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Artificial Intelligence and Healthcare Delivery in Nigeria: Legal and Ethical Dimensions of Patients' Rights to Safety

Ugochukwu Godspower Ehirim*
Delta State University, Abraka, Nigeria
ehirim.ug@delsu.edu.ng

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*Corresponding Author

Abstract

The evolution of Artificial Intelligence (AI) has significantly transformed healthcare delivery in Nigeria by reshaping perceptions of medical negligence and enhancing diagnostic accuracy. Given Nigeria's overstretched healthcare infrastructure and rapid population growth, AI presents critical opportunities to improve patient safety. However, its integration raises urgent legal and ethical challenges, including algorithmic bias, data privacy violations, and the erosion of fundamental medical principles such as informed consent and professional accountability. This article critically examines the intersection of AI innovation and Nigeria's legal protection of patient safety and constitutional rights. Employing a doctrinal methodology, it analyzes relevant statutes, constitutional provisions, and ethical frameworks related to privacy, non-discrimination, and medical regulation. The findings reveal a significant regulatory vacuum: AI is not addressed in sector-specific healthcare legislation, and existing constitutional safeguards are insufficient to mitigate the risks posed by autonomous and opaque AI systems. The article argues that this legal ambiguity increases patients' exposure to unregulated AI practices and calls for a dedicated regulatory and legislative framework grounded in transparency, accountability, and human rights. Ultimately, the study concludes that AI should serve as a complementary—rather than a substitutive—tool in clinical decision-making and must be governed to uphold patient safety in Nigeria's rapidly digitizing healthcare environment.

[*Perkembangan Kecerdasan Buatan* (AI) *telah mentransformasi sistem pelayanan kesehatan di Nigeria secara signifikan, dengan merekonstruksi pemahaman terhadap kelalaian medis serta meningkatkan ketepatan diagnosis. Dalam konteks infrastruktur kesehatan yang terbatas dan pertumbuhan populasi yang pesat, AI menawarkan peluang strategis untuk meningkatkan keselamatan pasien. Namun, integrasi AI ke dalam sistem kesehatan juga memunculkan tantangan hukum dan etika yang mendesak, termasuk bias algoritma, pelanggaran privasi data, serta erosi terhadap prinsip-prinsip mendasar dalam praktik medis seperti persetujuan berdasarkan informasi dan akuntabilitas profesional. Artikel ini mengkaji*

secara kritis persilangan antara inovasi AI dan perlindungan hukum atas keselamatan pasien serta hak-hak konstitusional di Nigeria. Dengan menggunakan pendekatan metodologi doktrinal, kajian ini menganalisis peraturan perundang-undangan, ketentuan konstitusional, dan kerangka etik yang relevan terkait privasi, non-diskriminasi, dan regulasi layanan medis. Hasil temuan menunjukkan adanya kekosongan regulasi yang signifikan: AI belum diatur secara eksplisit dalam legislasi sektor kesehatan, dan perlindungan konstitusional yang ada belum memadai untuk menangani risiko yang ditimbulkan oleh sistem AI yang bersifat otonom dan tidak transparan. Artikel ini berargumen bahwa ambiguitas hukum tersebut meningkatkan kerentanan pasien terhadap praktik AI yang tidak diatur, dan oleh karena itu menyerukan pembentukan kerangka regulasi dan legislasi yang khusus, berbasis pada prinsip transparansi, akuntabilitas, dan penghormatan terhadap hak asasi manusia. Studi ini menyimpulkan bahwa AI harus diposisikan sebagai alat pelengkap—bukan pengganti—dalam pengambilan keputusan klinis, dan harus diatur secara ketat untuk menjamin keselamatan pasien dalam lingkungan layanan kesehatan digital yang berkembang pesat di Nigeria.]

Keywords: Artificial Intelligence, Healthcare Delivery, Medical Ethics, Nigeria, Patients' Right to Safety.

Introduction

Artificial Intelligence (AI) has emerged as a transformative technological phenomenon, reshaping the foundational structures of multiple sectors globally—including law,[1] finance, commerce, and engineering.[2] However, AI's disruptive potential has been most pronounced within the healthcare sector, challenging the traditional contours of medical practice and redefining long-standing notions of professional judgment. From clinical diagnostics to surgical procedures, AI tools are increasingly employed to augment human expertise. While these developments enhance precision and operational efficiency,[3] they simultaneously raise critical concerns regarding job displacement, the depersonalization of services, and the erosion of professional discretion—especially in areas where empathy and moral reasoning are essential.[4] For instance, algorithmic predictions in litigation or market pricing may undermine human-centered reasoning and compromise constitutional guarantees such as data privacy, autonomy, and human dignity. These tensions

1 Ammar Zafar, "Balancing the Scale: Navigating Ethical and Practical Challenges of Artificial Intelligence (AI) Integration in Legal Practices," *Discover Artificial Intelligence* 4, no. 1 (December 1, 2024): 1–18.

2 Ethan Katsh and Orna Rabinovich-Einy, *Digital Justice: Technology and the Internet of Disputes* (New York: Oxford University Press, 2017), 31; Zihao Li, "Regulating Online Algorithmic Pricing: A Comparative Study of Privacy and Data Protection Laws in the EU and US," in *Stanford-Vienna Transatlantic Technology Law Forum*, 114 (Stanford Law School, 2024), 1–33.

3 Brown Etareri Umukoro, Moses Ogorugba Omozue, and Avwerosuo Oghenedoro, "Developing a Legal Framework for Virtual Court Hearing in Nigeria," *International Research Journal of Multidisciplinary Scope* 5, no. 2 (2024): 313–22.

