

Artificial Intelligence and Healthcare Delivery: Implication for Ethics of Care in Africa

Grace Olufolake O. Alofun^{[a],*}; Mayokun Joyce Olowoniyi^[b]

^[a] PhD, Senior Lecturer, General Studies/Institute of Technology-Enhanced Learning and Digital Humanities, Federal University of Technology, Akure, Nigeria.

^[b] Lecturer 2, General Studies/ Institute of Technology-Enhanced Learning and Digital Humanities, Federal University of Technology, Akure, Nigeria.

*Corresponding author.

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Abstract

Artificial Intelligence (AI) has been described as a “game-changer” significantly impacting various sectors, particularly academia, business, and healthcare. Advances in AI have profound implications for caregivers, patients, the healthcare system, and society. Key global concerns surrounding AI in healthcare include questions such as: Will its integration improve diagnosis, treatment, and research? Will it democratize healthcare access and address ethical concerns of moral distancing, or will it introduce errors and inefficiencies? This paper aims to explore these questions within the African context, focusing particularly on the implications for the *Ethics of Care*, which is a moral framework that emphasizes the importance of relationships and dependencies in human life. Specifically, it examines whether AI in healthcare can sustain the core relational and dependency elements central to this ethical theory. It also investigates whether AI’s role as a caregiver can align with the emotional and bodily aspects that the Ethics of Care deems essential to moral deliberations. The paper employs conceptual and critical analysis to address these issues and provide a deeper understanding of AI’s ethical ramifications within the healthcare system.

Key words: Artificial Intelligence (AI); Healthcare system; Ethics of care; Relationships; Machines

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INTRODUCTION

Artificial intelligence (AI) refers to a set of technologies that make machines perform intelligently and imitate human sensing, comprehension, and feats, It is a technology that has continued to have a bearing on almost all areas where human intelligence is convoluted. It is used by businesses and various human institutions to perform activities, accelerate operations optimally, promote innovations, and supplementarily empower people in the workplace. (Ade-Ibijola & Okonkwo, 2023) In the way of defining artificial intelligence, according to Arakpogun, Elsan, Olan and Elsan (2023) Artificial intelligence is the non-human intelligence fashioned in the manner such that it can perform certain functions, tasks that were else performed by human beings, it can also be described or defined as a collection of information and communication technologies (ICTs) that “mimic” human intelligence to enable machines to expedite human jobs, create better efficiency, and be a better driver of economic growth. Historically, the term Artificial Intelligence was first used by John McCarty, who is referred to as the father of AI, in 1956. However, AI predates him as can be envisioned in the works of others like, Alan Turing, who in 1935 described a mental computing machine that consists of a limitless memory and scanner that moves back and forth through memory, is said to have laid the foundation for substantial work in the field of Artificial intelligence.

In the 21st century, Artificial Intelligence (AI) has emerged as one of the most revolutionary technologies, with a wide range of impacts in industries, from business and academia to healthcare. In healthcare, AI is gradually being used to enhance accuracy in diagnosis, improve

patient care, and streamline administrative processes. All these and many others have made AI a significant player in the evolution of the sector. Some AI tools are already being employed to diagnose diseases, recommend treatments, and predict patients' outcomes in the healthcare system. However, in the context of the African healthcare system, aside from the opportunities, the use of AI presents some challenges, especially in the context of care relationships. The Ethics of Care is a moral framework that emphasizes relationships, emotional engagement, and the importance of dependency in human life. As AI begins to take on roles traditionally occupied by human caregivers, it raises questions about the preservation of these vital aspects of care. Can AI sustain the emotional and relational elements that are fundamental to caregiving, or does the involvement of machines in care threaten the ethical underpinnings of human relationships?

