INFORMED CONSENT IN THE AGE OF ARTIFICIAL INTELLIGENCE: CHALLENGES IN NIGERIAN HEALTHCARE[1]

Abstract
Artificial Intelligence in healthcare no doubt enables more precise and enhanced diagnostics, enhanced treatment plans, and efficient resource management, and enhanced treatment outcomes. Informed consent is a fundamental principle that ensures patients understand the nature of their treatment, and associated risks; with the introduction of artificial intelligence in healthcare, informed consent extends to patients' knowledge and understanding of the role of technology in their care. However, the complexity of artificial intelligence algorithms makes the informed consent process difficult, as patients encounter difficulty in understanding how these technologies influence their treatment decisions. This article examines the intersection of informed consent and the use of artificial intelligence in healthcare within the Nigerian context; explores the challenges posed by artificial intelligence in obtaining informed consent and underscores the importance of adapting informed consent processes to meet the challenges posed by emerging technologies in healthcare. This paper explores the challenges in navigating the informed consent systems in the age of artificial intelligence technology, particularly with the limited technological literacy, and regulatory gaps; and highlights the need for clear and specific legal framework that regulate informed consent to reflect the current trend of the use of artificial intelligence technology in healthcare, and as such address the legal and ethical challenges of informed consent in the era of Artificial intelligence in Nigeria. The article makes recommendations to ensure equitable practices in obtaining informed consent in the age of Artificial Intelligence.
Keywords: Informed Consent, Artificial Intelligence, Healthcare, Nigeria

Introduction

The introduction of artificial intelligence in healthcare introduced new complexities to the informed consent process, particularly because of additional information that the medical practitioner needs to convey to the patient. These complexities necessitate the need to reexamine informed consent frameworks to safeguard patient autonomy. Despite the technicalities of artificial intelligence technology, which may be difficult for either the medical practitioners and patients to easily comprehend, medical practitioners should be able to provide patients with a general explanation of how artificial intelligence system works; describe to patients the risks and benefits of the artificial intelligence technology, especially when compared to human accuracy; discuss with patients the human and machine roles and responsibilities in diagnosis, treatment and procedures; describe any safeguards that should be put in place; explain issues related to confidentiality of patient's information and any data privacy risks that may arise with the use of artificial intelligence technology in patient's diagnosis or treatment.[2] In Nigeria, the existing legal frameworks on healthcare, particularly the National Health Act of 2014, do not adequately address the unique challenges posed by AI technologies, especially as it relates to informed consent. The disparity in technological literacy among both healthcare providers and patients further complicates the informed consent process, as people still struggle to comprehend the intricacies of Artificial Intelligence-driven interventions. This study aims to critically examine the implications of artificial intelligence on informed consent within the Nigerian healthcare context. It will explore the current legal and ethical frameworks governing informed consent, assess the adequacy of these frameworks in addressing the challenges posed by Artificial Intelligence, and propose recommendations for improving the informed consent process to ensure that patient rights are upheld in an increasingly technology-driven medical landscape.

Informed Consent in Nigeria

Informed consent is an important ethical tenet in healthcare that patients understand and consent to the treatments they receive. This entails providing patients with full and comprehensive information about the nature, benefits, risks and alternatives of a proposed intervention. Patient autonomy emphasizes the right of patients to make informed decisions about their healthcare. Failure to obtain the consent of a patient before treatment exposes the medical practitioner to a legal claim in damages for trespass against the patient, particularly a claim in battery. Where consent is obtained involuntarily, by duress or coercion, it may result to an action for battery.[3] Cardozo J summarized the importance of consent to treatment thus:
'Every human being of adult years and sound mind has a right to determine what shall be done with his own body; and a surgeon who performs an operation without his patient's consent commits an assault for which he is liable in damages.'[4]

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[1] **Chidimma Anuli Ewelukwa**, Lecturer, Faculty of Law, Nnamdi Azikiwe University, Awka; ac.ewelukwa@unizik.edu.ng
[2] Cohen, I.G. 2020. Informed consent and medical artificial intelligence: What to tell the patient? *Georgetown Law Journal* 108(6): 1,425-1,469. Retrieved from www.law.georgetown-law-journal/in-print/volume-108-issue-6-june-2020/informed-consent-and-medical-artificial-intelligence-what-to-tell-the-patient/.
[3] Tyas, J.G.M. 1973. *Law of Torts*. Macdonald and Evans: 36.
[4] *Schloendorff v Society of New York Hospital* 211 NYB 125, 105 NE 92 (1914) (Schloendorff).

