**The Role of Technology in Bridging Nigeria's Doctor to Patient Ratio**

The unfavorable distribution of Doctors to patients in Nigeria is of primary concern, as the quality of life of healthcare professionals is affected, coupled with the lack of equity and equality in the provision of healthcare services to patients.

In September 2023, according to the Guardian Newspaper, a house officer in the person of Dr Umoh Michael allegedly slumped and died in his worship center after being in a 72-hour shift in the Neurosurgery unit at the Lagos University Teaching Hospital. His fellow house officers claimed that Dr Umoh was always on call and often returned home after surgeries and other activities in the Neurosurgery unit at about 3:00 AM.

Thus, patients with unmet needs bear the brunt of the overwhelmed Doctors, consequently leaving a society with more sick individuals than they ordinarily should be. To better appreciate the plight of the Nigerian populace, the tenets of primary health care would be looked at briefly, to provide a context for the goals of provision of health care.

At the 1978 Alma Ata conference, the concept of primary health care was established. This was with the intention of providing preventive, affordable and sustainable health services. In an attempt to achieve these goals, several principles were laid, of which Utilization of Available Technology was one.

In altering the Doctor-Patient ratio, which has since grown from the standard of 1:600 as recommended by WHO to an alarming rate of 1 general doctor to 5,014 persons, 2092 persons to 1 specialist, 2165 persons to 1 nurse, and 5117 persons to 1 midwife as observed from a research carried out in Lagos, Nigeria consisting of an estimated population count of 14,368,000 by Obubu, M. *et al.* (2023), the incorporation of this principle into our current medical practice would be of immense value.

With the rapid innovation in technology exceeding initial speculations, it would be an utter waste to not include its use in the Health sector. Furthermore, these technologies would bridge the gap between the Doctors and the patients, by decreasing the Doctor-Patient ratio count, reducing the numbers of healthcare professionals overwhelmed with patients’ demands, and aid patients’ access to health services anytime.

This essay would explore how technology can increase patients’ access to Doctors.

Bridging the Doctor-Patient ratio is of utmost importance in our country Nigeria, where access to good health care is a struggle. Let’s explore the impact of Telemedicine, Artificial Intelligence, and Virtual Reality, to mention a few, in our health sector .

**Telemedicine in Nigeria**

In a survey carried out by the American Telemedicine Association, 80% of patients reported satisfying Telemedicine experiences and 74% stated that they used Telemedicine for emergencies and urgent care visits. Let’s think about the Nigeria healthcare sector with such incredible exposure to telemedicine for tele-monitoring, tele-diagnosing, tele-screening, and real-time communication with medical practitioners for a minute. What future do you see?

During the outbreak of the COVID-19 pandemic in Nigeria, hospitals were forced to shut down to protect doctors from exposure to the virus as some doctors were already tested positive to the virus in their contact with infected patients. But what happens when Nigeria is hit again with another deadly virus? Would hospitals be required to shut down again? Will doctors be forced to go on leave to save their own lives? While this measure may seem justifiable from a standpoint, it will trample upon the patient’s right to life and access to the healthcare services that they deserve. This inevitably justifies the need for the use of telemedicine in Nigeria Healthcare. There should be a national reform across every hospital in the urban, and especially rural areas. Unfortunately, the use of telemedicine in Nigeria is still very poor, with only a handful of hospitals putting telemedicine to a good use in Nigeria.

Just like in the story of Dr Umoh earlier cited at the introduction of this essay, with the use of telemedicine, Nigeria will have fewer doctors ending up like Dr Umoh. Telemedicine will eliminate long queues, and ease the overwhelming burden on physicians, thus improving their own quality of life and mental stability.

**Artificial intelligence**

With the growing use of AI in several sectors, the health sector is not to be left behind, as the implementation A.I, such as, Machine learning and Administrative application can be a means of triage for patients. With Machine Learning, thanks to data experts and scientists, a vast amount of clinical data can be fed into A.I to enable them to diagnose and predict the outcome of a particular medical procedure on a patient before the actual procedure takes place.

Precision medicine also comes to play when Machine Learning is involved. Sadly, in a research observation by Ogamba, C.F. *et al*. (2023), carried out on a total number of 300 medical students in Lagos, Nigeria, it was discovered that there was a huge gap in the knowledge and ability of medical students to integrate the use of genomics data into their care of patients and a need to improve precision medicine education among Nigerian medical students.

If the future doctors of Nigeria do not know how to use these technologies to enhance patients’ care, it could mean two things: the universities lack access to such kind of technology or there are no professionals who are well-trained to teach the medical students how to use genomic data in their medical practices. Whatever the case maybe, it is still very evident that the incorporation of precision medicine into Nigeria’s medical practices would indeed be revolutionary. More healthcare professionals will take pride in executing their job effectively and stand a chance to be on par with global healthcare services in other parts of the world. First things first is, the availability of these equipment, backed up by well-trained healthcare professionals who can imbibe this knowledge into the next generation of medical professionals.

A reformation like this in Nigeria’s healthcare sector would definitely be expensive to pull off in almost every hospital and universities, with fewer masses not being to afford the high cost of such excellent service, however, with the provision of National Health Insurance Scheme in Nigeria, and the government’s support, medical practitioners can keep on exploring the incredible benefits of machine learning in their medical practices.

For administrative applications like A.I chatbots and with the help of support workers and administrative assistants, the matching of patients and scheduling them with a consultant would be a breeze. Not just that, these administrative applications would be used for repetitive tasks like refilling prescriptions. The only downside to the use of administrative apps is that not every patient would be able to use such apps, in that case, physical administrative assistants can help patients with challenges like that.

**Another technology worthy of note is Virtual Reality (VR).**

Its potential use in educating and engaging patients is very appealing. In February 2023, Kunle Adewale shared his journey in using Virtual Reality to improve healthcare in Nigeria with Tech Cabal. In his story, Kunle talked about a patient named Teni, aged 14, who was rushed to the Lagos University Teaching Hospital due to a life-threatening medical condition, sepsis. After two weeks of intensive care and support, Teni was better, but her mood was still sour. The consultant in charge of Teni’s case felt something else might be bothering her. Few days later, Teni’s mood was better. What changed? It was discovered that Teni had participated in the Virtual Reality exercise led by Kunle Adewale, the founder of Arts in Medicine. Teni was able to tour different countries, swim with dolphins, and read books with the use of Virtual Reality. This experience was truly therapeutic for Teni as it distracted her mind away from the pain and confinement in the hospital ward.

With this case study, we can see that Virtual Reality, if implemented properly can help patients, doctors, and hospitals achieve their individual and collective goals. You may ask, how does this bridge the doctor to patient ratio gap? There are cases where some patients can’t really express how they feel and instead of spending so much time in the consultation room with a therapist trying so hard to put their feelings into words, with the aid of VR, their minds can tour new possibilities that life can offer and even give such patient a new purpose for existence. And with that, doctors can focus on more pressing medical issues to save more lives.

Notwithstanding, achieving these outcomes with technology as mentioned above will be met with several hurdles including; funding, a steep learning curve for the health care professionals, and maintenance of patient confidentiality.

But where there is a will, there is a way. By investing into technology for health by the government, provision of continuous training programmes for healthcare providers to accommodate all types of learners, and hiring the services of cybersecurity experts to oversee the protection of patients data, such hurdles can be combated to a noticeable degree.