



## Perspective

## COVID-19 and Nigeria: putting the realities in context

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## ABSTRACT

**Background:** Coronavirus disease 2019 (COVID-19), which was previously known as 2019-novel coronavirus (2019-nCoV), was first reported in Wuhan, China in December 2019. The disease evolved into a serious global emergency, leading to its declaration as a pandemic.

**Discussion:** On the African continent, Nigeria is just experiencing the direct effects of this pandemic, having recorded her index case in February 2020, with an increasing number of cases every day and a current case fatality ratio of 0.03 as at 13 April 2020. Although the recorded cases may seem low, it has been forecast that Africa will have some of the worst effects of this disease by the end of the pandemic. Generally, African countries have fragile health systems and this remains a source of concern, especially in the event of increased outbreaks. Nigeria's current national health systems cannot effectively respond to the growing needs of already infected patients requiring admission into intensive care units for acute respiratory diseases and severe acute respiratory syndrome (SARS COV-2) pneumonia. This has grim implications for Nigeria, especially as increased cases loom that may require critical care. Provision of quarantine or isolation facilities and availability of rapid diagnostic kits for fast and reliable testing and diagnosis of the disease can also be a challenge in Africa.

**Conclusion:** There is an urgent need to put into perspective these realities peculiar to Africa including Nigeria and explore available collective measures and interventions to address the COVID-19 pandemic.

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## 1. Introduction

The year 2020 was welcomed by a deadly viral outbreak called coronavirus disease 2019 (COVID-19), previously known as 2019-novel coronavirus (2019-nCoV). COVID-19 was reported from Wuhan, the capital and major business city of Hubei province, China (Wuhan city, 2020). In a very short time, the disease spread across China and cases were reported with an exponential increase in morbidity and mortality rates. The disease has evolved and continues to be a very serious emergency across the globe. On March 11 2020 the WHO declared COVID-19 a pandemic, having met the epidemiological criteria of having infected > 100,000 people in at least 100 countries (Callaway, 2020).

Symptoms exhibited by COVID-19 disease range from fever, cough, respiratory symptoms, shortness of breath, and breathing difficulties (World Health Organization (WHO), 2020). Fatal outcomes can include lower-respiratory tract illnesses, such as

pneumonia and bronchitis, or acute respiratory distress syndrome (ARDS) and severe acute respiratory syndrome (SARS) in severe diseases. These complications are more pronounced in patients with underlying health conditions such as cardiopulmonary disease, immuno-compromised individuals, infants and the elderly (Centre for Disease Control Prevention (CDC), 2020). The global mortality rate of COVID-19 is currently estimated to be 3.41% (COVID, 2020).

The virological characteristics of COVID-19 may suggest lower survival rates of these pathogens in tropical Africa. However, shortly after the virus appeared in late 2019, experts warned of the risks of it spreading in Africa because of the continent's close commercial links with Beijing and the fragility of its medical services.

On the African continent, although there had been pockets of recorded infections, Nigeria's first index case arrived on February 28 2020; since then the cases have risen every day to 323 confirmed cases and 10 deaths as of 13th April 2020 (Wikipedia, 2020). Currently, the case fatality ratio of COVID-19 infection in Nigeria is 0.03 (i.e. 3% of total confirmed cases) (Table 1). This value is less than that calculated from the global figures (CFR = 0.06) (Table 1). The actual numbers of people infected are unknown, as apparently healthy peoples are not tested unless they have a travel

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**Table 1**

Estimated rates from coronavirus pandemic in Nigeria and worldwide as at 13 April 2020.

	Population	Confirmed cases	Recovered	Deaths	Recovery rate	Case fatality ratio (CFR)	Mortality rate per 100,000
Nigeria	205,019,764 <sup>a</sup>	323	85	10	0.26	0.03	0.0049
Worldwide	7,794,798,739 <sup>b</sup>	1,850,220	430,455	114,215	0.23	0.06	1.4653

<sup>a</sup> Nigeria Population (2020-02-17). Retrieved 2020-04-13 from <http://worldpopulationreview.com/countries/nigeria/>

<sup>b</sup> World population estimate. Retrieved 2020-04-13 from <https://www.worldometers.info/world-population/>

history to high-index countries within a stipulated time period. Given this, we suggest that the number of infected people could be more in Nigeria. This could lead to underreporting of COVID-19 associated deaths, as already suggested in other countries (African News, 2020).

