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INFORMATION TECHNOLOGY AND MEDICINE: CURRENT STATUS, CHALLENGES AND FUTURE PROSPECTS OF TELEMEDICINE IN NIGERIA

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ABSTRACT

Innovations in information technology are not only changing the way people interact with each other but also reshaping how patients engage with medicine. Now an increasing number of people are able to access healthcare remotely from anywhere through these technologies. Individuals who require access to a distant specialist are able to connect with one through this medium. With a population of over 200 million served by about 45,000 doctors, Nigeria, Africa's most populous country is faced with a challenge to meet the healthcare needs of its population. This study highlights the current state, unique challenges and future prospects for telemedicine in Nigeria.

INTRODUCTION

Innovations in information technology are not only changing the way people interact with each other but also reshaping how patients engage with medicine. Before the recent advances in information technology, individuals with medical concerns often needed to schedule an in-person appointment to see a physician [1]. Now an increasing number of people can access healthcare remotely from anywhere through these technologies. In addition, individuals who require access to a distant specialist can connect with one through this medium. The Health Resources and Services Administration defines telehealth broadly as the use of information technology to "support and promote long-distance clinical health care, patient and professional health-related education, and public health and administration" [2].

With a population of over 200 million served by about 45,000 doctors, Nigeria, Africa's most populous country is faced with a challenge to meet the healthcare needs of its population [3]. This high physician-to-people ratio highlights the limited capacity for quality care delivery which understates the poor indices in many aspects of healthcare performance indicators.

TELEMEDICINE IN THE 21ST CENTURY

The 21st century heralded an expansion in the use of telemedicine services in many parts of the world. The convenience of this modality for both patients and physicians in addition to providing access to healthcare for individuals in rural, remote, and underserved areas drove the expansion of telehealth services over the past two decades. Current telehealth modalities include virtual visits, chat-based interactions, technology-enabled modalities, and remote patient monitoring [4]. Mode of delivery includes cloud-based, web-based, and remote delivery [5]. Telehealth service providers include hospital-based systems, physician offices, and home healthcare services [5]. The COVID pandemic further highlights the importance of access to remote healthcare services. A national survey study in the United States shows a high rate of telehealth usage, rising to 22% of the studied population during the COVID pandemic [6]. A systematic review of telehealth use in the European Union reports an expansion in digital health implementation [7]. A literature review of studies from Australia, Canada, and Brazil reports that an increasing number of specialties are adopting telemedicine [8].

TELEMEDICINE IN NIGERIA: CURRENT STATE

Despite the emergence of internet services in Nigeria in the early 1990s, it was not until the 2000s that individuals not connected to the government or academic institutions began to gain internet access. According to a data report by the International Telecommunications Union, internet users in Nigeria were 0 in 100 persons interviewed between 1996 to 2000, rising to 1.5% in 2004 and 16% in 2008 [9]. The first telemedicine service in Nigeria dated back to 2007 when the National Space Research and Development Agency and conjunction with the Federal

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Ministry of Health established its pioneer telehealth services in two teaching hospitals and six federal medical centers in the country. Since then, both public and private enterprises have been involved in establishing telehealth services across the country. Despite the availability of these services, the vast majority of the population does not use telehealth services or lack awareness about the availability of such services.

CHALLENGES TO THE PRACTICE OF TELEMEDICINE IN NIGERIA

Although there has been a growth in the availability of telemedicine services in Nigeria over the past decade, there are still challenges facing telemedicine in Nigeria. Internet services; the bedrock of telemedicine is currently unavailable in many parts of the country. Internet penetration, defined as the proportion of the population that has access to the Internet is currently 55.4% in Nigeria [10]. This means half of the population (over a hundred million) doesn't have internet access. This presents a formidable barrier to telemedicine in the country. Another challenge is the high level of illiteracy in many parts of the country (literacy rate of 59%) [11]. Low education level is associated with lower telehealth usage [6]. In addition, due to the peculiarities of telemedicine, there are legal restrictions on the use of such services in some parts of the country.

OPPORTUNITIES AND PROSPECT

The global telehealth service was valued at $83.5 billion in 2022 with a projected compound annual growth of 24% from 2023 to 2030. This projection is based on the expected internet penetration over the next decade. This presents a unique opportunity for the expansion of telehealth services in Nigeria. As the country struggles with severe limitations in primary and specialty care services, telemedicine provides a way to ameliorate some of these challenges. Efforts must be targeted at improving internet penetration, improving literacy rates, and encouraging collaborative services aimed at improving access to telehealth services. In addition, legislation should be directed at removing the barriers to optimal access to these services.

CONCLUSION

Although telemedicine is expanding in Nigeria, about half of the population has no access to internet services and telemedicine. Improving healthcare indices and outcomes would require a collaborative effort between public and private enterprises to improve access to telemedicine services.

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