

## PERCEPTUAL INFLUENCE OF ARTIFICIAL INTELLIGENCE ON HEALTH COMMUNICATION IN SOUTH EAST NIGERIA

OKEKE, CHINWE GRACE

Department of Mass Communication, University of Nigeria, Nsukka  
grace.okeke.pg94868@unn.edu.ng

PROF. JOSEPH, O. WOGU

Department of Mass Communication, University of Nigeria, Nsukka  
[joseph.wogu@unn.edu.ng](mailto:joseph.wogu@unn.edu.ng)

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### Abstract

Health communication plays a very important role in public health, acting as a connection between healthcare providers and the general population. South East Nigeria which faces numerous health communication challenges, including limited access to healthcare information, language diversity, and varying levels of health literacy, the introduction of AI technologies has the potential to address these issues by enhancing communication channels, providing personalized health information, and improving overall healthcare outcomes. Recently, the incorporation of artificial intelligence (AI) in various sectors has sparked considerable interest and debate and as AI applications have become more dominant in the world healthcare landscape, it is important to understand their specific impact on health communication within various regions. Therefore, this research aims to assess the perceptual influence of artificial intelligence on health communication within South East Nigeria, an area characterized by some healthcare challenges and communication differences, whose objectives are to: identify the prevalent AI technologies and applications in health communication in Nigeria; evaluate the effectiveness of AI-driven health communication interventions in South East Nigeria; and understand the perceptions of healthcare providers and the general public towards AI in health communication in South East Nigeria. The study anchors on two media theories which are Media Ecology Theory and Technology Acceptance Model, and used survey research method, that is, the Quantitative (Questionnaire) research methods. This study provided an understanding of the influence of AI on health communication in South East Nigeria as well as contributed to the ongoing global discourse on the introduction of Artificial Intelligence in healthcare and its implications for public health communication.

**Keywords:** Artificial Intelligence (AI), influence, Health communication, Information, Technology, Healthcare providers, NLP

### Introduction

According to Jan Servaes (2020:1), Health communication has been integral to development communication or communication for development for the last fifty years. According to Royal Colle (2003), health communication has been intertwined with development communication alongside population information, education, and communication (IEC) since 1969. Jan Servaes further elaborates that contemporary health communication has broadened its focus from

individual-level biomedical interventions to encompass more comprehensive discussions about health, including its social and environmental determinants.

Health communication plays an important role in public health, acting as a bridge between healthcare providers and the general population. This is why an online article on 'The Importance of Communication in Health-Care and Tips to Improve' (2023), explains that effective communication have a positive influence on the patient-provider dynamic in

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numerous ways as it allows patients to be well informed on their own health as well as help develop a sense of trust between the patient and provider. Health communication serves as a cornerstone of effective healthcare delivery, encompassing the dissemination of health information, patient education, provider-patient interactions, and public health messaging. Traditionally, health communication has relied on conventional methods such as face-to-face consultations, printed materials, and broadcast media.

However, the advent of AI introduces novel opportunities to enhance the effectiveness, accessibility, and efficiency of health communication efforts. The incorporation of AI into health-care systems has introduced a new era of innovation, promising to revolutionize various facets of medical practice, including health communication. According to an online article on 'Improving Healthcare Communication with the Help of AI' (2019), AI and other technological advancements are allowing healthcare providers to streamline their marketing and communication efforts with patients and potential clients. As Artificial Intelligence technologies continue to advance rapidly, their impact on health communication strategies, patient-provider interactions, and public health initiatives becomes increasingly significant. This study endeavours to provide an assessment of the perceptual Influence of Artificial Intelligence on Health Communication.

