

# COVID-19 calls for health systems strengthening in Africa: A case of Nigeria

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## Abstract

The COVID-19 pandemic has proven the need for countries worldwide to implement strategies that promote health systems strengthening and ensure epidemic preparedness. Many African countries are burdened by fragile healthcare systems, hence, this paper emphasises the need for African policymakers to improve healthcare quality in their countries. Through a brief review of various online literatures concerning health systems strengthening in Africa, this paper focuses on the nature of healthcare in Nigeria amidst the COVID-19 pandemic. The major stress areas include COVID-19 testing capacity, health workforce, infection prevention and control, health information and surveillance systems, health insurance, public-private partnerships, and governance. The COVID-19 pandemic has amplified several challenges ravaging Africa's already fragile healthcare systems, leaving the health sectors of most African countries ill-prepared to deal with the pandemic. If Nigeria and many other African countries had invested sufficiently in strengthening their healthcare systems prior to COVID-19, their pandemic response efforts would have been more effective. Health systems strengthening is necessary to ensure steady progress toward universal health coverage and global health security. Through health systems strengthening, Nigeria and other African countries can greatly improve their infection prevention and control measures.

## KEYWORDS

Africa, COVID-19, health systems, Nigeria, public health

## 1 | INTRODUCTION

The COVID-19 pandemic has caused major challenges following its global spread with over 174,032,728 confirmed cases and 3,738,030 deaths as of 10 June 2021.<sup>1</sup> Many countries worldwide are in a constant struggle to contain the spread of infection, however, their efforts are impeded by a number of setbacks. Among most regions globally, Africa appears to be the least prepared in terms of the pandemic response. COVID-19 has brought to the fore the limited capacity of most African countries to respond to health emergencies, which is highlighted by recent studies emphasising the deficiencies in health systems across the African continent.<sup>2-4</sup> A recent survey revealed that there is less than one intensive care bed per 100,000 people across Africa.<sup>3</sup> Another report concluded that healthcare systems across the continent are under-resourced, with lower proportions of available hospital beds, intensive care units, and health professionals than other regions of the world.<sup>4</sup> For instance, in Nigeria, the national health authorities reported that they are struggling with bedspace for COVID-19 patients as the number of cases increase and home care for COVID-19 patients is being considered.<sup>5</sup>

Poor planning for healthcare infrastructure and insufficient funds allocation, compounded by budgetary cuts, have left public health sectors in most African countries ill-prepared to deal with the COVID-19 pandemic. Interestingly, amid the ravaging threat of COVID-19, the Nigerian government made attempts to cut the health budget by 40%.<sup>6</sup> This plan to cut healthcare spending will undermine the country's COVID-19 response and will severely impact the already feeble health systems. More so, one of the distinctive features of countries with good healthcare systems is the existence of partnerships between the public and private health sectors, as well as collaborative approaches with other bodies.<sup>7</sup> Many African countries are gearing efforts toward achieving this. For instance, there are now more private laboratories in Nigeria conducting COVID-19 testing after accreditation by the Nigeria Centre for Disease Control and Prevention (NCDC). However, testing can cost up to 50,000 Naira in private laboratories and this is not affordable by the masses.<sup>8</sup> Also, the interruption of maternal and child health services due to the enforcement of lockdowns by the government has increased the morbidity and mortality rates among women and children.<sup>9</sup> The COVID-19 pandemic has amplified several vulnerabilities and setbacks ravaging Africa's already fragile healthcare systems, thus, to address such lapses throughout the region, it is important to consider the roles that universal health coverage, health systems strengthening, and global health security play.

## 2 | UNIVERSAL HEALTH COVERAGE AND HEALTH SYSTEMS STRENGTHENING

According to the World Health Organization (WHO) and agencies focused on Health systems strengthening, Universal health coverage, and Global health security, the terms are not well understood or are used interchangeably in supporting arguments.<sup>10</sup> Dr. Tedros, the WHO Director General stated that Universal health coverage and Global health security are two sides of the same coin, meaning that you cannot have one without the other.<sup>11</sup> Universal health coverage depicts the availability and ease of access of healthcare services for all individuals without suffering the risk of financial bankruptcy, while health systems strengthening involves the amalgamation of various practices, instruments and policies to improve the quality of a country's healthcare system. Global health security, on the other hand, encompasses the measures and actions necessary to effectively detect, monitor and respond to diseases of national and international priority. In combining the above trio, Health systems strengthening is necessary to ensure steady progress toward universal health coverage and global health security.<sup>12</sup> To achieve these goals, it is necessary to establish collaborations between the African governments and global health funding organizations.

