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# Telemedicine Liability in Indonesia After the Digital Health Turn: Rethinking Doctor-Patient Relationships, Cross-Border Practice, and Standard of Care

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## ABSTRACT

**Introduction:** The rapid expansion of telemedicine in Indonesia following the COVID-19 pandemic has transformed healthcare delivery and improved access to medical services across the archipelago. However, this digital transition has also generated complex legal challenges concerning medical liability, professional accountability, cross-border practice, and the applicability of conventional standards of care in virtual clinical settings. This review aims to analyze telemedicine liability in Indonesia by examining the evolving doctor–patient relationship, jurisdictional challenges in cross-border telemedicine, and the need for a telemedicine-specific standard of care.

**Methods:** A narrative legal review was conducted using statutory, conceptual, and comparative approaches. Primary sources included Indonesian laws and regulations governing health services, telemedicine, electronic transactions, personal data protection, and medical records. Secondary sources consisted of peer-reviewed journal articles, professional guidelines, policy reports, and comparative regulatory frameworks from other jurisdictions.

**Results:** The digital health transformation has shifted the traditional bilateral doctor–patient relationship into a trilateral interaction involving patients, healthcare professionals, and digital platform providers. Existing regulations establish civil, criminal, administrative, and professional disciplinary liability frameworks. However, significant ambiguities remain regarding the allocation of responsibility between clinicians and electronic system operators. Cross-border telemedicine continues to operate within a regulatory gap characterized by licensing, jurisdictional, and enforcement challenges. Moreover, Indonesia has yet to develop a clearly defined telemedicine-specific standard of care that adequately addresses limitations of remote assessment, technological constraints, and AI-assisted clinical decision-making.

**Conclusion:** Telemedicine liability in Indonesia requires adaptive regulatory reform, clearer allocation of platform and clinician responsibility, formalized digital standards of care, and dedicated frameworks for cross-border practice. Strengthening these areas is essential to ensure legal certainty, professional accountability, and patient safety in the digital health era.

**Keywords:** Cross-border healthcare, digital health, Indonesia, medical liability, telemedicine.
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## INTRODUCTION

The rapid advancement of digital technologies has transformed healthcare delivery worldwide, making telemedicine an increasingly important component of modern health systems. Through the integration of information and communication technologies, healthcare providers can deliver clinical services remotely, thereby improving access to medical care, reducing geographical barriers, and supporting continuity of care.[1–3] The adoption of telemedicine accelerated substantially during the COVID-19 pandemic, when remote healthcare services became essential for maintaining access to medical consultation while minimizing infection risks.[4,5]

In Indonesia, the development of telemedicine has particular strategic significance because of the country's geographical characteristics as the world's largest archipelagic nation. Unequal distribution of healthcare resources, shortages of specialist physicians in remote regions, and disparities in healthcare infrastructure have positioned digital health as an important instrument for improving healthcare accessibility and supporting universal health coverage initiatives. Consequently, the Indonesian government has increasingly integrated digital health into the national healthcare system through electronic medical records, interoperability requirements, and the SATUSEHAT national health data platform.[6–8]

The regulatory framework governing telemedicine in Indonesia has evolved considerably over recent years. Before the COVID-19 pandemic, telemedicine services were largely limited to consultations between healthcare facilities under Minister of Health Regulation No. 20 of 2019.[9] During the pandemic, emergency regulatory measures expanded telemedicine practices to include direct physician–patient interactions through digital platforms, thereby facilitating widespread adoption of remote healthcare services.[10] Subsequently, Law No. 17 of 2023 on Health and Government Regulation No. 28 of 2024 formally integrated telemedicine into the national healthcare system and established a

broader legal foundation for digital healthcare delivery.[5,7,11]

Despite its benefits, telemedicine presents significant legal and professional challenges. The absence of direct physical examination may increase diagnostic uncertainty and create a higher risk of misdiagnosis, delayed diagnosis, or inappropriate treatment decisions.[7,12] Furthermore, telemedicine introduces complex questions regarding the nature of the doctor–patient relationship, the validity of digital informed consent, the allocation of liability between healthcare professionals and digital platform operators, and the protection of patient health data.[7,13,14] The increasing use of electronic systems in healthcare has also blurred traditional boundaries of professional responsibility, particularly when adverse outcomes involve technical failures, algorithmic errors, or cybersecurity incidents.[7,11]

