported Cases of Medical Malpractice in Direct-to-Consumer Telemedicine," *JAMA*, vol. 321, no. 13, p. 1309, 2019. https://doi.org/10.1001/jama.2019.0395

[21] R. K. Gobburi *et al.*, "Telemedicine use in rural areas of the United Kingdom to improve access to healthcare facilities: A review of current evidence," *Informatics and Health*, vol. 2, no. 1, pp. 41–48, 2025.

[22] D. Haiti, "Doctors' Responsibilities in Medical Malpractice from an Administrative Law Perspective," *Badamai Law Journal*, vol. 2, no. 2, p. 206, 2017.

[23] B. Heryanto, "Doctors' Malpractice in Legal Perspective," *Journal of Legal Dynamics*, vol. 10, no. 2, pp. 183–191, 2010.

[24] A. Hutchinson *et al.*, "Perceptions of good medical practice in the NHS: a survey of senior health professionals," *BMJ Quality & Safety*, vol. 8, no. 4, pp. 213–218, 1999.
[25] L. R. Y. Hwei and G. S. Octavius, "Potential advantages and disadvantages of telemedicine: A literature review from the perspectives of patients, medical personnel, and hospitals," *Journal of Community Empowerment for Health*, vol. 4, no. 3, pp. 180–186, 2021.
[26] M. Intan Sabrina and I. R. Defi, "Telemedicine guidelines in South East Asia—a scoping review," *Frontiers in Neurology*, vol. 11, p. 581649, 2021.
[27] B. I. S. Kainde and I. D. S. Saimima, "Reconstruction of Article 66 Paragraph (3) of Law No. 29 of 2004 concerning the Medical Practice Law Regarding the Procedures for Complaints of Doctors' Malpractice in Indonesia," *Sasana Law Journal*, vol. 7, no. 2, 2021.
[28] Ministry of Health of the Republic of Indonesia, "Regulation of the Minister of Health of the Republic of Indonesia Number 20 of 2019 Concerning the Implementation of Telemedicine Services Between Health Service Facilities," 2019.
[29] Ministry of Health of the Republic of Indonesia, "Circular Letter Number HK.02.01/MenKes/303/2020 Concerning the Provision of Health Services Through the Utilization of Information and Communication Technology in the Framework of Preventing the Spread of Corona Virus Disease 2019 (Covid-19)," 2020.
[30] M. Y. Khanji, A. M. Gallagher, N. Rehill, and R. A. Archbold, "Remote consultations: review of guiding themes for equitable and effective delivery," *Current Problems in Cardiology*, vol. 48, no. 8, p. 101736, 2023. https://doi.org/10.1016/j.cpcardiol.2023.101736
[31] Indonesian Medical Council, "KKI Regulation No. 74 of 2020 Concerning Clinical Authority and Medical Practice Through Telemedicine," 2020.
[32] I. Y. Koswara, *Medical Malpractice from the Perspective of Doctors and Patients: Study of Indonesian Medical Law and Code of Ethics (KODEKI)*, Deepublish, 2020.
[33] A. E. Kusumaningrum, "Analysis of therapeutic transactions as a means of legal protection for patients," *Scientific Journal of World Law*, vol. 1, no. 1, pp. 1–17, 2017.
[34] G. G. Liu *et al.*, "Evidence-Based Decision-Making on Medical Technologies in China, Japan, and Singapore," *Values in Health*, vol. 12, S12–S17, 2009.
[35] Y. A. Mannas, SH, MH, and S. Elvandari, SH, *Legal Aspects of Telemedicine in Indonesia*, PT. RajaGrafindo Persada-Rajawali Persada, 2023.
[36] B. Mueller, "Telemedicine arrives in the UK: '10 years of change in one week'," *The New York Times*, 2020.
[37] B. T. Muliawan, "Analysis Of The Implementation Of Telemedicine Services In Health Applications In Terms Of Health Law (Case Study On Telemedicine Services Organized By Health Service Facilities, Ministry Of Health And Startup Businesses In The Health Sector)," in *Proceedings International Conference On Law, Economy, Social And Sharia (ICLESS)*, vol. 1, no. 1, pp. 149–168, 2022.
[38] F. Nasution and A. L. Ibrahim, "Legal Aspects of Telemedicine and Prevention of Malpractice Risks," *Legal Arena*, vol. 17, no. 3, pp. 667–693, 2024.
[39] G. Nittari *et al.*, "Telemedicine practice: a review of the current ethical and legal challenges," *Telemedicine and E-Health*, vol. 26, no. 12, pp. 1427–1437, 2020a.
[40] G. Nittari *et al.*, "Telemedicine Practice: Review of the Current Ethical and Legal Challenges," *Telemedicine and E-Health*, vol. 26, no. 12, pp. 1427–1437, 2020b. https://doi.org/10.1089/tmj.2019.0158
[41] V. Novriansyah, S. Pasamai, and A. Anzar, "Doctors' Liability Due to Medical Malpractice in Civil Law Perspective," *Journal of Lex Generalis (JLG)*, vol. 2, no. 3, pp. 957–971, 2021.
[42] T. E. Paterick, "Medical malpractice: An introduction to tort law," *The Journal of Medical Practice Management: MPM*, vol. 37, no. 4, pp. 197–201, 2022.
[43] Government Regulation No. 28 of 2024, Legislation, 2024.
[44] M. R. Pontoh, "Criminal law enforcement against medical risks and malpractice in carrying out the doctor's duties," *Lex Crimen*, vol. 2, 2013.
[45] H. A. Praise, A. E. Rompis, and R. A. Nurzaman, "Risk-based licensing as licensing reform in Indonesia based on Government Regulation Number 5 the year 2021," *Padjadjaran Legal Axis Journal*, vol. 3, no. 2, pp. 209–227, 2022.
[46] A. T. H. Ramanda, "Legal responsibility of doctors for online consultations if patients suffer losses," *Yustisia Merdeka: Scientific Journal of Law*, vol. 7, no. 1, pp. 1–8, 2021. https://doi.org/10.33319/yume.v7i1.73
[47] R. Rayyan and A. R. M. Siregar, "Legal Certainty in the Implementation of Health Technology: Patient Data Protection and Malpractice," *Politika Progresif: Journal of Law, Politics and Humanities*, vol. 2, no. 1, pp. 1–11, 2025. https://doi.org/10.62383/progres.v2i1.1230
[48] J. L. Rensberger, "Choice of Law, Medical Malpractice, and Telemedicine: The Present Diagnosis with a Prescription for the Future," *U. Miami Law Review*, vol. 55, pp. 31–?, 2000.
[49] R. A. Riza, "Doctors' responsibility towards patients in the event of medical malpractice seen from a civil law perspective," *JCH (Jurnal Cendekia Hukum)*, vol. 4, no. 1, pp. 1–8, 2018.
[50] M. A. Romdlon, L. K. Adi, and A. A. Kurniawan, "Telemedicine in Legal Construction in Indonesia," *Kosmik Hukum*, vol. 21, no. 2, p. 142, 2021. https://doi.org/10.30595/kosmikhukum.v21i2.10597
[51] S. P. Rowland *et al.*, "Digital health technology-specific risks for medical malpractice liability," *NPJ Digital Medicine*, vol. 5, no. 1, p. 157, 2022a. https://doi.org/10.1038/s41746-022-00698-3
[52] S. P. Rowland *et al.*, "Digital health technology-specific risks for medical malpractice liability," *NPJ Digital Medicine*, vol. 5, no. 1, p. 157, 2022b.
[53] M. R. Rustam and P. Sidipratomo, "Malpractice of Telemedicine Implementation in Health Law Perspective," *Journal Evidence Of Law*, vol. 3, no. 2, pp. 29–37, 2024. https://doi.org/10.59066/jel.v3i2.649
[54] F. Saigí-Rubió *et al.*, "The current status of telemedicine technology use across the WHO European region: an overview of systematic reviews," *Journal of Medical Internet Research*, vol. 24, no. 10, e40877, 2022.