### 3 | DIAGNOSTIC TESTING

In Africa, over 4,928,439 cases of COVID-19 were confirmed as of 10 June 2021. Most of these cases were in South Africa, Ethiopia, Morocco, Tunisia and Nigeria.<sup>1</sup> A trend common amongst these countries is the increasing diagnostic testing capacity, which makes it possible to carry out numerous COVID-19 diagnostic tests, tracing and isolation of infected persons. However, the number of people tested in many African countries is still way below expectations.<sup>2,7</sup> For instance, in Nigeria, with a population of over 180 million, only 2,180,444 diagnostic tests had been carried out as at 10 June 2021.<sup>13</sup> The evidence presented so far supports the idea that the low testing capacity of most African countries is due to diagnostic insufficiency and fragility of their healthcare systems. The diagnostic insufficiency could be attributed to a lack of funds to procure commodities required for testing and set up laboratories. To achieve universal health coverage, global health security, and readiness for emergent diseases, it is vital to ensure collaborative approaches, quality laboratory systems, and provision of affordable diagnostic services.

### 4 | HEALTH WORKFORCE

Despite the increased level of donations by international funding bodies, many developing countries still require support to supplement low resources in their health sectors. This is highlighted by the inability of most African countries to meet the target of committing 15% of their government's expenditure to healthcare,<sup>14</sup> which is further worsened by the shortage of health workforce capacity in Africa due to migration and the search for better living standards in developed countries. Some healthcare professionals also pursue employment in other lucrative sectors outside the health sector, thus, compounding the workforce shortage. For instance, the last population survey as of 2016 estimated the health workforce density in Nigeria to be 1.95 per 1000 population.<sup>15</sup> A study previously reported that this challenge of low workforce in Nigeria has been further complicated by major inequities in the health workforce distribution, due to lack of national policies guiding the posting and transfers of health workers.<sup>16</sup> COVID-19 has brought to the fore how valuable healthcare workers are, and emphasises the need for African countries to continually invest in ensuring a sustainable health workforce.

### 5 | INFECTION PREVENTION AND CONTROL

Strengthening health systems in the face of the COVID-19 pandemic involves the advancement of and adherence to infection prevention and control (IPC) measures, with the goal of minimizing disease transmission. IPC strategies should be tailored to ensure the safety and proper management of persons with or without COVID-19, as well as securing the safety of the healthcare workers. In certain African countries, there appears to be a deficit of proper IPC training for health workers in preparation for handling COVID-19 cases,<sup>17,18</sup> and the adherence of the general public to COVID-19 precautionary measures in most African countries is unsatisfactory.<sup>19-21</sup> In a current study by Ilesanmi et al. among health workers in Northern Nigeria, most of the workers complained about inappropriate training on IPC protocols, lack of personal protective equipment (PPE), weak IPC management systems, poor triaging and patient risk assessment measures, and lack of motivation among the workers due to the absence of incentives or hazard allowances and the decrepit state of infrastructure in the health facilities.<sup>18</sup> These observations call for the need to strengthen IPC measures among health workers and the general public across the African region, and specifically in Nigeria.

A number of IPC protocols exist as provided by the Centres for Disease Control and Prevention (CDC) and the World Health Organization (WHO).<sup>22,23</sup> These measures must be strictly followed in health facilities and places of high transmission risk, and in addition, various IPC strengthening strategies need to be employed by African governments and policymakers, such as the provision of sufficient PPE and adequate IPC training for frontline health

workers, improved point-of-care risk assessment for COVID-19 suspected patients, effective stewardship and enforcement of PPE compliance by the management of health facilities, incorporation of IPC measures into the quality management systems of health facilities, and the regular provision of incentives for health workers to motivate them in efficiently carrying out their duties.<sup>18</sup>

## 6 | SURVEILLANCE AND HEALTH INFORMATION SYSTEMS (HIS)

In order to strengthen healthcare systems, it is important to acknowledge the essential need for improving the quality of health information systems and public health surveillance in every country. A health information system (HIS) comprises many tools that serve to collect data from various levels of the health sector, analyse the generated data, and convert it into quality information useful in health decision-making.<sup>24</sup> The indispensable role of HIS in health systems strengthening lies in their ability to manage data from patients and health facilities, enable proper research and detection of pitfalls in healthcare delivery, drawing appropriate awareness to the necessary areas of focus, and informing the actions and decisions of the government and policymakers. The various forms of data generated by HIS at the patient level, health facility level and population level paves way for the effective deployment of public health surveillance tools for early detection of health-related issues, mediation of quick control and correctional measures, and follow-up of actions to ensure efficacy and sustainability.