This paper seeks to explore these questions through the lens of the African healthcare system. While AI is often viewed as a means to solve systemic challenges, such as limited access to healthcare professionals, inadequate resources, and long patient wait times, its impact on the ethical dimensions of caregiving requires deeper exploration. By focusing on the *Ethics of Care*, this paper aims to critically assess how AI can be integrated into healthcare systems in a way that respects human relationships and dependencies. In doing so, it will explore the potential for AI to either strengthen or undermine the values that have historically guided caregiving practices in Africa and beyond.

HEALTH, HEALTHCARE, HEALTHCARE SYSTEM

In 1946, the World Health Organization (WHO) offered an impactful definition of *health*, which is still relevant in the present decade as “a state of complete physical, mental and social well-being, and not merely absence disease and infirmity”. *Healthcare* refers to services that promote health, prevent health problems, diagnose and treat health problems to cure them, and improve the quality of life. In other words, *healthcare* describes the act of restoring and maintaining health through the treatment and prevention of diseases by trained and licensed professionals. *Healthcare systems* refer to the institutions that are available for the diagnosis and treatment of patients; sometimes limited to physicians and more broadly spaced, including care by nurses, therapists, and others who care for patients. This refers to the primary, secondary, and tertiary health care systems.

ARTIFICIAL INTELLIGENCE IN AFRICA

In Africa, the introduction of artificial intelligence is transforming the lives and cultures in various ways,

socially, economically, and politically. The variants are not easily comprehended or predictable because the increasing adoption of AI requires the development of an effervescent ecosystem founded on five stakeholders who form the foundation of building AI feats, including policymakers, tertiary educational institutions, large companies, start-ups, and multi-stakeholder partnerships. According to Narjs Hilale, (2008) the employment of artificial intelligence marks the 4th industrial revolution, and a major opportunity for the African continent to create an artificial intelligence model which is human centred, where Africa could work on building an approach that focuses on strengthening soft skill, fighting disparities and promoting equality of opportunities for gender.

This is to establish that Africa is not left out of the drive as Artificial intelligence strides across countries of the world. Several local and international AI pivots are being recognised in different countries in Africa. In 2007, the University of Cape Town, South Africa, established the Robotic and Agent Lab (RAL) to focus on the development of robotic and computational intelligence as well as building children from low-income households' capacity by sponsoring their participation in an annual international robotic competition (RoboCup Junior). (Arakpogun, et al 2023) Also, since 2013, a non-government organisation based in Kenya, Data Science Africa (DSA), has been promoting the affordability, wider deployment, and sustainability of AI solutions in Africa. It provides for discourses and knowledge sharing among AI researchers and practitioners in Africa to discuss and share knowledge of the development and usefulness of AI through summer schools and workshops, which have been held across different parts of Africa, Kenya, Nigeria, and Ghana, to name a few. Also, in the International terrain, organisations such as Women in Machine Learning and Data Science (WiMLDS) have chapters in different parts of Africa, with a focus on engaging with and promoting women's participation in AI. (Feast, 2019)

Additionally, the AI-powered fourth industrial revolution (4IR) has created tremendous opportunities for the teeming African youths by providing job opportunities. Youths are engaged in different AI projects across the African space, generating income through AI; such incomes are used to aid other siblings or relatives in advancing their educational or vocational training. AI has also contributed favourably to food security. The danger of food insecurity is being mitigated with the use of AI applications which could predict crop disease and disasters that farmers are faced with since through such applications, farmers are alerted about the impending danger and be adequately prepared to mitigate the evil, because over 60 percent of employment in Africa is hinged on agriculture. Thus, agriculture, as a strategic sector in Africa, needs AI as a critical tool for improvement and food sustainability. (Arakpogun, et al 2023).

Artificial Intelligence and Healthcare System in Africa

In many African countries, the health care system is underserved. Health facilities such as personnel, centres, hospitals, and medical equipment are lacking or inadequate in places where they are available, especially in the suburbs. Various governmental reforms have been put in place in different parts of Africa to mitigate the lacklustre of the health sector, but many are yet to be implemented. For instance, according to the communique issued by the Nigeria National Health conference in 2019, the healthcare system remains weak as evidenced by lack of coordination, fragmentation of services, dearth of resources, including drugs and supplies, inadequate and decaying infrastructure, inequality in resource distribution and access to care or very deplorable quality of care, (Onwujekwe, et al 2010).