4 Aju Putrijanti and Kadek Cahya Susila Wibawa, "The Implementation of E-Court in Administrative Court to Develop Access to Justice in Indonesia," *Journal of Environmental Treatment Techniques* 9, no. 1 (October 18, 2020): 105–9; Harry Surden, "Artificial Intelligence and Law: An Overview," *Georgia State University Law Review* 35, no. 4 (2019): 1305–37.

necessitate renewed scrutiny of the legal, ethical, and institutional frameworks within which AI systems are deployed.[5]

In Nigeria, the application of AI in healthcare has significantly transformed the paradigm of patient safety and reshaped the prevailing concept of medical malpractice.[6] Medical institutions—particularly teaching hospitals—have begun integrating AI-driven systems into routine practices. A notable example is the Lagos State University Teaching Hospital (LASUTH), which has developed an AI-powered mammography tool for the early detection of breast cancer.[7] Similarly, other institutions utilize solutions such as Aajoh, a diagnostic application trained on patient data to identify symptoms and suggest targeted interventions.[8] These innovations reflect a growing trend toward the contextual adaptation of AI technologies to meet local healthcare needs. The multifaceted capabilities of AI—ranging from real-time data analysis to predictive modeling—demonstrate the potential to reduce clinical errors, improve diagnostic accuracy, and enhance collaboration among healthcare professionals.[9] As Michael A. Rosen et al. highlight, AI-enabled data sharing minimizes redundancy, disaggregates traditional medical roles, and improves precision in risk assessment.[10] Such integration facilitates cross-functional teamwork and continuity of care, thereby strengthening institutional learning and system responsiveness.[11]

Nonetheless, the increasing reliance on AI in medical settings presents various ethical and legal challenges.[12] These challenges include the risks of algorithmic discrimination, loss of anonymity, vulnerability to cyber intrusions, and the difficulty of assigning liability for AI-induced medical errors. In the Nigerian context, these

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5 Sahat Maruli Tua Situmeang et al., "The Role of Artificial Intelligence in Criminal Justice," *Global International Journal of Innovative Research* 2, no. 8 (August 30, 2024): 1966–81; Zihao Li, "Affinity-Based Algorithmic Pricing: A Dilemma for EU Data Protection Law," *Computer Law & Security Review* 46 (September 2022): 105705.

6 David C. Classen, Christopher Longhurst, and Eric J. Thomas, "Bending the Patient Safety Curve: How Much Can AI Help?," *Npj Digital Medicine* 6, no. 1 (January 4, 2023): 1–3; David W. Bates et al., "The Potential of Artificial Intelligence to Improve Patient Safety: A Scoping Review," *Npj Digital Medicine* 4, no. 1 (March 19, 2021): 1–8.

7 Vidhi Upadhyay, "Nigeria Artificial Intelligence (AI) in Healthcare Market Analysis," *Insights10* (blog), May 21, 2024, https://www.insights10.com/report/nigeria-artificial-intelligence-ai-in-healthcare-market-analysis/www.insights10.com/report/nigeria-artificial-intelligence-ai-in-healthcare-market-analysis/?srsltid=AfmBOorxeGLBAGrZ7DbxIHB8Uq7QfEL-OdfKKXEbGkDw2l3dTAUtcSEX.

8 C. M. Igbadoo, "Artificial Intelligence in Nigeria," *Datalab* (blog), 2020, https://datalab.com.ng/artificial-intelligence-in-nigeria/.

9 Silvana Secinaro et al., "The Role of Artificial Intelligence in Healthcare: A Structured Literature Review," *BMC Medical Informatics and Decision Making* 21, no. 1 (December 2021): 125; Christopher Collins et al., "Artificial Intelligence in Information Systems Research: A Systematic Literature Review and Research Agenda," *International Journal of Information Management* 60 (October 2021): 102383.

10 Michael A. Rosen et al., "Teamwork in Healthcare: Key Discoveries Enabling Safer, High-Quality Care," *American Psychologist* 73, no. 4 (May 2018): 433–50.

11 Avishek Choudhury and Onur Asan, "Role of Artificial Intelligence in Patient Safety Outcomes: Systematic Literature Review," *JMIR Medical Informatics* 8, no. 7 (July 24, 2020): e18599.

12 Dada, "Legal Implications of AI in Healthcare: Nigerian Perspective," *Trusted Advisor*, 2023, https://www.mondaq.com/nigeria/new-technology/1369908/legal-implications-of-ai-in-healthcare-nigerian-perspective.

concerns are exacerbated by an already strained healthcare infrastructure, high patient-to-doctor ratios, and weak enforcement of data protection mechanisms.[13] Scholars such as Dorcas A. Akinpelu and Simisola O. Akintola caution that AI systems trained on biased or non-representative datasets may reproduce discriminatory outcomes, disproportionately affecting marginalized communities. While they acknowledge that bias is an inherent feature of both human and technological systems, they assert that such risks must not overshadow the broader utility of AI in enhancing healthcare delivery.[14] Others, including Junaid Bajwa et al., argue that AI's potential to improve patient outcomes may justify its integration, even if this requires a recalibration of rights-based sensitivities in favor of life-saving technological efficacy.[15] Conceptually, patient safety refers to minimizing avoidable harm during medical care. In contexts such as Nigeria—where physicians often face overwhelming patient volumes and information overload—AI is a crucial tool for reducing error margins and supporting consistent clinical pathways.[16] As Arinze Duke George Nwosu, Fidelis Anayo Onyekwulu, and Elias Chikee Aniwada note, AI's ability to manage complex data streams enhances procedural accuracy, particularly in under-resourced settings. However, the definition and operational scope of AI remain subjects of debate.[17] Haroon Sheikh, Corien Prins, and Erik Schrijvers define AI as a system that mimics human intelligence to interpret its environment and make autonomous decisions.[18] While this autonomy offers functional advantages, it raises significant legal and ethical concerns regarding informed consent, accountability, and the normative boundaries of machine decision-making in healthcare.

Furthermore, the expanding role of AI in Nigerian healthcare highlights the limitations of existing legal frameworks in protecting constitutional rights to privacy, confidentiality, and freedom from discrimination, as enshrined in Sections 37 and 42 of the Constitution of the Federal Republic of Nigeria (CFRN) 1999.[19] These limitations are further exacerbated by the lack of dedicated legislation governing the deployment of AI technologies. Regulatory bodies like the National Information Technology Development Agency (NITDA) must adopt a more proactive role in auditing AI systems, identifying embedded biases, and enforcing compliance through robust data governance protocols. Routine algorithmic audits and

13 Ibrahim Abubakar et al., "The Lancet Nigeria Commission: Investing in Health and the Future of the Nation," *The Lancet* 399, no. 10330 (March 19, 2022): 1155–1200.

14 Dorcas A. Akinpelu and Simisola O. Akintola, "Navigating the Legal and Ethical Terrain of Artificial Intelligence in Enhancing Patient Safety in Nigeria," *Journal of Intellectual Property and Information Technology Law (JIPIT)* 3, no. 1 (November 28, 2023): 169–200.

15 Junaid Bajwa et al., "Artificial Intelligence in Healthcare: Transforming the Practice of Medicine," *Future Healthcare Journal* 8, no. 2 (July 2021): 188–94.

16 Arinze D. G. Nwosu et al., "Physician Burnout in Nigeria: A Multicentre, Cross-Sectional Study," *BMC Health Services Research* 20, no. 1 (December 2020): 863.