The evolution of digitalisation and information technology has brought a new perspective to health information and surveillance systems, making their processes more effective, accurate and time saving. Their applications in disease surveillance include the use of strategic cameras and digital recorders in monitoring places of high crowd density,<sup>25</sup> virtual screening in bioinformatics systems to monitor viral molecular dynamics,<sup>26</sup> virtual delivery of healthcare services through telemedicine,<sup>27</sup> utilization of geographic information systems (GIS) in the form of on-line dashboards for location-based identification of disease infectivity and mortality cases,<sup>28</sup> real-time monitoring of contact between healthcare providers and patients in health facilities to minimize transmission rates,<sup>29</sup> and a host of other applications. Besides monitoring the viral spread, improved surveillance systems can be effective in vaccination follow-up to detect and report any side effects noted among recipients of the COVID-19 vaccine.<sup>30</sup> The far-reaching effects of the COVID-19 pandemic emphasises the need for countries worldwide, especially developing African countries like Nigeria, to step up the quality of their health information and surveillance systems in order to effectively contain the disease outbreak.

## 7 | HEALTH INSURANCE

In improving the quality of healthcare within a country, the ability of the citizens to access such healthcare services also needs to be stepped up. One major way of ensuring this is through the establishment of all-inclusive health insurance schemes. Currently, less than 50% of Africans have access to adequate health facilities and many African countries spend just about 10% of their Gross Domestic Profit (GDP) on national healthcare.<sup>31</sup> Certain African countries have been able to establish health insurance schemes that secure over 20% of their citizens, which are Rwanda (78.7%), Ghana (58.2%), Gabon (40.8%) and Burundi (22.0%).<sup>32</sup> A trait common to these countries is the establishment of structured public health insurance systems, as opposed to the private health insurance systems that are prevalent in Sub-Saharan African countries with health insurance coverage lower than 20%. As explained by Barasa et al., most African countries employ voluntary contributory approaches to health insurance, hence, creating an insurance inequality as more financially buoyant citizens will have greater access to health insurance than the poor.<sup>32</sup> Employing non-contributory methods to health insurance such as general tax revenue will enable government subsidies in healthcare to be dissipated more evenly across the population to include the wealthy, middle-class and lower-class citizens. In the case of Nigeria, only 2.3% of the population are covered by any form of health insurance, of

which private insurance predominates.<sup>32</sup> The establishment of the National Health Insurance Scheme (NHIS) in 2004 by the Nigerian government was a remarkable move but this was not without challenges. The NHIS has been hampered by poor leadership, dubious health management and poor patient experience at healthcare facilities. Worthy of note is the move by Nigeria's National Council of Health mandating each state to set up and run their own health insurance schemes.<sup>33</sup> As of April 2020, 35 Nigerian States had signed laws establishing state social health insurance schemes.<sup>34</sup> However, much is yet to be seen about their effectiveness, especially during the COVID-19 pandemic. Most Nigerians individually shoulder the costs of medical care, laboratory tests and medications. Over 72% of the total health expenses of Nigerians are out-of-pocket payments,<sup>35</sup> and with the current exorbitant increase in the cost of healthcare services, individuals seeking healthcare that do not belong to the wealthy class stand the risk of impoverishment.<sup>36</sup> As the financially unstable lower-class citizens make up over 70% of the Nigerian population, accessing comprehensive healthcare is difficult and this impedes their healthcare seeking behaviours.<sup>37</sup> In addition, the overreliance of Nigeria on medicines importation has been reported to affect medicine security amidst the COVID-19 pandemic.<sup>38-40</sup> Access to medicines is crucial toward achieving universal health coverage, hence, the Nigerian pharmaceutical sector needs to be revitalised and local medicine production should be encouraged. It is important for the Nigerian government and policymakers, as well as those of other African countries, to firmly institutionalize health insurance in their countries through tax-generated revenues, so as to ensure equity and ease of accessibility in the distribution of healthcare services.

