

# Telemedicine: Between Opportunities, Expectations, and Challenges in Health Development in Remote Areas of Indonesia

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## Abstract:

Recent technological advancements have facilitated improved access to healthcare services for the Indonesian population. Telemedicine has emerged as a crucial innovation to implement, offering a viable solution to bridge geographical gaps by enabling remote consultations and medical services. This study aimed to identify opportunities, expectations, and challenges in providing healthcare services by using telemedicine in Indonesia. This literature review was conducted using a narrative and descriptive approach. Data were collected through online searches from various sources, including dissertations, theses, scientific publications, and e-books. The results revealed that the utilization of digital technology in providing healthcare services to the community offers significant opportunities to improve the efficiency and convenience of medical services, especially in remote areas. The presence of telemedicine also offers new hope to the communities. However, the implementation of telemedicine still faces various challenges and obstacles, including legal regulations, digital infrastructure, technological literacy, and public trust in digital-based healthcare services.

**Keywords:** Telemedicine; Opportunities; Expectations; Challenges; Health Development; Remote Areas

## INTRODUCTION

Current advancements in technology in the field of digitalization are also permeating the healthcare sector. This is due to the demands and challenges of providing better healthcare services that reach all areas and make healthcare services more accessible to the public. Therefore, doctors, healthcare service researchers, and others have investigated and utilized advanced telecommunications and computer technologies to improve healthcare services. Indonesia, the fourth most populous country in the world with a vast territory, has significant potential for developing digital health technology. This technology can help the Indonesian population access healthcare services more easily than before (Tuckson et al., 2017). Indonesia, as one of the developing countries in Southeast Asia, is striving to keep pace with the evolution of healthcare services in line with the Industrial Revolution 4.0 era, including telemedicine, which heavily utilizes advancements in information and communication technology (Kuntardjo, 2020).

Access to adequate healthcare services generally only reaches urban areas. Meanwhile, access to healthcare services in remote areas is still significantly limited. Health is a basic right of every human being. The 1945 Constitution of the Republic of Indonesia (UUD 1945) guarantees the right to health, as stated in Article 28H, paragraph (1), which states that every person has the right to a prosperous

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life, both physically and mentally, to reside, to obtain a good and healthy environment, and to receive healthcare services (Brahmana & Karo, 2023).

Indonesia released the Telemedicine Indonesia application, TEMENIN, in 2017 through the Ministry of Health. The application can provide tele-radiology, tele-ECG, tele-ultrasound, and tele-consultation services, which currently connect 39 referral hospitals and 115 hospitals and community health centers. TEMENIN is a telemedicine implementation in Indonesia (Agustina et al., 2023). Indonesia, the world's largest archipelago with over 17,000 islands, faces significant challenges in equalizing access to healthcare services. Telemedicine has emerged as a potential solution to bridge this access gap, enabling patients in remote areas to consult medical professionals without travelling long distances (Heriani & Adlina, 2024).

As an archipelago with thousands of islands, many Indonesian communities are geographically isolated, which poses a unique challenge to traditional healthcare services. Telemedicine has emerged as an important innovation, offering a viable solution to bridge geographical gaps by enabling remote consultations and medical services. This technology is crucial in rural and remote areas, where access to professional medical personnel and healthcare facilities is limited. In Indonesia, the uneven distribution of medical resources between urban and rural areas has long been a concern (Rerey et al., 2023).

## METHODS

This study is a literature review using a narrative descriptive approach. A literature review summarizes previously published academic research and articles on a subject to improve understanding of that subject. Additionally, conducting a literature review enhances information retrieval capacity, which is the ability to effectively scan the literature. The process used in this study involved gathering information from literature reviews, reading, taking notes, analyzing, collecting concepts or texts, and then developing and clarifying the collected information or texts in relation to the main research problem. Data were collected through online searches and electronic media from various sources, including theses, dissertations, scientific publications, and e-books. Keywords related to the research variables were used to search for data on Google Scholar, Perplexity, ResearchGate and Connected Papers.

