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Commentary

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Supporting the pandemic response and timely access to COVID-19 vaccines: a case for stronger priority setting and health system governance in Nigeria

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Abstract

Priority setting and health system governance are critical for optimising healthcare interventions and determining how best to allocate limited resources. The COVID-19 pandemic has buttressed the need for these especially now that vaccines are available to curb the spread of the disease. In many low- and middle-income countries (LMICs), vaccine coverage remains low, due in large part to sub-optimal priority setting and health system governance which has led to inequities in access and has fuelled vaccine hesitancy. An analysis of the situation in Nigeria identified key issues that have affected the health system response to COVID-19 and impeded timely access to the vaccine. These include weak vaccine procurement strategies, limited evidence on strategies for prioritising recipients and approaches for rolling out mass vaccination programmes for the entire population, lack of a communication strategy to reduce the incidence of vaccine hesitancy and failures to proactively address vaccine hesitancy through the implementation of vaccination programmes. Nigeria and other many other LMICs are still facing the prospect of subsequent and potentially worsening waves of the COVID-19 pandemic. Without effective priority setting, there is a risk that the country will not accelerate vaccine rollout quickly enough to achieve high coverage rates that will ensure herd immunity. In the context of existing weaknesses in health system governance, there is an urgent need to strengthen priority settings in Nigeria and identify and implement context-specific solutions that can improve vaccine coverage for the population.

Keywords: COVID-19; priority-setting; governance; vaccination; Nigeria

Priority setting is critical to support rational healthcare decision-making as it helps determine how best to allocate resources, which in the case of low- and middle-income countries (LMIC) like Nigeria, are deemed scarce and inadequate.[1] Priority setting is the process of optimising healthcare interventions by determining how best to allocate limited resources.[2] Through application of evidence, transparency and holistic stakeholder engagement, priority setting allows decision-makers to identify and implement appropriate interventions to address the health challenges and needs of a population.[2] With the current COVID-19 pandemic, priority setting and health system governance have become even more paramount for LMICs. This is because governments, despite having extremely limited resources, have to deal with the complexities of the pandemic while also facing other health systems challenges such as the double burden of communicable and non-communicable diseases.

The current pandemic also poses some complex issues as to what should be prioritised. For example, determining which of the approved vaccines to use, based on their effectiveness, storage conditions, logistics management and availability for procurement is paramount. It is also important to prioritise between age groups, patients with comorbidities, healthcare workers and regional clusters for vaccination to ensure equity. While investing in continuous efforts in other areas of the pandemic response as the vaccination drive is underway is key, considering different vaccination strategies to ensure equity in distribution and coverage by involving other healthcare professionals, such as community pharmacists, is required. Community pharmacists help reduce inequities in access to medicines and can also provide health information and education that can help reduce misinformation and vaccine hesitancy.

These issues are worth considering given some of the challenges with previous vaccination efforts in Nigeria. For instance, the Expanded Programme on Immunization introduced in 1978 was envisioned to improve child health by eradicating diseases such as polio, measles, diphtheria, whooping cough, tuberculosis and yellow fever. However, this programme was plagued by challenges such as hesitancy fuelled by misperceptions and misinformation, inadequate cold chain infrastructure, shortage of vaccines and immunisation supplies and low government commitment to ensure the fulfilment of the policy.[3] These issues are already bedevilling vaccination efforts against the COVID-19 pandemic in Nigeria. Hence, there is a need for stronger priority setting and health system governance.

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Decision-making for health is burdened with intricacies, and for sustainable results to be achieved, high-level key stakeholder participation and a decision-making process that is unbiased, transparent and evidence-based is required. Given the past shortfalls and failures of weak priority setting in LMICs,[4] like Nigeria, examining how the country has fared in setting priorities for vaccinating its citizens, the implications and strategies for improvement is relevant and timely.

