

Beyond vaccine hesitancy: time for Africa to expand vaccine manufacturing capacity amidst growing COVID-19 vaccine nationalism



In *The Lancet Microbe*, Paul Adepoju provides a report¹ on how Africa lags behind in the global race to rollout COVID-19 mass vaccination. This race is unprecedented and characterised by high-income countries adopting strategies such as pre-ordering millions of doses before the COVID-19 vaccines completed clinical trials. Africa has now embarked on the biggest immunisation drive in history with the aim of achieving 60% population coverage with the COVID-19 vaccine by June, 2022, through the WHO-led COVAX facility. Other continents appear to be far ahead, with Asia securing the commitment of the USA, Australia, India, and Japan to supply up to a billion COVID-19 vaccine doses across the continent by the end of 2022 and the Asian Development Bank to provide US\$9 billion to the Asia Pacific Vaccine Access Facility to supply COVID-19 vaccines. These trends have resulted in the world's poorest nations receiving only 0.2% of the 700 million COVID-19 vaccine doses by April, 2021, while more than 87% of global vaccine stocks have gone to high-income countries.²

This inequality gap is being addressed by strong multilateral cooperation involving the African Vaccine Acquisition Task Team of the African Union and the COVAX consortium with COVID-19 vaccines mostly produced in India.³ However, India's recent export ban on COVID-19 vaccines in response to a surge in COVID-19 cases has resulted in COVAX supplies running out in several African countries.

Adepoju also reports that additional doses of COVID-19 vaccines have been secured for Africa by the African Vaccine Acquisition Task Team from AstraZeneca, Pfizer, and Johnson & Johnson.¹ Morocco adopted proactive vaccine supply policies by fast tracking approval for AstraZeneca, Sinopharm, and Sputnik V vaccines. A leading Egyptian pharmaceutical company has signed a deal to manufacture more than 40 million doses of the Sputnik V vaccine annually in Cairo. Seychelles has also registered the Sputnik V vaccine as part of an emergency use authorisation.

Besides the complexity and interconnectedness of global supply chains, the effectiveness of vaccine rollout

underway in Africa could be undermined by a familiar enemy—vaccine hesitancy. Vaccine hesitancy refers to a delay in the acceptance or blunt refusal of vaccines. This has been reported in several African countries and is linked to three factors. First, public distrust of government response to COVID-19; second, lack of community involvement in decision making on health issues; and third, minimal attempts to debunk misinformation about COVID-19 on social and traditional media.⁴ The problem of vaccine hesitancy is not new to Africa. A striking example is the polio vaccine boycott in Nigeria in 2003–04, which, fuelled by distrust, quintupled the polio incidence in Nigeria between 2002 and 2006, leading to polio outbreaks across three continents.⁵ Vaccine hesitancy is, however, not limited to Africa as rumours and reports of severe blood coagulation problems following administration of the AstraZeneca vaccine in European countries interrupted use of this vaccine in 16 of these countries.⁶

Only 1% of the vaccines administered in Africa are produced by manufacturers based in five countries: Egypt, Morocco, Senegal, South Africa, and Tunisia.^{7,8} On April 13, 2021, African leaders committed to an ambitious plan of building factories and supporting research and development to boost the share of vaccines manufactured in Africa from 1% in 2021 to 60% by 2040. With the Africa Centre for Disease Control planning to establish five new vaccine-manufacturing centres across Africa and the African Development Bank pledging to finance at least two technology platforms worth US\$400 million for vaccine production,¹ the continent appears to making progress towards creating an indigenous vaccines industry.

However, vaccine manufacturing in Africa will require heavy long-term financing, government and stakeholder commitment to purchase manufactured vaccines, expanded research capacity, and strategic regulatory support and guidance. It is equally vital to establish supply networks to guarantee uptake of vaccines manufactured within the continent. The African Continental Free Trade Area that was launched

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on Jan 1, 2021, to connect 1.2 billion people across 54 countries holds great promise in this regard.

Technology innovation—including whole-genome sequencing⁹ to provide real-time information on the biology and evolution of infectious organisms—should be adopted to support vaccine development and manufacture in Africa to drive down production costs. New research from Africa indicates that combining genomic and epidemiological surveillance bolsters infectious disease outbreak response and containment.¹⁰ This will be invaluable for identifying new variants of SARS-CoV-2, including the kappa (B.1.617.1) and delta (B.1.617.2) variants. Combining these approaches could better position Africa to mitigate the next pandemic by producing vaccines for its citizens.

We declare no competing interests.

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**Akaninyene Otu, Egbe Osifo-Dawodu, Phionah Atuhebwe, Emmanuel Agogo, Bassey Ebenso*
aaotu@unical.edu.ng

Department of Internal Medicine, College of Medical Sciences, University of Calabar, Calabar 1115, Nigeria (AO); Foundation for Healthcare Innovation and Development, Calabar, Nigeria (AO); Anadach Consulting Group, College Park,

MD, USA (EO-D); World Health Organization's Regional Office for Africa, Brazzaville, Republic of the Congo (PA); Resolve to Save Lives, Abuja, Nigeria (EA); Nuffield Centre for International Health and Development, Leeds Institute for Health Sciences, University of Leeds, Leeds, UK (BE)

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