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PERSPECTIVE

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Second wave of COVID-19 in Nigeria: Lessons from the first wave

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Abstract

The COVID-19 pandemic struck the world unawares. The virus is now spreading as never before, despite the initial progress recorded by several countries towards kerbing the pandemic. As the pandemic continues to spread across Africa, there is a need for countries in the continent to re-evaluate, re-strategise, and re-invigorate their COVID-19 responses and efforts based on lessons from the first wave, and Nigeria is no exception. Before the second wave was officially announced by the health authorities on 17 December 2020, there were 78,434 confirmed cases and 1221 deaths reported with a case fatality rate (CFR) of 1.6%. To ensure that Nigeria achieves total pandemic control and reacts better given the possibility of a second wave, we propose workable recommendations to strengthen our preparedness and readiness efforts. Here, we argue that lessons learnt from the first wave of the COVID-19 pandemic can help Nigeria better react to the second wave.

KEYWORDS
Africa, COVID-19, coronavirus, Nigeria, second wave

Highlights

- The lapses in COVID-19 response during the first wave include policy gaps in lockdown measures, poor enforcement of mandatory quarantine on returnees and visitors, lack of multisectoral approach, discontinuity of education, poor contract tracing, and vaccine hesitancy

- The low-to-absent testing capacity and inadequate reporting systems are suspected to be responsible for the comparatively low number of positive COVID-19 cases during the first wave in Nigeria
- Given the relatively high costs of COVID-19 treatment, prevention practices such as regular handwashing and social distancing -which incurs little to no costs- are a better and more cost-effective method worth adopting
- To prevent a second wave, the level of emergency preparedness needs to be intensified and the enforcement of safety protocols must be uniform and consistent. Mandatory quarantine, robust expansion of PCR testing capacity, and effective health communication can see the balance shifted towards total pandemic control

1 | PERSPECTIVE

One of the widespread misconceptions regarding COVID-19 circulating amongst the general public is that after the first wave of the disease has subsided, we will not observe a recurrence. Globally, there have been over 90 million confirmed cases and over 1.9 million deaths due to COVID-19.[1] As countries intensify their COVID-19 containment efforts, there have been various global and local responses to the pandemic. All countries have enforced measures to curtail the spread of the virus -both within and outside the borders of their countries. Despite the efforts made by governments and relevant stakeholders to enforce these safety measures and ensure mass vaccinations at an unprecedented pace, the incidence of the COVID-19 pandemic keeps increasing in several countries including Nigeria[1] as described in Table 1.

With African countries scoring poorly in the core competencies of the International Health Regulations (IHR) as reported by WHO's Joint External Evaluation,[2] it would be expected that Africa will bear the bulk of the burden of a global health threat like COVID-19. However, it appears that the reverse is the case. For instance, Nigeria, a country with an average score of 1.9/5.0 in the prevention category and 1.5/5.0 in the response category of the IHR core capacities,[2] still has less than 103,000 confirmed cases and 1300 deaths respectively.[1] The low-to-absent testing capacity and inadequate reporting systems are suspected to be responsible for the comparatively low number of positive COVID-19 cases in the continent.[3] Although Nigeria's initial testing capacity was very limited because of low workforce numbers and the shortage of material resources, this did not deter the country from making efforts to respond fast to the pandemic.[4] In Nigeria, the underlying cause of the gaps in COVID-19 testing is as a result of diagnostic insufficiency.[4] Thus, to address these testing gaps, the diagnostic capacity and infrastructure of our laboratories have to be expanded via the provision of adequate funding across all states. Unlike most other countries which started taking measures only after a significant number of cases have been documented, Nigeria showed a high degree of response by sweeping into action almost immediately after the first few COVID-19 cases were confirmed.[5] Within one month, Nigeria commissioned a Presidential Task Force to enforce safety measures and safe hygiene practices, started contact tracing, banned large social gathering, placed restrictions on flights from 13 countries where COVID-19 was confirmed endemic, ordered the closure of schools, placed several states on lockdown, and approved stimulus packages for households, SMEs, and the health sector.[5] Thereafter, more states were locked down, all international and domestic flights were banned, social gatherings cancelled, physical distancing was enforced, a nationwide night curfew was instituted, the use of face masks became mandatory in public, and the government called for funding from multilateral and private donors.[5] In light of the swift and laudable response of Nigeria to the first wave

TABLE 1 Showing epidemiological data of COVID-19 in Nigeria before the second wave