More recent trends of evils bedevilling the healthcare system in many African countries is incessant strikes embarked upon by doctors and other health care personnel, this is warranted because of poor remuneration, and non-implementation of agreements reached with the government. Another such recent evil is the *JAPA* syndrome, an upsurge in mobility/migration of both experienced and young, vibrant doctors and other paramedics to developed countries due to the caveat created by the post-COVID pandemic. This movement creates a brain drain in the health sector in Africa. Odiawa (2024), reporting this, asserts that:

Ongoing reports of facility close down by leading health establishment across the nation call for conscious moves to stem the pattern of brain drain and the attendant consequences for the healthcare sector. No fewer than five facilities comprising some 150-bed space at the Lagos University Teaching Hospital (LUTH) and a section of the Obafemi Awolowo University Teaching Hospital (OAUTH) were ... closed down in the fourth quarter of 2023, attributable to labour supply deficiency.

As a result of the challenges to the healthcare system in African countries, it has been argued that the introduction of artificial intelligence would, to a large extent, reshape the future of the health sector (Onwueke et al. 2010). The rapid advancement of AI in the health sector will no doubt be of immense contribution to the quality of healthcare delivery in Africa. Some of the machines or systems created through AI can perform different tasks, such as learning from experience, processing language, recognizing patterns, and making decisions. In healthcare, these AI technologies are being used in a variety of ways, such as in diagnosing diseases by analyzing medical imaging, such as X-rays, MRIs, and CT scans, with high accuracy, sometimes exceeding human capabilities. AI is also being used in genomics to personalize treatment for individuals based on their genetic makeup and also by predicting patient outcomes and even providing personalized treatment recommendations. Additionally, AI also helps health researchers in analyzing large datasets to

identify patterns and trends that can inform drug discovery and clinical trials. Again, machine learning models in AI can also predict which therapies may be most effective for specific patient profiles. AI also helps to streamline administrative processes in health care sectors, it reduces costs and time spent on routine tasks such as patient scheduling and managing medical records. The integration of AI into healthcare systems worldwide, particularly in Africa, has led to significant advancements in efficiency, precision, and accessibility. AI has the potential to reduce human error, decrease wait times for patients, and extend the reach of healthcare services, particularly in underserved areas. Moreover, the ability of AI to process vast amounts of data enables healthcare providers to make better-informed decisions, thereby improving patient outcomes. However, the deployment of AI in healthcare is not without its challenges. For instance, AI systems can introduce biases if they are trained on incomplete or unrepresentative datasets. Additionally, the reliance on algorithms to make decisions about patient care raises concerns about accountability, especially if errors occur. Furthermore, there is the ethical issue of “moral distancing,” where the involvement of machines in care may reduce the emotional connection and empathy traditionally present in the caregiver-patient relationship. In what follows, I will briefly discuss some of the challenges faced in the development and deployment of AI in Africa.

BOTTLENECKS TO THE DEVELOPMENT AND DEPLOYMENT OF AI IN AFRICA

Arguably, the primer of AI in the healthcare system has helped in diagnostic and telemedicine, which inevitably answers the first question of whether AI improves diagnosis, treatment, and research. For example, in South Africa, artificial intelligence has helped to reduce the length of years of manual and unstructured screening of cancer patients, which takes up to two years by half (IBM, 2018; Amankwah-Amoah, 2019). Truly, artificial intelligence holds substantial potential for the healthcare system in Africa, ranging from diagnosis and treatment recommendations to predictive analytics and enhanced patient care, but the good promises of the deployment of AI in the healthcare parlance in Africa notwithstanding, there are also many bottlenecks to its development and deployment as elucidated below:

