

## Criminal Law Perspectives on Medical Legal Issues in Telemedicine

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### Abstract

Digital technology has transformed healthcare globally, with telemedicine playing a pivotal role in expanding access to medical services in remote and underserved areas. In Nigeria, however, the practice of telemedicine raises complex medico-legal issues that directly intersect with criminal law. This study examines criminal law perspectives on telemedicine in Nigeria, with particular emphasis on medical liability, patient confidentiality, data protection, and accountability for malpractice or negligence. The research employed a quantitative approach, administering 303 questionnaires to respondents across Nigeria and analyzing the data to assess perceptions of telemedicine and its legal implications. The findings indicate, first, that telemedicine holds significant potential to strengthen Nigeria's healthcare system, but its effectiveness is constrained by serious challenges, including the absence of a comprehensive regulatory framework, inadequate protection of patient data, and uncertainty regarding criminal liability for medical errors and breaches of confidentiality. Second, the study underscores the urgent need for Nigeria to establish robust laws, ethical guidelines, and medical regulations that specifically address issues of criminal liability, professional responsibility, and patient protection in telemedicine. The adoption of such frameworks would provide legal certainty, enhance accountability, and foster greater public trust in digital healthcare delivery.

**Keywords:** Criminal; Legal; Medical; Nigeria; Telemedicine;



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### Introduction

Medical negligence derives from the tort principle of negligence articulated by Lord Atkin in the landmark case *Donoghue v. Stevenson*. In this context, medical negligence refers to an act or omission by a healthcare professional that falls below the accepted standard of care and consequently causes harm or death to a patient.<sup>1</sup> The case established the foundational principle that individuals must exercise reasonable care to prevent foreseeable harm to others. To prove negligence, a claimant must demonstrate the existence of a duty of care, a breach of that duty, and that

<sup>1</sup> Eugene Y. Chan and Najam U. Saqib, 'Privacy Concerns Can Explain Unwillingness to Download and Use Contact Tracing Apps When COVID-19 Concerns Are High', *Computers in Human Behavior*, 119 (2021), 106718 <https://doi.org/10.1016/j.chb.2021.106718>

the breach directly resulted in injury or damage. In medical practice, physicians who assume responsibility for the treatment of patients inherently owe such a duty of care. This obligation arises once a patient is formally admitted and placed under medical supervision in a hospital.<sup>2</sup> Moreover, legal and ethical discourse suggests that the responsibility of healthcare practitioners should not be confined to patients under their immediate management. Instead, it extends to any patient they encounter within the hospital environment. Accordingly, a medical practitioner owes a duty of care to every patient within the hospital premises, regardless of whether that patient is formally assigned to their care.<sup>3</sup>

Telemedicine is now synonymous with digital innovation and a revolution in modern healthcare. The paradigm is changing dramatically in the country regarding the delivery of health services, especially in Nigeria, and mostly where there is a demand for more accessible medical care. Telemedicine has heralded a great leap in Nigeria because it solved the challenge of distance; people can now consult health practitioners and get other health services at a distance, mostly in remote areas, without bothering to overcome geographic locations.<sup>4</sup>

Moreover, this leap advances the country's image as a whole in the service delivery of the health sector. Telemedicine in Nigeria is transforming patient experience with better accessibility, reduced cost, and improved health results, as much of the literature available to date has consented to this budding collective understanding of emerging prospects. Much has been said about accessibility, cost, and health outcomes as strong arguments towards telemedicine by researchers and health professionals. Indeed, with the potential to reach further populations and progressively conquer the geographical and infrastructural barriers, telemedicine promises a better prospect in close future healthcare delivery.<sup>5</sup> Even, the cost-effectiveness of using such telemedicine modality will lead to a reduction of the financial burden on healthcare providers and patients alike, giving room for a broader society to afford quality healthcare. It continues promising the birth of a

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<sup>2</sup> Chad Anderson, Richard L. Baskerville and Mala Kaul, 'Information Security Control Theory: Achieving a Sustainable Reconciliation Between Sharing and Protecting the Privacy of Information', *Journal of Management Information Systems*, 34.4 (2017), 1082–1112 <https://doi.org/10.1080/07421222.2017.1394063>

<sup>3</sup> Olumide Sunday Adewale, 'An Internet-Based Telemedicine System in Nigeria', *International Journal of Information Management*, 24.3 (2004), 221–34 <https://doi.org/10.1016/j.ijinfomgt.2003.12.014>

<sup>4</sup> Alka Agrawal and Nawaf Rasheed Alharbe, 'Need and Importance of Healthcare Data Integrity', *International Journal of Engineering and Technology*, 11.4 (2019), 854–59 <https://doi.org/10.21817/ijet/2019/v11i4/191104033>

<sup>5</sup> Haleh Ayatollahi and Ghazal Shagerdi, 'Information Security Risk Assessment in Hospitals', *The Open Medical Informatics Journal*, 11.1 (2017), 37–43 <https://doi.org/10.2174/1874431101711010037>

technologically-advanced yet more inclusive healthcare environment as telemedicine takes root in Nigeria.<sup>6</sup>

While the momentum for telemedicine advances rapidly, it is also evolving with intricate legal and medical issues for which due diligence and consideration must be applied. The intersection of technology and health regulations introduces a complex set of discussions for real thorough examination towards preparing the country for responsible and ethical integration of telemedicine into the larger framework of health systems in Nigeria.<sup>7</sup> One big shortcoming in this integration is that there is no legislative law dealing with the nuances of telemedicine. It may be that the existing laws do not sufficiently cover some of the patient's rights as well as data privacy and the liability of health professionals involved in this challenging digital front taken by remote healthcare practices.<sup>8</sup>

Ethical dilemmas arise prominently in the domain of telemedicine, especially in the spheres of remote diagnosis and treatment. The standard of care continues to pose challenges in ensuring the correct assessment of medical conditions, possible misdiagnoses, and most importantly, the standard of care due to the virtual nature of the relationship with patients. Addressing this ethical challenge would require finding an appropriate equilibrium between the use of technology for improved accessibility to health services and maintaining the tenets of medical ethics.<sup>9</sup> Besides, there is an urgent need for fine and detailed guidelines for establishing and maintaining doctor-patient relationships in cyberspace. If telemedicine becomes part of the healthcare system in Nigeria, lawyers and ethicists will have important roles in ensuring that well-trusted legal and ethical frameworks are developed in programming patients' safety and standards in the delivery of care.<sup>10</sup>

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<sup>6</sup> Augustine Bala Nalah, Azman Azlinda and Singh Jamir Singh Paramjit, 'Harmful Cultural Practices and HIV Stigma as Psychosocial Issues in North Central Nigeria', *International Journal of Human Rights in Healthcare*, 14.2 (2020), 104–16 <https://doi.org/https://doi.org/10.1108/IJHRH-06-2020-0042>

<sup>7</sup> Elekwachi Chimezie Lekwas and others, 'Preliminary Findings on the Psychometric Properties of the ICAST-Home among Children in Southeast Nigeria', *Child Protection and Practice*, 6 (2025), 100218 <https://doi.org/https://doi.org/10.1016/j.chipro.2025.100218>

<sup>8</sup> Nurdin Sembiring and others, 'The Effects of Emotional Intelligence and Organizational Justice on Job Satisfaction, Caring Climate, and Criminal Investigation Officers' Performance', *International Journal of Organizational Analysis*, 28.5 (2020), 1113–30 <https://doi.org/https://doi.org/10.1108/IJOA-10-2019-1908>

<sup>9</sup> Richard Abayomi Aborisade, 'On the "Darkness of Dark Figure" of Sexual Crimes: Survivors' Rape Reporting Experiences with the Nigerian Police', *International Journal of Law, Crime and Justice*, 73 (2023), 100576 <https://doi.org/https://doi.org/10.1016/j.ijlcj.2023.100576>

<sup>10</sup> Ahlem Houidi and Saeeda Paruk, 'A Narrative Review of International Legislation Regulating Fitness to Stand Trial and Criminal Responsibility: Is There a Perfect System?', *International Journal of Law and Psychiatry*, 74 (2021), 101666 <https://doi.org/https://doi.org/10.1016/j.ijlp.2020.101666>

Previous academic studies provide valuable insights into the criminal law dimensions of medical-legal issues in telemedicine. A study by Michael C Hoaglin shows that legal disputes in telemedicine often begin with administrative or civil claims, but they may extend into criminal responsibility when patient harm, data breaches, or unauthorized practice occur. The main difficulty lies in proving whether the cause of harm is negligence by medical professionals or technological malfunction.<sup>11</sup> Likewise, research by Sandra Bello explains that the integration of remote monitoring and artificial intelligence makes it harder to establish causation and foreseeability, which are essential elements in criminal negligence. During the COVID-19 pandemic, some prosecutors even considered charges such as negligent epidemic to address failures in telemedicine practice.<sup>12</sup>

In addition, Renata Solimini anticipates possible misuse of telemedicine platforms through fraud, illegal prescribing, and identity manipulation, and recommends stronger investigative capacity to prevent criminal exploitation.<sup>13</sup> A further study in the Journal of Medical Internet Research examines the use of telehealth in drug-related health services, highlighting legal concerns over consent, confidentiality, and data protection. It also notes that cases of drug diversion, cyber intrusion, or unauthorized disclosure may fall within the scope of criminal law. Finally, a reviews post-pandemic telemedicine regulation in the United States and emphasizes the need to monitor fraud risks, while clarifying when misconduct should be treated as a criminal rather than administrative violation. Taken together, these studies reveal three main areas of concern: criminal liability for patient harm due to gross negligence in remote care, criminal sanctions for data and privacy violations, and criminal risks from fraud or controlled-substance misuse. However, evidence problems, unclear standards of intent in virtual practice, and lack of international harmonization remain major legal challenges.<sup>14</sup>

With regard to the above, this study takes up hybrid methodology for studying the legal and medical dimensions around the practice of telemedicine in Nigeria and the requirement for nuanced understanding in order to move through the advancing convergence of technology and healthcare regulation.