Period	Confirmed cases	Discharged cases	Deaths	Case fatality rate (CFR)
February 2020	1 (index case)	0	0	-
March 2020	111	3	1	4.8%
April 2020	1932	319	58	3.0%
May 2020	10,162	3007	287	3.0%
June 2020	25,694	9746	590	2.3%
July 2020	43,151	19,565	879	2.0%
August 2020	54,008	41,638	1013	1.9%
September 2020	58,848	50,358	1112	1.9%
October 2020	62,964	58,790	1146	1.8%
November 2020	67,412	63,055	1173	1.8%
December 2020	78,434	68,303	1221	1.6%

of the pandemic, several lessons can be drawn from its initial response to strengthen the readiness and preparedness efforts of the government, given the possibility of a second wave. The lapses in Nigeria's COVID-19 containment efforts that occurred during the first wave and its corresponding lessons for the second wave are described below.

2 | POLICY GAPS IN THE LOCKDOWN MEASURES

To further cushion the effect of the COVID-19 pandemic on the already porous health system, lockdown measures were enforced to minimise community transmission within the country. While this intervention was successful, it had unintended consequences.[6] Firstly, most states reduced market days to 2–3 times a week -for a limited number of hours, leading to an influx of consumers into markets with little or no regard for physical distancing protocols.[6] Furthermore, the detrimental consequences of the lockdown had worsened already challenging circumstances for many. The poor, petty traders, those employed in informal sectors, and those relying on small and medium-scale business income were disproportionately affected.[6] Due to lack of access to food commodities, it was observed in some African countries including Nigeria, that people violated the lockdown directives and sent out a clear message to their government that they would rather die of COVID-19 than die of hunger.[6] This indicates that sustained and stringent lockdown compliance in Africa and Nigeria in particular might be increasingly difficult. Therefore, we recommend a balanced approach that minimises economic impacts while also optimising improvements in public health. The government needs to intensify its efforts in providing food and financial support to vulnerable citizens while still enforcing the lockdown measures. It should also provide economic assistance to businesses in the informal sector. However, it may be very difficult for businesses in this sector to secure any form of loan since a good number of them are not registered.[6] Since most of these businesses are somewhat in the communities, the government can assist these enterprises through microfinance facilities and other community-based channels. It is crucial, however, that the government continues to emphasize the importance of adhering to preventive measures.

3 | POOR ENFORCEMENT OF THE MANDATORY QUARANTINE ON RETURNEES AND VISITORS

Despite the 14 days of isolation recommended by the World Health Organization, Nigeria did not isolate visitors and returnees. Instead, on arrival, travelers from countries with community spread of COVID-19 were asked to self-quarantine. There were no strict measures enforced to ensure total compliance. There are tendencies that these self-isolation protocols were unadhered to as clusters of infection were later identified in Abuja and Lagos state.[6] Therefore, as the second wave evolves, we recommend a mandatory 14-day self-quarantine for all visitors and returnees with strict and robust follow-up mechanisms. Another plausible approach will be to ensure that visitors and returnees are subjected to a mandatory 14-day of quarantine in selected health and testing facilities while meals, medical treatment, and other necessities are provided by the government using the COVID-19 response fund without incurring any costs on the travelers. This approach, however, is comparatively feasible as full compliance and close monitoring is guaranteed.

4 | LACK OF MULTI-SECTORAL APPROACH

During the first wave, there was no framework or effective working protocols at the multi-sectoral level. Measures were enforced at different times based on state governments' deliberations. When the first three endemic states were locked down, people found ways of migrating to neighbouring states. Also, the closure of schools,[7] physical distancing protocols, and the use of facemasks was neglected in some states while others took it seriously. In some states, a total lockdown was enforced, whereas elsewhere, the distribution of relief materials by non-governmental organisations (NGOs) and government agencies was ongoing which invariably resulted in overcrowding and large gatherings.[8] It was also seen that some religious leaders approved mass gatherings despite the government's directives to suspend such gatherings. Also, some state government issued directives which contradicted those of the federal government.[8] The absence of a national and organised approach to the lockdown and the indiscriminate suspension and renewal of lockdown in many states hampered the efforts targeted at controlling COVID-19 across the country. Therefore, we propose a concerted multisectoral strategy that weaves together all key stakeholders including the Federal Ministry of Health, COVID-19 Presidential Task Force, Nigeria Centre for Disease Control (NCDC), religious associations, security agencies, and other health institutions in the development and implementation of public health policy at both the local and national levels.

