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Time for Africa to future-proof, starting with COVID-19

Persisting inequities are slowing progress towards global and national targets for the control of HIV, tuberculosis, and malaria. The same is true for the COVID-19 pandemic, with wealthier countries continuing to monopolise the global share of vaccines. Africa has been disproportionately affected by this vaccine nationalism. A WHO target of achieving full primary immunisation in 40% of the global population by the end of December, 2021, was reached in only seven African countries, with just under 9% of people on the continent being fully vaccinated by the end of 2021. The target of 70% global coverage of primary series immunisation by June, 2022, is a pipe dream. The inequity in COVID-19 vaccine distribution is prolonging the pandemic, facilitating the emergence of new variants with potential for immune evasion, increased disease severity, and global spread. This has been witnessed with the discovery of the delta variant (B.1.617.2) of concern in India and of omicron (B.1.1.529) in southern Africa. In the context of the omicron variant, WHO is urging countries to focus on the most relevant outcomes of severe disease and death and to support “urgent and broad access to current COVID-19 vaccines for priority populations worldwide”. Yet, world leaders refuse to learn from experience or heed the warnings and recommendations of experts.

COVID-19 vaccine inequity has often featured in our pages over the past year. In our June, 2021, Editorial we described how equitable vaccine distribution was being undermined by over-purchasing of vaccine doses by wealthier nations—a problem that remains with prioritisation of booster programmes (the subject of our September, 2021, Editorial). Many countries are, shamefully, failing to live up to commitments made to COVAX and other vaccine-sharing schemes. According to WHO, Africa will need more than 900 million vaccine doses to fully vaccinate 40% of its population, yet as of Jan 10 it had procured only 492 million. Whereas we previously reported limited production capacity as being an impediment to global vaccine availability, that can no longer be considered the case: 26 different COVID-19 vaccines were in use as of Jan 6, and 41 billion doses are predicted to be available in 2022.

As well as calling for world leaders to share surplus doses, we, along with others, have called for the sharing of vaccine technology and manufacturing processes. Several mechanisms are already in place to facilitate this,

including an mRNA vaccine technology transfer hub in South Africa. Yet, most manufacturers have stubbornly refused to collaborate in this way. One exception is the developers of Corbevax, a recombinant protein vaccine that was shown in unpublished phase 3 trials to be highly efficacious against symptomatic infection with the ancestral SARS-CoV-2 strain and the delta variant. The vaccine was developed as a prototype with no patent by researchers in Texas, with the technology then transferred without payment to vaccine manufacturers in several countries, including Botswana. Notably, the vaccine is based on the same low-cost technology as the hepatitis B vaccine that has been in use for 40 years; Peter Hotez, a co-creator of the vaccine, hopes that this will allow Corbevax production to be scaled-up quickly and increase vaccine acceptance.

Increasing the supply of COVID-19 vaccines to African countries is only a part of the solution. As of Jan 9, only 64% of vaccines procured by African countries had been used. Part of the problem is the donation of vaccines with limited remaining shelf life and without key components such as syringes or enough notice for human and other resources to be mobilised. Another facet is a lack of capacity, including public health infrastructure, trained personnel, and funding, to implement vaccine programmes, exacerbated by the competing priorities of other endemic diseases, as well as economic and political instability.

According to the WHO Regional Office for Africa, African countries that have performed best in vaccinating their populations against COVID-19 had finalised their national vaccine deployment plans before the first vaccines had arrived and have conducted intra-action reviews to evaluate progress. As more vaccines become available, African leaders must take steps to strengthen their public health systems. In a comment in *Nature*, John N Nkengasong, director of the Africa Centres for Disease Control and Prevention, called for African countries to increase investment in health and ultimately reconfigure their public health approach towards one of self-reliance. As discussed elsewhere in this issue, this approach will provide gains not only for COVID-19 control, but also for other endemic infectious diseases, as well as future-proofing against pandemics.

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See [News](#) pages 170–72

For more on **COVID-19 vaccine coverage, use, and rollout in Africa** see <https://www.bbc.co.uk/news/56100076>, <https://www.afro.who.int/health-topics/coronavirus-covid-19/vaccines>, and <https://www.afro.who.int/news/key-lessons-africas-covid-19-vaccine-rollout>

For **WHO's perspective on COVID-19 vaccines in the context of omicron** see <https://www.who.int/news/item/11-01-2022-interim-statement-on-covid-19-vaccines-in-the-context-of-the-circulation-of-the-omicron-sars-cov-2-variant-from-the-who-technical-advisory-group-on-covid-19-vaccine-composition>

For **past editorials** see [Editorial Lancet Infect Dis 2021; 21: 743 and 21: 1193](#)

For more on **the COVID-19 vaccine landscape** see https://vac-lshtm.shinyapps.io/ncov_vaccine_landscape/ and <https://www.unicef.org/supply/covid-19-vaccine-market-dashboard>

For more on **Corbevax** see <https://www.texaschildrens.org/texas-children%E2%80%99s-hospital-and-baylor-college-medicine-covid-19-vaccine-technology-secures-emergency>

For the **comment in Nature** see *Nature* 2022; published online Jan 3. <https://www.nature.com/articles/d41586-021-03821-8>