17 Arinze Duke George Nwosu, Fidelis Anayo Onyekwulu, and Elias Chikee Aniwada, "Patient Safety Awareness among 309 Surgeons in Enugu, Nigeria: A Cross-Sectional Survey," *Patient Safety in Surgery* 13, no. 1 (December 2019): 33.

18 Haroon Sheikh, Corien Prins, and Erik Schrijvers, "Artificial Intelligence: Definition and Background," in *Mission AI*, by Haroon Sheikh, Corien Prins, and Erik Schrijvers, Research for Policy (Cham: Springer International Publishing, 2023), 16.

19 "Constitution of the Federal Republic of Nigeria 1999."

regulatory oversight are critical. In parallel, collaboration with emerging technology organizations, such as Robotics and Artificial Intelligence Nigeria (RAIN), Data Scenes Nigeria, and Datalab Nigeria, is essential to enhance AI literacy within public institutions and promote inclusive, technology-informed policymaking. Such partnerships are necessary to ensure that AI tools serve as complementary—rather than substitutive—elements of professional clinical judgment.

This article examines the intricate interplay between AI, healthcare governance, and the legal framework in Nigeria by employing a doctrinal research methodology. It utilizes primary legal sources—constitutional provisions, statutes, international treaties, and regulatory frameworks—and secondary materials, including expert legal commentaries, peer-reviewed academic literature, and pertinent judicial precedents. The analysis is anchored in a critical socio-legal framework that perceives AI not merely as a tool but as a mode of governance that exerts power through algorithmic logic, data infrastructures, and automated decision-making.[20] This theoretical perspective allows the study to transcend a purely doctrinal account, enabling a more profound exploration of how the law interacts with technological systems that increasingly regulate populations in opaque, non-consensual, and normatively charged manners.

Integration of AI in Nigeria's Healthcare Sector

The integration of AI into Nigeria's healthcare ecosystem signifies a strategic shift towards digital transformation, addressing long-standing structural deficiencies within the sector. The increasing demand for accessible, efficient, and patient-centered medical services—especially in an overstretched system and rapid population growth—has driven the adoption of AI-driven innovations. One of the earliest milestones was the establishment of Aajoh in 2016, a technology firm that developed an AI-powered diagnostic platform. Trained on a dataset of approximately 32,000 medical records, the Aajoh application functions by mapping patient-reported symptoms onto probabilistic diagnostic models.[21] It enables the system to identify a wide range of disease conditions and to anticipate ailments, even when patients present with novel or mutated symptoms. Its ability to adjust predictions based on evolving symptomatology positions it as a potentially transformative tool in clinical diagnostics.

Building on this momentum, the development of Ubenwa in 2017 represented a significant advancement in AI-enabled neonatal care.[22] Addressing the urgent issue of birth asphyxia—ranked as the third most common cause of infant mortality in

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20 Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France, 1977-78*, ed. Michel Senellart, François Ewald, and Alessandro Fontana, trans. Graham Burchell (New York: Palgrave Macmillan, 2009), 87–114.

21 Tom Jackson, "Nigerian Startup Aajoh Beta Testing AI E-Health Innovation," *Disrupt Africa* (blog), November 11, 2016, https://disruptafrica.com/2016/11/11/nigerian-startup-aajoh-beta-testing-ai-e-health-innovation/.

22 Paul Adepoju, "This Nigerian AI Health Startup Wants to Save Thousands of Babies' Lives with a Simple App," *Quartz* (blog), December 15, 2017, https://qz.com/africa/1158185/nigerian-ai-health-startup-ubenwa-hopes-to-save-thousands-of-babies-lives-every-year.

Nigeria—Ubenwa utilizes AI algorithms to analyze the cry patterns of newborns, focusing on amplitude and frequency to detect early signs of neurological and respiratory distress.[23] Clinical trials conducted at the University of Port Harcourt Teaching Hospital achieved a diagnostic accuracy rate of 95% across approximately 1,400 cases.[24] The platform's evolution was further enhanced by international collaborations with pediatricians in Canada, Brazil, and Nigeria, facilitating the collection of context-specific clinical data and reinforcing its applicability across diverse patient populations.[25]

Another illustrative case is the deployment of SmaartHealth, an AI-powered mobile application designed to bridge the gap between patients and primary healthcare services. The application enables users to consult with healthcare professionals in real-time via smartphones, overcoming geographical constraints and reducing delays in accessing medical advice. In addition to enhancing diagnostic speed, SmaartHealth serves as a double-check mechanism that assists healthcare providers in mitigating errors related to fatigue or procedural monotony.[26] However, this decentralized healthcare delivery model raises complex legal questions regarding accountability in misdiagnosis or system failure cases. The Nigerian legal framework has yet to establish a coherent liability regime capable of addressing the intersection between medical practice and autonomous digital systems, leaving significant ambiguities in the assignment of responsibility.[27]

Helium Health exemplifies the expanding footprint of AI in Nigeria's healthcare system, a health-tech start-up that offers integrated electronic health record systems and telemedicine services across various institutions. The Helium platform enables paperless referrals, ensures the interoperability of medical records, and facilitates seamless communication between clinicians and public health administrators.[28] For instance, patients' health records can be instantly shared among hospitals X, Y, and Z within the Helium network, which is particularly valuable in emergencies.[29] Beyond technological integration, the platform fosters cross-institutional collaboration, supports continuing professional development, and promotes infrastructural upgrades. Significantly, it also facilitates healthcare

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23 Ebunoluwa Ladipo, "Ubenwa: Using Bold Innovation to Understand Babies' Cries," *Businessday NG* (blog), August 23, 2022, https://businessday.ng/technology/article/ubenwa-using-bold-innovation-to-understand-babies-cries/.

24 Igbadoo, "Artificial Intelligence in Nigeria."

25 C. C. Onu, "Ubenwa 2022: Year in Review," *Ubenwa* (blog), 2023, https//ubenwa.ai/blog/ubenwa-2022-review.html.

26 Lucia Y Ojewale and Ferdinand C Mukumbang, "COVID-19 Vaccine Hesitancy among Nigerians Living with Non-Communicable Diseases: A Qualitative Study," *BMJ Open* 13, no. 2 (February 2023): e065901.

27 Y. Zhang, "Liability of an AI Service Provider for Copyright Infringement," *GRUR International* 73, no. 11 (October 26, 2024): 1100–1108.

28 Cynthia Chukwuma, "How Helium Health Is Using Technology to Advance Africa's Healthcare," *CRESTHUB* (blog), September 9, 2021, https://cresthub.com/how-helium-health-is-using-technology-to-advance-africas-healthcare/.