According to John Stuart Mill, an adult of sound mind has an absolute right over his or her mind or body.[5]
A valid consent requires a capability to make such decisions[6] Every adult of sound mind has the capacity to give informed consent to medical treatment and procedures. In the case of minor patients, there is a presumption that parents have the capacity and are better placed to make accurate informed decisions for their children.[7] Despite this presumption and the rights of the parents to take decision on behalf of incapable minors, this right is not sacrosant. A mature minor who can understand the choice of treatment and its consequences can give valid consent to medical treatment or procedure as though he were an adult.[8] The state can also intervene to save the life of the child, where the parents decision is not in the best interest of the child.[9] Mentally incapacitated persons may be incapable of giving consent to treatment or medical procedures, except where the patient is in a lucid stage where he can understand the information given to him.[10] Where a patient is unconscious without capacity to consent, the doctrine of necessity can be applied to presume that if he had the capacity, he would have consented to save his or her life. The application of the doctrine of necessity is geared towards saving lives; the doctrine of necessity gives legitimacy to an act which otherwise would have been wrong where the intention is to save and preserve human life.[11] Although necessity is a defence for non-consensual treatment especially where the patient is in an unconscious state;[12] a health practitioner should not take undue advantage of the patient by carrying out a procedure more extensive than what is required to save life. In **Murray v Mc Murdy**,[13]the action of battery succeeded against a surgeon who sterilized a female patient by removing her uterus without her consent during a ceasearian section. The court held that the sterilization is not detrimental to the life of the patient.

Informed consent is not limited to instances where a patient accepts treatment. It extends to the right to refuse medical treatment in exercise of a patient's right over his or her own body.[14] A competent patient has the right not only to choose one treatment over another, but to also refuse any medical treatment regardless of the consequences of such refusal and regardless of the benefits of the proposed treatment. This right to consent or refuse to medical treatment stems from the right to determine what happens to ones' body. Such person has the right to take any decision that may affect his/her life even where such decision appears irrational; as such he or she may refuse any treatment or procedure, including life saving treatment or procedures. Where a medical practitioner carries out treatment or procedure on a patient without his or her consent, the medical practitioner may be held liable for battery. Except in very limited circumstances, like emergency situations or public health requirement, the right of a person over his or her body is absolute.[15] Imposing treatment after a patient's refusal may result in liability on the part of the medical practitioner. Where a patient refuses treatment, it is important to document it, particularly the steps taken to understand the consequences of refusing treatment.[16]

The National Health Act[17] provides that every health care provider shall give a user relevant information pertaining to his state of health and necessary treatment relating to the user's health status except in circumstances where there is substantial evidence that the disclosure of the user's health status will be contrary to the best interests of the user;[18] the range of diagnostic procedure and treatment options generally available to the user;[19] the benefits, risks, costs and consequences generally associated with each option;[20] and the user's right to refuse health services and explain the implications, risks or obligations of such refusal.[21] The Act further provides that the health care provider concerned shall where possible, inform the user in a language that the user understands and in a manner which takes into account the user's level of literacy.[22] The Act provides for informed consent for research or experimentation with human subjects.[23] It provides that research or experimentation shall only be conducted on a