Additional complexity arises in the context of cross-border telemedicine, where clinicians and patients may be located in different jurisdictions and subject to different regulatory systems. Existing licensing frameworks remain largely territorial and were developed for conventional face-to-face medical practice, creating uncertainty regarding professional accountability, jurisdiction, and enforcement in virtual healthcare environments.[15–17] At the same time, the concept of the medical standard of care continues to be challenged by the limitations of remote assessment and the growing incorporation of digital technologies and artificial intelligence into clinical decision-making.[7,18,19]

Although telemedicine has become an increasingly important component of healthcare delivery in Indonesia, scholarly discussion concerning medical liability in the digital environment remains fragmented. Existing studies often focus separately on telemedicine regulation, patient protection, data privacy, professional responsibility, or digital health governance without adequately integrating these issues into a comprehensive liability framework.[20,21] Consequently, important questions remain regarding the transformation of the doctor–patient relationship, the allocation of liability among relevant actors, the regulation of cross-border practice, and the development of telemedicine-specific standards of care.

Therefore, this review aims to critically examine telemedicine liability in Indonesia following the digital health transformation brought about by Law No. 17 of 2023 and Government Regulation No. 28 of 2024. Specifically, this review analyzes the evolution of the doctor–patient relationship in digital healthcare, explores legal challenges associated with cross-border telemedicine, and evaluates the need for a telemedicine-specific standard of care to strengthen patient safety, legal certainty, and professional accountability in Indonesia's digital health era.

## METHODS

### Search Strategy

This narrative legal review synthesized scientific literature and legal materials related to telemedicine, digital health governance, medical liability, professional accountability, cross-border healthcare, informed consent, patient data protection, and standards of care in digital medicine. The review focused on literature relevant to contemporary developments in digital health and evolving regulatory frameworks governing healthcare services. Searches were conceptually organized using combinations of the terms "telemedicine," "digital health," "medical liability," "medical malpractice," "doctor–patient relationship," "cross-border telemedicine," "informed consent," "electronic medical records," "patient data protection," "standard of care," and "Indonesia."

The legal analysis was limited to Indonesian legal instruments governing telemedicine and digital healthcare, particularly Law No. 17 of 2023 on Health, Government Regulation No. 28 of 2024 concerning the Implementation of the Health Law, Law No. 27 of 2022 on Personal Data Protection, Law No. 11 of 2008 concerning Electronic Information and Transactions as amended by Law No. 1 of 2024, Minister of Health Regulation No. 20 of 2019 on Telemedicine Services Between Healthcare Facilities, Minister of Health Regulation No. 24 of 2022 on Medical Records, and Indonesian Medical Council Regulation No. 74 of 2020 concerning Medical Practice Through Telemedicine. These legal instruments were analyzed as normative legal sources, supported by relevant peer-reviewed literature, professional guidelines, and policy documents.

### Inclusion and Exclusion Criteria

Sources were included when they discussed telemedicine regulation, medical liability, healthcare professional accountability, doctor–patient relationships in digital environments, informed consent, cross-border telemedicine, patient data protection, electronic medical records, digital standards of care, healthcare governance, or patient safety in telemedicine. Sources were excluded when they were not scientific or policy-oriented publications, focused exclusively on technical aspects of telemedicine without legal or governance implications, or addressed legal systems unrelated to telemedicine liability and digital healthcare regulation.

Foreign statutes and regulations were not used as primary normative legal sources. However, international scientific literature and regulatory experiences from jurisdictions such as the United States, the European Union, Singapore, and Japan were included solely for comparative analysis of telemedicine governance, licensing models, professional accountability, and cross-border practice. These sources were used to contextualize regulatory developments and identify potential policy considerations for Indonesia rather than to import foreign legal standards into the Indonesian legal framework.

### Data Extraction

Data were extracted into four principal analytical categories, i.e. the evolution of telemedicine regulation in Indonesia, transformation of the doctor–patient relationship in digital healthcare, telemedicine liability and cross-border practice, and the development of telemedicine-specific standards of care. Information from legal sources, scientific literature, professional guidelines, and comparative regulatory frameworks was synthesized through statutory, conceptual, and comparative approaches.

The synthesis examined how digital healthcare has altered traditional legal doctrines relating to therapeutic transactions, informed consent, professional responsibility, and institutional accountability. Particular attention was given to the allocation of liability between healthcare professionals and digital platform operators, jurisdictional challenges in cross-border telemedicine, and the adequacy of existing legal frameworks in addressing emerging digital-health risks. A thematic synthesis approach was employed to develop an integrated model of telemedicine liability that incorporates professional accountability, platform responsibility, patient safety, data governance, and regulatory oversight. This approach was considered appropriate because telemedicine liability extends beyond individual clinical conduct and is increasingly shaped by digital infrastructures, technological systems, institutional governance, and transnational healthcare interactions.