Artificial intelligence encompasses different kinds of technologies, including machine learning algorithms, Natural Language Processing (NLP), chatbots, and predictive analytics, all of which have the potential to transform how health-related information is generated, disseminated, and consumed. From personalized health recommendations to virtual health assistants, AI-enabled communication tools hold promise for improving patient engagement, promoting health literacy, and facilitating more informed decision-making. The above assertions buttress the view of an online article on 'Impact of Artificial Intelligence on Communication' (2023), that AI has made communication more accessible in several ways, from virtual assistants and Chatbots to language translation and personalized communications, and that by breaking down language barriers, improving

accessibility, and automating routine tasks, AI is helping to introduce a more connected and efficient world.

Recently, the intersection of AI and health-care has sparked significant interest globally, with promises of revolutionizing various aspects of medical practice, including health communication. The deployment of AI technologies in healthcare settings has the potential to streamline processes, enhance diagnostic accuracy, and improve patient outcomes. However, the impact of AI on health communication, particularly in specific regions such as South East Nigeria, remains a topic of exploration and evaluation.

According to Fitzpatrick, K. K. et al (2017), AI-powered chatbots are being used by healthcare providers to engage with patients, answer their queries, provide personalized health advice, and even offer mental health support. They cited an example of Woebot Health offers a chatbot-based mental health platform that delivers cognitive-behavioural therapy techniques. AI-driven virtual health assistants are also being developed to assist patients in managing chronic conditions, scheduling appointments, tracking medications, and providing reminders for medical tasks. Babylon Health's AI-powered app offers personalized health advice based on symptoms reported by users (Taffel, M. et al, 2020). In line with the above developments, the Natural language processing (NLP) techniques are utilized to analyze patient data, retrieve important details from medical records, and generate reports or summaries for healthcare professionals. According to Beam, A. L. et al (2018), IBM's Watson Health platform employs NLP to assist in diagnosing diseases and recommending treatment options. AI is also being used to analyze Social Media data, News Articles as well as online forums to monitor public health trends, detect disease outbreaks, and disseminate accurate health information. That is why Broniatowski, D. A. et al (2013), discovered that projects like HealthMap use AI algorithms to track and visualize global disease outbreaks in real-time.

South East Nigeria, comprising states such as Abia, Anambra, Ebonyi, Enugu, and Imo, is a region characterized by diverse cultural practices, socioeconomic dynamics, and healthcare challenges. With a population that

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relies heavily on traditional modes of communication and healthcare delivery systems, the introduction of Artificial Intelligence into the region's healthcare infrastructure presents both advantages and disadvantages.

### Statement of the problem

The advent of Artificial Intelligence has revolutionized various sectors, including health communication. Recently, AI technologies have been increasingly introduced into healthcare systems to improve and enhance communication between health-care providers and patients, and to enhance public health initiatives.

However, despite the potential benefits, the evaluation of AI's impact on health communication remains a critical area of research. One of the primary challenges is assessing the effectiveness of AI-driven communication tools in delivering accurate and understandable health information to diverse populations. Additionally, there is need to examine the ethical implications of AI in health communication, including issues related to privacy, data security, and algorithmic biases.

Furthermore, the accessibility of AI-powered communication solutions needs to be assessed to ensure equitable access to health-care information across different demographics and socioeconomic groups. Addressing these research gaps is very important for the maximization of the potentials of AI in improving health communication outcomes while mitigating potential risks and disparities.

Therefore, this research study aims to evaluate the influence of artificial intelligence on health communication within South East Nigeria, an area characterized by diverse healthcare challenges and communication differences

### Objectives of the study

This research study seeks to: Identify the prevalent AI technologies and applications in health communication in Nigeria; evaluate the effectiveness of AI-driven health communication interventions in South East Nigeria; and understand the perceptions and attitudes of healthcare providers and the general public towards AI in health communication in South East Nigeria.

### Research Questions

The following questions are postulated: What are the prevalent AI technologies and applications in health communication in Nigeria?; How effective are the AI-driven health communication interventions in South East Nigeria?; and What are the perceptions and attitudes of healthcare providers and the general public towards AI in health communication in South East Nigeria?