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<sup>11</sup> Michael C. Hoaglin and others, 'Medicolegal Sidebar: Telemedicine—New Opportunities and New Risks', *Clinical Orthopaedics & Related Research*, 479.8 (2021), 1671–73 <https://doi.org/10.1097/CORR.0000000000001856>

<sup>12</sup> Sandra Bello, 'Telemedicine and Health Law in Nigeria: Regulatory Challenges and Global Lessons', 2025 <https://doi.org/10.2139/ssrn.5386358>

<sup>13</sup> Renata Solimini and others, 'Ethical and Legal Challenges of Telemedicine in the Era of the COVID-19 Pandemic', *Medicina*, 57.12 (2021), 1314 <https://doi.org/10.3390/medicina57121314>

<sup>14</sup> Raissa Orsayeva and others, 'Telemedicine during COVID- 19: Features of Legal Regulation in the Field of Administrative Liability for Errors Committed by Medical Institutions', *Egyptian Journal of Forensic Sciences*, 15.1 (2025), 26 <https://doi.org/10.1186/s41935-025-00443-3>

## Methodology

This involves an investigation into the legal and medical aspects concerning telemedicine in the Nigerian context while taking cues from the experiences of Indonesia. This will be achieved through the use of more than one research methodology since it is both a doctrine and non doctrinal. The study will not only interrogate the legal status of telemedicine's implementation but also address the social, cultural, ethical, economic, and even technological issues that have affected telemedicine practice in Nigeria.<sup>15</sup> The primary doctrinal activity centers on an in-depth analysis of relevant legislation, including but not limited to telemedicine regulations, healthcare laws, and data protection statutes in both countries. On the other hand, the focus of the non-doctrinal part of the research is to capture respondents' perspective prisms, and experience of telemedicine in Nigeria by administering structured surveys, while data collected will be subjected to rigorous qualitative analysis. In addition, a comparison will also be run with the Indonesian experience in the non-doctrinal phase as not only a practical example but also lessons learned from the Indonesian telemedicine system. Through comparative study, this will suggest successful strategies, pitfalls that need to be avoided at all costs, and collaborative models that can inform the development of telemedicine policies in Nigeria.<sup>16</sup>

## Results and Discussion

### ***Regulatory Framework of Telemedicine Practice in Nigeria***

Telemedicine is a meld of one or many health services positioned at a distance and whose services are by information and communication technologies. The whole deep study covers diversified services, from a situation where patients consult doctors through video calls and other virtual platforms, to tests done digitally. Further, one more service offered under telemedicine includes continuous patient health condition monitoring via innovative digital tools and devices. This is the tangible fulfillment of a promise through digital connection in telemedicine that transcends place and into the future environment of healthcare. This approach changes the regime of healthcare services in areas with little access to such medical facilities, which includes rural areas, offering timely medical consultation and ancillary services without the limitations presented by distances.<sup>17</sup>

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<sup>15</sup> Liv Tønnessen and Samia al-Nagar, 'Politicization of International Aid: Religious Responses to Criminalizing Female Genital Mutilation in Sudan', *Women's Studies International Forum*, 105 (2024), 102943 <https://doi.org/https://doi.org/10.1016/j.wsif.2024.102943>

<sup>16</sup> Adeyinka O Omotehinse, 'Assessment of Food and Nutrition Security Practices of the Artisanal and Small-Scale Mining Communities in Nigeria', *World Development Sustainability*, 7 (2025), 100239 <https://doi.org/https://doi.org/10.1016/j.wds.2025.100239>

<sup>17</sup> David B Olawade, Iyanuoluwa O Ojo, and others, 'Artificial Intelligence in Nigerian Oncology Practice: A Qualitative Exploration of Oncologists' Perspectives', *Journal of Cancer Policy*, 45 (2025), 100626 <https://doi.org/https://doi.org/10.1016/j.jcpo.2025.100626>



The use of telemedicine is very promising in transforming healthcare access across the globe. By exploiting the many technological advances, healthcare professionals can extend their expertise beyond the private consulting rooms without putting at a disadvantage anyone, anywhere in the world, of finding quick and good quality medical attention. The introduction of telemedicine consists not only of prompt intervention but also extends prevention where patients can be observed at all times through digital means. Such a model not only increases the efficiency of healthcare delivery but also will assume the better part of well-being into a more inclusive and patient centered healthcare.<sup>18</sup>

However, it suffices to state that the Nigerian healthcare system appears malproportioned as a consequence of the shortage of healthcare professionals, particularly in rural areas. Telemedicine experienced gradual but promising growth within the country owing to the peculiar healthcare problems the country possesses with the concomitant burden to evolve more access to quality medical services. The wide footprint of access to mobile technology and access to the internet in Nigeria is the foundation for the establishment of integrated telemedicine into the current healthcare system.<sup>19</sup> The recent development of telemedicine is with a high urgency to bring innovative solutions to cannot be covered in a vast and diverse nation, the capacity to meet such challenges is by telemedicine. Telemedicine is one strategy that seeks to heal such disparities by availing these remote communities of specialized care and consultations-they do not need to visit health facilities. The growing awareness of where telemedicine can fit into preventive care and chronic disease management, as well as into public health initiatives, continues to shape Nigeria's conceptual evolution of telemedicine.<sup>20</sup>

Although telemedicine has a meaningful place within the health system in Nigeria, it cannot be devoid of challenges. It brings along to other countries into Africa numerous complicated issues, which certainly need the required reflection in developing telemedicine in the Nigerian context. With this in consideration, telemedicine's conceptualization in Nigeria is developing in the context of rapid technological advancement and overall inequalities in

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<sup>18</sup> Oluwafemi G Oluwole and others, 'Parkinson's Disease in Nigeria: A Review of Published Studies and Recommendations for Future Research', *Parkinsonism & Related Disorders*, 62 (2019), 36-43 <https://doi.org/https://doi.org/10.1016/j.parkreldis.2018.12.004>

<sup>19</sup> Heidi Moseson and others, 'Effectiveness of Self-Managed Medication Abortion with Accompaniment Support in Argentina and Nigeria (SAFE): A Prospective, Observational Cohort Study and Non-Inferiority Analysis with Historical Controls', *The Lancet Global Health*, 10.1 (2022), e105-13 [https://doi.org/https://doi.org/10.1016/S2214-109X\(21\)00461-7](https://doi.org/https://doi.org/10.1016/S2214-109X(21)00461-7)

<sup>20</sup> Pearl Ohenewaa Tenkorang and others, 'The Transformative Power of Telemedicine in Delivering Effective Neurosurgical Care in Low and Middle-Income Countries: A Review', *Brain and Spine*, 5 (2025), 104269 <https://doi.org/https://doi.org/10.1016/j.bas.2025.104269>

health as well as the country's determination to improve health outcomes.<sup>21</sup> A balanced approach that would address infrastructural, regulatory, and ethical aspects, as the conceptualization continues, is important to realize the complete possible benefits of telemedicine in increased access to and quality of healthcare around Nigeria.<sup>22</sup>

Telemedicine demonstrates remarkable potential to transform the healthcare landscape in Nigeria by harnessing digital technology to deliver medical services across distances, thereby addressing long-standing geographical, infrastructural, and socio-economic barriers to healthcare access. As a nation with vast rural communities, inadequate healthcare infrastructure, and uneven distribution of medical professionals, Nigeria faces persistent challenges in providing equitable healthcare delivery.<sup>23</sup> Telemedicine directly responds to these challenges by enabling patients to access medical consultation and treatment without the constraints of physical distance, thereby reducing disparities in healthcare accessibility. It facilitates urgent medical attention, ensures continuity of care, and enhances efficiency in managing both acute and chronic health conditions. In addition, telemedicine reduces patient waiting times, eliminates unnecessary travel, and allows healthcare professionals to engage in proactive management of chronic illnesses such as diabetes and hypertension. It also provides an avenue for patients to connect with specialized expertise that may otherwise be unavailable in underserved regions, while simultaneously fostering collaborative knowledge exchange among medical practitioners.<sup>24</sup> v