## RESULTS AND DISCUSSION

### Evolution of the Doctor–Patient Relationship in Digital Healthcare

The digital transformation of healthcare has fundamentally altered the traditional doctor–patient relationship in Indonesia. Historically, medical practice was built upon direct face-to-face interactions in which physicians established therapeutic relationships through physical examination, informed consent, diagnosis, treatment, and follow-up care.[8,9] Telemedicine has modified this framework by enabling remote healthcare delivery through digital communication technologies, thereby reducing geographical barriers and expanding access to healthcare services.[22]

The Indonesian digital health transition accelerated significantly during and after the COVID-19 pandemic, prompting regulators to formally recognize telemedicine as part of the national healthcare system.[11,19] As a result, the conventional bilateral doctor–patient relationship has evolved into a more complex structure involving healthcare professionals, patients, healthcare facilities, and digital platform providers.[7]

**Table 1. Transformation of the Doctor–Patient Relationship in Telemedicine**

| Aspect | Conventional Healthcare | Telemedicine Environment | Legal Implications |
|---|---|---|---|
| Clinical interaction | Face-to-face consultation | Remote digital consultation | Increased reliance on technology-mediated communication |
| Physical examination | Direct examination possible | Limited or absent examination | Greater diagnostic uncertainty |
| Informed consent | Direct discussion | Digital or electronic consent | Additional disclosure requirements |
| Medical records | Facility-based records | Electronic medical records | Data governance and interoperability issues |
| Liability actors | Physician and healthcare facility | Physician, facility, and platform provider | More complex allocation of responsibility |

This transformation introduces new legal considerations regarding the formation of therapeutic relationships, allocation of professional duties, and determination of liability when adverse outcomes occur.

In conventional healthcare settings, the physician generally exercises direct control over the clinical environment and patient assessment process. Telemedicine, however, depends on digital infrastructure that may be operated by third-party platform providers. Consequently, failures in communication systems, software applications, electronic health records, cybersecurity mechanisms, or algorithm-supported decision tools may contribute to patient harm independently of physician conduct.[7,14] These developments challenge traditional assumptions regarding professional accountability and require a broader understanding of healthcare responsibility in digital environments.

Furthermore, informed consent in telemedicine differs substantially from conventional medical practice. Digital consultations often rely on electronic consent mechanisms embedded within platform registration processes or application interfaces. While these systems may improve efficiency, they may also limit patients' understanding of telemedicine-specific risks, including diagnostic limitations, technical failures, privacy concerns, and emergency management constraints. Therefore, telemedicine requires a more transparent and comprehensive consent framework that adequately informs patients regarding the unique characteristics of remote healthcare delivery.[13]

### Indonesian Legal Framework for Telemedicine Liability

Indonesia has progressively developed a regulatory framework governing telemedicine and digital healthcare. Early regulation focused primarily on telemedicine services between healthcare facilities through Minister of Health Regulation No. 20 of 2019.[23] The COVID-19 pandemic subsequently accelerated regulatory adaptation, enabling direct teleconsultation between physicians and patients.[24] A major legal development occurred with the enactment of Law No. 17 of 2023 on Health and Government Regulation No. 28 of 2024.[11,19] These instruments formally integrate digital healthcare into Indonesia's national health system and establish legal foundations for telemedicine services, electronic health information systems, professional accountability, and patient rights.[25]

Despite these advances, telemedicine liability remains legally fragmented. Current regulations establish civil, administrative, disciplinary, and criminal accountability mechanisms but provide limited guidance regarding how liability should be allocated when adverse events involve both healthcare professionals and digital platform operators.[7] This ambiguity becomes particularly significant when patient harm arises from technological failures rather than clinical negligence.

The legal framework is further complicated by the interaction of multiple regulatory regimes, including health law, consumer protection law, electronic information and transaction law, data protection law, and professional

disciplinary regulations. Consequently, telemedicine disputes often require multidimensional legal analysis rather than traditional malpractice assessment alone.[20,26]

### Cross-Border Telemedicine and Jurisdictional Challenges

One of the most significant legal challenges arising from digital healthcare concerns cross-border telemedicine. Through digital platforms, physicians located in one jurisdiction may provide healthcare services to patients located in another jurisdiction without physical presence. While this model increases access to specialist expertise, it also raises complex questions concerning professional licensing, jurisdiction, applicable law, and enforcement mechanisms.[15,17]