### Conceptual review

#### Artificial Intelligence

According to Pandey B., et al (2022), “Artificial Intelligence, commonly referred to as AI, distinguishes itself from human intelligence which is based on cognitive behaviour and is demonstrated by machines endeavouring to acquire information in the form of data that can ameliorate and assist the progress of human work due to its computational power”. Broadly, Artificial Intelligence refers to the process by which computers and machines simulate human behaviour, including perception, learning, inference, analysis, and decision-making, to perform tasks through data processing and pattern recognition (Panch T., et al, 2018). According to European Parliamentary Research Service (2021) in Amanawa & Amanawa (2024), “AI is also a software program that may mimic a context-sensitive response or a discussion (for example, in the form of a chat) with a human user in natural language via messaging services, websites, or mobile applications (apps)”.

Recently, AI has also become hugely popular in the market economy as it is seen as an engine of productivity and economic growth among marketers, developers, and consumers, because as we are moving from the information age to a connected age, artificial intelligence is considered a new means of addressing the needs of almost every industry such as healthcare, media, businesses, education, insurance, etc (Pandey B., et al, 2022). According to PwC (2018), “AI holds the potential to address socioeconomic concerns such as stimulating economic growth, improving global health and education, and helping enhance the quality of life for humans”.

#### Natural Language Processing (NLP) and AI in Health Communication

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NLP combines computational linguistics, that is, rule-based modelling of human language, with statistical and machine learning models to enable computers and digital devices to recognize, understand and generate text and speech. According to Amanawa & Amanawa (2024), “AI-powered chatbots assist in disseminating information to the public, answering queries, and providing guidance on health-related matters. These tools enhance public engagement and ensure the delivery of accurate information. AI algorithms analyze social media and online content to gauge public sentiment regarding health-related issues. This information guides public health communication strategies and address concerns in real time”.

Natural language processing (NLP) allows computer programs to understand written and spoken human language. NLP in health care enables organizations to extract vital document data quickly. It organizes uncategorized clinical information, gives valuable insights, and streamlines manual workflows. When health-care professionals put medical documents into an NLP system, its algorithms try to understand the input. NLP is designed to recognize characters and words in a document and comprehend what they mean. For instance, NLP can differentiate between a patient's name and a disease symptom. NLP algorithms can also recognize whether a medical document contains details of multiple patients. NLP employs a variety of artificial intelligence (AI) approaches to extract data from medical texts after it has analyzed and comprehended the input. NLP for health-care is a faster and more efficient alternative. Instead of burdening already-busy hospital staff with manual documentation processes, hospitals can use NLP to:

- Segment the details accurately if they are from a multi-patient-medical document.
- Format the data into Electronic Health Record (EHR) systems.
- Identify and interpret unstructured data in documents.
- Extract intelligence from unstructured documents and get usable insights.
- Enter the structured data into EHR systems (Amanawa & Amanawa, 2024).

### Application of Artificial Intelligence (AI) on Health Communication

AI can be employed tactically into health to develop intelligent interactive messaging systems that enhance immediacy, thereby improving outcomes in health education and promotion. The most efficient smart e-health communication programs according to Gary and Linda (2013) are crafted to interact with users in ways that can promote and enhance immediacy in the following ways: By,

- Capturing and maintaining user attention,
- Adapting to unique consumer interests,
- Providing congruent and responsive messages,
- Mirroring user emotions appropriately,
- Providing messages that are interesting, relevant, and easy to understand,
- Providing opportunities for feedback and extended interaction,
- Using engaging verbal and nonverbal message systems,
- Promoting user participation and cooperation,
- Demonstrating empathy, caring, and concern,
- Providing consumers with many communication options,
- Providing motivational and reinforcing information and suggestions (Gary & Linda, 2013).

### Empirical review (Review of some selected, related studies)

This study reviewed past studies that have similar objectives, with a view to identifying gaps in knowledge in this area of research. It is good to point out here that communication is essential for providing health care and promoting well-being. However, for health communication to be more effective and efficient, it must actively capture the attention of the participants and personally engage them to influence their health decisions and behaviours. (Gary and Linda, 2013).