From an economic standpoint, telemedicine reduces the financial burden on patients by cutting travel-related expenses and optimizes healthcare providers' operations by streamlining service delivery. Furthermore, telemedicine functions as a vital tool for health education by equipping individuals with accessible and reliable information on disease prevention, wellness, and lifestyle management, thereby empowering them to adopt proactive approaches to healthcare. Collectively, these opportunities highlight the transformative capacity of telemedicine to advance healthcare delivery in Nigeria, not only by bridging systemic gaps but also by creating a more responsive, inclusive, and efficient healthcare system. However,

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<sup>21</sup> Jimoh Amzat and others, 'Coronavirus Outbreak in Nigeria: Burden and Socio-Medical Response during the First 100 Days', *International Journal of Infectious Diseases*, 98 (2020), 218–24 <https://doi.org/https://doi.org/10.1016/j.ijid.2020.06.067>

<sup>22</sup> Bolanle Adeyemi Ola and Olushola Olibamoyo, 'COVID-19 in Nigeria: Implications for Prevalent Public Mental Health Challenges', *Mental Health Review Journal*, 26.1 (2021), 32–41 <https://doi.org/https://doi.org/10.1108/MHRJ-07-2020-0050>

<sup>23</sup> Rama K Gobburi and others, 'Telemedicine Use in Rural Areas of the United Kingdom to Improve Access to Healthcare Facilities: A Review of Current Evidence', *Informatics and Health*, 2.1 (2025), 41–48 <https://doi.org/https://doi.org/10.1016/j.infoh.2025.01.003>

<sup>24</sup> S A O Ogirima and others, 'Perception of Herbal Practitioners on the Application of Modern Technology to Healthcare Delivery in Nigeria', *Informatics in Medicine Unlocked*, 23 (2021), 100560 <https://doi.org/https://doi.org/10.1016/j.imu.2021.100560>

realizing this potential requires robust legal and regulatory frameworks to address medico-legal and criminal law challenges, including liability, confidentiality, and accountability in digital healthcare.<sup>25</sup>

Telemedicine has many promising advantages, but there are many challenges like inadequate infrastructure, regulatory framework, and the need for proper training of healthcare professionals that need to be overcome to have successful implementation and advertising of telemedicine in Nigeria. The Constitution of the Federal Republic of Nigeria is defined as the highest law of the state, which provides a broad framework for the governance and protection of the rights of the citizens of Nigeria. The right to privacy is one of the fundamental rights guaranteed under its provisions, and it is expressly guaranteed in Section 37.<sup>26</sup> This particular constitutional provision, which manifests the dedication to individual freedoms, covers many aspects, including the critical arena of healthcare, which has huge implications. The main clause of section 37 of the Constitution enshrines an adequate notice for the protection of privacy rights and emphasizes the importance of keeping individuals from intrusions into their private affairs. This amended version evidences how much the right to privacy is understood in contemporary society. The effects of this constitutional provision find resounding significance in the healthcare area. The provisions on privacy embedded in Section 37 serve as a shield against unauthorized access to sensitive medical information so that an individual indeed can trust in the confidentiality of health-related data. This is particularly vital in the development of trust between healthcare providers and their patients, which is essential for the smooth delivery of medical services.<sup>27</sup>

It suffices to state that the primary legal structure regulating the health sector in Nigeria is the National Health Act (NHA) Nigeria. The NHA provides the major legal framework within which health-related activities and services are bounded in the country. The privacy of patients is one of the most pertinent issues articulated in NHA. Section 26(1) of the act stipulates the duty of confidentiality that healthcare professionals and institutions are bound by. It states that 'every piece of information relating to a user, including information relating to his or her health condition, treatment, or

<sup>25</sup> Taiwo Adedeji, Hamish Fraser and Philip Scott, 'Implementing Electronic Health Records in Primary Care Using the Theory of Change: Nigerian Case Study', *JMIR Medical Informatics*, 10.8 (2022) <https://doi.org/https://doi.org/10.2196/33491>

<sup>26</sup> Abdulhammed Opeyemi Babatunde and others, 'Leveraging Mobile Health Technology towards Achieving Universal Health Coverage in Nigeria', *Public Health in Practice*, 2 (2021), 100120 <https://doi.org/https://doi.org/10.1016/j.puhip.2021.100120>

<sup>27</sup> Jacinta Chibuzor Ene and Henry Tochukwu Ajibo, 'Covid-19 Recovery and Growth: Promoting Technology Innovation in Healthcare Sector on Hygiene and Safe Medication Practices in Low-Resourced Nigerian Societies', *Scientific African*, 19 (2023), e01542 <https://doi.org/https://doi.org/10.1016/j.sciaf.2023.e01542>



stay in a health establishment' is confidential.<sup>28</sup> This legal mandate provides a foundation for respecting patient privacy rights and emphasizes the importance of keeping sensitive health information confidential within the healthcare system. Thus, apart from underpinning the ethical responsibility of healthcare providers, codifying the confidentiality obligation in the NHA affords the patients a measure of assurance on the privacy of their health information. This clause is also a protective measure that brings about trust among patients and healthcare practitioners and thus encourages free and frank discussion between them.<sup>29</sup>

The right to health-related privacy in section 26 of the National Health Act is not a complete one but is limited to certain specific exceptions which are elucidated on subsection 2 of the same section. According to the provisions, health-related information about a person may be disclosed to particular persons only under certain prescribed situation. The first exception is the written consent of the person and that is very much underscoring this autonomy concerning one's right to control the dissemination of their health information.<sup>30</sup> Further, it would allow disclosure compelled by a court order, thus showing the legal factors which might take precedence over the general privacy protection. In the case of minors, the information shall be disclosed to their specific request by a parent or guardian, hence acknowledging the scope of that occurring at legal guardianship towards releasing health-related information. In situations where a person is incapacitated to give consent, such guardian may make an application for the disclosure, thus putting in place safeguards for the interests of persons incapable of making decisions for themselves.<sup>31</sup>

The most importance attached to public health in stating that when it is in the interest of public health, such disclosure underlines the greater social considerations which may outweigh the individual privacy right. Besides, Section 27 of NHA introduces a new way through which health records are released. This section permits disclosure to any other person, health care provider, or health establishment if it is necessary for any legitimate purpose in the ordinary course of duty or if it serves the best interests of the user.

<sup>28</sup> Emmanuel Mogaji, 'Wishful Thinking? Addressing the Long-Term Implications of COVID-19 for Transport in Nigeria', *Transportation Research Part D: Transport and Environment*, 105 (2022), 103206 <https://doi.org/https://doi.org/10.1016/j.trd.2022.103206>

<sup>29</sup> J Nwando Olayiwola and others, 'Leveraging Electronic Consultations to Address Severe Subspecialty Care Access Gaps in Nigeria', *Journal of the National Medical Association*, 112.1 (2020), 97–102 <https://doi.org/https://doi.org/10.1016/j.jnma.2019.10.005>

<sup>30</sup> Damilola A Jesuyajolu and others, 'Access to Quality Surgical Care in Nigeria: A Narrative Review of the Challenges, and the Way Forward', *Surgery in Practice and Science*, 9 (2022), 100070 <https://doi.org/https://doi.org/10.1016/j.sipas.2022.100070>

<sup>31</sup> J McKinney and others, '228 - Urinary Incontinence in Sub-Saharan Africa: Experiences of Women and Healthcare Workers in Nigeria and Kenya and Opportunities for Expanding Care', *Continence*, 12 (2024), 101570 <https://doi.org/https://doi.org/10.1016/j.cont.2024.101570>

This provision exhibits the need for responsible and justified disclosure as it tries to balance the actual need to protect privacy and the legitimate instances in which health information needs to be shared in the healthcare system.<sup>32</sup>

However, it should be noted that in answer to the booming demand for a more comprehensive framework in relation to data protection, the Nigerian Data Protection Act was established on June 12, 2023, as a step toward making provision for the management of a most robust and well-organized system that would govern the collection and processing of personal data in Nigeria. The act is designed to develop a structured regulatory system on the processing of personal data, protecting the rights of individuals whose data is at stake. As Section 3 (1) of the Act states, it shall apply to personal data processing irrespective of whether it is automated processing or manual processing within Nigeria or other places. The principles guiding the processing of personal data are given by section 24 (1) of the Act, which emphasize fairness, lawfulness, transparency, and legitimate purpose. Again, section 24 (2) obligates data processors to employ appropriate technical and organizational measures to maintain confidentiality, integrity, and availability of personal data.<sup>33</sup>

Furthermore, section 39 accentuates the duty on data processors to take proper measures in order to secure and keep confidential personal information in their possession from any infringement. Further to this Section 41(1) of the Act, it strictly governs the overseas transfer of any personal data, prescribing that a data processor should not transfer such data belonging to any individual from Nigeria to another country except as expressly permitted by law. It ensures that the security and privacy of personal data in Nigeria are developed in accordance with cross-border issues. The fact of the matter is that the Nigerian Data Protection Act establishes a full-fledged principled approach along which the processing of personal data and their safety would proceed in view of international standards with due regard to the specific questions within the Nigerian context.<sup>34</sup>