## RESULTS

The literature search found several sources relevant to the topic of this study, but the author only used nine of the most relevant pieces of literature. The literature is listed in the table below:

**Table 1.** Literature Review Results

Researcher	Title	Methods	Research findings
(Dewi Agustina, Annisa Sufia, Hilma Shofia, Indah Cahyani, Jihan Putri Ralya, Tia Mariani, 2023)	Review Article: The Effectiveness of Telemedicine Use During the Pandemic as a Means of Health Consultation	Literature review	Telemedicine is one of the health consultation media that helps the community, so there are no obstacles or barriers for those who are minimizing outdoor activities to stay informed about their health problems. Telemedicine also has drawbacks: data security and privacy cannot be fully guaranteed, there are internet network constraints, and not all services can be provided thru telemedicine.
(Reisia Palmina Brahmana, Rizky Karo Karo, 2023)	The Application of Telemedicine in Indonesia Based on the Value of	Qualitative	Doctors play an important role in providing electronic healthcare services. Doctors offer medical advice based on the information

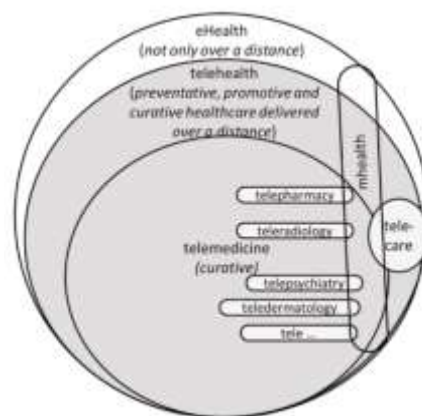
	Dignified Justice Theory: Regulations and the Role of Doctors		provided by patients/users. Based on the value of dignified justice, telemedicine services benefit society by providing access to health consultations using gadgets (smartphones).
(Marvin Candra, Sylvia Shasmita, Edwin Chandra, Juan Matheus & Ariawan Gunadi, 2024)	Telemedicine System Development: Efforts to Realize Community Welfare in the Health Sector in the Society 5.0 Era	Normative legal	Legal certainty regarding the implementation of telemedicine services is contained in the Minister of Health Regulation Number 20 of 2019 concerning the Implementation of Telemedicine Services Between Healthcare Facilities. This proves that the government is aware that health is an important goal in achieving community welfare, making it necessary for the state to improve health levels thru the development of healthcare facility services. This development can be seen from the telemedicine innovation, which in its implementation aims to expand access to community healthcare services.
(Ahmad Hariri, Haziq Idris, Surya Syarifuddin, Roya Zahir, 2025)	Telemedicine In Rural Areas: Bridging The Service Gap Health Through Technology	Qualitative	Telemedicine can reduce geographical barriers and improve access to healthcare services, particularly in medical consultations and chronic condition monitoring. Some challenges in its implementation include limited digital infrastructure, low technological literacy, and cultural resistance to new technologies in some rural communities.
(Istiana Heriani, Nisa Amalina Adlina, 2024)	Legal Aspects of Telemedicine in Indonesia: Challenges and Opportunities in the Digital Age	Normative law	Speed limit devices The development of telemedicine in Indonesia opens up great opportunities to improve access and quality of healthcare services. However, the existing legal challenges require serious attention from policymakers. A holistic and adaptive approach is needed in developing a legal framework for telemedicine, which considers not only health aspects but also technological aspects, data privacy, and consumer protection.
(Loso Judijanto, Dito Anurogo, Benny Novico	Implementation of Telemedicine in Health Services:	Qualitative	The main challenges in implementing telemedicine include data security issues, limited access