Although the recorded cases and estimated mortality rate may seem low (Table 1), it is important to note that Nigeria is the largest black nation with a population of > 200 million people and with about 3.1% elderly population. Adjusting for this highest-risk population (i.e. older population), Nigeria has about 6.4 million people aged > 65 years that are at risk of this infection. This is aside from other vulnerable populations such as those with pre-existing underlying health conditions like diabetes, high blood pressure, other cardiovascular diseases, and cancers.

In addition, it is currently projected that Africa will have its fair share of the worst effects of this disease by the end of the pandemic (The Economist, 2020). More so, African countries are known to have fragile health systems and this remains a source of concern, especially in the event of increased outbreaks. If these cases continue to escalate, it has been estimated that between 9–11% of infected patients will eventually need critical care and require intensive care (ICU) (Africa in Focus, 2020; Remuzzi and Remuzzi, 2020).

Africa's current national health systems cannot effectively respond to the growing needs of those already infected patients, especially those requiring admission into ICU for ARDs and SARS COV-2 pneumonia. An inventory of ICU units in Africa would reveal dilapidated and obsolete facilities available for the management of such patients that may require these facilities. In the few instances where modern facilities are present, they are reserved for the elites.

The arrival of the virus into the continent has seen an influx of philanthropic gestures aimed at providing palliative measures such as ambulatory services and makeshift facilities. However, COVID-19 has once again brought to the fore the underlying need, as a matter of urgency, to dedicate resources for the provision of standard critical care facilities such as modern equipped laboratories, resilient ICUs and hospital facilities including beds, ventilators and human resources training. There is therefore an emergent need to scale up the ICU units in Africa, including Nigeria.

The provision of quarantine or isolation facilities can also be a challenge in Africa. The continent may lack the expertise for timely tracing of contacts with an infected victim. COVID-19 pathogen represents a particular challenge in that it is difficult to detect. The virus may be present in an individual who has few or no symptoms, allowing it to spread quietly in African countries that typically have a shortage of equipment, especially diagnostic tools. This was the case of the Italian index case who was only detected in Nigeria 48 hours after entering into the country (Centre for Disease Control Prevention (CDC), 2020).

In the eventuality of the current predictions of more cases, Africa ultimately stands disadvantaged with fragile economies and health systems. The effect will be more evident with higher recorded deaths. Hence, the need for a coordinated international response to the current pandemic COVID-19 virus cannot be overemphasised, especially in Africa. It is necessary for African leaders and policymakers to utilise the rare opportunity opened up by the COVID-19 outbreak to begin strengthening of the public health systems and disease surveillance, while managing

suspected cases of COVID-19 to avert impending disaster through further negligence in Africa.

The current collaborative efforts from the World Health Organization, federal and state government health ministries, health institutes, non-governmental organisations, and researchers are what is needed. The Africa Center for Disease Control (Africa CDC) has been at the frontline of leading the continent's response to the COVID-19 outbreak. The Africa CDC has been building nations' capacities for preparedness and response to the disease, including prompt case identification, diagnosis and use of smart approaches to educate and sensitise the continent about the infection. Similarly, the efforts of the African WHO Regional office is quite commendable. The office has consistently provided updated information about the evolving disease and has provided diagnostic materials to member countries, with the aim of halting or at best limiting the spread of the infection across Africa. To further strengthen countries' preparedness there has been ongoing sensitisation of communities, training of healthcare workers and strengthening of surveillance mechanisms in communities.

For Nigeria, with the largest population on the continent, it is important to emphasise that improving the surveillance systems will go a long way in containing importation of the deadly virus and the consequent spread within the African region. Strengthening regional cooperation of all health institutions in Africa and activation of stricter policies at the ports of entry will go a long way to forestall unexpected outbreaks going forward. Furthermore, efforts towards early detection and diagnosis would be better if time lags between tests and diagnosis were reduced, to encourage more people to test and contain the spread of COVID-19.

To conclude, in the coming days, more robust collaboration with global and regional partners will be very crucial to fast-track the acquisition and utilisation of available resources and potential interventions.

## Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## Ethical Approval

The work did not involve the use of human subjects or animal experiments.

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