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<sup>32</sup> Erin E Pearson and others, 'Developing and Validating an Abortion Care Quality Metric for Facility and Out-of-Facility Settings: An Observational Cohort Study in Bangladesh, Ethiopia, and Nigeria', *EClinicalMedicine*, 66 (2023), 102347 <https://doi.org/https://doi.org/10.1016/j.eclinm.2023.102347>

<sup>33</sup> Alvan-Emeka K Ukachukwu and others, 'The Status of Specialist Neurosurgical Training in Nigeria: A Survey of Practitioners, Trainers, and Trainees', *World Neurosurgery*, 185 (2024), e44–56 <https://doi.org/https://doi.org/10.1016/j.wneu.2023.11.040>

<sup>34</sup> Ibukunolu O Ogundele and others, 'Socio-Demographic and Clinical Characteristics of Patients at Screening for an International Collaborative Free Paediatric Surgical Outreach in Sagamu, Nigeria', *Journal of Pediatric Surgery Open*, 8 (2024), 100176 <https://doi.org/https://doi.org/10.1016/j.jpso.2024.100176>

It is pertinent to note that Section 1 of the HIV and AIDS (Anti-Discrimination) Act has laid a clear extensive framework for securing health and medical records of individuals who are either living with HIV or affected by AIDS. Moreover, this legislative provision complements the emphasis on the importance of confidentiality of health-related information with greater human rights principles; by stating provisions under Section 1(f), the Act reaffirms the human rights enshrined in Chapter 4 of the Constitution of the Federal Republic of Nigeria, as amended. Thus, it highlights a commitment to protect the rights of the individual in the particular case of HIV and AIDS without compromising his or her dignity, privacy, or overall well-being. Furthermore, Section 1(f) traverses national legal boundaries, as it also acknowledges obligations under international and regional human rights instruments. Thus, it represents Nigeria's commitment to the achievement of such responsibilities in the international arena, aligning local efforts with international standards and agreements that safeguard rights and dignity for individuals living with HIV or affected by AIDS. In this way, even though the Act was constructed to safeguard health records, it well testifies to the seriousness with which a country promotes its human rights with respect to HIV and AIDS.<sup>35</sup>

However, it must be noted that Section 9(4) of the Act outlines an important provision that lays down the imperative of informed, total consent in the course of testing a person or persons under that section. This lays down that testing conducted under this specific section shall be subject to the principles of informed consent, which is a core ethical principle in health care practice. This would mean that the persons are neither beakers nor a cogs worth of research in the real sense but should be subjected to details and understanding before they are taking up the testing procedure, its purpose, outcomes, and its risks before these persons agree to undergo the test. Such a legal protection would be necessary to give the respect of autonomy rights to the concerned individual, thus allowing him or her to make the necessary intelligent decisions regarding self-health and medical information. The provision, further, collects national standards on confidentiality and counseling; this is, as required by the laws that follow established protocols on sensitive health data handling and the provision of support and counselling.<sup>36</sup>

Furthermore, section 11 of the act lays out the particulars of a breach of confidentiality through the introduction of a given scenario: an individual

<sup>35</sup> Ayush Anand and others, 'Academic Neurosurgery in Nigeria- Past, Present, and Future: A Review', *World Neurosurgery*, 189 (2024), 108-17 <https://doi.org/https://doi.org/10.1016/j.wneu.2024.05.168>

<sup>36</sup> Jackie Sturt and others, 'Safety and Upscaling of Remote Consulting for Long-Term Conditions in Primary Health Care in Nigeria and Tanzania (REaCH Trials): Stepped-Wedge Trials of Training, Mobile Data Allowance, and Implementation', *The Lancet Global Health*, 11.11 (2023), e1753-64 [https://doi.org/https://doi.org/10.1016/S2214-109X\(23\)00411-4](https://doi.org/https://doi.org/10.1016/S2214-109X(23)00411-4)

learns about another person's HIV positive status on some official grounds, such as employment. Disclosure to third parties without the requisite written consent constitutes a breach. This underscores the need for types of written consent throughout, reinforcing that people must give their explicit permission regarding the privacy and confidentiality of matters. As such, the provision becomes context-specific and applies probably within some employment relationships or related scenarios in which one person gets access to another's HIV status information. Moreover, the provision carries legal repercussions of the breach of confidentiality or something similar, indicating that these individuals or institutions are likely to face legal actions or penalties for acts in contravention of the rules.<sup>37</sup>

In section 13 of the Act, amplifying, the basic right of confidentiality and protection of health and medical records for all those living with HIV or affected by AIDS is Conclusively established. The legal assurance emphasizes the importance the law attaches to the secrecy of most sensitive health information and to the rights of privacy enjoyed by people whose lives are having challenges with HIV or AIDS. The legal teeth are provided in this section under subsection (2) which specifies the implications of an offense for contravention. It enacts an offense for not complying with the provisions under this section and attaches legal obligations barring everybody and institutions from confidentiality data concerning individuals affected by HIV or AIDS. The nature of the sanction for the offense was emphasized by the expressed penalties for the contravention. A person who commits this infraction could be fined not less than N500,000; an institution may lose a heftier amount of N1 million.<sup>38</sup>

The consequences of such laws may also entail imprisonment for a period not exceeding two years. Such a dual strategy of prescribing fines and possible imprisonment works as a deterrent towards the seriousness with which the law measures the breach of confidence regarding health and medical information in the case of HIV or AIDS. In effect, section 13, therefore, not only provides a strong guarantee for the confidentiality of health information but also provides a very rigorous legal framework to ensure compliance thus further securing broader rights and privacy for people affected by HIS or AIDS. Moreover, the penalties for violation of this

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<sup>37</sup> Adebola Afolake Adejimi and others, 'Willingness and Motivations towards Volunteering during the COVID-19 Pandemic: A Cross-Sectional Survey among Final Year Medical Students in Lagos, Nigeria', *Dialogues in Health*, 1 (2022), 100038 <https://doi.org/https://doi.org/10.1016/j.dialog.2022.100038>

<sup>38</sup> Gbemisola Bolanle Ogbeye and others, 'Prevalence and Outcome of Puerperal Sepsis among Mothers in Nigeria: A Five-Year Retrospective Study', *Women and Children Nursing*, 2.3 (2024), 68-73 <https://doi.org/https://doi.org/10.1016/j.wcn.2024.08.001>

provision have also been provided under section 23 of the HIV and AIDS (Anti-Discrimination) Act.<sup>39</sup>

It must be noted that it is the right of patients will seek healthcare services, and it is their right to receive good medical care, as adapted to their needs, expectations, and desires. Sadly, in Nigeria, several patients have been at the receiving end of unwholesome medical care and inferior confidentiality of their health records, mainly because of the absence of a Patient's Bill of Rights. This absence has led to increased complaints and cases of medical negligence, some even leading to avoidable death, as well as causing suffering to patients.<sup>40</sup>

The Patients' Bill of Rights is a compendium of rights and responsibilities defining the roles of both patients and health care providers during the process of health care provision. Patients' rights are to be protected and improve patient safety so that every patient can access quality health services that meet their needs. The Bill of Rights will stipulate and guarantee the rights of patients to information about their health status, diagnosis, treatment options open to them, and risks and benefits of any medical procedure. The Patients' Bill of Rights will also be the one that checks whether the expectations and standards are met. In this case, the Patients' Bill of Rights will indeed take care of public gaps in patient care, reduce incidences of medical negligence, and serve as the foundation for a new model of patient care that promotes transparency, patient wellness, and quality service overall.<sup>41</sup>

### ***Legal and Medical Challenges Concerning Telemedicine Practice in Nigeria***

The emerging practice of telemedicine is poised to significantly transform healthcare delivery in Nigeria by enabling citizens to access medical services remotely. Nevertheless, the implementation of this innovation is not free from legal, ethical, and medical challenges that demand critical examination. These challenges, if not properly addressed, may constrain the development of a sustainable telemedicine framework that safeguards patient safety, ensures accountability, and promotes ethical conduct among healthcare

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<sup>39</sup> Olanrewaju Olamide Popoola and others, 'A National Survey of the Antibiotic Use, Self-Medication Practices, and Knowledge of Antibiotic Resistance among Graduates of Tertiary Institutions in Nigeria', *Scientific African*, 23 (2024), e01978  
<https://doi.org/https://doi.org/10.1016/j.sciaf.2023.e01978>

<sup>40</sup> Rayner Kay Jin Tan and others, 'Telemedicine Use During the COVID-19 Pandemic in 8 Countries From the International Sexual Health and Reproductive Health Consortium: Web-Based Cross-Sectional Survey Study', *Journal of Medical Internet Research*, 27 (2025)  
<https://doi.org/https://doi.org/10.2196/60369>