The development of vaccines that offers protection against the COVID-19 virus has offered a significant breakthrough in the fight against the pandemic. Many vaccines have been approved for use, with varying but promising levels of effectiveness in providing an adequate immune response in humans.[5] These vaccines also have varying requirements for storage and transportation, with some requiring more stringent cold chain conditions. This should be one of the main factors to put into consideration when setting priorities for vaccine procurement, especially for LMICs like Nigeria that have inadequate cold chain infrastructure.[6] However, earlier indications suggest that this was not the case. The Nigerian government, through its Ministry of Health, ordered 100 000 doses of the Pfizer vaccine that requires storage temperature of −70° only to later realise that the country did not have the capacity to hold that much vaccine in those conditions.[7] In fact, the combined capacity of the country to hold vaccines at that temperature is <10% of the 100 000 doses ordered.[7] Subsequently, the country could not fulfil on delivery of these vaccines which some reports suggested was due to deficiency in the cold chain infrastructure required to meet the storage conditions of the vaccine.[7] The Nigerian government, however, opined that this was due to politics in the international vaccine procurement procedure as well as logistics lapses from the vaccine source.[7] Whichever is the case, this shows weakness and lack of capacity in setting priorities based on evidence, because if the vaccines were delivered as planned, the majority would have gone to waste, with significant cost implications for a healthcare system that is already resource-constrained. Furthermore, in late April 2021, the National Agency for Food and Drug Administration and Control (NAFDAC) gave emergency use authorisation for the Pfizer vaccine.[8] This means that procurement for this vaccine is taking place despite any improvement in the cold chain infrastructure and capacity required to hold such vaccines. Through a deliberative process, priority setting could support contemplation of such context-specific considerations, including all available evidence on different vaccines as well as their supply chain requirements. A further condition of effective priority setting is publicity of decisions. The lack of transparency or publicity on procurement for these vaccines is yet another signal of inadequacies in priority setting for vaccines in Nigeria.

While the choice of vaccine remains an issue, another area of concern is how vaccine recipients have been prioritised – between age groups, vulnerable populations, patients with comorbidities, healthcare workers, among others. Despite receiving about 4 million doses of COVID-19 vaccines on 2 March 2021,[9] there seems to be limited evidence suggesting a clear indication and strategy as to how vaccine recipients have been identified and prioritised and how the rest of the population will be vaccinated. The government requires citizens to self-register via an online portal if they are to get a chance of receiving a vaccination. While this seems to be an easy way of pooling vaccine recipients, the provisions for identifying and verifying people that make up vulnerable groups that need to be prioritised are inadequate and not stringent. This makes the system vulnerable and increases the likelihood of being bypassed.

Moreover, this requirement for online registration spurs inequity in access as about 50% of Nigeria's population do not have access to the internet[10] and could be excluded from vaccination. Also, since young people make up the majority of internet users, many of the older population which fall within the vulnerable groups also face the likelihood of being excluded. Explicit priority setting should account for such factors that further inequities in access. Mitigation strategies could be developed such as using other mobile-based platforms (such as text messaging and offline telephone applications) or even using existing networks of community health workers to identify and register populations that are unserved and underserved, since evidence suggests they can fill in gaps in health service delivery during disease outbreaks.[11]

There is also the issue of ineffective registration of those who have been vaccinated which will affect follow-up for boosters. A clear strategy seems to be missing on how to ensure that those who have received their first vaccination receive booster within the appropriate time limit and how the government has factored these in their procurement plan for additional vaccine doses. Effective priority setting should ensure that priorities are implemented, and this necessitates an implementable plan to guide vaccination efforts and to ensure that an adequate routine is followed.

Nevertheless, the vaccinations are ongoing and according to the electronic management of immunisation data system dashboard of the National Primary Healthcare Development Agency, about 1.2 million out of over 200 million Nigerians have been vaccinated as of 4 May 2021, representing 0.6% of the population. This means approximately 600 000 doses are administered per month. For a country that has set a target of vaccinating 40% of its citizens by the end of 2021 at this rate, it will take Nigeria about 122 months (over 10 years) to reach that target. Furthermore, this electronic management of immunisation data system dashboard is not accessible in real time and is only shared via the agency's social media handle, which clearly denotes a lack of transparency. Discrepancies in the numbers have been observed as some states have had lower numbers reported in subsequent days than what was reported in previous days.