Gary and Linda (2013) conducted a research on ‘Artificial Intelligence and immediacy:

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Designing health communication to personally engage consumers and providers', and explained that careful attention must be given to the quality of communication when delivering care and promoting health.

They further posit that "the effectiveness of health communication processes depends upon multiple communication factors, including the accuracy, timeliness, fidelity, persuasiveness, and sensitivity of messages exchanged". Gary and Linda (2013) in carrying out their research, revealed that there are various simple verbal techniques for enhancing immediacy in e-health promotion, along with nonverbal strategies that have been effective in instructional communication and can be adapted for smart e-health programs. Designing AI interfaces to foster relational alignment and adaptability between computer systems and users is crucial, ensuring users feel comfortable and cared for when using the system. The researchers discovered that AI applications are effective in enhancing the immediacy of e-health programs by making health communication more human, engaging, relevant, exciting, and actionable. They concluded that AI can significantly influence the design of interactive e-health systems, helping to engage users and build meaningful, long-term healthy relationships.

In another research conducted by Pandey, Kumar and Chakraborty (2022) on 'Role of Artificial Intelligence in health communication: With special reference to smart watch technology', the researchers identified that the use of AI applications in healthcare is broad and burgeoning around the world and that health communication proved to be a key field of study that coincides with AI technology. This implies that AI systems is better at connecting people to their health needs and is possible by installing and developing effective systems or devices that can communicate with patients and influence individuals' health attitudes and behaviours. The researchers found out that AI technology-based wristwatches are ascending in the consumer market particularly for communicating health information. This is because the manufacturers are able to engage the consumer's interest with the health services that are embedded in the smart watches; that users are increasingly laying their trust on artificial intelligence for health related communication; and that AI-based gadgets help users to watch, record and maintain their health.

They therefore concluded that the AI based health information and communication practice influence health decisions and promote health education as well as open the pathways to health and social care especially in developing and underdeveloped countries.

### Media Ecology Theory

According to West and Turner (2014), media ecology theory is the study of media, technology, and communication and how they affect human environments. The theoretical concepts were proposed by Marshall McLuhan in 1964, while the term media ecology was first formally introduced by Neil Postman in 1968.

Media ecology examines how communication media influence human perception, comprehension, emotions, and values, as well as how our engagement with these media either enhances or hinders our survival prospects. It argues that media act as extensions of the human senses in each era, and communication technology is the primary cause of social change (Earnest, 2007).

Media ecology, as developed by Marshall McLuhan and further expanded by Neil Postman, explores the interactions between media, technology, communication, and culture. It emphasizes the ways in which media shape human perception, cognition, and behaviour within socio-cultural environments.

### Assumptions of the theory

1. Media are infused in every act and action in society (West and Turner, 2010).
2. Media fix our perceptions and organize our experiences.
3. Media tie the world together.

These three assumptions can be understood as: media are everywhere all the time; media determine what we know and how we feel about what we know; and media connect us to others. Communication media have penetrated the lives of almost all people on the planet, arranging people into an interconnected human community

In this research study, media ecology theory gives an understanding of how Artificial Intelligence (AI) influences health communication within specific cultural and technological backgrounds. By studying the

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interaction between AI technologies, health communication practices, and cultural functions, media ecology theory can provide knowledge of the broader implications of AI adoption in healthcare settings.

Media ecology theory helps evaluate the capabilities and constraints of AI technologies in health communication and researchers can assess how AI tools enhance accessibility, interactivity, and personalization of health information dissemination.

It also encourages researchers to analyze AI influence on health communication within the specific cultural environment, and this involves examining cultural values, communication norms, and traditional healing practices that may intersect with AI-driven healthcare interventions.