Illiteracy and ignorance: The use of artificial intelligence can face confrontation and distrust from health workers as well as patients who may consider it a threat to autonomy, expertise, and privacy. Social barriers could also affect people's trust and reliance on AI, there could be a preference for interpersonal interactions due to fear of not being in control or not having an understanding of how AI works. Thus, as suggested by Onwueke, et al, (2010) and Oyelola (2020), there is a need for the end-

users and beneficiaries of AI to be carried along in the design and evaluation of AI solutions, as well as provide translucent and explicable information on the purpose, functionality and outcomes of AI.

Lack of accessibility to high-quality data: AI depends on large and diverse data to train and validate its algorithms; however, in many African countries, there is a lack of reliable and standardized data sources, more so in the healthcare system. Data collection is often fragmented, inconsistent, and incomplete, creating difficulty for the use of AI. Hurdles connected to this range from ethical and legal issues regarding data privacy, ownership, and consent; these issues must be addressed before sharing and using health data for AI.

Limitations of infrastructure and resources: For effective functionality, AI requires a robust and reliable infrastructure, such as internet connectivity, cloud computing, and hardware devices, to run and scale its applications. However, many African countries lack such infrastructure, especially in the rural areas where there is a large population density. And in places where we have some infrastructure, they are often not reliable; it is also expensive and inaccessible, limiting the reach and impact of AI.

Dearth of skilled personnel: This is a problem engendered by the need to use AI in the healthcare system. AI engineering is a technical and extensive aspect of technology that necessitates professional management. There is a lack of reliable and skilled AI personnel in the healthcare system in most African countries. Training of such personnel entails time and a large amount of funds. Again, there are ethical and legal issues regarding the training of medical personnel and the employment of foreigners.

Another problem is that of limited expertise awareness. The use of AI in health care requires a retinue of a multidisciplinary team of experts ranging from data scientists, engineers, clinicians, and researchers to design, develop, and deploy AI solutions. However, such skilled professionals are in short supply in most African countries. So, African countries must build these capacities and ensure adequate and unswerving training for health workers and carers.

The above notwithstanding, the concern in this paper is to engage the implication of the use of AI in the health sector for ethics of care, centralizing on moral distancing created in the use of AI in the caring relationship, as it is a core enigma to the idea of ethics of care.

ETHICS OF CARE AND ISSUES IN ARTIFICIAL INTELLIGENCE IN AFRICAN HEALTHCARE SYSTEMS

The '*Ethics of Care*' is an ethical theory that emerged in response to the limitations of traditional moral theories

such as deontology and utilitarianism. Ethics of care, or care ethics as it may also be referred to, is a philosophical standpoint that engages a relational and context-bound method toward morality. This standpoint of ethics of care contrasts with the ethical theories that rely on principles to highlight moral actions. It focuses on the importance of relationships, care, and emotional engagement in ethical decision-making.

The theory was popularized by feminist philosophers such as Carol Gilligan, who argued that traditional ethical frameworks often overlooked the significance of relational contexts in moral deliberations. Care ethics emphasizes relational dependence, that is, that individuals are inherently dependent on others throughout their lives, whether for emotional support, physical care, or moral guidance. It posits that these relationships are central to human flourishing. Also, it emphasizes **emotions in moral decision-making**. Unlike traditional ethical theories that prioritize reason over emotion, care ethics values the emotional responses that arise from close relationships. Compassion, empathy, and attentiveness to others' needs are considered essential to moral actions. It further recognizes that ethical decisions should be based on the specific context of the relationship rather than on universal principles. The needs of individuals and the context of their lives guide moral reasoning.