[55] B. S. Santoso, R. T. Budiyanti, and N. Nandini, "Analysis of the use of telemedicine services after the Covid-19 pandemic in Central Java," *Indonesian Journal of Health Management*, vol. 12, no. 2, pp. 119–129, 2024. https://doi.org/10.14710/jmki.12.2.2024.119-129
[56] R. Siregar, *Health Law Teaching Materials Volume I*, UKI PRESS, 2020.
[58] S. Soekanto, *Legal Research Methods*, Rineka Cipta, 2003.
[57] R. Siregar, *Health Law*, Sinar Grafika, 2023.
[59] B. Stanberry, *Legal and Ethical Aspects of Telemedicine*, in *Introduction to Telemedicine*, CRC Press, pp. 150–167, 2017.
[60] R. Subekti and R. Tjitrosudibio, *Civil Code (KUH Perdata)*, Pradnya Paramita, 2003.
[61] V. Sulistyani and Z. Syamsu, "Civil liability of a doctor in a medical malpractice case," *Lex Jurnalica*, 2015.
[62] S. Supriyanto, R. S. Agustina, and I. Dwisvimiar, "Legal responsibility of doctors in implementing telemedicine-based health services based on Law Number 17 of 2023 concerning Health (study at the Binuang Health Center UPT, Serang Regency)," *Journal of Innovation Research and Knowledge*, vol. 4, no. 11, pp. 8273–8290, 2025. https://doi.org/10.33319/yume.v7i1.73
[63] J. R. H. Tay *et al.*, "A risk-based approach to the COVID-19 pandemic: the experience at National Dental Center Singapore," *Frontiers in Medicine*, vol. 7, p. 562728, 2020.
[64] *Law No. 17 of 2023*, 2023.
[65] J. W. Jones, "The healthcare professional and the Bolam test," *British Dental Journal*, vol. 188, no. 5, p. 237, 2000.
[66] M. Widjaja, F. Fahmi, and Y. Triana, "Legal Responsibility of Doctors for Malpractice," *Innovative: Journal Of Social Science Research*, vol. 3, no. 3, pp. 5788–5799, 2023.
[67] R. Wootton, J. Craig, and V. Patterson, *Introduction to Telemedicine*, CRC Press, 2017.
[68] G. C. K. Yew, *Health Law and Medical Ethics in Singapore*, Routledge, 2020.
[69] M. S. Young and R. K. Alexander, "Recognizing the nature of American medical practice: an argument for adopting a federal medical license," *DePaul J. Health Care Law*, vol. 13, p. 145, 2010.
[70] A. Yunanto and S. H. Helmi, *Criminal Law of Medical Malpractice, Medicolegal Review and Perspective*, Andi Publisher, 2024.