29 Josephine Uba, "Artificial Intelligence (AI) And AI Attacks in Nigeria: A Call to Action for Nigerian Policymakers," *Mondaq* (blog), accessed January 23, 2025, https://www.mondaq.com/nigeria/new-technology/1309534/artificial-intelligence-ai-and-ai-attacks-in-nigeria-a-call-to-action-for-nigerian-policymakers.

providers' access to non-collateral loans, contributing to their financial empowerment. This financial inclusion is not a peripheral benefit but central to the sustainability of AI-supported healthcare delivery, as well-supported medical personnel are more likely to uphold patient safety, dignity, and rights.[30]

Despite these domestic advancements, Nigeria remains in a phase of technological catch-up rather than achieving global leadership in deploying AI in healthcare. The country strives to replicate the scale and complexity of AI implementation observed in other regions. For instance, researchers at Google, in collaboration with Northwestern Medicine in the United States, developed an AI diagnostic engine that outperformed certified radiologists in detecting breast and lung cancers.[31] Similarly, a wearable AI classifier has been introduced to aid in the diagnosis of hypertrophic cardiomyopathy, a complex cardiac condition.[32] The American Medical Association has formally approved an autonomous AI system capable of diagnosing diabetic retinopathy, a leading cause of blindness worldwide.[33]

In surgical applications, the Da Vinci robotic system, powered by AI, has revolutionized procedures such as prostatectomy and cystectomy. As of 2020, more than 5,700 Da Vinci units had been deployed across Africa, Asia, and Europe.[34] This system enables minimally invasive surgeries through remote-controlled micro-incisions, offering a less intrusive alternative to traditional open procedures.[35] Complementary innovations include the REVO-I system, developed in South Korea in 2017 as a cost-effective alternative to the Da Vinci Si prototype, and the Versius Robotic Engine, introduced by Cambridge Medical Robotics in the United Kingdom in 2014, which has since received approval for use across Europe.[36] Titan Medical's SPORT (Single Port Orifice Robotic Technology) has also been successfully utilized in various abdominal surgical procedures.[37] These global innovations underscore not only the transformative potential of AI in reshaping healthcare delivery but also highlight the urgent need for a robust and contextually relevant regulatory framework in Nigeria. Without comprehensive legal and ethical governance mechanisms, even the most advanced AI systems may inadvertently undermine the

30 Unini Chioma, "'Nigeria Could Get 43%,' Okonjo-Iweala Says AI To Generate $136bn For Four African Nations," *TheNigeriaLawyer* (blog), January 14, 2025, https://thenigerialawyer.com/nigeria-could-get-43-okonjo-iweala-says-ai-to-generate-136bn-for-four-african-nations/.

31 Hannah Mitchell, "Google, Northwestern Medicine Partner to Develop AI Tool to Triage Breast Cancer Patients," *Becker's Hospital Review* (blog), May 19, 2021, https://www.beckershospitalreview.com/healthcare-information-technology/google-northwestern-medicine-partner-to-develop-ai-tool-to-triage-breast-cancer-patients/.

32 Hartini Saripan et al., "Artificial Intelligence and Medical Negligence in Malaysia: Confronting the Informed Consent Dilemma," *International Journal of Academic Research in Business and Social Sciences* 11, no. 11 (November 2, 2021): 293–302.

33 Stacy Lloyd, Shannon Curtis, and Matt Reid, "American Medical Association," *Research Collaboration Led by Mannatt*, 2024, 1–28.

34 Andre Luiz Gioia Morrell et al., "The History of Robotic Surgery and Its Evolution: When Illusion Becomes Reality," *Revista Do Colégio Brasileiro de Cirurgiões* 48 (2021): e20202798.

35 Saripan et al., "Artificial Intelligence and Medical Negligence in Malaysia," 297.

36 Morrell et al., "The History of Robotic Surgery and Its Evolution," e20202798.

37 Barbara Seeliger et al., "Enabling Single-Site Laparoscopy the SPORT Platform," *Surgical Endoscopy* 33, no. 11 (November 2019): 3696–3703.

core principles of patient safety, informed consent, and distributive justice that healthcare systems must uphold.

Data Privacy, Security, and Confidentiality in AI-Driven Healthcare in Nigeria

The integration of AI into Nigeria's healthcare sector—while promising significant advancements in diagnostics and patient management—has simultaneously heightened ethical, technical, and legal concerns regarding data privacy, confidentiality, and security.[38] Given that AI systems operate within extensive repositories of sensitive medical information, safeguarding patient privacy is both an ethical and legal necessity. AI tools can infer highly sensitive data—such as diagnostic conditions or genetic predispositions—even when such information has not been directly inputted. When third parties gain access to these AI-generated inferences without authorization, the risk of privacy breaches becomes substantial. Furthermore, AI-generated health data are vulnerable to cyberattacks and unauthorized dissemination, making concerns over data breaches, surveillance, and misuse not merely theoretical but operationally urgent.[39]

Nazish Khalid et al. propose a Burnet oversight model as a proactive framework for monitoring data consumption and transmission in this context.[40] This model is based on ethical stewardship and aims to protect the patient's personal health information from internal misuse and external exploitation. Here, confidentiality refers to restricting access to patient data exclusively to authorized personnel and ensuring the integrity of such data through robust administrative and technical safeguards. The emergence of AI raises the standards for these protections, necessitating that healthcare institutions implement more sophisticated measures, including advanced encryption protocols and secure data transfer mechanisms. Given AI's reliance on the aggregation and real-time analysis of medical records, diagnostic histories, and genomic data, healthcare providers are now more obligated to enforce data security frameworks capable of withstanding unauthorized access, distortion, or leakage.

From a normative perspective, the CFRN 1999 establishes a foundational legal framework for protecting personal privacy—section 37 guarantees privacy concerning individuals' homes, correspondence, and communications.[41] P. C. Aloamaka interprets personal data as encompassing any information related to an identifiable individual,[42] including identification numbers, biometric or genetic

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38 See: Rayhan A. Tariq and Pamela B. Hackert, "Patient Confidentiality," in *StatPearls [Internet]* (StatPearls Publishing, 2023).

39 Elliott Crigger and Christopher Khoury, "Making Policy on Augmented Intelligence in Health Care," *AMA Journal of Ethics* 21, no. 2 (February 1, 2019): 188–91.

40 Nazish Khalid et al., "Privacy-Preserving Artificial Intelligence in Healthcare: Techniques and Application," *Computers in Biology and Medicine* 158 (May 2023): 106848.