Nel Noddings (1984) is also a key advocate of the ethics of care. She argued that caring forms the foundation of morality. She viewed human identity as rooted in relationships, emphasizing that caring ethics are fundamental to humanity. Each caring relationship involves at least two people, the one caring and the cared-for, and often reflects mutual commitment. A key aspect is the one caring responding to the needs of the cared-for, motivated by empathy and concern. Noddings highlighted that relationships are central and essential to understanding and practicing ethics of care. Also, Virginia Held, in her work *The Ethics of Care* (2006), establishes the importance of care ethics to political, social, and global questions. She conceptualises care as a set of practices and values and describes the caring person as one who has appropriate motivation to care for others and who participates proficiently in effective caring practices.

In healthcare, the '*Ethics of Care*' is particularly relevant because caregiving inherently involves close, personal relationships. This is because the role of a doctor is not just to treat a patient's symptoms but also to engage with the patient as a person, understanding their fears, emotions, and needs. This relational dynamic is essential to the therapeutic process and the well-being of the patient.

The growing role of AI in healthcare raises important questions about whether these fundamental elements of care can be maintained when machines assume caregiving

roles. Can AI replicate the emotional engagement and relational sensitivity that human caregivers provide? Or does the reliance on machines in caregiving lead to moral distancing, where patients may feel disconnected from their caregivers?

INTERSECTION OF AI, CARE ETHICS, AND AFRICAN CULTURAL VALUES

There are a lot of issues that have been raised on the employment of AI in the medical field. It is pertinent to examine some of these issues to have a concrete background in engaging the problem in this work. As Gabriel Malka (2018) retorts, “the technicians have succeeded in setting up machines capable of independently understanding human natural language, interpreting, assimilating it ... these devices seriously ‘think’ of artificial intelligence based on algorithms and imitating human deductions”. He further raised concerns about the intrusion of technology into the medical field, wondering, as others suspect, whether there’s going to be a replacement of doctors by machines. He submits further that allure of the new technologies in the medical turf should not make us to forget an essential point, that is, caring is not only about humanising therapeutic and diagnostic options, but the incursion of artificial intelligence in medicine, is rather, a new form of dialogue between man and machine, and not the disappearance of one for the benefit of the other.

Cohen’s (2023) charting exercise of potential bioethical issues emergent of the use of ChatGPT in medicine offers an informative, valuable, and thought-provoking trigger for discussions of AI ethics in medicine by charting possible bioethical issues in ChatGPT in medicine. He judiciously analyses principles such as privacy and bias prevention, he projects an example where an algorithm was found to order treatment for a white patient above equally sick black patients. Also, how widely available algorithms like ChatGPT meet privacy requirements when used in a medical context is a new ethical and technical question, but he acknowledges that the issues arising from AI ethics in the healthcare system are not exhaustive.

Victor, Belisle-Pipon, and Ravitsky (2023) investigated the issue of informed consent. According to them, the patients deserve to understand the functioning of the technology involved in their care for reasons of informed consent, which implies that there’s transparency in treatment, and this promotes patient’s autonomy and trust. They submit that Chat GPT’s general design distinguishes it as a new form of AI within the healthcare sphere that introduces new bioethical challenges.

The African healthcare system faces numerous challenges, ranging from inadequate infrastructure and a shortage of healthcare professionals to the prevalence

of infectious diseases and limited access to medical resources. In many African countries, the doctor-to-patient ratio is extremely low, and healthcare facilities are often ill-equipped to meet the needs of growing populations. These challenges are compounded by socioeconomic disparities, where rural and impoverished communities struggle to access basic healthcare services.

In this context, AI holds considerable promise. AI technologies could potentially alleviate some of the strain on African healthcare systems by enhancing diagnostic capabilities, offering remote consultations, and streamlining administrative processes. For example, AI-driven telemedicine platforms could enable patients in rural or underserved regions to consult with doctors and specialists from afar. Furthermore, AI could assist in the rapid analysis of medical data, helping healthcare workers identify diseases and conditions more quickly and accurately.