Zani, Dadang Muhammad Hasyim, Kori Puspita Ningsih, 2024)	Challenges and Opportunities		to technology, changes in clinical practice, and regulations. However, there are significant opportunities to improve access to healthcare services, increase efficiency, and expand service coverage. The implementation of telemedicine offers great potential for improving healthcare services, but the existing challenges need to be overcome with the right strategies. Clear regulations, adequate technological infrastructure, and the involvement of key stakeholders will be crucial in optimizing the benefits of telemedicine in healthcare services.
(Carolina Kuntardjo, 2020)	Dimensions of Ethics and Telemedicine in Indonesia: Enough of Permenkes Number 20 Year 2019 As a Frame of Telemedicine Practices in Indonesia?	Normative legal	The implementation of telemedicine in Indonesia still faces many ethical and legal obstacles. Minister of Health Regulation Number 20 of 2019 concerning the Implementation of Telemedicine Between Healthcare Facilities is not yet sufficient as a guideline for implementing telemedicine in Indonesia, because the regulations contained within it are not detailed enough.
(Heni Voni Rerey, Ahmad Yanuar Syauki, Abi Waqqosh, Edward Kurnia Setiawan Limijadi, Faria Ruhana, 2023)	Economic And Management Strategies for Optimizing Healthcare Services: A Case Study on Telemedicine in Indonesia	Qualitative	Telemedicine offers significant potential to improve healthcare services in Indonesia, particularly in remote and underserved areas.
(Puan Maulida Syifa Rizqi, Marysha Ikmaniar Hannari, Sentia Dewi, Elsti Alvionita, Ananda Dwi Shafira, Sri Hajjah Purba, 2025)	Literature Review: Transforming Healthcare Services Thru Telemedicine: Opportunities and Challenges in the Digital Age	Qualitative	The development of telemedicine in Indonesia requires attention to improving digital literacy and strengthening regulations to effectively expand access to healthcare services. With more equitable infrastructure and supportive policies, telemedicine has the potential to be an innovative solution in improving healthcare services for people across Indonesia.

Source: Primary data, 2020-2025

## DISCUSSION

Telemedicine is a healthcare service provided remotely by healthcare professionals. The term telemedicine began to be known in the healthcare world in the 1970s and was defined as "healing at a distance." The terms telemedicine and telehealth are often defined as the same (Kuntardjo, 2020). However, the World Health Organization (WHO) has a different definition. Telehealth is defined as the integration of communication systems in healthcare, especially in prevention and health promotion, whereas telemedicine is the use of these systems for therapy (curative medicine) (Darkins & Cary, 2000). Telehealth is related to the WHO's international activities in public health, which include health education, public and community health, health system development, and epidemiology. In contrast, telemedicine is more focused on clinical aspects (World Health Organization (WHO), 2009). However, many experts argue that the two terms are not as rigid as the division used by the WHO. Telemedicine and telehealth have essentially the same application domain. However, the term telemedicine is more popular and is ultimately used across all areas of healthcare, from preventive and promotive to curative (Mechanic et al., 2022). When comparing telemedicine and telehealth, it's like the following figure 1.



**Figure 1.** Telemedis, E-health, Tele-health, Tele-care, dan M-health

As information technology continues to develop in medicine and healthcare, the types and forms of telemedicine are also evolving. In its early days, telemedicine was limited to emergency 911 calls and phone conversations between patients and doctors. It has now evolved into teleconferencing, tele-assistance, tele-education, tele-ICU, tele-homecare, teleradiology, telepathology, tele-otoscopy, and telesurgery (Ikatan Dokter Indonesia (IDI), 2018).

The World Health Organization (WHO) stated that many digital technology functions in healthcare are available today and that their use can be recommended in all countries. Among these functions are providing fast, accurate, and direct information to everyone about health and disease; offering direct support to healthcare workers and supervisors regarding patient diagnosis and treatment; providing verifiable and searchable records of births, deaths, and health histories; and supplying operational and strategic information to health managers at every level about drug availability, finances, and human resource management. The impact on these functions will fundamentally change healthcare delivery in ways we may not be able to fully anticipate, but it is clear that disruption will occur (Mitchell & Kan, 2019).

### Opportunities In telemedicine

In recent years, the utilization of digital technology in providing healthcare services to the public has presented significant opportunities for improving the efficiency of medical services (Rizqi et al., 2025). The opportunity to use telemedicine arose during the COVID-19 pandemic. This was due to the challenges of insufficient bed capacity, inadequate equipment,

and personal protective equipment for healthcare workers. In an effort to conserve resources and minimize exposure for patients and healthcare workers, access to healthcare services is limited to only those who are in need. This led to a decrease in access to routine hospital services. Additionally, patients do not access hospital services due to home confinement, social distancing restrictions, limitations on gatherings, and restrictions on their business and other activities. In this condition, healthcare services that are usually provided in person are diverted to telemedicine. This serves as an alternative solution to meet urgent healthcare needs (Abdel-Wahab et al., 2020). The opportunity to use telemedicine to support self-management has grown, largely due to the increasing number of patients with chronic diseases who are living into old age, thanks to advancements in medical innovation (Blandford et al., 2020).