Finally, media ecology theory highlights the long-term societal impacts of media and technology adoption, and therefore, researchers can explore how AI integration into health communication systems shapes healthcare delivery, patient-provider relationships, and public perceptions of healthcare efficacy and trustworthiness.

### Technology Acceptance Model (TAM)

The technology acceptance model (TAM) is a theory in information systems that explains the process by which users decide to adopt and utilize a technology.

Proposed by Davis in 1989, the Technology Acceptance Model (TAM) examines how individuals accept and adopt new technologies. It posits that perceived usefulness (PU) and perceived ease of use (PEOU) play crucial roles in shaping users' attitudes and behavioural intentions towards utilizing a specific technology.

The model proposes that various factors impact users' decisions regarding the adoption and timing of a new technology when it is introduced to them. Notably:

- **Perceived usefulness (PU)** – This was defined by Fred Davis (1989) as "the degree to which a person believes that using a particular system would enhance their job performance. It refers to whether or not a person believes that

the technology will be beneficial for their intended purpose.

- **Perceived ease-of-use (PEOU)** – Davis (1989) defined this as "the degree to which a person believes that using a particular system would be free from effort". If the technology is user-friendly, it overcomes the barrier. However, if it is difficult to use and has a complicated interface, it fails to generate a positive attitude.

External factors like social influence play a crucial role in shaping attitudes. When these factors are present, individuals are more likely to develop a positive attitude and intention towards using the technology. However, perceptions can vary based on age and gender, as each person is unique.

### Key Constructs of TAM

1. **Perceived Usefulness (PU)**: Refers to the degree to which an individual believes that using AI technologies in health communication would enhance their performance or effectiveness. For example, individuals may perceive AI-powered chatbots as useful for providing timely health information and support.
2. **Perceived Ease of Use (PEOU)**: Refers to the degree to which an individual believes that using AI technologies in health communication would be free of effort. This includes factors such as ease of interaction with AI facilities and simplicity of integrating AI tools into existing communication workflows.

In this research study, TAM helps to evaluate how individuals perceive AI-driven technologies in healthcare communication. It can assess whether people believe AI enhances and improves the effectiveness and efficiency of health communication and whether they find AI systems easy to use.

In the grounds of evaluating Artificial Intelligence influence on health communication, TAM provides a structured environment for understanding how individuals

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perceive AI-driven technologies in healthcare communication settings.

The theory also helps assess whether individuals perceive AI as useful in improving health communication effectiveness and whether they find AI technologies easy to use and integrate into their communication practices.

### Research Methodology

This study intends to assess how Artificial Intelligence (AI) Influence Health Communication in parts of South East Nigeria. The researcher decided to adopt the survey research method because it is effective in selecting samples, that is, subsets of the population that are representative of the entire population. Wimmer and Dominick (2005, p. 17), state that "studies involving public perception or responses to an issue, and many 'impact studies,' often necessitate the use of a survey design." The questionnaire, used as the main measuring device in this study approach, turned out to be a highly effective instrument for gathering significant quantitative data.

The study's target demographic is the South-East geopolitical region of Nigeria, which is made up of the five states of Abia, Anambra, Ebonyi, Enugu, and Imo. According to the National Population Commission's (NPC) 2006 census, the South-East region's population was expected to be 16,365,555. However, in order to estimate the present population for the years between 2006 and 2023, the researcher followed the recommendations made by Onwuamalam (2012). In this instance, the projected population growth was calculated using the UNDP's recommended 3.2 percent annual growth rate.

" $P_p = G_p, P_i, T$ " is the projection formula, where:

The projected population is denoted by  $P_p$ , whereas the current population is denoted by  $G_p$ .

$P_i$  = is the population growth index.

$T$  = The amount of time between the sample's population and the study's year.

Using the values given:  $P_p$  equals  $G_p$  (16,365,555),  $P_i$  (3.2% or 0.032), and  $T$  (from 2006 to 2023, 17).

$P_p$  is therefore equal to 8,902,861.92, that is,  $16,365,555 \times 0.032 \times 17$ .