41 "Constitution of the Federal Republic of Nigeria 1999," Section 37.

42 P. C. Aloamaka Aloamaka, "Data Protection and Privacy Challenges in Nigeria: Lessons from Other Jurisdictions," *UCC Law Journal* 3, no. 1 (July 1, 2023): 281–321.

markers, location data, and other socio-economic indicators.[43] According to Ugochukwu Godspower Ehirim et al., this constitutional protection extends to mobile phones, which serve as extensions of the self by storing sensitive identifiers such as the National Identification Number (NIN) and Bank Verification Number (BVN).[44] They argue that medical data—such as hemoglobin levels or diagnostic histories—should similarly be regarded as integral to protecting human dignity and life, thus falling within the scope of constitutional privacy protections.

Judicial precedent in Nigeria reinforces this constitutional framework in *MTN Nigeria Communications Ltd. v. Barr. Godfrey Nya Eneye*. The Court of Appeal held that MTN's unauthorized disclosure of the claimant's mobile details violated his constitutional right to privacy.[45] Similarly, in *Ezugwu Emmanuel Anene v. Airtel Nigeria Ltd.*, the Federal Capital Territory High Court awarded ₦5,000,000 in damages for the unauthorized sharing of the plaintiff's mobile number with third parties, which resulted in persistent unsolicited messages and calls.[46] While these decisions reflect a growing judicial awareness regarding mobile data privacy, there remains a significant gap in judicial authority concerning privacy breaches in the context of AI-based healthcare systems—revealing both jurisprudential and statutory deficiencies.

Nigeria's legislative framework for data protection has gradually evolved to address emerging challenges. The Nigeria Data Protection Regulation (NDPR) of 2019 established the initial groundwork, which was further reinforced by the enactment of the Nigeria Data Protection Act (NDPA) of 2023—currently the principal legislation governing data management. These instruments operate in conjunction with the National Health Act (NHA) of 2014, particularly Section 26, which prohibits the disclosure of patient information unless it is demonstrably in the patient's best interest.[47] The Patients' Bill of Rights (PBoR) 2018 further complements these protections, asserting that medical records must remain confidential unless overridden by clear legal or public health imperatives.[48] Section 39(2) of the NDPA outlines essential data handling procedures, including pseudonymization, encryption, and de-identification, all aimed at preserving the integrity and confidentiality of personal medical information.[49] The Act imposes affirmative obligations on data controllers and processors to adopt technical and organizational measures that protect sensitive data from accidental destruction, unauthorized alteration, unlawful processing, and unconsented disclosure. These provisions apply to medical records, biometric identifiers, religious beliefs, and

43 Vivian Jacdonmi, "Right to Privacy in Nigeria: An Examination of the Legal Framework for Protecting Global System for Mobile Communication (GSM) Subscribers from Unsolicited Text Messages," *Journal of International Law and Jurisprudence*, January 1, 2020, 1–14.
44 Ugochukwu Godspower Ehirim et al., "Strengthening Human Rights Protection in Nigeria: Safeguards Under the Police Act 2020," *Khazanah Hukum* 6, no. 3 (December 31, 2024): 269–93.
45 MTN Nigeria Communications Ltd v. Barr. Godfrey Nya Eneye, Unreported (2013).
46 Ezugwu Emmanuel Anena v. Airtel Nigeria Ltd, Unreported (2015).
47 "National Health Act of 2014," Section 26.
48 "Patients' Bill of Rights," 2018.
49 "Nigeria Data Protection Act of 2023," Section 39(2).

political affiliations.[50] Crucially, the NDPA mandates that sensitive data be processed only by professionals legally and ethically bound by duties of confidentiality, such as healthcare practitioners and licensed data custodians.[51]

Nonetheless, scholars such as Akinpelu and Akintola caution that even with encryption and pseudonymization, AI systems remain susceptible to re-identification—the process by which anonymized data can be matched with external datasets to restore an individual's identity.[52] Pseudonymization replaces real identifiers with artificial codes but often retains linkable elements in separate databases, enabling potential reassembly. Encryption, conversely, transforms data into unreadable formats, preventing access by unauthorized users—a technique widely employed in secure messaging platforms such as WhatsApp.[53] Although combining both methods enhance data security, the level of compliance within AI health applications in Nigeria remains uncertain and is empirically under-researched.

Internationally, the Montréal Declaration for the Responsible Development of Artificial Intelligence provides a normative framework for the ethical deployment of AI systems, particularly in areas involving sensitive personal data.[54] However, Nigeria's domestic laws have yet to integrate such international benchmarks into a binding regulatory framework designed for the healthcare sector. The definitions outlined in the NDPA remain broad and fail to address the nuanced risks associated with AI's predictive capabilities, autonomous operational logic, and implications for clinical accountability. This conceptual ambiguity is arguably a consequence of legislative latency, as the rapid advancement of AI in healthcare may not have been anticipated during the drafting process. Consequently, legal and medical professionals often depend on analogical interpretations of existing statutes. This practice heightens the risk of inconsistent application and undermines the normative clarity necessary for protecting rights. Therefore, there is an urgent need to establish AI-specific legal instruments that are not only informed by technology but also ethically grounded in principles of human dignity, informed consent, and equitable access to healthcare within AI-enhanced systems.

Algorithmic Bias and the Paradox of Equality in AI-Driven Healthcare: Legal, Ethical, and Social Implications in Nigeria

The progressive integration of AI into professional healthcare delivery has generated a complex array of legal, ethical, and structural concerns.[55] These challenges stem from the disruptive potential of AI technologies, which are transforming established

[50] "Nigeria Data Protection Act of 2023," Section 24.
[51] "Nigeria Data Protection Act of 2023," Section 39.
[52] Akinpelu and Akintola, "Navigating the Legal and Ethical Terrain of Artificial Intelligence in Enhancing Patient Safety in Nigeria," 169–200.
[53] Priyanka and Amit Kumar Singh, "A Survey of Image Encryption for Healthcare Applications," *Evolutionary Intelligence* 16, no. 3 (June 2023): 801–18.
[54] "Montréal Declaration for a Responsible Development of Artificial Intelligence," 2018, https://montrealdeclaration-responsibleai.com/the-declaration/.
[55] Aloamaka, "Data Protection and Privacy Challenges in Nigeria," 281–321.

professional roles and diminishing traditional forms of human discretion. As AI tools are increasingly utilized to enhance diagnostic accuracy and improve patient safety, they simultaneously challenge entrenched principles within medical ethics—such as doctor-patient confidentiality, informed consent, and the attribution of liability. These transformations raise urgent questions regarding data bias, discriminatory outcomes, and the adequacy of existing national and global legal frameworks to ethically and effectively regulate AI systems in clinical contexts.[56]

AI algorithms process large datasets through machine learning models that identify diagnostic patterns and generate probabilistic outcomes.[57] These systems are designed to analyze real-time inputs against extensive internal repositories, holding the potential to reduce clinical errors and improve treatment accuracy. However, the reliability of algorithmic outputs is directly dependent on the training datasets quality, representativeness, and neutrality.[58] When the input data are skewed, outdated, or incomplete, the resulting outputs risk replicating and amplifying these distortions, leading to erroneous or exclusionary outcomes that disproportionately affect certain patient groups.[59] In contrast, well-curated and empirically representative datasets can significantly enhance the likelihood of accurate and equitable results.