<sup>41</sup> Chinyere Cecilia Okeke and others, 'How Can Health Systems Better Prepare for the next Pandemic? A Qualitative Study of Lessons Learned from the COVID-19 Response in Nigeria', *SSM - Health Systems*, 4 (2025), 100052  
<https://doi.org/https://doi.org/10.1016/j.ssmhs.2025.100052>



professionals. One of the most pressing concerns lies in the absence of clear and comprehensive legislation on telemedicine, which creates uncertainty and confusion for both healthcare providers and patients.<sup>42</sup>

In addition, the electronic management of sensitive patient data raises legitimate concerns regarding privacy, confidentiality, and cybersecurity, especially in the absence of strong data protection laws. Nigeria also faces infrastructural barriers, as technological systems and digital health platforms remain underdeveloped, thereby undermining the efficiency of telemedicine. Furthermore, the risks associated with telemedicine tools are not always transparent to patients, which complicates the process of informed decision-making during consultations. The virtual nature of telemedicine also poses challenges for obtaining valid consent, since informed consent is traditionally secured through direct, face-to-face interactions. Perhaps the most critical concern, however, is the absence of a clear legal framework on liability in telemedicine practice. Questions remain unresolved as to whether liability exists, and in cases of adverse outcomes, no successful claims of malpractice have been established under Nigerian law. These gaps expose patients to potential harm while leaving practitioners uncertain about their legal responsibilities. Collectively, these issues underscore the urgent need for Nigeria to establish robust laws and regulations that clarify the scope of telemedicine practice, protect patients, and define liability in cases of negligence or malpractice.<sup>43</sup>

The survey findings reveal significant insights into the current state of telemedicine in Nigeria, particularly in relation to its legal and medical dimensions. Out of 303 respondents drawn from across the six geo-political zones, a vast majority demonstrated awareness of telemedicine, with nearly nine out of ten participants indicating familiarity with the practice. This widespread awareness underscores the potential of telemedicine to be integrated into the healthcare system as a viable model for service delivery. Respondents further identified the key benefits of telemedicine, including improved healthcare delivery, more efficient management of chronic diseases, expanded access for patients in remote areas, optimization of scarce healthcare resources, and the potential to bridge persistent gaps in healthcare provision. Despite these promising prospects, most participants

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<sup>42</sup> Judith Ifunanya ANI and Kezia Batisai, 'Promoting Digital Inclusion through Public-Private Partnerships for Older Adults in Nigeria: A Review', *Aging and Health Research*, 4.4 (2024), 100211 <https://doi.org/https://doi.org/10.1016/j.ahr.2024.100211>

<sup>43</sup> Cornelius Onwe Ogayi and Onwe Joshua Chukwuma, 'Beyond Income: Examining the Impact of Multidimensional Poverty on Health Security in Rural Communities of Eastern Nigeria', *Development and Sustainability in Economics and Finance*, 2025, 100088 <https://doi.org/https://doi.org/10.1016/j.dsef.2025.100088>

acknowledged that telemedicine in Nigeria is hindered by serious legal and medical challenges.<sup>44</sup>

The most frequently cited concern relates to medico-legal liability, reflecting uncertainty over responsibility in cases of adverse outcomes. Other concerns include risks to patient confidentiality, lack of a clear regulatory framework, deficiencies in technological infrastructure, limited mechanisms for data security, and resistance from conventional healthcare providers. In addressing these challenges, participants recommended the enactment of specific telemedicine regulations, the development of clear medico-legal guidelines, the adoption of broad ethical standards, enhanced data protection measures, infrastructure upgrades, systematic integration with the existing healthcare system, and the provision of professional training for medical practitioners. Collectively, these perspectives demonstrate that while telemedicine has strong support as an innovative model of healthcare delivery, its sustainability in Nigeria will depend on the establishment of robust legal frameworks, effective ethical safeguards, and reliable technological systems that ensure patient protection, professional accountability, and equitable access to services.<sup>45</sup>

Telemedicine provides significant benefits in broadening healthcare access, yet it also creates critical challenges in relation to data privacy and security. The practice requires the transmission, storage, and processing of sensitive medical information such as personal health records, diagnostic images, and treatment plans, which must be protected to guarantee confidentiality, integrity, and availability. Securing this information is essential for building patient trust and ensuring compliance with ethical as well as legal standards. In Nigeria, the framework for data privacy remains in a developing stage, which results in particular difficulties for telemedicine providers in safeguarding patient information.<sup>46</sup>

Section 44 of the Code of Medical Ethics obliges medical practitioners to keep all privileged information obtained from patients confidential and allows disclosure only with explicit patient consent, a duty that continues even after the death of the patient. Likewise, Section 27 of the National

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<sup>44</sup> Oluwaseun Isaac Odufisan, Osekhoimen Victory Abbulimen and Erastus Olarenwaju Ogunti, 'Harnessing Artificial Intelligence and Machine Learning for Fraud Detection and Prevention in Nigeria', *Journal of Economic Criminology*, 7 (2025), 100127 <https://doi.org/https://doi.org/10.1016/j.jeconc.2025.100127>

<sup>45</sup> Nathaly Aguilera Vasquez and others, 'COVID-19 Policies and Tuberculosis Services in Private Health Sectors of India, Indonesia, and Nigeria', *Journal of Clinical Tuberculosis and Other Mycobacterial Diseases*, 38 (2025), 100503 <https://doi.org/https://doi.org/10.1016/j.jctube.2024.100503>

<sup>46</sup> David B Olawade, Aanuoluwapo Clement David-Olawade, and others, 'Artificial Intelligence in Nigerian Nursing Education: Are Future Nurses Prepared for the Digital Revolution in Healthcare?', *Nurse Education in Practice*, 87 (2025), 104511 <https://doi.org/https://doi.org/10.1016/j.nepr.2025.104511>

Health Act permits disclosure of patient information only for legitimate purposes within the scope of professional and legislative functions. Despite these safeguards, telemedicine remains vulnerable to unauthorized access, interception, or disclosure of sensitive information during digital transmission because of weak firewalls, insecure networks, insufficient encryption, and poor authentication mechanisms.<sup>47</sup>

The reliance on external digital platforms significantly heightens the risks associated with telemedicine because these systems frequently collect and disseminate personal as well as locational data. Moreover, individuals outside the medical profession, including information technology specialists and administrative personnel, can intentionally or inadvertently gain unauthorized entry into patient health records. The operation of healthcare websites further places patients at risk of surveillance and profiling for purposes that are unrelated to medical care, particularly for commercial exploitation, which underscores the necessity of protecting patient autonomy in the collection and use of health information. Insufficient encryption protocols and vulnerable communication networks increase the likelihood of telemedicine data being intercepted or manipulated by malicious actors, while the storage of medical records on cloud servers situated outside Nigeria raises pressing questions regarding data sovereignty and jurisdictional authority.<sup>48</sup>

The rapid expansion of mobile health technologies and wearable devices that record biometric and geolocation data intensifies privacy threats and creates ethical dilemmas concerning informed consent, ownership, and control of health information. In the absence of clear safeguards and transparent practices, patients may unknowingly authorize extensive data harvesting that places their information at risk of misuse. Dependence on software platforms also generates security weaknesses, particularly when systems remain outdated or lack necessary updates, thereby providing opportunities for exploitation by cybercriminals. Because many users do not possess the technical capacity to update software or install critical security patches on their devices, they remain increasingly vulnerable to cyberattacks and unauthorized access to sensitive medical data.<sup>49</sup>

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<sup>47</sup> Aanuoluwapo Clement David-Olawade and others, 'Artificial Intelligence Readiness among Healthcare Students in Nigeria: A Cross-Sectional Study Assessing Knowledge Gaps, Exposure, and Adoption Willingness', *International Journal of Medical Informatics*, 2025, 106085 <https://doi.org/10.1016/j.ijmedinf.2025.106085>

<sup>48</sup> Brendan Chukwuemeka Ezeudoka and others, 'The Use of Digital Health Services to Combat E-Waste Health Hazards: A Review on the Impact and Awareness in Southwest Nigeria', *Toxicology*, 509 (2024), 153969 <https://doi.org/10.1016/j.tox.2024.153969>

<sup>49</sup> Kayode I Adenuga, Noorminshah A Iahad and Suraya Miskon, 'Towards Reinforcing Telemedicine Adoption amongst Clinicians in Nigeria', *International Journal of Medical*

Telemedicine providers in Nigeria must adopt comprehensive safeguards to address the significant risks associated with digital healthcare delivery. These safeguards include advanced data encryption, strict organizational protocols for handling confidential information, robust firewalls, and secure email systems, alongside mandatory verification procedures for both patients and providers. One critical challenge involves regulating the disclosure of personal health information to third parties, a concern underscored by global precedents such as the MDLive class-action lawsuit of 2017, where patients alleged unauthorized sharing of medical data with third-party contractors. In Nigeria, this issue has become more pressing with the enactment of the Nigeria Data Protection Act (NDPA) 2023, which now serves as the principal legislation governing data privacy, complementing earlier frameworks such as the NITDA Data Protection Regulation.<sup>50</sup>