[5] Tyas, J.G.M. 1973. *Law of Torts*. Macdonald and Evans: 36.
[6] Pattinson, S.D. 2006. *Medical Law and Ethics*. Sweet & Maxwell Ltd., London: 129.
[7] Esiri, F.O. 2012. *Medical Law and Ethics in Nigeria*. Malthouse Press Ltd.: 304.
[8] *Re Ernestine Gregory* 133 IU 2d 98549 NE 2d 322 (1989).
[9] *Esabunor & anor v Faweya & ors* (2019) LPELR-46961 (SC).
[10] Davies, M. 1998. *Textbook on Medical Law*. Blackstone Press Ltd., London: 131-139.
[11] Mason, J.K., McCall Smith. 2006. *Law & Medical Ethics*. 7th ed. Oxford University Press: 350-411.
[12] Ibid, 351.
[13] (1949) 2 DLR 442.
[14] *Malette v Shulman (*1990) OJ No 450 (1990), 67 DLR (4th) 321 (Ont CA) (Malette).
[15] *Airedale NHS Trust v Bland* (1993) AC 789.
[16] *Davidson v British Columbia* (1996) 1 WWR 137 (BC SC).
[17] National Health Act 2014, section 23.
[18] Ibid, section 23 (1) (a).
[19] Ibid, section 23 (1) (b).
[20] Ibid, section 23 (1) (c).
[21] Ibid, section 23 (1) (d).
[22] Ibid, section 23 (2).
[23] Ibid, section 32.

living person in the manner prescribed by the relevant authority;[24] and with the written consent of the person after he is informed of the objects of the research or experimentation and any possible effect on his health.[25] Where research or experimentation is to be conducted on a minor for therapeutic purpose, the research or experimentation may only be conducted if it is in the best interest of the user;[26] in such a manner and on such conditions as may be prescribed by the National Health Research Committee;[27] and with the informed written consent of the parent or guardian of the minor.[28] In situations where research or experimentation is to be conducted on a minor for non-theraputic purpose, the research or experimentation may only be conducted in such manner and on such conditions as may be prescribed by the National Ethics Committee;[29]and with the informed written consent of the parent or guardian of the minor.[30]

The Act provides for informed consent before the removal of the tissue, blood or blood products from living persons.[31] A person shall not remove tissue, blood or blood product from the body of another living person for any purpose except with the informed consent of the person from whom the tissue, blood, or blood product is removed granted in the prescribed manner.[32] The law prohibits the removal of any tissue which is not replaceable by natural processes from a person who is younger than 18 years.[33] The consent clause may be waived for medical investigations and treatment in emergency cases,[34] and in accordance with prescribed protocols by the appropriate authority.[35] Any person who does not comply with the requirements of informed consent before removal of tissue, blood or blood products commits an offence and is liable for conviction in the case of a tissue to a fine of N1,000,000 or imprisonment of not less than two years or both;[36] and for blood and blood products to a fine of N100,000 or imprisonment for a term not exceeding one year or both.[37]

The Nigerian Constitution guarantees the right to life,[38] the right to dignity,[39] the right to liberty,[40] the right to privacy,[41] and the right to freedom of thought, conscience and religion.[42] The right to personal liberty may however be limited in the case of a person who is under 18 years of age, where limiting his or her liberty is allowed for the purpose of his or her welfare or education.[43] For persons suffering from a communicable disease, unsoundness of mind, drug and alcohol addiction, and vagrants, they may be detained for purposes of their treatment, or to protect others.[44]

In MDPDT v Okonkwo,[45] the Supreme Court of Nigeria, reaffirmed the principle that the right of a patient to consent to medical treatment must be respected. It held thus:
'*The Patient's consent is paramount… the patient's relationship with a doctor is based on consensus… the choice of an adult patient with a sound mind to refuse informed consent to medical treatment, barring state intervention through judicial process, leaves the practitioner helpless to impose a treatment on the patient.*'[46]
Here a patient who belonged to the Jehovah's witness sect expressly refused blood transfusion which was medically required for her sickness and indicated acceptance of non-blood products. The respondent medical practitioner proceeded to treat the patient without transfusing blood in accordance with the patients wish. The patient eventually died, and the medical practitioner was charged before the Medical Practitioner's Disciplinary