However, the reliance on narrow or outdated training data introduces a systemic vulnerability in AI-enabled decision-making, allowing historical inequities to become embedded in the algorithms. Diagnostic tools trained on homogeneous datasets are particularly susceptible to perpetuating biases related to race, gender, religion, socio-economic status, or sexual orientation.[60] These biases can lead to the underdiagnosis or overdiagnosis of marginalized groups, thereby exacerbating existing disparities in healthcare access.[61] As E. Sokol has noted, ethnic and sexual minorities often appear in medical datasets with disproportionate frequency or in insufficient sample sizes, increasing their likelihood of misclassification.[62] This phenomenon underscores the reality that AI systems are not neutral tools; the normative assumptions and exclusions influence them in the data that inform them. When such tools operate without rigorous scrutiny, they risk institutionalizing systemic discrimination under the guise of technological objectivity.

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56 Ziauddin Sabouri and Behnam Mehrdel, "New Geopolitics of Artificial Intelligence and the Challenges of Global Governance," *CIFILE Journal of International Law* 5, no. 10 (2024): 120–44.

57 E. Sokol, "Artificial Intelligence's Impact on Patient Safety, Out-Comes," *Health IT Analytics* (blog), August 19, 2019, https://cutt.ly/NNlbgtP.

58 See: Bajwa et al., "Artificial Intelligence in Healthcare," 189; Secinaro et al., "The Role of Artificial Intelligence in Healthcare," 125.

59 Taylor Mitchell, "Algorithmic Bias in Health Care Exacerbates Social Inequities—How to Prevent It," *Harvard Chan School* (blog), March 12, 2021, https://hsph.harvard.edu/exec-ed/news/algorithmic-bias-in-health-care-exacerbates-social-inequities-how-to-prevent-it/.

60 Trishan Panch, Heather Mattie, and Rifat Atun, "Artificial Intelligence and Algorithmic Bias: Implications for Health Systems," *Journal of Global Health* 9, no. 2 (December 2019): 010318.

61 Michelle R. Troseth, "Interprofessional Collaboration through Technology," *Nursing Management* 48, no. 8 (August 2017): 15–17.

62 Sokol, "Artificial Intelligence's Impact on Patient Safety, Out-Comes."

Biases can infiltrate AI systems at various stages—during data collection, model training, auditing, or post-deployment implementation.[63] For example, tools trained predominantly on data derived from urban, well-connected populations may yield ill-suited diagnostic insights into Nigeria's socio-cultural diversity. It presents significant challenges in a country characterized by ethnic plurality, regional disparities, and structural inequities. Furthermore, public disclosure or third-party access to AI-generated predictions exacerbates these issues, raising serious concerns about privacy, potential discrimination, and the misuse of information.[64] When interpreted or disseminated without appropriate safeguards, Erroneous outputs can damage reputations, influence clinical decisions, and affect access to insurance and public health services.[65]

These developments undermine the ethical foundation that mandates healthcare be provided equitably and without prejudice.[66] Both domestic and international legal frameworks explicitly prohibit discrimination. Section 42 of the CFRN 1999 prohibits differential treatment based on sex, ethnicity, religion, or social origin. International human rights instruments, including Articles 7 and 23 of the Universal Declaration of Human Rights (UDHR), Article 26 of the International Covenant on Civil and Political Rights (ICCPR), and Articles 2 and 10 of the International Covenant on Economic, Social and Cultural Rights (ICESCR), affirm the principle of equality in access to services, including healthcare. Similarly, Article 5 of the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD) mandates equal access to healthcare regardless of racial or ethnic identity. Articles 12 and 14 of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) also secure women's rights to medical care free from discrimination.

While these instruments do not explicitly reference algorithmic bias, their broad normative provisions allow for contextual interpretation in light of evolving technological realities. Article 12 of the ICESCR, which recognizes the right to the highest attainable standard of health, must logically be interpreted to include protection from AI-induced harm and discriminatory automation. Regionally, the African Charter on Human and Peoples' Rights (ACHPR)—incorporated into Nigerian law—reiterates this in Article 16, which guarantees every individual's right to the best attainable physical and mental health. Similarly, Article 14 of the African Charter on

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63 Kadija Ferryman, Maxine Mackintosh, and Marzyeh Ghassemi, "Considering Biased Data as Informative Artifacts in AI-Assisted Health Care," ed. Jeffrey M. Drazen, *New England Journal of Medicine* 389, no. 9 (August 31, 2023): 833–38.

64 Price W. Nicholson, "Risks and Remedies for Artificial Intelligence in Healthcare," *Brookings* (blog), accessed January 23, 2025, https://www.brookings.edu/articles/risks-and-remedies-for-artificial-intelligence-in-health-care/.

65 Céline Castets-Renard, Eleonore Fournier-Tombs, and 2020, "AI Must Be Used Responsibly with Vulnerable Populations," *Policy Options* (blog), accessed February 23, 2025, https://policyoptions.irpp.org/magazines/september-2020/ai-must-be-used-responsibly-with-vulnerable-populations/.

66 Marius Pieterse, "The Relevance of the African Regional Human Rights System in the Urban Age," *Leiden Journal of International Law* 36, no. 3 (September 2023): 657–74.

the Rights and Welfare of the Child ensures access to health services without discrimination based on race, social origin, or another distinguishing characteristic.