Indonesia's regulatory framework remains predominantly territorial in nature. Existing medical licensing and professional registration systems were developed for healthcare delivery within national jurisdiction and provide limited guidance regarding foreign healthcare professionals who remotely deliver services to Indonesian patients. Consequently, cross-border telemedicine may operate within a regulatory grey area, creating uncertainty regarding jurisdiction, professional accountability, applicable law, and enforcement when adverse events or malpractice claims arise.[15,17,25]

International experience demonstrates various approaches to this issue. The United States utilizes interstate licensing compacts, while Singapore permits telemedicine under nationally coordinated digital-health regulations.[27,28] Japan has adopted policies that facilitate international teleconsultation under specified conditions.[16] These models illustrate potential approaches for balancing innovation with patient protection.

For Indonesian patients, the absence of clear jurisdictional rules may create barriers to obtaining legal remedies when harm results from consultations provided by foreign practitioners. Accordingly, future reforms should address licensing reciprocity, provider registration, jurisdictional authority, and dispute resolution mechanisms applicable to cross-border healthcare services.[15,17]

**Table 2. Indonesian Legal Instruments Governing Telemedicine Liability**

| Legal Instrument | Main Function | Relevance to Telemedicine Liability |
|---|---|---|
| Law No. 17 of 2023 on Health | Comprehensive health governance | Primary legal basis for telemedicine and healthcare accountability |
| Government Regulation No. 28 of 2024 | Implementation of Health Law | Operational regulation of digital health services |
| Minister of Health Regulation No. 20 of 2019 | Telemedicine services | Initial telemedicine regulatory framework |
| Minister of Health Regulation No. 24 of 2022 | Electronic Medical Records | Digital documentation and interoperability |
| KKI Regulation No. 74 of 2020 | Telemedicine practice standards | Professional obligations and ethical requirements |
| Law No. 27 of 2022 on Personal Data Protection | Data protection | Protection of patient health information |
| Electronic Information and Transactions Law | Electronic systems governance | Platform operation and cybersecurity compliance |

**Table 3. Comparative Approaches to Cross-Border Telemedicine**

| Jurisdiction | Regulatory Approach | Key Characteristics |
|---|---|---|
| Indonesia | Territorial licensing | Limited regulation of cross-border telemedicine |
| United States | Interstate licensure mechanisms | Facilitates multi-jurisdictional practice |
| Singapore | National telehealth regulation | Integrated governance and professional oversight |
| Japan | Conditional international teleconsultation | Structured framework for remote services |

### Standard of Care in Digital Medicine

The standard of care remains a cornerstone of medical liability analysis. Traditionally, professional conduct is assessed according to whether a reasonably competent practitioner would have acted similarly under comparable circumstances. Telemedicine complicates this assessment because remote consultations inherently differ from conventional face-to-face practice. Several limitations distinguish telemedicine from conventional healthcare. Remote consultations may restrict physical examination, reduce access to diagnostic information, and increase dependence on patient-reported symptoms. Consequently, clinicians must determine whether a patient's condition can be safely managed through telemedicine or requires referral for direct examination.[18]

These challenges suggest that telemedicine should not simply apply conventional standards of care developed for face-to-face clinical encounters. Instead, telemedicine-specific standards should incorporate criteria for patient selection and eligibility, structured triage processes, assessment of technological adequacy, comprehensive documentation requirements, informed consent procedures tailored to virtual care, continuity-of-care obligations, and clear referral pathways when remote evaluation is insufficient. Such an approach recognizes the unique clinical and technological characteristics of telemedicine while maintaining patient safety and professional accountability.[29–31]

The emergence of artificial intelligence (AI) further complicates standard-of-care analysis. AI-assisted clinical decision-support systems increasingly influence diagnosis, treatment recommendations, and risk stratification.[32] Although these technologies may improve healthcare efficiency and clinical decision-making, questions remain regarding professional accountability when AI-generated recommendations contribute to patient

harm. Current Indonesian regulations do not yet provide comprehensive guidance regarding liability arising from AI-assisted medical decision-making, reflecting broader global challenges in the governance of AI in healthcare.[33,34]

### Platform Liability and Data Governance

Digital platforms have become central actors in contemporary healthcare delivery. Beyond facilitating communication between healthcare professionals and patients, telemedicine platforms increasingly support appointment scheduling, electronic medical records, prescription management, payment processing, and patient data storage. As these functions become more integrated into clinical care, questions arise regarding the extent of platform responsibility when technological failures, system malfunctions, data breaches, or communication errors contribute to adverse patient outcomes.[3,29]