## 8 | DIGITALISATION OF HEALTH SERVICES

The importance of digitalisation in strengthening Nigeria's health system can not be overlooked, as the application of telemedicine and eHealth in national healthcare strategies is quickly gaining ground globally, even in Sub-Saharan Africa.<sup>41</sup> Implementing eHealth strategies will help to reduce the associated costs of physical healthcare delivery, and also improve the reach of health services to rural areas. The major impediments to adopting telemedicine approaches in Nigeria are technical and logistic challenges such as faulty road networks for the transport of telecommunication equipment, cost of mobile network infrastructure, and the prevalence of poor telecommunication coverage, as highlighted by the fact that 87% of Nigerians have access to 2G network coverage, while 3G coverage spans just 51% of the population.<sup>42</sup> To extend the provision of healthcare services to rural communities, policymakers can overcome these challenges by establishing the use of satellite communication technology, which will greatly minimize the need for physical telecommunication infrastructure like cables and masts.<sup>43</sup>

## 9 | PUBLIC-PRIVATE PARTNERSHIPS

It is also important to note that the private sector has a vital role to play in improving healthcare, as private health facilities are patronized much more frequently than public and government health facilities. This is evidenced by the fact that private expenditures on health account for about 75% of Nigeria's total health expenditure.<sup>44</sup> In terms of health finance, the private health sector remains a major contributor through financial and infrastructural donations, which is highlighted by the level of support provided by the private sector's Coalition Against COVID-19 (CACOVID). The coalition has raised about \$70 million since the index case of COVID-19 in Nigeria, supported the establishment of isolation centres, ensured adequate provision of palliatives, and so on.<sup>45</sup> In ensuring wider coverage of insurance, a country like Rwanda was able to achieve its successful health insurance scheme by operating an efficient decentralised healthcare system involving both public and private facilities that provide basic healthcare services.<sup>46</sup> Public-private partnerships in the Nigerian healthcare system should be encouraged, and in addition, Nigerian citizens in the diaspora can also play an important role by making remittances and investments to supplement the local funds and support the country's national health coverage efforts.

## 10 | GOVERNANCE AND POLITICAL WILL

Political will is one of the most important factors for moving any country towards universal health coverage.<sup>47</sup> Governance stands at the centre of all health system strengthening efforts, as the major implementers of all aforementioned healthcare developmental strategies are the national government, health administrators and policymakers. The political will of most African leaders, Nigeria included, as regards healthcare, can not be deemed effective or sufficient for a number of reasons, ranging from their inability to implement and sustain international health-related treaties, to hesitation over budgetary allocation of finance to their health sectors.<sup>48</sup> In many instances, the Nigerian government has shown great disregard for the state of healthcare in the country, which has proven to be a major impediment to the pandemic outbreak response efforts in Nigeria.<sup>37,49,51</sup> Healthcare can be considered as the backbone of national economic growth, social stability and citizen wellbeing, hence, it is high time responsibility is taken by the Nigerian government and policymakers, along with other African heads, to make active efforts in strengthening their national healthcare systems through the deployment of human resource, effective funding, innovation and developmental strategies across all levels of the health system. In addition, international cooperation through partnership and agreement summits are vital in ensuring a coordinated global response to the COVID-19 pandemic.

## 11 | CONCLUSION

The COVID-19 pandemic is a global public health threat. To mitigate its impact, there is a need to implement policies and strategies geared towards health systems strengthening, especially in developing countries like Nigeria and other African countries. Health systems strengthening is a composite of revolutionary efforts across various areas of the health sector, consisting of hardware and software components. The most vital hardware components include diagnostics and testing capacity, health workforce, infection prevention and control, health information and surveillance systems, digitalisation of health services, health insurance and public-private partnerships.<sup>52</sup> The software components of health systems strengthening are also important, some of which include good governance and political will, national values, policy dialogues, international negotiations and treaties, and a number of others. Effective amalgamation of the above-mentioned factors and approaches will foster all-round health systems strengthening across Africa, and ensure steady progress towards universal health coverage.

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### CONFLICTS OF INTEREST

The authors declare no conflict of interest.

### ETHICS STATEMENT

No human subjects were used as a case study in this Commentary, hence, no ethical statement was obtained.

### DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

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