Nevertheless, Nigeria lacks a legal framework specifically addressing algorithmic discrimination in healthcare. While Section 17(3)(d) of the CFRN 1999 encourages providing adequate medical facilities for all, this section is part of Chapter Two, which is non-justiciable and therefore not enforceable in court. As Akinpelu and Akintola note, domesticating the ACHPR enhances the rhetorical strength of equality guarantees but offers limited judicial recourse.[67] The absence of enforceable regulations allows AI tools to operate without sufficient legal constraints, exacerbating inequalities in access to healthcare—particularly between urban elites and marginalized populations. These disparities are further intensified by structural economic and digital inequalities: AI-equipped healthcare services are predominantly available in urban areas with adequate infrastructure and internet access.[68] At the same time, rural and underserved communities remain excluded from such advancements. Consequently, this results in a widening that undermines the constitutional promise of equal access to healthcare.

This challenge is exacerbated by Nigeria's long-standing deficiencies in data infrastructure.[69] The country lacks reliable data collection, verification, and management systems, which are essential for robust AI development. Mistrust in medical research—often stemming from past incidents such as the Pfizer Trovan case—has further discouraged widespread participation in data-sharing initiatives.[70] Consequently, the datasets available for training AI systems are often limited in volume, coverage, and demographic diversity. AI tools developed using such datasets are unlikely to perform equitably across Nigeria's population, thereby increasing the risk of exclusion or harm to underrepresented groups.[71]

Legislative Ambiguity and Regulatory Gaps in the Governance of AI in Nigerian Healthcare

While Nigeria has established a range of statutory frameworks designed to regulate healthcare delivery and safeguard patient safety, these instruments are inadequately equipped to address the new legal complexities introduced by integrating AI into clinical practice. The absence of explicit statutory recognition of AI tools within existing health legislation has led to interpretive ambiguity, regulatory inertia, and legal uncertainty—especially as AI systems increasingly influence medical diagnostics and decision-making. Although specific statutes make indirect or suggestive references to technologies that may include AI, they fail to adequately

67 Akinpelu and Akintola, "Navigating the Legal and Ethical Terrain of Artificial Intelligence in Enhancing Patient Safety in Nigeria," 169–200.
68 Panch, Mattie, and Atun, "Artificial Intelligence and Algorithmic Bias," 010318.
69 Ifeanyichukwu Anthony Ogueji et al., "Mistrust of the Nigerian Health System Practical Implications: Qualitative Insights from Professionals and Non-Professional in the Nigerian Health System," *Journal of Public Health* 32, no. 2 (February 2024): 303–14.
70 Ojewale and Mukumbang, "COVID-19 Vaccine Hesitancy among Nigerians Living with Non-Communicable Diseases," e065901.
71 Panch, Mattie, and Atun, "Artificial Intelligence and Algorithmic Bias," 010318.

address the unique challenges of confidentiality, privacy, data security, and algorithmic accountability in the digital healthcare era.

For instance, Section 5 of the National Agency for Food and Drug Administration and Control (NAFDAC) Act of 2004 empowers the agency to regulate the manufacture, importation, advertisement, and distribution of medical devices.[72] The Act mandates quality assurance, product safety evaluations, and the destruction of substandard goods. However, it does not explicitly include AI-driven diagnostic tools or software-based decision-support systems within its scope.[73] This definitional gap raises concerns about whether such AI systems qualify as "medical devices" subject to regulation. Similar ambiguities exist within the Food, Drugs, and Related Products Act, which requires medical devices to be registered before production or distribution and allows for revocation if standards of efficacy or safety are not met. While these provisions could arguably be extended to AI tools, the lack of statutory clarity renders such interpretations speculative and inconsistent. Additionally, the Federal Competition and Consumer Protection Act (FCCPA) of 2018 and the Standards Organization of Nigeria (SON) Act of 2004 aim to protect consumers and ensure product quality.[74] However, these frameworks lack precision in defining whether algorithmic systems and AI applications constitute "products" within their regulatory scope. As a result, AI-enabled diagnostic software often occupies a grey area, governed more by analogy than by legal certainty, thereby undermining the enforceability of consumer protections and quality control mechanisms.

In contrast, jurisdictions like the United States and the United Kingdom offer more precise regulatory guidance. The U.S. Food and Drug Administration (FDA) classifies AI systems used in diagnosis or treatment as Software as a Medical Device (SaMD).[75] At the same time, the UK's Medicines and Healthcare Products Regulatory Agency (MHRA) similarly recognizes algorithm-driven tools as medical devices.[76] Drawing from these precedents and Section 31 of the NAFDAC Act—which broadly defines medical devices as any apparatus or contrivance intended for diagnostic or therapeutic use—one can reasonably argue that AI tools should be included within Nigeria's regulatory framework.[77] However, reliance on doctrinal inference alone is insufficient to resolve legal ambiguities. There is an urgent need for statutory

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72 "National Agency for Food and Drug Administration and Control Act of 2004," Section 5.

73 Onur Asan, Alparslan Emrah Bayrak, and Avishek Choudhury, "Artificial Intelligence and Human Trust in Healthcare: Focus on Clinicians," *Journal of Medical Internet Research* 22, no. 6 (June 19, 2020): e15154.

74 See: "Federal Competition and Consumer Protection Act of 2018," Section 17; "Standards Organisation of Nigeria Act of 2004," Sections 1 and 3.

75 The Pew Charitable Trust, "How FDA Regulates Artificial Intelligence in Medical Products," *Health Care Products* (blog), August 5, 2021, https://pew.org/3yglbCS.

76 Medicines & Healthcare Product Regulatory Agency (MHRA), "Software and Artificial Intelligent (AI) as a Medicial Device," *GOV.UK* (blog), 2023, https://www.gov.uk/government/publications/software-and-artificial-intelligence-ai-as-a-medical-device/software-and-artificial-intelligence-ai-as-a-medical-device.

77 "National Agency for Food and Drug Administration and Control Act of 2004," Section 31.

revision that explicitly incorporates AI into the scope of Nigerian healthcare law, thereby closing regulatory gaps and enhancing legal predictability.

The Nigerian Code of Medical Ethics (NCME) of 2004 and the PBoR 2018 establish normative principles that implicitly engage with technology-enhanced care within domestic ethical frameworks. The PBoR 2018 affirms patients' rights to data privacy, informed consent, and active participation in therapeutic decisions—rights that may be compromised when opaque AI systems replace human discretion.[78] While the PBoR 2018 permits data disclosure in the public interest, this clause remains subject to interpretive variability, lacking a consistent judicial threshold. The NCME, for its part, mandates continued professional development (Rule 90), adherence to recognized medical protocols (Rule 28), and the obligation to refer complex cases beyond one's competence (Rule 32).[79] These ethical obligations become tenuous when algorithmic tools operate without transparency, potentially rendering medical practitioners' passive participants in a system they do not fully understand or control.[80]

Administratively, Nigeria has begun to acknowledge these realities. The establishment of the National Centre for Artificial Intelligence and Robotics (NCAIR) reflects a growing commitment to institutional engagement with innovative technologies. Tasked with research, policy advisory, and cross-sector collaboration, the NCAIR represents an emerging governance structure for the integration of AI. Additionally, the NITDA has initiated a National Artificial Intelligence Policy (NAIP), which aims to address the socio-legal impacts of AI across various sectors, including healthcare.[81] However, these initiatives remain advisory without binding legislative authority and lack the enforceability necessary for effective oversight.