The issue of vaccine hesitancy may have been fuelled by global and local religious and culturally based conspiracy theories.[12] Furthermore, recent reports suggesting vaccine counterfeiting as well as vaccine racketeering have further heightened the fear of Nigerians and has fuelled vaccine hesitancy.[13] Vaccine hesitancy has far-reaching implications including low coverage which affects the possibility of reaching herd immunity as well as wastage of vaccines which presents significant cost implications. According to reports,[14] vaccines should be used within 3–6 months from the date of manufacture. This means that time is running out on the usage validity period for the vaccines Nigeria procured in March 2021. Many countries are already reporting vaccine wastage with several hundreds of thousands of vaccines already destroyed.[14] Despite this, there have been no clear communication strategies and efforts to address vaccine hesitancy, unlike the vigorous communication campaigns on infection prevention and control strategies and testing during the earlier days of the pandemic.

The current situation, if left unchecked, will present severe future challenges to Nigeria's COVID-19 response which might become more difficult to mitigate. Therefore, evidence-based strategies need to be explored. First, decisions on what vaccines to procure should be context-specific and must take into consideration, all available evidence on the different vaccines as well as their supply chain requirements. Second, a clear strategy on how vaccine recipients have been prioritised and how the rest of the population will be vaccinated should be developed and communicated adequately. To address issues that further inequities in access, which in this case is the use of an internet-based registration system to determine vaccine recipients, other approaches to reach the unserved and underserved should be explored. This may include using mobile-based platforms that are not internet-based or involving community health workers to pool vaccine recipients.

To reduce the incidence of vaccine hesitancy, a clear communication strategy should be developed, similar to the one deployed during the earlier days of the pandemic where citizens received regular updates on COVID-19 infection prevention and control measures across various media channels. Furthermore, pharmacists present a critical group of personnel that can be involved in immunisation programmes to improve coverage and reduce hesitancy. Some countries such as the USA have adopted some of these recommendations proffered including clearly prioritising vaccine recipients, developing and deploying a clear communication strategy, and are utilising pharmacists to improve COVID-19 vaccine coverage and reduce hesitancy.[15] However, LMICs like Nigeria are still politicising this important strategy that can improve vaccine coverage and reduce vaccine hesitancy. Evidence suggests that pharmacists are key to reducing inequities in access to medicines and vaccines.[16] According to Shah *et al*.,[16] including pharmacists as vaccine providers offers as much as 18–35% additional coverage in rural and urban areas, respectively. Furthermore, pharmacists are the most accessible healthcare professionals, the first port of call for minor ailments, and the most trusted in terms of providing information on medicines in Nigeria.[17] Many of these pharmacists work in the community setting and already have cold chain infrastructure that is adequate to store several doses of COVID vaccines within the right storage conditions. Their knowledge, expertise, coverage and the trust and close relationship they have with their clients can be explored and used to improve vaccine coverage and reduce hesitancy. They can serve as vaccine advocates while rendering immunisation services using their community pharmacy outlets. Evidence also suggests that immunisation services are one of the value-added pharmacy services that patients require from pharmacists.[17]

While the country continues to work on vaccine hesitancy and negotiate procurement of additional vaccine doses, other areas of the pandemic response should not be neglected. Indeed, the availability of vaccines against COVID-19 serves as a significant breakthrough in the fight against the pandemic, but the fact remains that, just like experiences from other vaccine-preventable diseases, the COVID-19 vaccine will not lead to an immediate eradication of the virus. Also, getting a significant proportion of the population, let alone, the whole population to be vaccinated will take some time. Other issues such as virus mutation which could lead to vaccine ineffectiveness is also plausible. Therefore, it is necessary to develop a priority-setting framework for vaccinating the population. In developing this framework, input should be sought from all stakeholders including healthcare professionals and the public. Including pharmacists to enhance vaccination coverage should be paramount. Furthermore, a broader priority-setting framework for the overall pandemic response should be actively pursued and should consider other measures of infection prevention and control, case management, providing critical frontline workers with the tools and resources they need, improving resources and infrastructure required for mitigating the spread of the virus, and all other relevant strategies required for a robust pandemic response.

The current COVID-19 response in Nigeria seems inadequate and requires immediate remediation. Setting priorities, ensuring evidence-based decision-making and judicious use of limited resources to increase vaccine uptake, reduce hesitancy and ultimately save lives is important for LMICs like Nigeria to gain grounds in the fight against the COVID-19 pandemic.

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O.A.C.: conceptualisation, writing – original draft preparation, writing – reviewing and editing. L.K. and B.E.: validation, writing – reviewing and editing.

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Conflict of Interest

The authors declare that there is no conflict of interest.

Data availability

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

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