According to this forecast, between 2006 and 2023, the South-East geopolitical region of Nigeria saw a growth in population of around 8,902,861.92 people. In 2023, it is expected that the South-East geopolitical zone of Nigeria would have a population of 25,268,416.92 when this increase is taken into account with the 2006 population figure. Thus, a total population of 25,268,416 people in the areas are covered by this study. The National Statistical Service online Sample Calculator was used to arrive at the sample size of 385.

### Findings

Google Form was used in administering the questionnaire through a social media platform, the researcher waited for a while before closing the form after getting a reasonable response rate. On the other hand, the data collected in this study were presented and analysed using tables with frequencies and simple percentages. In analysing it, quantitative method was used to measure the proportion between variables. The results from analysis were used to answer the research questions as well as draw inferences for the study.

#### Research Question One: What are the prevalent AI technologies and applications in health communication in Nigeria?

Table 1. Awareness rate of AI technologies being used in health communication

Responses	Frequency	Percentage distribution
Yes	29	20.3
No	96	67.1
Unsure	18	12.6
Total	143	100%

Table 2. AI-driven health communication tools or applications respondents are familiar with

Telemedicine	Chatbots	Animation
Flo, chatbot	Telemedicine, chatbots	Chatgpt
Engineering	Phled app	Chat GPT, Wocute
Robot	Flo App	Globalcare

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Ada	Telemedicine with IOT	Flowchart
Digi Dibia	Chatbot	Flo

### Research Question Two: How effective are the AI-driven health communication interventions in South East Nigeria?

Table 3. Respondents' interaction with AI-driven health communication interventions

Responses	Frequency	Percentage distribution
Yes	24	16.8
No	111	77.6
Unsure	8	5.6
Total	143	100%

Table 4. The effectiveness of these interventions in providing accurate and helpful information

Responses	Frequency	Percentage distribution
Very ineffective	1	1.5
Ineffective	2	2.9
Neutral	46	67.6
Effective	16	23.5
Very effective	3	4.4
Total	68	100%

### Research Question Three: What are the perceptions and attitudes of healthcare providers and the general public towards AI in health communication in South East Nigeria?

Table 5. Respondents' perceptions about the use of AI in health communication

Responses	Frequency	Percentage distribution
Positive	69	49.6
Neutral	65	46.8
Negative	5	3.6
Total	139	100

Table 6. Whether AI technologies can enhance the quality of health communication in South East Nigeria

Responses	Frequency	Percentage distribution
Strongly disagree	7	4.9
Disagree	6	4.2
Neutral	25	17.5
Agree	73	51
Strongly agree	32	22.4
Total	143	100%

Table 7. Suitability rate of respondents receiving health-related information from AI-powered systems

Responses	Frequency	Percentage distribution
Yes	100	70.4
No	15	10.6
Unsure	27	19
Total	142	100%

## Discussion of Findings

### Research Question One: What are the prevalent AI technologies and applications in health communication in Nigeria?

It should be noted that out of the 145 respondents sampled, only 143 respondents gave response to the question in Table 1. From the data gathered in Table 1, the majority of respondents (96) with the percentage of 67.1% are not aware of any AI technologies being used in health communication. On the other hand, the very few respondents (29) in Table 2 that indicated AI technologies being used in health communication were able to specify them. Out of the few only 18 respondents specified what they know. They are listed below according to their responses:

Telemedicine: Chatbots

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Animation: Flo, Chatbot, Telemedicine,, Chatgpt, Engineering, Phled app, Wocute, Robot, Flo App, Globalcare, Ada, Telemedicine with IOT', Flowchart, Digi Dibia, Chatbot, Flo

### Research Question Two: How effective are the AI-driven health communication interventions in South East Nigeria?

The questions in tables 3 and 4 will be used to answer research question three. It should also be noted that out of 145 respondents sampled, only 143 respondents and 68 respondents gave their responses to the questions in tables 3 and 4 respectively. From the data gathered in table 3, majority of the respondents (111) with the percentage of 77.6% have never interacted with AI-driven health communication interventions. On the other hand, the respondents who have interacted with AI-driven health communication interventions indicated in table 4 the efficacy of the technology in providing accurate and helpful information. From the data gathered in table 4, a good number of respondents (19 cumulatively) with the percentage of 27.9% indicated very effective and effective aside those that were neutral (46) and against those that were dissatisfied and very dissatisfied (3).