[24] Ibid, section 32 (1) (a).
[25] Ibid, section 32 (1) (b).
[26] Ibid, section 32 (2) (a).
[27] Ibid, section 32 (2) (b).
[28] Ibid, section 32 (2) (c).
[29] Ibid, section 32 (3) (a).
[30] Ibid, section 32 (3) (b).
[31] Ibid, section 48.
[32] Ibid, section 48 (1) (a).
[33] Ibid, section 48 (2) (a).
[34]Ibid, section 48 (1) (b).
[35] Ibid, section 48 (1) (c).
[36] Ibid, section 48 (3) (a).
[37] Ibid, section 48 (3) (b).
[38] The 1999 Constitution of the Federal Republic of Nigeria, section 33.
[39] The 1999 Constitution of the Federal Republic of Nigeria, section 34.
[40] The 1999 Constitution of the Federal Republic of Nigeria, section 35.
[41] The 1999 Constitution of the Federal Republic of Nigeria, section 37.
[42] The 1999 Constitution of the Federal Republic of Nigeria, section 38.
[43] The 1999 Constitution of the Federal Republic of Nigeria, section 35 (1) (d).
[44] The 1999 Constitution of the Federal Republic of Nigeria, section 35 (1) (e).
[45] *MDPDT v Okonkwo* (2001) 7 NWLR (Pt 711) 206 (SCN).
[46] Ibid

Tribunal and convicted on two counts of infamous conduct.[47] On the first count, it was alleged that the medical practitioner knew that the patient was severely anemic yet did not transfuse blood and did not refer the patient to another hospital where the inhibition to transfuse will not affect the patient negatively. The second count alleged that the doctor allowed his own belief as Jehovah's witness to influence him into agreeing with the patient not to transfuse blood. The Supreme Court of Nigeria relied on the English case of Sidaway v Board of Governor Bethlehem Royal Hospital[48] and the Canadian case of Malette v Shulman[49] and held that the combined effect of section 34 and section 35(1) of the 1979 Constitution now section 37 and section 38 of the 1999 Constitution dealing with freedom of conscience and freedom of expression respectively was that an adult of sound mind has a right to choose what medical treatment offered to him he would accept or refuse.

According to Ayoola JSC:
'The right to privacy implies a right to protect ones thought, conscience or religious belief and practice from coercive and unjustified intrusion; and one's body from unauthorized invasion. The right to freedom of thought, conscience and religion implies a right not to be prevented, without lawful justification, from choosing the course of one's life fashioned on what one believes in, and a right not to be coerced into acting contrary to one's life, religious belief… The sum total of the rights of privacy and of freedom of thought, conscience or religion which an individual has, put in a nutshell, is that an individual should be left alone to choose a course for his life, unless a clear and compelling overriding state interest justifies the contrary.'[50]

Justice Uwaifo in his concurring judgment held thus:
'Under normal circumstances no medical doctor can forcibly proceed to apply treatment to a patient of full age and sane faculty without the patient's consent, particularly if that treatment is of a radical nature, such as surgery or blood transfusion. So, the doctor must ensure that there is a valid consent and that he does nothing that will amount to a trespass to the patient. Secondly, he must exercise a duty of care to advise and inform the patient of the risks involved in the contemplated treatment and the consequences of his refusal to give consent.'[51]

The Court further held that a consideration of a religious objection involves the balancing of the patients' constitutional right; state interest in public health, safety and welfare of the society; and the interest of the medical profession in preserving its collective integrity. The court held that:
' To give undue weight to one of these other interests over the rights of the competent adult patient may constitute a threat to liberty of the individual, unless legally recognized circumstances justify that weight should be ascribed to one over the others… where, however, the direct consequence of a decision not to submit to medical treatment is limited to the competent adult patient alone, no injustice can be occasioned in giving individual right primacy.[52]
The court acknowledged that the decision of a competent patient to refuse treatment may be overridden on grounds of public interest or recognized interest of others, such as dependent minor children. The decision to override the patient's refusal is for the court to make, not the medical practitioner.[53] According to the court, the physician who is faced with such refusal may 'callously force' the patient out of the hospital, give refuge to the patient but without treating him, or take steps to ameliorate the consequences of the patient's decision.[54] The court upheld the conduct of the medical practitioner in respecting the patient's decision to refuse treatment.