The NDPA mandates lawful, transparent, and purpose-specific processing of sensitive health data, thereby imposing binding obligations on telemedicine providers to prevent unlawful disclosures.<sup>51</sup> The rapid growth of telemedicine has become imperative in Nigeria, especially in response to the worsening brain drain in the health sector, where over 15,000 Nigerian doctors have migrated abroad as of 2023, leaving the country with an estimated one doctor per 5,000 patients, far below the World Health Organization's recommended ratio.<sup>52</sup> Telemedicine offers a critical tool to bridge this widening gap by enabling remote triaging, specialist consultations, and timely diagnosis. For instance, tele-dermatology allows patients to transmit high-resolution images of skin conditions for remote evaluation, while other specialties can employ similar methods to ensure prompt and effective care. Moreover, the increasing penetration of mobile phones and internet access in rural communities strengthens the feasibility of such services, thereby expanding access to populations previously excluded from specialized healthcare.<sup>53</sup>

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Informatics, 104 (2017), 84-96  
<https://doi.org/https://doi.org/10.1016/j.ijmedinf.2017.05.008>

<sup>50</sup> Kikelomo S Olowoyo and others, 'Telemedicine as a Tool to Prevent Multi-Drug Resistant Tuberculosis in Poor Resource Settings: Lessons from Nigeria', *Journal of Clinical Tuberculosis and Other Mycobacterial Diseases*, 35 (2024), 100423 <https://doi.org/https://doi.org/10.1016/j.jctube.2024.100423>

<sup>51</sup> Paul Atagamen Aidonjio, 'Voluntary Assets and Income Declaration Scheme a Panacea to Tax Evasion in Edo State, Nigeria', *Administrative and Environmental Law Review*, 4.1 (2023), 1-20 <https://doi.org/10.25041/aelr.v4i1.2822>

<sup>52</sup> Paul Atagamen Aidonjio, 'Environmental Hazard: The Legal Issues Concerning Environmental Justice in Nigeria', *Journal of Human Rights, Culture and Legal System*, 3.1 (2023), 17-32 <https://doi.org/10.53955/jhcls.v3i1.60>

<sup>53</sup> Paul Atagamen Aidonjio and Esther Chetachukwu Francis, 'Legal Issues Concerning Food Poisoning in Nigeria: The Need for Judicial and Statutory Response', *Jurnal Media Hukum*, 29.1 (2022), 65-78 <https://doi.org/10.18196/jmh.v29i1.12595>

Although some tertiary hospitals in Nigeria have piloted advanced forms of telemedicine such as real-time video conferencing to facilitate specialist consultations, broader adoption remains constrained by the absence of a comprehensive national telemedicine policy. At present, the legal framework relies on cross-cutting regulations, including the Code of Medical Ethics in Nigeria, the NDPA 2023, and the mandates of the National Information Technology Development Agency (NITDA), which collectively regulate aspects of data protection, professional conduct, and digital communication.<sup>54</sup> However, the lack of a dedicated telemedicine policy generates legal uncertainty and discourages widespread adoption by healthcare providers. Establishing a National Telemedicine Policy and Regulatory Framework would not only consolidate existing legal protections but also provide clarity on medico-legal liabilities, patient rights, and professional responsibilities. Such a policy would ensure the lawful, ethical, and sustainable integration of telemedicine into Nigeria's healthcare system while promoting continuous learning and collaboration among health professionals.<sup>55</sup>

## Conclusion

The study highlights, *first*, that telemedicine offers significant potential to transform healthcare delivery in Nigeria by reducing geographical barriers and ensuring wider access to medical services, especially for patients in rural and underserved regions. By leveraging digital platforms, telemedicine can improve equity in healthcare distribution and reduce the burden on overstretched physical facilities. The increasing use of mobile health applications and digital consultations reflects a broader trend in Nigeria's healthcare system toward digital transformation, in line with the National Digital Health Strategy launched by the Federal Ministry of Health in 2020. *Second*, the study emphasizes the persistent challenges that hinder the safe and effective adoption of telemedicine, particularly the absence of specific regulations tailored to the practice. Although the Nigeria Data Protection Act 2023 establishes principles for safeguarding personal data, it does not provide detailed guidance on sensitive medical data, cross-border storage, or medico-legal accountability in telemedicine. Concerns over patient confidentiality, data security, and the lack of enforceable standards increase the risk of misuse, cyberattacks, and breaches of patient trust, thereby creating medico-legal uncertainties that threaten public confidence. *Third*, the study underscores the urgent need for a comprehensive, context-specific

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<sup>54</sup> Paul Atagamen Aidonjio, Anne Oyenmwosa Odojor and Patience Omohoste Agbale, 'The Legal Impact of Plea Bargain in Settlement of High Profile Financial Criminal Cases in Nigeria', *Sriwijaya Law Review*, 2021, 161-74 <https://doi.org/10.28946/slrev.Vol5.Iss2.852.pp161-174>

<sup>55</sup> Paul Atagamen Aidonjio and others, 'Legal Issues Concerning Compulsory COVID-19 Vaccination: Nigeria as a Case Study', *Golden Ratio of Law and Social Policy Review*, 3.2 (2024), 74-83 <https://doi.org/10.52970/grlspr.v3i2.349>



legal framework that addresses these regulatory gaps while balancing technological innovation with patient rights. Collaborative efforts between policymakers, healthcare practitioners, and legal experts are essential to formulate binding guidelines that establish clear standards for data security, ethical conduct, and patient confidentiality. Such proactive regulation would minimize legal uncertainties, encourage responsible adoption, and strengthen Nigeria's position in building an accessible, ethical, and technology-driven healthcare system. In this regard, interdisciplinary cooperation remains crucial for transforming telemedicine from an experimental innovation into a safe and sustainable pillar of Nigeria's healthcare landscape.

## References

- Aborisade, Richard Abayomi, 'On the "Darkness of Dark Figure" of Sexual Crimes: Survivors' Rape Reporting Experiences with the Nigerian Police', *International Journal of Law, Crime and Justice*, 73 (2023), 100576 <https://doi.org/https://doi.org/10.1016/j.ijlcj.2023.100576>
- Adedeji, Taiwo, Hamish Fraser and Philip Scott, 'Implementing Electronic Health Records in Primary Care Using the Theory of Change: Nigerian Case Study', *JMIR Medical Informatics*, 10 (2022) <https://doi.org/https://doi.org/10.2196/33491>
- Adejimi, Adebola Afolake, Kehinde Sharafadeen Okunade, Oluwakemi Ololade Odukoya, Alero Ann Roberts, Babatunde Adeniran Odugbemi and Akin Osibogun, 'Willingness and Motivations towards Volunteering during the COVID-19 Pandemic: A Cross-Sectional Survey among Final Year Medical Students in Lagos, Nigeria', *Dialogues in Health*, 1 (2022), 100038 <https://doi.org/https://doi.org/10.1016/j.dialog.2022.100038>
- Adenuga, Kayode I, Noorminshah A Iahad and Suraya Miskon, 'Towards Reinforcing Telemedicine Adoption amongst Clinicians in Nigeria', *International Journal of Medical Informatics*, 104 (2017), 84–96 <https://doi.org/https://doi.org/10.1016/j.ijmedinf.2017.05.008>
- Adewale, Olumide Sunday, 'An Internet-Based Telemedicine System in Nigeria', *International Journal of Information Management*, 24 (2004), 221–34 <https://doi.org/10.1016/j.ijinfomgt.2003.12.014>
- Agrawal, Alka and Nawaf Rasheed Alharbe, 'Need and Importance of Healthcare Data Integrity', *International Journal of Engineering and Technology*, 11 (2019), 854–59 <https://doi.org/10.21817/ijet/2019/v11i4/191104033>
- Aidonojie, Paul Atagamen, 'Environmental Hazard: The Legal Issues Concerning Environmental Justice in Nigeria', *Journal of Human Rights, Culture and Legal*