The integration of AI in healthcare presents ethical challenges in the African context, where caregiving is deeply rooted in communal living, collective responsibility, and respect for elders. In many African cultures, caregiving goes beyond medical duties to include emotional, spiritual, and communal support, reflecting a holistic approach to well-being. The Ethics of Care framework, which emphasizes relationships and interdependence, aligns with these values. However, the use of AI in caregiving roles risks undermining these traditions by creating “moral distancing,” where patients and families may feel emotionally disconnected from care. In African societies, caregiving is not limited to professionals, it often involves family and community members who offer empathy, presence, and compassion. AI, regardless of its advancements, may be unable to replicate these human qualities or address the spiritual and emotional aspects crucial to healing and end-of-life care. This raises concerns about AI’s ability to honor and support African caregiving values.

ADDRESSING MORAL DISTANCING AND DEPENDENCY ISSUES

The concept of *moral distancing* refers to the emotional and relational gap that may emerge when individuals interact with machines instead of humans in caregiving settings. According to Bauman (1989), the issues of distancing in morality occur when “the natural invisibility of causal connections in a complex system of interactions, and the distancing of the unsightly or morally repelling outcomes of actions arise to the point of making invisible the very humanity of the victims”. Chinue Achebe (2010) equally argues that homo-sapiens humanity is contingent on the humanity of our fellows. No person or group can be human alone. We rise above the animal together, or not at all. In the African context, where family and

community bonds play a central role in caregiving, AI could exacerbate feelings of isolation, particularly for older adults or those with chronic illnesses who rely on the emotional support of loved ones.

Furthermore, AI's integration into caregiving might inadvertently create a dependency on technology, potentially eroding human relationships. For instance, a patient who receives treatment or consultations via AI-powered systems may not have the same sense of trust or attachment to the technology as they would to a human doctor or nurse. The question arises as to whether AI can provide the kind of relational care that nurtures trust and emotional well-being. Can a machine provide the comfort and understanding that comes from a human touch, or does its cold, algorithmic nature foster a sense of alienation?

Carolina Villegas-Galaviz and Kireten Martins (2023), in their work, *Moral distance, AI, and the ethics of care*, raised the issue of moral distance in the introduction of AI to decision making in caring, the writers argue that the introduction of AI to decision making in caring increases moral distance, and therefore recommends the ethics of care to enhance the examination of AI decision making. With AI decision-making, face-to-face interactions are minimised and are part of a more opaque process that humans do not always understand. From the authors' identification and analysis of moral distance and other problems created by the use of AI in the health care system, we can deduce the following conclusions, in responding to the second question that queries whether the introduction of AI in healthcare will bring improved healthcare to everyone and as well address the question of moral distance? One can assert that the introduction of AI only brings improved health care to some, and at the same time, it does not take care of the issue of moral distance but amplifies the issue.

Moral distance created by technology can segment the empathy that would arise when contemplating the face of the patient and the relief that such could create in the cared-for. Also, the use of technology denies the caring-for to see the peculiar vulnerabilities and characteristics of the patient. With the use of AI in the health care system, face-to-face interactions are minimised between the cared-for and the carer, and caring then becomes a more smoky human process; interpersonal relationships between humans are removed. Thus, empathy and solidarity are no longer involved in treatment. The distance created by technology can block the empathy that would arise when the physician or carer sees the face of the patient. In other words, an optimum reliance on artificial reliance may lead to a decline in empathy in human-centred care and compromise the patient-provider relationship. There are ethical considerations in the development of artificial intelligence systems, which raises questions such as prioritising profit over patient well-being or

neglecting diverse perspectives. The integration of artificial intelligence in healthcare may lead to job displacement or changes in healthcare professionals' roles, which may affect the healthcare system workforce and, inadvertently, patient care. As artificial intelligence assumes more responsibility in the healthcare system, it can be challenging to determine accountability for errors or adverse outcomes.