The Supreme Court of Nigeria in Medical and Dental Practitioner Disciplinary Tribunal v Okonkwo[55] reiterates the importance of consent. The court held thus:
'the patient's consent is paramount… the patient's relationship with a doctor is based on consensus… the choice of an adult patient with a sound mind to refuse informed consent to medical treatment, barring state intervention through judicial process, leaves the practitioner helpless to impose a treatment on the patient'.
Justice Cardozo in Schloendorff v Society of New York Hospital held that every human being of adult years and sound mind has a right to determine what shall be done with his own body; and a surgeon who performs an operation without his patient's consent commits an assault, for which he is liable in damages.

[47] *Allinson v General Council of Medical Education and Registration* (1984) 1 QB 750.
See also; Idowu: A Legal Practitioner (1971) 7 NSCC 147 (1971) 1 All NLR 128.
[48] *Sidaway v Bethlehem Royal Hospital Governors* (1985) AC 871.
[49] *Malette v Shulman* (1990) OJ No 450 (1990), 67 DLR (4th) 321 (Ont CA) (Malette).
[50] MDPDT v Okonkwo, supra.
[51] Ibid at 255.
[52] Ibid at 244.
[53] Ibid at 245.
[54] Ibid.
[55] (2001) 7 NWLR (Part 711) 79.

Informed Consent in the Era of Artificial Intelligence in Nigeria: Challenges

Artificial intelligence refers to the field of computer science focused on creating machine-based algorithms that replicate human cognition, such as reasoning, understanding, and learning.[56] In healthcare, Artificial Intelligence has been used to aid the detection of diseases and the detection of treatment plans.[57] However, the complexity of AI algorithms can create challenges in providing clear and comprehensible information to patients, making it difficult for them to give informed consent. This difficulty is one of the main obstacles to getting patients' informed consent for AI driven healthcare. The complexity and opaqueness of Artificial Intelligence algorithms is a challenge to patients to understand how decisions are made.

Artificial Intelligence algorithms are sometimes referred to as 'black box' either because these algorithms are based on unknowable machine-learning techniques or because the relationships they draw are too complex for explicit understanding.[58] As such, it is difficult for healthcare providers and patients to understand. These algorithms, and artificial intelligence techniques represent a point where health technology may outstrip human understanding.[59] This makes it difficult and challenging to provide clear, comprehensible information to patients. More complication stem from disparity in technological literacy among the population.

There is a pressing question of how the use of artificial intelligence in healthcare, such as in imaging, diagostics and surgery interface with the principles of informed consent. This question has not received the attention it deserves. Apart from examining the deployment of informed consent in the clinical Artificial Intelligence space, the question of the extent of clinician's responsibility to educate the patient around the complexities of artificial intelligence, including the forms of ML used by the system, the kind of data inputs and the likelihood of bias or other limitations in the data used. When must a clinician notify the patient that Artificial Intelligence is being used? To what extent does a clinician need to disclose that they cannot fully interpret the diagnosis/ treatment recommendations by the Artificial intelligence? How much transparency is required? How does this interface with the duty to 'disclose'? These are all important questions begging for answers. These questions seem very difficult to answer, especially where the artificial intelligence operates using 'black box' algorithms, which may result from non-interpretable machine-learning techniques that are very difficult for clinicians to understand fully.[60]