Current Indonesian law primarily addresses the professional responsibilities of healthcare practitioners and healthcare facilities, while providing limited guidance regarding the allocation of liability for digital health platforms and technology providers.[7,25] However, patient harm may arise not only from clinical errors but also from technological failures, including system outages, cybersecurity incidents, data breaches, software defects, and interoperability problems that disrupt the delivery of care or compromise patient information. These risks suggest the need for a broader liability framework that recognizes the increasingly important role of digital infrastructure in healthcare delivery.[26,29,30]

The implementation of Electronic Medical Records (EMRs) and their integration with the SATUSEHAT platform have significantly increased the importance of health-data governance in Indonesia. SATUSEHAT functions as a national health information exchange system designed to promote interoperability and standardized data sharing across healthcare facilities. While interoperability enhances continuity of care and healthcare coordination, it also increases concerns relating to data privacy, cybersecurity, and unauthorized access to sensitive health information. Effective telemedicine governance therefore requires clear obligations regarding data security, system reliability, incident reporting, and platform accountability to ensure that digital health infrastructure remains trustworthy and resilient.[3,35]

**Table 4. Policy Recommendations for Strengthening Telemedicine Liability Governance in Indonesia**

| Policy Area | Recommendation |
|---|---|
| Liability Allocation | Establish clear joint responsibility between clinicians, facilities, and platform operators |
| Standard of Care | Develop telemedicine-specific professional standards |
| Cross-Border Practice | Create licensing and registration mechanisms for foreign providers |
| Patient Protection | Strengthen informed consent and complaint procedures |
| Data Governance | Enhance cybersecurity, privacy, and interoperability requirements |
| Dispute Resolution | Develop online health-dispute resolution mechanisms |
| Artificial Intelligence | Establish regulatory guidance on AI-assisted clinical decision-making |

### Toward Regulatory Reform in Indonesia

The findings of this review suggest that Indonesia's telemedicine framework has evolved substantially in response to digital health transformation but remains incomplete in several important respects. Future reforms should focus on clarifying the allocation of responsibility among healthcare professionals, healthcare facilities, and digital platform operators, strengthening regulatory mechanisms for cross-border practice, establishing telemedicine-specific standards of care, and developing accessible and effective dispute-resolution mechanisms.

A comprehensive liability framework should strike an appropriate balance between patient protection and professional certainty. Excessive legal uncertainty may discourage innovation and limit the adoption of digital health technologies, whereas insufficient regulation may compromise patient safety, accountability, and public trust. Consequently, future regulatory reforms should promote a governance framework that supports innovation while ensuring adequate safeguards for patients and healthcare providers.[3]

This review demonstrates that telemedicine liability in Indonesia extends beyond conventional malpractice frameworks. The digital health transformation has reshaped the doctor–patient relationship, expanded the range of actors involved in healthcare delivery, introduced cross-border regulatory challenges, and created new questions concerning professional accountability and standards of care. The future of Indonesian telemedicine regulation therefore depends on the development of an integrated legal framework capable of balancing innovation, patient safety, professional accountability, and technological governance in the evolving digital health ecosystem. Nevertheless, this review is limited by its narrative design and normative legal focus, which may not capture all relevant literature or reflect the practical implementation of telemedicine liability frameworks in clinical settings. Further empirical research is needed to evaluate how existing regulations operate in practice and how emerging technologies may influence future liability models.

## CONCLUSION

Telemedicine liability in Indonesia should be understood beyond conventional malpractice concepts because digital healthcare has transformed the doctor–patient relationship into a broader system involving healthcare professionals, healthcare facilities, digital platform providers, and electronic health infrastructures. Law No. 17 of 2023 on Health and related digital-health regulations provide an important foundation for patient rights, professional accountability, telemedicine governance, and data protection; however, challenges remain regarding cross-border practice,

platform responsibility, digital informed consent, and telemedicine-specific standards of care. Therefore, telemedicine liability should be assessed through an integrated framework that combines professional accountability, patient safety, digital governance, and institutional responsibility to ensure legal certainty, protect patient rights, support fair professional evaluation, and promote safe and sustainable digital healthcare in Indonesia.

## DISCLOSURES

## AUTHOR CONTRIBUTIONS

[Initials] led the study conception, review design, literature analysis, and manuscript drafting. [Initials] contributed to the legal assessment, regulatory interpretation, and manuscript revision. All authors approved the final version of the manuscript.

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## CONFLICT OF INTEREST

The authors report no conflicts of interest.

## ETHICAL CONSIDERATIONS

Not applicable.

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