The opportunity to implement telemedicine in Indonesia has been regulated by several regulations, including Law Number 17 of 2023 concerning Health, Government Regulation Number 28 of 2024, and Minister of Health Regulation (Permenkes) No. 20 of 2019 concerning the Implementation of Telemedicine Services between Healthcare Facilities. These regulations govern the types of services, operational standards, patient data protection, infrastructure, and human resource requirements that must be met by healthcare facilities providing telemedicine services (Kemenkes RI, 2019).

### **Expectation of telemedicine**

Telemedicine has great potential for providing collaborative and patient-centered care, thereby increasing patient and healthcare provider satisfaction (Alipour & Hayavi-Haghighi, 2021). Telemedicine provides an effective method for reaching patients in rural and underserved areas, as long as the necessary infrastructure is available. The availability of healthcare services through telemedicine has shown excellent overall feedback from patients, as evidenced by high patient acceptance and satisfaction rates, particularly because of savings in travel costs and time (Kessel et al., 2016).

The presence of telemedicine offers new hope for the elderly. Elderly individuals with declining physical conditions require regular health monitoring, such as monitoring changes in health status and vital indicators, such as heart rate, blood pressure, temperature, and blood glucose levels. Through telemedicine, the elderly or their families can have teleconsultations and receive reminders for appointments and medication prescriptions. The promotion and implementation of telemedicine technology can provide appropriate solutions to improve the quality of care for the elderly, enabling remote access and reducing healthcare costs, thus empowering the elderly, enhancing monitoring, supporting home healthcare, and preventing chronic diseases (Niu et al., 2024).

### **Challenges and Obstacles of Telemedicine**

Despite its great potential, the development of telemedicine in Indonesia still faces several obstacles, including legal regulations, digital infrastructure, technological literacy, and public trust in digital health services (Heriani & Adlina, 2024). Telemedicine can clearly and effectively reduce geographical barriers to accessing healthcare services in remote areas. However, several critical challenges remain, including limited digital infrastructure, cultural resistance, and the need for better integration with existing health-care systems (Hariri et al., 2025).

The main challenge in implementing telemedicine is the legal and regulatory issues related to online medical practice. Many countries still have policies and regulations that do not fully support telemedicine practices, leading to uncertainty regarding legal liability, patient privacy, and the use of medications. Additionally, if the doctor providing telemedicine services is not located in the same country as the patient, it raises questions about jurisdiction and medical licensing. Therefore, it is important to resolve these legal and regulatory issues so that telemedicine can be implemented legally and safely (Judijanto et al., 2023). Another challenge in the implementation of telemedicine is the technical issues related to information and technology infrastructure. Slow Internet connections,



inadequate hardware and software, and a lack of cross-platform compatibility standards can be barriers to providing quality telemedicine services. Additionally, concerns regarding system reliability and the integration of electronic health data are technical issues that need to be addressed. Developing adequate infrastructure and improving the quality of Internet services will be key to overcoming these technical issues (Candra et al., 2024).

The uneven distribution of training and the readiness of healthcare workers to utilize technology are obstacles that must be addressed. Currently, devices supporting the service use very advanced information technology (Yandrizal, 2021). Healthcare professionals also face challenges in implementing digitalization in healthcare services. A positive attitude from healthcare professionals can impact the success of healthcare services, but many healthcare professionals have not yet received training, resulting in low knowledge of healthcare professionals in this regard (Siswati et al., 2024).

Challenges can also stem from issues related to patient data protection and information security. Patient data security, particularly in electronic medical records, is an important aspect of healthcare delivery that has received significant attention in recent years. The protection of patient data has been regulated by Minister of Health Regulation Number 24 of 2022 and Law Number 27 of 2022 concerning Personal Data Protection; however, in practice, inconsistencies are still found in various healthcare facilities. Smaller clinics and independent practices, in particular, face challenges in meeting strict requirements because of inadequate technical infrastructure and limited resources. Human error is a significant challenge in data protection efforts (Lestari et al., 2024).