- System*, 3 (2023), 17–32 <https://doi.org/10.53955/jhcls.v3i1.60>
- , ‘Voluntary Assets and Income Declaration Scheme a Panacea to Tax Evasion in Edo State, Nigeria’, *Administrative and Environmental Law Review*, 4 (2023), 1–20 <https://doi.org/10.25041/aclr.v4i1.2822>
- Aidonojie, Paul Atagamen, Esther Chetachukwu Aidonojie, Tom Mulegi and Obieshi Eregbuonye, ‘Legal Issues Concerning Compulsory COVID-19 Vaccination: Nigeria as a Case Study’, *Golden Ratio of Law and Social Policy Review*, 3 (2024), 74–83 <https://doi.org/10.52970/grlspr.v3i2.349>
- Aidonojie, Paul Atagamen and Esther Chetachukwu Francis, ‘Legal Issues Concerning Food Poisoning in Nigeria: The Need for Judicial and Statutory Response’, *Jurnal Media Hukum*, 29 (2022), 65–78 <https://doi.org/10.18196/jmh.v29i1.12595>
- Aidonojie, Paul Atagamen, Anne Oyenmwosa Odojor and Patience Omohoste Agbale, ‘The Legal Impact of Plea Bargain in Settlement of High Profile Financial Criminal Cases in Nigeria’, *Sriwijaya Law Review*, 2021, 161–74 <https://doi.org/10.28946/slrev.Vol5.Iss2.852.pp161-174>
- Amzat, Jimoh, Kafayat Aminu, Victor I Kolo, Ayodele A Akinyele, Janet A Ogundairo and Maryann C Danjibo, ‘Coronavirus Outbreak in Nigeria: Burden and Socio-Medical Response during the First 100 Days’, *International Journal of Infectious Diseases*, 98 (2020), 218–24 <https://doi.org/https://doi.org/10.1016/j.ijid.2020.06.067>
- Anand, Ayush, Abass Oluwaseyi Ajayi, Ayesha Ansari, Mubarak Jolayemi Mustapha, Amogh Verma, Suleiman Abdullahi Adinoyi, and others, ‘Academic Neurosurgery in Nigeria- Past, Present, and Future: A Review’, *World Neurosurgery*, 189 (2024), 108–17 <https://doi.org/https://doi.org/10.1016/j.wneu.2024.05.168>
- Anderson, Chad, Richard L Baskerville and Mala Kaul, ‘Information Security Control Theory: Achieving a Sustainable Reconciliation Between Sharing and Protecting the Privacy of Information’, *Journal of Management Information Systems*, 34 (2017), 1082–1112 <https://doi.org/10.1080/07421222.2017.1394063>
- ANI, Judith Ifunanya and Kezia Batisai, ‘Promoting Digital Inclusion through Public-Private Partnerships for Older Adults in Nigeria: A Review’, *Aging and Health Research*, 4 (2024), 100211 <https://doi.org/https://doi.org/10.1016/j.ahr.2024.100211>
- Ayatollahi, Haleh and Ghazal Shagerdi, ‘Information Security Risk Assessment in Hospitals’, *The Open Medical Informatics Journal*, 11 (2017), 37–43 <https://doi.org/10.2174/1874431101711010037>
- Babatunde, Abdulhammed Opeyemi, Ahmad Abdullateef Abdulkareem, Foluso Olugbenga Akinwande, Aminat Olaitan Adebayo, Ebelechukwu Tabitha Omenogor, Yusuff Adebayo Adebisi, and others, ‘Leveraging Mobile Health Technology towards Achieving Universal Health Coverage in Nigeria’, *Public Health in Practice*, 2 (2021), 100120 <https://doi.org/https://doi.org/10.1016/j.puhip.2021.100120>

- Bello, Sandra, 'Telemedicine and Health Law in Nigeria: Regulatory Challenges and Global Lessons', 2025 <https://doi.org/10.2139/ssrn.5386358>
- Chan, Eugene Y and Najam U Saqib, 'Privacy Concerns Can Explain Unwillingness to Download and Use Contact Tracing Apps When COVID-19 Concerns Are High', *Computers in Human Behavior*, 119 (2021), 106718 <https://doi.org/10.1016/j.chb.2021.106718>
- David-Olawade, Aanuoluwapo Clement, Ojima Z Wada, Yinka Julianah Adeniji, Ibukunoluwa Victoria Aderupoko and David B Olawade, 'Artificial Intelligence Readiness among Healthcare Students in Nigeria: A Cross-Sectional Study Assessing Knowledge Gaps, Exposure, and Adoption Willingness', *International Journal of Medical Informatics*, 2025, 106085 <https://doi.org/https://doi.org/10.1016/j.ijmedinf.2025.106085>
- Ene, Jacinta Chibuzor and Henry Tochukwu Ajibo, 'Covid-19 Recovery and Growth: Promoting Technology Innovation in Healthcare Sector on Hygiene and Safe Medication Practices in Low-Resourced Nigerian Societies', *Scientific African*, 19 (2023), e01542 <https://doi.org/https://doi.org/10.1016/j.sciaf.2023.e01542>
- Ezeudoka, Brendan Chukwuemeka, Charles Igwe, Oscar Chidiebere Ukaegbu, Emmanuel Sunday Okeke and Veronica Chisom Okeke, 'The Use of Digital Health Services to Combat E-Waste Health Hazards: A Review on the Impact and Awareness in Southwest Nigeria', *Toxicology*, 509 (2024), 153969 <https://doi.org/https://doi.org/10.1016/j.tox.2024.153969>
- Gobburi, Rama K, David B Olawade, Gbolahan Deji Olatunji, Emmanuel Kokori, Nicholas Aderinto and Aanuoluwapo Clement David-Olawade, 'Telemedicine Use in Rural Areas of the United Kingdom to Improve Access to Healthcare Facilities: A Review of Current Evidence', *Informatics and Health*, 2 (2025), 41-48 <https://doi.org/https://doi.org/10.1016/j.infoh.2025.01.003>
- Hoaglin, Michael C, Lawrence H Brenner, Wendy Teo and B Sonny Bal, 'Medicolegal Sidebar: Telemedicine—New Opportunities and New Risks', *Clinical Orthopaedics & Related Research*, 479 (2021), 1671-73 <https://doi.org/10.1097/CORR.0000000000001856>
- Houidi, Ahlem and Saeeda Paruk, 'A Narrative Review of International Legislation Regulating Fitness to Stand Trial and Criminal Responsibility: Is There a Perfect System?', *International Journal of Law and Psychiatry*, 74 (2021), 101666 <https://doi.org/https://doi.org/10.1016/j.ijlp.2020.101666>
- Jesuyajolu, Damilola A, Charles Okeke, Chibuike Obi and Armstrong Nicholas, 'Access to Quality Surgical Care in Nigeria: A Narrative Review of the Challenges, and the Way Forward', *Surgery in Practice and Science*, 9 (2022), 100070 <https://doi.org/https://doi.org/10.1016/j.sipas.2022.100070>
- Lekwas, Elekwachi Chimezie, Peter Onyekwere Ebigbo, John Eze, Obi Ikechukwu and Doris Chinelo Eyisi, 'Preliminary Findings on the Psychometric Properties of the ICAST-Home among Children in Southeast Nigeria', *Child Protection and Practice*, 6 (2025), 100218

<https://doi.org/https://doi.org/10.1016/j.chipro.2025.100218>

McKinney, J, F Akinlusi, O Muchiri, E Luutsa, M Ngigi, M Angwenyi, and others, '228 - Urinary Incontinence in Sub-Saharan Africa: Experiences of Women and Healthcare Workers in Nigeria and Kenya and Opportunities for Expanding Care', *Continence*, 12 (2024), 101570  
<https://doi.org/https://doi.org/10.1016/j.cont.2024.101570>

Mogaji, Emmanuel, 'Wishful Thinking? Addressing the Long-Term Implications of COVID-19 for Transport in Nigeria', *Transportation Research Part D: Transport and Environment*, 105 (2022), 103206  
<https://doi.org/https://doi.org/10.1016/j.trd.2022.103206>

Moseson, Heidi, Ruvani Jayaweera, Ijeoma Egwuatu, Belén Grosso, Ika Ayu Kristianingrum, Sybil Nmezi, and others, 'Effectiveness of Self-Managed Medication Abortion with Accompaniment Support in Argentina and Nigeria (SAFE): A Prospective, Observational Cohort Study and Non-Inferiority Analysis with Historical Controls', *The Lancet Global Health*, 10 (2022), e105–13  
[https://doi.org/https://doi.org/10.1016/S2214-109X\(21\)00461-7](https://doi.org/https://doi.org/10.1016/S2214-109X(21)00461-7)

Nalah, Augustine Bala, Azman Azlinda and Singh Jamir Singh Paramjit, 'Harmful Cultural Practices and HIV Stigma as Psychosocial Issues in North Central Nigeria', *International Journal of Human Rights in Healthcare*, 14 (2020), 104–16  
<https://doi.org/https://doi.org/10.1108/IJHRH-06-2020-0042>

Odufisan, Oluwaseun Isaac, Osekhonmen Victory Abhulimen and Erastus Olarenwaju Ogunti, 'Harnessing Artificial Intelligence and Machine Learning for Fraud Detection and Prevention in Nigeria', *Journal of Economic Criminology*, 7 (2025), 100127 <https://doi.org/https://doi.org/10.1016/j.jeconc.2025.100127>

Ogayi, Cornelius Onwe and Onwe Joshua Chukwuma, 'Beyond Income: Examining the Impact of Multidimensional Poverty on Health Security in Rural Communities of Eastern Nigeria', *Development and Sustainability in Economics and Finance*, 2025, 100088 <https://doi.org/https://doi.org/10.1016/j.dsef.2025.100088>

Ogbeye, Gbemisola Bolanle, Adebola Omobusola Ojo, David Bamidele Olawade, Joel Ojo Aluko and Deborah Tolulope Esan, 'Prevalence and Outcome of Puerperal Sepsis among Mothers in Nigeria: A Five-Year Retrospective Study', *Women and Children Nursing*, 2 (2024), 68–73  
<https://doi.org/https://doi.org/10.1016/j.wcn.2024.08.001>