In addressing these challenges, it is crucial to strike a balance between technological advancements and the preservation of human-centric care practices. AI should not replace the human element of caregiving but rather be integrated in ways that support and enhance the relational aspects of healthcare. AI could, for example, assist in medical tasks such as diagnostics, allowing healthcare workers more time to focus on emotional support and building relationships with patients.

IMPLICATIONS OF AI IN THE HEALTHCARE SYSTEM AND CARE ETHICS

The ethics of care is a moral framework for AI ethics and the problem of moral distance. The advent of ethics of care through the works of Gilligan, Nodding, and a host of others is a response to the orthodoxy of ethics of justice (Burton & Dunn, 2008). The theory is not sustained on inviolable impartial principles but appeals to relationships and context. The ethics of care requests us to focus on the concrete situations and provide answers concerning the circumstances and context (Sander-Staudt, 2019). That is why ethics of care is viewed as a moral mirror centred on the individual. While other ethical theories, such as deontology, utilitarianism, or consequentialism, respond to ethical principles and duties, care ethics focuses on fostering peoples' vulnerabilities and needs (Weizien and Miles, 2009). Therefore, care ethics should be understood as a practice and work that must be done on a direct level, as value, and as an activity. Arguably, ethics of care proposes solutions according to the interests of each party and not on previously established norms of engagement.

Inference from the above submission is that the use of AI in the health care system should not be made a principle or rule that is binding on all patients, but it must be contextualised. If a patient is willing to engage AI services in the management of his/her health, it should be allowed for such individual, but the use of AI must not be mandatory for all categories of people suffering from the same ailment.

Again, ethics of care has been proposed in situations where the interest of the least advantaged stakeholders are being considered. In other words, where the distance

between those making decisions and those impacted by the decisions is too great and the marginalised stakeholders' interests are not being seen or judged to be legitimate. The notions of care have also been proposed in the field of technology ethics (Villegas and Martin, 2023). Marion Hersh (2016) suggested the ethics of care for engineers to make conscious ethical decision-making and for the understanding of the notions of culture, diversity, the others, and issues related to these. For Hersh, the understanding of the above notions is very apropos for engineers for several reasons, including the need to design technologies, goods, and services for patients who are not engineers and who are also different from them in other characteristics such as gender, race, and disability.

The pertinent questions at this point from an understanding of the implication of AI in health care and of the tenets of care ethics are: Could the introduction of AI into health care sustain the fundamental elements of relationships and dependencies? And if the caring motivation and emotion that the ethics of care affirms as important in moral deliberations be asserted when machine becomes the care? The inroad of artificial intelligence into healthcare embraces significant promise for enhancing diagnosis, treatment, and research. However, challenges remain, such as data privacy, the need for robust cyber security measures, and the potential for algorithm biases. Ethical, privacy, and implementation challenges are equally present.

CONCLUSION

The purpose of this paper was to examine the use of AI in the health system in Africa and to analyse the implication for ethics of care. To achieve the aim set by the paper, we have undertaken the conceptualisation of key concepts of operation, such as artificial intelligence, health and healthcare, and so on. The work highlighted the various challenges to the effective use of artificial intelligence in the healthcare system in Africa, especially Nigeria. It has also been shown that the use of AI in the health care system creates, among other problems, the problem of moral distance, which is inimical to the tenets of the ethics of care, which promotes fundamental elements of relationship and dependencies, more so in Africa where communalism is much appreciated. Furthermore, it is not the case that the writers of this piece are against the use of AI in the healthcare system in Africa, but as the Hasting Centre President cautions during a discussion of the autonomy of AI in the healthcare sector. She anticipates that the health care providers would be lured into giving AI increasingly complex tasks and autonomy, ranging from note-taking during medical appointments, offering diagnoses, and proposing next steps. However,

she worried that for AI to do all these things without any supervision of the human eye, we need to be careful. It is on this note that the instruction of the ethics of care is very imperative in the use of AI in the health care system, most importantly in Africa where the space level of understanding of the people is sparing.

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