5 | DISCONTINUITY OF EDUCATION

During the first wave of the COVID-19 pandemic, all academic institutions in the country were closed as a means of curtailing community transmission with no provision for a plausible alternative.[7] Some academic institutions instituted online learning models to ensure continuity of education but this was not without challenges. This online learning model highlighted the divide between the financially stable and the financially challenged students as most students experienced difficulties in purchasing internet data and accessing constant electricity,[9] which were crucial for the smooth running of the online learning platforms. This closure had a significant effect on the country's years of progress in the context of education as it led to inequity, thereby, compelling the financially challenged students to take up non-academic activities and jobs as a means of survival pending physical resumption. To avoid this reoccurrence given the possibility of a second wave, the government should engage with telecommunication and power distribution agencies to ensure the provision of internet data and constant electricity for all students -particularly in the rural areas where power supply is terrible- by integrating it into the Tertiary Education Trust Fund (TETFund) which is

the primary source of government funding for educational activities in the country. This will reduce the likelihood of disruption and ensure the continuity of education in the country.

6 | POOR CONTRACT TRACING

During the early stages of the first wave, the Nigeria Centre for Disease Control (NCDC) formed a multi-sectoral National Coronavirus Preparedness Group (NCPG) to ensure that the country's COVID-19 response was coherent and effective.[10] The NCPG implemented COVID19 contact tracing strategies, using community networks developed previously in response to Ebola, Lassa fever, and other disease outbreaks.[10] Still, these measures were surmounted with multiple challenges which hampered the contract tracing process.[10] These challenges included misinformation,[11] the overwhelming load of contact tracing and case detection workload for healthcare workers,[10] and limited testing capacity.[4] These experiences, and the possibility that other waves will likely emerge in the future, are why Nigeria needs a concerted strategy to prevent a second wave. To avert this, ongoing communication to communities in local languages using multiple platforms and multiple trusted voices will be required to tackle misinformation. Furthermore, to tackle case detection workloads, there should be a decentralisation of screening and polymerase chain reaction (PCR) testing by expanding the capacity of existing laboratories and activating new PCR laboratories in every state.

7 | VACCINE HESITANCY

Due to the country's fragile health system, which has been overwhelmed by a lack of adequate healthcare infrastructure, a dearth of the health workforce, and low health literacy,[4] the public health measures put in place at the beginning of the pandemic will not be enough to stop the transmission of the virus or end the pandemic. For Nigeria, a COVID-19 vaccine will be the most effective and practical solution. A previous study that assessed the willingness to accept a COVID-19 vaccine in Nigeria[12] revealed that only 1 in 2 persons expressed their willingness to accept a COVID-19 vaccine due to factors tied to uncertainty in the potency of a potential COVID-19 vaccine and the notion that COVID-19 is a faux.[12] Hence, it is critical to have a thorough understanding of the contextual factors that might influence a successful COVID-19 vaccination programme in Nigeria. This will guarantee that measures to attain high coverage rates are implemented as soon as the COVID-19 vaccines are available in the country[13,14] or before new variants of this virus are spread.[15] To address vaccine hesitancy, strategies will be to increase public faith in government and health authorities, as well as to promote information and communication on vaccine efficacy and accessibility.

8 | COST-BENEFIT ANALYSIS: INVESTMENT IN COVID-19 PREVENTION VS TREATMENT

According to the NCDC, Nigeria is spending millions of dollars to combat the pandemic.[16] Treatment for a COVID-19 patient without ventilators or other life-saving equipment incurs between $253 and $316 each day, depending on the severity of the disease–which is between $3545 and $4431 for a 14-day complete treatment.[16] In a COVID-19 hospital with 100 beds, at least 200 Personal Protective Equipment (PPE) kits are required, with doctors and nurses replacing their kits every 4 h.[16] A standard PPE kit costs between $10 and $15.[16] Because of these relatively high costs of COVID-19 treatment, prevention practices such as regular handwashing and social distancing -which incurs little to no costs- are a better and more cost-effective method, thus should be adopted by the country to prevent a second wave.