The rise of AI in Nigerian healthcare further emphasizes the necessity of inclusive and diverse datasets to promote transparency and reduce algorithmic bias. Using homogeneous or unrepresentative data risks perpetuating discriminatory outcomes, undermining the ethical foundations of healthcare and the constitutional principles of equality, privacy, and dignity. Regulatory bodies, such as the NITDA, must adopt a more proactive approach to auditing AI systems, assessing embedded biases, and enforcing compliance through systematic oversight. Additionally, bureaucratic engagement should be enhanced through collaboration with technology innovators such as the RAIN, Data Scenes Nigeria, and Datalab Nigeria. This collaboration will facilitate training, improve literacy, and ensure accountability among public officials responsible for AI governance.[82]

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78 "Patients' Bill of Rights."

79 "Code of Medical Ethics in Nigeria," January 1, 2004.

80 Chukwubuikem I Obianyo and Solomon Vendaga Ater, "A Critical Appraisal of the Legal Framework of Artificial Intelligence Governance in Nigeria," *Chukwuemeka Odumegwu Ojukwu University Journal of Private and Public Law (COOUJP-PL)* 4, no. 1 (January 25, 2023): 48–62.

81 Nkechi Isaac, "NITDA Seeks Stakeholders' Contribution to National AI Policy," *Science Nigeria* (blog), August 11, 2022, https://sciencenigeria.com/nitda-seeks-stakeholders-contribution-to-national-ai-policy/.

82 Thupane J. Kgoale and Kola O. Odeku, "An Analysis of the International and European Union Legal Instrument for Holding Artificial Intelligence Accountable," *Juridical Tribune - Review of Comparative and International Law* 13, no. 3 (2023): 427–40.

The complexity of AI necessitates a recalibration of legal and ethical expectations.[83] Given the evolving nature of algorithmic technologies—and the opacity with which many of them function—AI outcomes must be viewed as complementary rather than substitutive to clinical decision-making.[84] Policymakers must resist the allure of technological determinism and instead develop frameworks that prioritize procedural fairness, professional oversight, and patient autonomy. In a landscape where the long-term consequences of AI remain uncertain,[85] a precautionary approach grounded in justice and human dignity is not only advisable but essential. Like other jurisdictions, Nigeria must intentionally craft legislative and administrative instruments that reflect digital healthcare's opportunities and ethical boundaries.[86]

Conclusion

This article critically examines the legal and ethical complexities of integrating Artificial Intelligence (AI) into healthcare delivery in Nigeria, particularly emphasizing patient safety, data privacy, and the risks of algorithmic discrimination. While AI holds significant potential to transform diagnostic processes, treatment planning, and clinical decision-making, the lack of a dedicated legal framework tailored to the unique challenges posed by AI systems leaves patients vulnerable to harm. Existing statutory instruments—such as the National Agency for Food and Drug Administration and Control (NAFDAC) Act of 2004, the Federal Competition and Consumer Protection Act (FCCPA) of 2018, and the Standards Organization of Nigeria (SON) Act—offer only fragmented and indirect regulatory oversight, failing to adequately address the dual nature of AI as both a technological innovation and an ethical disruptor. Furthermore, although constitutional protections under the Constitution of the Federal Republic of Nigeria (CFRN) 1999 uphold rights to privacy and equality, their lack of specificity and enforceability in AI-driven healthcare interventions diminishes their protective function. This article argues that without AI-specific legislation, algorithmic opacity and biased outcomes may compromise patients' rights to safety, dignity, and non-discrimination in medical contexts.

The implications of these findings are twofold. First, there is an urgent need for a comprehensive legislative and regulatory framework to govern the design,

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83 See: Muhammad Huzaifah Naeem Sehgal and Areeba Iqbal Qureshi, "Lethal Algorithms: Ethical and Legal Quandaries of AI in Warfare," *CIFILE Journal of International Law* 5, no. 10 (September 1, 2024): 145–61; Hafiz Gaffar and Saleh Albarashdi, "Copyright Protection for AI-Generated Works: Exploring Originality and Ownership in a Digital Landscape," *Asian Journal of International Law* 15, no. 1 (January 2025): 23–46.

84 Asan, Bayrak, and Choudhury, "Artificial Intelligence and Human Trust in Healthcare," e15154.

85 Angela Spatharou, Solveigh Hieronimus, and Jonathan Jenkins, "Transforming Healthcare with AI: The Impact on the Workforce and Organizations," *Mckinsey & Company* (blog), March 10, 2020, https://www.mckinsey.com/industries/healthcare/our-insights/transforming-healthcare-with-ai.

86 See: Michael J. Rigby, "Ethical Dimensions of Using Artificial Intelligence in Health Care," *AMA Journal of Ethics* 21, no. 2 (February 1, 2019): 121-124; Rudi Natamiharja and Ikhsan Setiawan, "Guarding Privacy in the Digital Age: A Comparative Analysis of Data Protection Strategies in Indonesia and France," *Jambe Law Journal* 7, no. 1 (July 30, 2024): 233–51.

deployment, and auditing of AI within Nigeria's healthcare infrastructure. Second, AI must be formally recognized as a complementary—not substitutive—tool in clinical decision-making, preserving human agencies and professional accountability's centrality. The study advocates for deliberate state action to engage domestic innovators, strengthen regulatory bodies such as the National Information Technology Development Agency (NITDA), and institutionalize participatory frameworks for AI governance. However, this study is primarily doctrinal, relying on interpreting legal texts and expert literature. It does not empirically assess the real-world implications of AI implementation in Nigerian hospitals. Future research should, therefore, adopt empirical methodologies to explore patients' lived experiences, the perceptions of medical practitioners, and the institutional preparedness for AI integration. Only through such multidimensional inquiry can Nigeria responsibly harness the transformative potential of AI while ensuring that patients' rights are upheld within an ethically grounded and legally coherent healthcare system.

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