The limitations of regulations, which still primarily govern the delivery of healthcare services between facilities, do not yet detail the direct interactions between individual doctors and patients. Regulatory ambiguity raises concerns regarding data security and professional accountability. Although recent legal frameworks, such as Law Number 17 of 2023 and Government Regulation Number 28 of 2024, aim to address these issues, their implementation remains inconsistent, posing risks to patient safety and trust (Mutiah et al., 2025).

## CONCLUSION

Telemedicine emerges as an important innovation to implement, offering a viable solution to bridge geographical gaps by enabling remote consultations and medical services. Digital technology in healthcare has provided fast, accurate, and direct information about health and disease, offered immediate support to healthcare workers regarding patient diagnosis and treatment, and supplied operational and strategic information to health managers at all levels concerning drug availability, finances, and human resource management. Telemedicine has the potential to provide healthcare services in remote areas, as supported by regulations. The presence of telemedicine offers a new avenue for the public to receive quick healthcare services without being limited by distance or time constraints. However, in its implementation, the Indonesian government faces various challenges and obstacles, such as limited regulations, lack of technological infrastructure in remote areas, untrained human resources, and issues related to patient data protection and information security.

### Conflict of Interest

All the authors declare that there are no conflicts of interest.

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## REFERENCES

- Abdel-Wahab, M., Rosenblatt, E., Prajogi, B., Zubizarretta, E., & Mikhail, M. (2020). TELEMEDICINE: Opportunities in Telemedicine, Lessons Learned After COVID-19 and the Way Into the Future. *International Journal Radiation Oncology Biology Physics*, 108(2), 438–443.
- Agustina, D., Sufia, A., Shofia, H., Cahyani, I., Ralya, J. P., & Mariani, T. (2023). Review Article: Efektivitas Penggunaan Telemedicine Pada Masa Pandemi Sebagai Sarana Konsultasi Kesehatan. *Jurnal Keperawatan Dan Kesehatan Masyarakat Cendekia Utama*, 12(3), 257–264. <https://www.jurnal.stikeskendekiautamakudus.ac.id/index.php/stikes/article/view/1766>
- Alipour, J., & Hayavi-Haghighi, M. H. (2021). Opportunities and Challenges of Telehealth in Disease Management during COVID-19 Pandemic: A Scoping Review. *Applied Clinical Informatics*, 12(4), 864–876. <https://doi.org/10.1055/s-0041-1735181>
- Blandford, A., Wesson, J., Amalberti, R., AlHazme, R., & Allwihan, R. (2020). Opportunities and challenges for telehealth within, and beyond, a pandemic. *The Lancet Global Health*, 8(11), e1364–e1365. [https://doi.org/10.1016/S2214-109X\(20\)30362-4](https://doi.org/10.1016/S2214-109X(20)30362-4)
- Brahmana, R. P., & Karo, R. K. (2023). Penerapan Telemidisin Di Indonesia Berbasis Nilai Teori Keadilan Bermartabat: Pengaturan dan Peran Dokter. *Jurnal Lemhannas RI*, 10(4), 224–236. <https://doi.org/10.55960/jlri.v10i4.365>
- Candra, M., Shasmita, S., Chandra, E., Matheus, J., & Gunadi, A. (2024). Pengembangan Sistem Telemedicine: Upaya Mewujudkan Kesejahteraan Masyarakat Di Bidang Kesehatan Pada Era Society 5.0. *Jurnal Muara Ilmu Sosial, Humaniora, Dan Seni*, 8(2), 294–303. <https://doi.org/10.24912/jmishumsen.v8i2.29519.2024>
- Darkins, A. W., & Cary, M. A. (2000). *Telemedicine and Telehealth (Principles, Policies, performance, and Pitfalls)*. Springer Publishing Company Inc.
- Hariri, A., Idris, H., Syarifuddin, S., & Zahir, R. (2025). Telemedicine in Rural Areas: Bridging the Service Gap. *Cognitionis Civitatis et Politicae*, 2(1), 35–45.
- Heriani, I., & Adlina, N. A. (2024). Aspek Hukum Telemedicine di Indonesia : Tantangan dan Peluang dalam Era Digital. *Indonesian Journal of Islamic Jurisprudence, Economic and Legal Theory*, 2(3), 1398–1405.
- Ikatan Dokter Indonesia (IDI). (2018). *Telemedicine: Rekomendasi Ikatan Dokter Indonesia untuk Masa Depan Digitalisasi Kesehatan di Indonesia*.
- Judijanto, L., Anurogo, D., Zani, B. N., Hasyim, D. M., & Ningsih, K. P. (2023). Implementation of Telemedicine in Health Services: Challenges and Opportunities. *Journal of World Future Medicine, Health and Nursing*, 2(1), 37–50. <https://doi.org/10.70177/health.v2i1.667>
- Kemenkes RI. (2019). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 20 Tahun 2019 Tentang Penyelenggaraan Pelayanan Telemedicine Antar Fasilitas Pelayanan Kesehatan*.
- Kessel, K. A., Vogel, M. M., Schmidt-Graf, F., & Combs, S. E. (2016). Mobile Apps in Oncology: A Survey on Health Care Professionals' Attitude Toward Telemedicine, mHealth, and Oncological Apps. *Journal of Medical Internet Research*, 18(11), e312.
- Kuntardjo, C. (2020). Dimensions of Ethics and Telemedicine in Indonesia: Enough of Permenkes Number 20 Year 2019 As a Frame of Telemedicine Practices in Indonesia? *Soepra*, 6(1), 1–14. <https://doi.org/10.24167/shk.v6i1.2606>
- Lestari, A. Y., Misran, Raharjo, T., Annas, M., Riskanita, D., & Prabandari, A. P. (2024). Improving Healthcare Patient Data Security: An Integrated Framework Model For Electronic Health Records From A Legal Perspective. *Law Reform: Jurnal Pembaharuan Hukum*, 20(2), 329–352. <https://doi.org/10.14710/lr.v20i2.56986>