9 | CONCLUSION

If Nigeria is to better respond to the second wave of COVID-19, then there is a need to apply the lessons learnt during the first wave. The level of emergency preparedness needs to be scaled-up, there should be a plan and a set standard of operation, the enforcement of safety protocols must be uniform and consistent, the government should prioritise economic welfare as much as public health, all visitors and returnees must undergo a compulsory free 14-day quarantine, the government should provide the necessary infrastructure for the online learning platforms, there should be a robust expansion of PCR testing capacity in the country, and communication between the government, coordinating body and the general population needs to be made concise and effective to address vaccine hesitancy.

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ETHICS STATEMENT

Not applicable for this study.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analysed in this study.

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REFERENCES

1. World Health Organization. WHO coronavirus disease (COVID-19) dashboard. 2021. Accessed January 16, 2021. https://covid19.who.int/table
2. Gupta V, Kraemer JD, Katz R, et al. Analysis of results from the Joint External Evaluation: examining its strength and assessing for trends among participating countries. *J Global Health*. 2018;8(2):020416. https://doi.org/10.7189/jogh.08.020416
3. Okereke M, Ukor NA, Adebisi YA, et al. Impact of COVID-19 on access to healthcare in low- and middle-income countries: current evidence and future recommendations. *Int J health Plan Manag*. 2020;36:13-17. https://doi.org/10.1002/hpm.3067
4. Adebisi YA, Oke GI, Ademola PS, Chinemelum IG, Ogunkola IO, Lucero-Prisno DE. SARS-CoV-2 diagnostic testing in Africa: needs and challenges. *Pan Afr Med J*. 2020;35(Suppl 2):4. https://doi.org/10.11604/pamj.2020.35.4.22703
5. Brookings. How well has Nigeria responded to COVID-19? 2020. Accessed January 16, 2021. https://www.brookings.edu/blog/future-development/2020/07/02/how-well-has-nigeria-responded-to-covid-19/
6. Center for Policy Impact in Global Health. Nigeria's policy response to COVID-19. 2020. Accessed January 16, 2021. http://centerforpolicyimpact.org/wp-content/uploads/sites/18/2020/06/Nigeria-National-Response-to-COVID19_FINAL.pdf
7. Adebisi YA, Agboola P, Okereke M. COVID-19 pandemic: medical and pharmacy education in Nigeria. *Int J Med Stud*. 2020;8(2):162-164. https://doi.org/10.5195/ijms.2020.559
8. Anyanwu MU, Festus IJ, Nwobi OC, Jaja CJI, Oguttu JW. A perspective on Nigeria's preparedness, response and challenges to mitigating the spread of COVID-19. *Challenges*. 2020;11(2):22. https://doi.org/10.3390/challe11020022
9. Okereke M, Williams AE, Emmanuella NC, Ashinedu NU, Mairaj MW. COVID-19: challenges affecting the uptake of e-learning in pharmacy education in Africa. *Pan Afr Med J*. 2020;35(70). https://doi.org/10.11604/pamj.supp.2020.35.2.23910
10. Nachega JB, Atteh R, Ihekweazu C, et al. Contact tracing and the COVID-19 response in Africa: best practices, key challenges, and lessons learned from Nigeria, Rwanda, South Africa, and Uganda. *Am J Trop Med Hyg*. 2021;104(4):1179-1187. https://doi.org/10.4269/ajtmh.21-0033
11. Okereke M, Ukor NA, Ngaruiya LM, et al. COVID-19 misinformation and infodemic in rural Africa. *Am J Trop Med Hyg*. 2020;104(2):453-456. https://doi.org/10.4269/ajtmh.20-1488

12. Tobin EA, Okonofua M, Adeke A, Obi A. Willingness to accept a COVID-19 vaccine in Nigeria: a population-based cross-sectional study. *Central Afr J Pub Health*. 2021;7(2):53.
13. Okereke M. Towards vaccine equity: should big pharma waive intellectual property rights for COVID-19 vaccines? *Pub Health Prac*. 2021;2:100165. https://doi.org/10.1016/j.puhip.2021.100165
14. Okereke M, Essar MY. Time to boost COVID-19 vaccine manufacturing: the need for intellectual property waiver by big pharma. *Ethics Med Pub Health*. 2021;19:100710. https://doi.org/10.1016/j.jemep.2021.100710
15. Okereke M. Spread of the delta coronavirus variant: Africa must be on watch. *Public Health Pract*. 2021;2:100209. https://doi.org/10.1016/j.puhip.2021.100209
16. Guardian. How COVID-19 treatments cost government over N44.9b. https://guardian.ng/news/how-covid-19-treatments-cost-government-over-n44-9b/

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