Ogirima, SAO, OT Arulogun, AA Baale and CA Oyeleye, 'Perception of Herbal Practitioners on the Application of Modern Technology to Healthcare Delivery in Nigeria', *Informatics in Medicine Unlocked*, 23 (2021), 100560  
<https://doi.org/https://doi.org/10.1016/j.imu.2021.100560>

Ogundele, Ibukunolu O, Lukmon O Amosu, Oluwakemi A Shotayo, Dagash Haitham, Collins C Nwokoro, Olubunmi M Fatungase, and others, 'Socio-Demographic and Clinical Characteristics of Patients at Screening for an International Collaborative Free Paediatric Surgical Outreach in Sagamu, Nigeria', *Journal of Pediatric Surgery Open*, 8 (2024), 100176

- <https://doi.org/https://doi.org/10.1016/j.yjpso.2024.100176>
- Okeke, Chinyere Cecilia, Nkolika Pamela Uguru, Benjamin Uzochukwu and Obinna Onwujekwe, 'How Can Health Systems Better Prepare for the next Pandemic? A Qualitative Study of Lessons Learned from the COVID-19 Response in Nigeria', *SSM - Health Systems*, 4 (2025), 100052  
<https://doi.org/https://doi.org/10.1016/j.ssmhs.2025.100052>
- Ola, Bolanle Adeyemi and Olushola Olibamoyo, 'COVID-19 in Nigeria: Implications for Prevalent Public Mental Health Challenges', *Mental Health Review Journal*, 26 (2021), 32-41 <https://doi.org/https://doi.org/10.1108/MHRJ-07-2020-0050>
- Olawade, David B, Aanuoluwapo Clement David-Olawade, Oluwayomi B Rotifa and Ojima Z Wada, 'Artificial Intelligence in Nigerian Nursing Education: Are Future Nurses Prepared for the Digital Revolution in Healthcare?', *Nurse Education in Practice*, 87 (2025), 104511  
<https://doi.org/https://doi.org/10.1016/j.nepr.2025.104511>
- Olawade, David B, Iyanuoluwa O Ojo, Emmanuel O Oisakede, Victor Idowu Joel-Medewase and Ojima Z Wada, 'Artificial Intelligence in Nigerian Oncology Practice: A Qualitative Exploration of Oncologists' Perspectives', *Journal of Cancer Policy*, 45 (2025), 100626  
<https://doi.org/https://doi.org/10.1016/j.jcpo.2025.100626>
- Olayiwola, J Nwando, Enekole Daisy Udenyi, Gbolahan Yusuf, Candy Magaña, Roshni Patel, Brittany Duck, and others, 'Leveraging Electronic Consultations to Address Severe Subspecialty Care Access Gaps in Nigeria', *Journal of the National Medical Association*, 112 (2020), 97-102  
<https://doi.org/https://doi.org/10.1016/j.jnma.2019.10.005>
- Olowoyo, Kikelomo S, Deborah T Esan, Benedict T Adeyanju, David B Olawade, Babatunji E Oyinloye and Paul Olowoyo, 'Telemedicine as a Tool to Prevent Multi-Drug Resistant Tuberculosis in Poor Resource Settings: Lessons from Nigeria', *Journal of Clinical Tuberculosis and Other Mycobacterial Diseases*, 35 (2024), 100423 <https://doi.org/https://doi.org/10.1016/j.jctube.2024.100423>
- Oluwole, Oluwafemi G, Helena Kuivaniemi, Jonathan A Carr, Owen A Ross, Matthew OB Olaogun, Soraya Bardien, and others, 'Parkinson's Disease in Nigeria: A Review of Published Studies and Recommendations for Future Research', *Parkinsonism & Related Disorders*, 62 (2019), 36-43  
<https://doi.org/https://doi.org/10.1016/j.parkreldis.2018.12.004>
- Omotehinse, Adeyinka O, 'Assessment of Food and Nutrition Security Practices of the Artisanal and Small-Scale Mining Communities in Nigeria', *World Development Sustainability*, 7 (2025), 100239  
<https://doi.org/https://doi.org/10.1016/j.wds.2025.100239>
- Orsayeva, Raissa, Anna Berestova, Varvara Krasilnikova and Anton Timoshin, 'Telemedicine during COVID- 19: Features of Legal Regulation in the Field of Administrative Liability for Errors Committed by Medical Institutions', *Egyptian Journal of Forensic Sciences*, 15 (2025), 26 <https://doi.org/10.1186/s41935-025->



00443-3

- Pearson, Erin E, Nirali M Chakraborty, Sarah E Baum, Jamie L Menzel, Sally Dijkerman, Rezwana Chowdhury, and others, 'Developing and Validating an Abortion Care Quality Metric for Facility and Out-of-Facility Settings: An Observational Cohort Study in Bangladesh, Ethiopia, and Nigeria', *EClinicalMedicine*, 66 (2023), 102347  
<https://doi.org/https://doi.org/10.1016/j.eclinm.2023.102347>
- Popoola, Olanrewaju Olamide, Damilola Samson Adepitan, Adebowale Sylvester Adeyemi, Opeyemi Fortunate Oladeru and Sodiq Inaolaji Yusuff, 'A National Survey of the Antibiotic Use, Self-Medication Practices, and Knowledge of Antibiotic Resistance among Graduates of Tertiary Institutions in Nigeria', *Scientific African*, 23 (2024), e01978  
<https://doi.org/https://doi.org/10.1016/j.sciaf.2023.e01978>
- Sembiring, Nurdin, Umar Nimran, Endang Siti Astuti and Hamidah Nayati Utami, 'The Effects of Emotional Intelligence and Organizational Justice on Job Satisfaction, Caring Climate, and Criminal Investigation Officers' Performance', *International Journal of Organizational Analysis*, 28 (2020), 1113–30  
<https://doi.org/https://doi.org/10.1108/IJOA-10-2019-1908>
- Solimini, Renata, Francesco Paolo Busardò, Filippo Gibelli, Ascanio Sirignano and Giovanna Ricci, 'Ethical and Legal Challenges of Telemedicine in the Era of the COVID-19 Pandemic', *Medicina*, 57 (2021), 1314  
<https://doi.org/10.3390/medicina57121314>
- Sturt, Jackie, Frances Griffiths, Motunrayo Ajisola, Joshua Odunayo Akinyemi, Beatrice Chipwaza, Olufunke Fayehun, and others, 'Safety and Upscaling of Remote Consulting for Long-Term Conditions in Primary Health Care in Nigeria and Tanzania (REaCH Trials): Stepped-Wedge Trials of Training, Mobile Data Allowance, and Implementation', *The Lancet Global Health*, 11 (2023), e1753–64  
[https://doi.org/https://doi.org/10.1016/S2214-109X\(23\)00411-4](https://doi.org/https://doi.org/10.1016/S2214-109X(23)00411-4)
- Tan, Rayner Kay Jin, Devon Hensel, Olena Ivanova, Raquel Gomez Bravo, Adesola Olumide, Emmanuel Adebayo, and others, 'Telemedicine Use During the COVID-19 Pandemic in 8 Countries From the International Sexual Health and Reproductive Health Consortium: Web-Based Cross-Sectional Survey Study', *Journal of Medical Internet Research*, 27 (2025)  
<https://doi.org/https://doi.org/10.2196/60369>
- Tenkorang, Pearl Ohenewaa, Wireko Andrew Awuah, Krishitha Meenu Mannan, Subham Roy, Princess Afia Nkrumah Boateng, Olivia Asiedu, and others, 'The Transformative Power of Telemedicine in Delivering Effective Neurosurgical Care in Low and Middle-Income Countries: A Review', *Brain and Spine*, 5 (2025), 104269  
<https://doi.org/https://doi.org/10.1016/j.bas.2025.104269>
- Tønnessen, Liv and Samia al-Nagar, 'Politicization of International Aid: Religious Responses to Criminalizing Female Genital Mutilation in Sudan', *Women's Studies International Forum*, 105 (2024), 102943  
<https://doi.org/https://doi.org/10.1016/j.wsif.2024.102943>

Ukachukwu, Alvan-Emeka K, Zoey Pettit, Babagana Usman, Ofodile C Ekweogwu, Yusuf Dawang, Misbahu H Ahmad, and others, 'The Status of Specialist Neurosurgical Training in Nigeria: A Survey of Practitioners, Trainers, and Trainees', *World Neurosurgery*, 185 (2024), e44-56  
<https://doi.org/https://doi.org/10.1016/j.wneu.2023.11.040>

Vasquez, Nathaly Aguilera, Charity Oga-Omenka, Vijayashree Yellappa, Bony Wiem Lestari, Angelina Sassi, Surbhi Sheokand, and others, 'COVID-19 Policies and Tuberculosis Services in Private Health Sectors of India, Indonesia, and Nigeria', *Journal of Clinical Tuberculosis and Other Mycobacterial Diseases*, 38 (2025), 100503 <https://doi.org/https://doi.org/10.1016/j.jctube.2024.100503>