One of the primary challenges in obtaining informed consent for AI- driven treatments is the complexity of the algorithms involved. Many AI systems operate as 'black boxes' meaning their decision-making processes are not easily interpretable by humans.[61] This can hinder patient's understanding of how artificial intelligence contribute to their treatment recommendations, making it difficult to provide meaningful informed consent. Also, there is a delicate balance between providing sufficient information and overwhelming patients with technical details. Overdisclosure may lead to confusion, where patients struggle to distinguish between relevant and trivial information.[62]underdiclosure may result in patients being unaware of significant risks associated with AI-driven decisions, potentially undermining their autonomy.[63] The patient's level of education is an overriding factor in all the influences on informed consent in Nigeria, as it does not just neutralize the various factors, but it bridges the gap between the doctor and the patient, encourages discussion on medical matters and also puts the physician on guard. Illiteracy may be a far more inhibiting factor on informed consent practices, than any other factor. Medical practitioners are more likely to seek consent when the patient is educated.[64] Artificial intelligence technology used in health care has also impeded the actualization of patient autonomy and informed consent. The development of

[56] Yu, K.H., Beam, A.L., Kohane, I.S. 2018. Artificial intelligence in healthcare. *Nature Biomedical Engineering* 2: 719-731 at 727.
[57] Ibid.
[58] Cohen, I.G. 2018. Petrie-Flom Center launches project on precision medicine, artificial intelligence, and the law (PMAIL). *Harvard Law Today*. https://hls.harvard.edu/today/petrie-flom-center-launches-project-precision-medicine-artificial-intelligence-law-pmail/.
[59] Ibid.
[60] Cohen, I.G. 2018. Petrie-Flom Center launches project on precision medicine, artificial intelligence, and the law (PMAIL). *Harvard Law Today*. https://hls.harvard.edu/today/petrie-flom-center-launches-project-precision-medicine-artificial-intelligence-law-pmail/. Yu, K.H., Beam, A.L., Kohane, I.S. 2018. Artificial intelligence in healthcare. *Nature Biomedical Engineering* 2: 719-731 at 727.
[61] Davenport, T., Kalakota, R. 2019. The potential for artificial intelligence in healthcare. *Future Healthcare Journal* 6(2): 94-98.
[62] Koch, V.G. 2019. Eliminating liability for lack of informed consent to medical treatment. *University of Richmond Law Review* 53: 1211-1227.
[63] Joffe, S., Truog, R.D. 2010. Consent to medical care: The importance of fiduciary context. In: Miller, F.G., Wertheimer, A., eds. *The Ethics of Consent*. Oxford University Press: 347-352.
[64] Agu, K.A. 2003. Informed consent policy and surgeons in Southeast Nigeria. *Nigerian Journal of Surgery* 9: 39.

artificial intelligence in healthcare further worsens comprehension and impedes informed consent; as the artificial intelligence technology used in healthcare may not only be difficult for patients to understand; but may also be difficult for healthcare professionals to understand it enough to explain it to patients in a way and manner that they can understand. Thus, with the introduction of artificial intelligence technology in healthcare, an effective and functional informed consent practice not only requires enlightened patients who know what they want, or if they are not certain about what they want, are able to process the information necessary for determining what they want but extends to the patients who also fully understand artificial intelligence technology.

Most healthcare providers do not fully understand the technicalities and functionality of artificial intelligence technology to fully explain to their patients. The legal framework governing informed consent in Nigeria, particularly the National Health Act 2014, did not help matters as it did not address the implications of Artificial Intelligence technology on informed consent. The Act provides for informed consent but lacks specific provisions that consider the unique challenges posed by Artificial Intelligence. This regulatory gap can lead to inconsistent practices and ethical dilemmas in obtaining informed consent. The disparity in technological literacy among the population exacerbates these challenges. Many healthcare providers may not fully understand the technicalities of AI technologies, making it difficult for them to explain these concepts to patients. This lack of understanding can hinder the informed consent process, as patients may not be able to grasp the implications of AI-driven interventions.

Effective informed consent in AI-driven healthcare requires patients to understand the benefits, risks and limitations of Artificial Intelligence generated medical decisions, to enable them to make informed medical decisions. It also entails that patients have the capacity to make informed decisions.; and that patients' voluntariness to accept or refuse AI driven care is respected.