- Mechanic, O. J., Persaud, Y., & Kimball, A. B. (2022). *Telehealth Systems*. StatPearls Publishing LLC.
- Mitchell, M., & Kan, L. (2019). Digital Technology and the Future of Health Systems. *Health Systems and Reform*, 5(2), 113–120. <https://doi.org/10.1080/23288604.2019.1583040>
- Mutiah, F., Sibuea, H., & Chandra, M. (2025). Telemedicine Regulation in Indonesia: Legal Frameworks, Challenges, and Future Directions. *Jurnal Multidisiplin Indonesia*, 4(4), 242–251. <https://doi.org/10.58344/jmi.v4i4.2267>
- Niu, S., Hong, W., & Ma, Y. (2024). How Expectations and Trust in Telemedicine Contribute to Older Adults' Sense of Control: An Empirical Study. *Healthcare*, 12(17), 1685. <https://doi.org/10.3390/healthcare12171685>
- Rerey, H. V., Syauki, A. Y., Waqqosh, A., Limijadi, E. K. S., & Ruhana, F. (2023). Economic and Management Strategies for Optimizing Healthcare Services: A Case Study on Telemedicine in Indonesia. *Jurnal Aisyah : Jurnal Ilmu Kesehatan*, 8(3). <https://doi.org/10.30604/jika.v8i3.2139>
- Rizqi, P. M. S., Hannari, M. I., Dewi, S., Alvionita, E., Shafira, A. D., & Purba, S. H. (2025). Literatur Review: Transformasi Layanan Kesehatan melalui Telemedicine: Peluang dan Tantangan di Era Digital. *Jurnal Kesehatan Tembusai*, 6(1), 699–707.
- Siswati, S., Ernawati, T., & Khairunnisa, M. (2024). Analysis of Readiness Challenges for Implementing Electronic Medical Records In Padang City's Health Centers. *Jurnal Kesehatan Vokasional*, 9(1), 1.
- Tuckson, R. V, Edmunds, M., Ph, D., & Hodgkins, M. L. (2017). Telehealth. *The New Engl and Journal of Medicine Special*, 377(16), 1585–1592.
- World Health Organization (WHO). (2009). *Telemedicine Oppurtunities and Developments in Memver States : Report on The Second Global Survey on eHealth, Global Observatory for eHealth Series*.
- Yandrizal. (2021). Analisis Kesiapan dan Pelatihan pada Masa dan Pasca Pandemi Covid-19 Berbasis Teknologi. *Jurnal EMBA*, 9(2), 1–12.