### Research Question Three: What are the perceptions and attitudes of healthcare providers and the general public towards AI in health communication in South East Nigeria?

It should once again be noted that out of 145 respondents sampled for this research, 139 respondents, 143 respondents, and 142 respondents in tables 5, 6 and 7 respectively provided responses to the questions that gave answer to research question three.

From the data gathered in table 4, majority of the respondents (69) with the percentage of 49.6% gave a positive perception to the use of AI in health communication. In table 5, a huge number of respondents (105) with the percentage of 73.4% strongly agree and agree that AI technologies can enhance the quality of health communication in South East Nigeria.

Finally, in table 6, majority of the respondents (100) with the percentage of 70.4% indicated that they will be comfortable

receiving health-related information from AI-powered systems.

### Implication of Findings

1. The findings of this research study imply that:
2. There is a high level of reception of health-related information/messages from various sources like the mass media and there is satisfaction with the clarity and accessibility of health information received in Nigeria.
3. The level of awareness of AI technologies being used in health communication is very poor/low and very few of them like Ada, Telemedicine, Digi-Dibia are utilised in Nigeria.
4. The interaction with AI-driven health communication interventions is poor despite the fact that it is effective. Hence, the call for more of its awareness in South East Nigeria.
5. The general perception about AI in health communication is on the positive side and it is comfortable and suitable for receiving health-related information from AI-powered systems in South East Nigeria.

### Conclusion

Based on the above findings and their implications, the researcher concludes that health communication plays a vital role in public health, acting as a bridge between healthcare providers and the general population, and that the introduction of Artificial Intelligence into the health system cannot be overemphasized looking at its efficiency, accessibility, and effectiveness especially in the areas of health communication, education and information as it allows healthcare providers to streamline their marketing and communication efforts with patients and potential clients.

The level of awareness given to AI health-related technologies in Nigeria determines the effectiveness and frequency of health-related information being communicated to the people with the help of AI technologies and vice versa.

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Therefore, the researcher finally concludes that the South Eastern part of Nigeria needs to embrace the evolving technology of Artificial Intelligence especially in their health system for the communication of health-related information and consultations between health providers and patients/clients because it is more personalised, confidential and comfortable.

### Recommendations

Based on the findings of this research study, the following recommendations were made:

1. The government of South East Nigeria should collaborate closely with healthcare professionals, technology experts, policymakers, and community members in creating more awareness about health-related artificial intelligence technologies as well as introducing them into their health systems and encourage their utilization.
2. The designers should prioritize ethical considerations, particularly regarding data privacy, informed consent, and equity in access to AI-driven health communication tools. Implement safeguards to protect sensitive information and ensure that the benefits of AI technologies are accessible to all segments of the population, including marginalized communities.
3. There should be a robust evaluation metrics to assess the effectiveness and efficiency of AI-driven health communication interventions. Metrics may include accuracy of information dissemination, user engagement, satisfaction levels, and health outcomes. Regular monitoring and evaluation will facilitate the advancement of evidence-based practices, optimization and refinement of AI applications of healthcare delivery in South East Nigeria.
4. There should be best practices for healthcare providers, policymakers, and technology developers so as to invest in capacity building initiatives to enhance digital literacy and

competency in AI utilization among healthcare professionals and the broader community.

5. There should be advocating for policies and investments that promote the responsible integration of AI technologies into health communication practices, fostering a culture of innovation and collaboration in South East Nigeria's healthcare ecosystem.

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