Towards Best Practices for Informed Consent in AI-Driven Healthcare

The following recommendations are made for best practices for informed consent in AI-Driven healthcare:

1. **Clear Regulatory Guidelines:**
   There is need to develop and enforce specific and clear regulatory guidelines on AI use in healthcare; particularly developing and enforcing comprehensive regulations specific to artificial intelligence in healthcare can provide clearer standards for obtaining informed consent and address ethical concerns. Apart from developing and enforcing specific and clear regulatory guidelines, the existing legal framework, particularly the National Health Act 2014 provision on informed consent should also be amended to reflect the current reality of Artificial Intelligence in healthcare. As Artificial Intelligence becomes more integrated into healthcare, establishing clear accountability frameworks is important. It is important for the legal framework on informed consent to define the roles of healthcare providers and AI systems in decision-making and ensuring that patients are aware of these roles.
2. **Need for Collaborative Decision-Making Process**
   Both patients and healthcare providers need to be educated about artificial intelligence technologies; with focus on demystifying artificial intelligence and improving communication skills to facilitate effective informed consent. For an effective informed consent, medical practitioners are required to be sufficiently knowledgeable to explain to patients how an artificial intelligence device works.[65] Continuous education and training for healthcare providers on the legal and ethical aspects of AI driven healthcare, particularly as it relates to informed consent and patient autonomy, is necessary to equip them with the skills and knowledge needed to effectively communicate with patients about AI driven healthcare and obtain informed consent. Health-care providers and medical practitioners should encourage patients to ask questions and express their concerns about artificial intelligence involvement in their treatment, as it fosters a collaborative decision-making process. Both patients and healthcare providers need to be educated about artificial intelligence technologies in healthcare; with focus on demystifying artificial intelligence and improving communication skills to facilitate effective informed consent.
3. **Simplifying Information and Tailoring Disclosure to Patient Needs**:
   Healthcare providers should strive to present information about artificial intelligence in a simple and clear manner. This may involve using analogies or visual aids to help patients understand how AI contributes to their care, without overwhelming them with technical jargons. Providers should consider individual patient preferences and levels of health literacy when discussing AI. Some patients may desire more detailed information, while others may prefer an overview. Tailoring the disclosure process can enhance patient understanding of AI-driven care. Consent forms and informational materials should be available in multiple languages and adapted to reflect cultural sensitivities. This can help ensure that all patients fully understand the Artificial Intelligence technologies they are consenting to.

[65] Schiff, D., Borenstein, J. 2019. How should clinicians communicate with patients about the roles of artificially intelligent team members? *AMA Journal of Ethics* 21(2): E119-197. doi:10.1001/amajethics.2019.138.

Conclusion

Integrating Artificial Intelligence in healthcare sector in Nigeria, no doubt offers opportunity to transform healthcare delivery, making it more efficient, accessible, and equitable however, there is need for a robust and proactive governance framework to regulate legal and ethical issues that arise through the use of AI in healthcare delivery, especially as it relates to informed consent. This article highlights the inadequacies of the legal framework on informed consent in the age of Artificial intelligence in healthcare in Nigeria, particularly the National Health Act of 2014, which fails to adequately account for the complexities introduced by Artificial Intelligence. Apart from enacting specific laws that will regulate artificial intelligence in healthcare; it is also important to amend and update the National health Act 2014 which provides for informed consent to reflect the new technological developments. A multifaceted approach is necessary to tackle the challenges posed by artificial intelligence technology in healthcare. It is important for all stakeholders including artificial intelligence technologists, patients, healthcare professionals and regulatory authorities to collaborate to tackle the legal and ethical challenges of artificial intelligence in healthcare, especially as it relates to patient autonomy and informed consent to ensure that artificial intelligence in healthcare will be implemented in a way that is legally and ethically compliant. As Nigeria moves towards a more technology-driven healthcare system, it is essential to adapt the informed consent process to reflect contemporary realities. By addressing the challenges posed by Artificial Intelligence technology in healthcare, Nigeria can ensure that patient autonomy is respected, and that informed consent remains a meaningful process in the age of artificial intelligence. This commitment to ethical practice will not only enhance patient trust but also promote a more equitable and effective healthcare system.