

Re: Vaccines Africa Brief for Congressional Research Services (CRS)

Last Updated: March 8, 2022

Brief: This report is a product of the VacSafe Working Group, a group of leading scientists, vaccine and public health experts, and policymakers. Its purpose is to provide an informed overview on the state of SARS-CoV-2 vaccines in Africa (54 countries and 2 disputed territories) with a view to inform US legislators. This briefing comes as cases across the continent have declined following the Omicron wave, Africa continues to face vaccine shortages and distribution challenges. Information included in this briefing is drawn from private and public sources. For broader context, refer to earlier installments of the Vaccines in Africa Brief.

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VacSafe Working Group

Monthly Brief: Congressional Research Services

Africa (54 countries 2 disputed territories)

1. SARS-CoV-2 Vaccination Status in Africa

The Our World in Data vaccine tracker reported that as of March 5, 2022, a total of 254.64 million vaccine doses have been administered across the entire African continent. 12.24% of the population has been fully vaccinated, with 6.29% given at least one dose. This brings to a total of a total of 18.53% share of people vaccinated against COVID-19.

According to Our World in Data vaccine tracker as of December 4, 2021, the three best countries by share of people vaccinated are Seychelles (85%), Mauritius (78%) and Morocco (67%). The three lowest are Burundi (0.075%), DR Congo (0.77%) and Chad (1.6%).

2. Vaccine Efficacy, Safety, and Approval

- Moderna (Spikevax) - WHO Emergency Use Listing and approved in Botswana, Congo, Egypt, Ghana, Kenya, Libya, Malawi, Nigeria, Rwanda and Seychelles.
- Oxford-AstraZeneca (Vaxzevria) - Africa Regulatory Taskforce approved, WHO Emergency Use Listing and approved in 45 African countries.
- Serum Institute of India: Covishield (Oxford-AstraZeneca formulation) - Africa Regulatory Taskforce (ART) approved, WHO Emergency Use Listing and approved in 14 African countries.
- Pfizer-BioNTech (Comirnaty) - WHO Emergency Use Listing, FDA approval and approved in 21 African Countries.
- Sinopharm (Covilo or BBIBP-CorV) - WHO Emergency Use Listing and Africa Regulatory Taskforce (ART) approved in 35 African countries.
- Sinovac (CoronaVac) - WHO Emergency Use Listing and Africa Regulatory Taskforce (ART) approved in 14 African Countries.
- Bharat Biotech (Covaxin) - WHO Emergency Use Listing and approved only in Botswana.
- Gamaleya Institute (Sputnik V) – approved in 19 African countries.
- Gamaleya Institute (Sputnik Light) – approved in Angola, Egypt, Mauritius, Republic of Congo, Tunisia, and Tanzania.
- Janssen/Johnson & Johnson (Ad26.COVS.2.S) - WHO Emergency Use Listing, Africa Regulatory Taskforce approved and in 33 Countries.

3. Continental Vaccine Acquisition

World Health Organization Director General Dr. Tedros Adhanom Ghebreyesus announced February 18 that Egypt, Kenya, Nigeria, Senegal, South Africa, and Tunisia will get the technology needed to produce mRNA vaccines against COVID-19. This is aimed to assist low- and middle-income countries in manufacturing vaccines that meet international standards.

BioNTech to ship mRNA vaccine factory kits to Africa: The German biotech manufacturer has developed a vaccine factory made from shipping containers that it plans to ship to Africa as assembly kits to ease what the WHO has described as huge disparities in global COVID-19 vaccine access. The factory prototype will be instrumental in helping the biotech firm deliver

on a pledge made last year to Rwanda, South Africa, Senegal, and the African Union to secure mRNA vaccine production on the continent, where inoculation rates have fallen far behind other parts of the world. Local production is being planned to start within 12 months of site installation.

South African President Cyril Ramaphosa has asked the European Union again to drop its opposition to an IP waiver for COVID-19 vaccines. President Ramaphosa stated that “TRIPS waiver should be done within a set period of time so as to enable those countries that do not have easy access to vaccines to have access to vaccines.”

Even if vaccines arrive to the African continent, there are concerns of vaccine hesitancy. The Global VAX Initiative, as detailed by US President Joe Biden’s administration, will prioritize on sub-Saharan Africa for vaccine campaigns. As these countries have less than 40 percent of their populations vaccinated but have recent upticks, US officials said that they show potential for global aid.

4. Vaccine Distribution

WHO announces that Africa is on track to control COVID-19 pandemic in 2022. Almost two years after Africa identified its first case of COVID-19 (14 February 2020), the World Health Organization (WHO) finds that, if current trends continue, the continent can control the pandemic in 2022. However, WHO warned that continued vigilance is key.

Botswana implemented a rule that citizens who are unwilling to be vaccinated against COVID-19 will face a fine, a year in prison, or both. The government worries that vaccines will expire in April this year. Botswana started administering booster jabs in January, having at least three million vaccines stockpiled.

African states are able to accelerate vaccination programs since the system of distributing vaccines has changed, according to WHO officials. Since January, countries have been able to request vaccines from WHO, thus being able to improve vaccination efforts. The new distribution system will enable African countries to dramatically accelerate their vaccination programs. Instead of sending vaccine doses when they become available, countries can now directly request vaccines as they need. This will result in the continent as a whole being expected to reach the target of vaccinating 70 percent of the population by early 2023 instead of August 2024 like previously assumed.

The European Union announced the provision of 125 million euros to help Covid vaccine distribution in Africa. However, according to Covax, this donation is just a fraction of the \$5.2 billion it needs this year to pay for medical accessories.

The United States is ramping up coronavirus vaccination assistance to eleven African countries in an effort to prevent future variants and bolster inoculation efforts. All efforts will be done through the Initiative for Global Vaccine Access (Global Vax) and include intensive financial, technical, and diplomatic support. Funds of roughly \$255 million are being allocated. Selected countries include Angola, Eswatini, Ghana, Ivory Coast, Lesotho, Nigeria, Senegal, South Africa, Tanzania, Uganda, and Zambia.

5. Vaccine Fill & Manufacturing

Moderna reaches preliminary agreement to build Covid vaccine manufacturing plant in Kenya. The biotech giant plans to invest \$500 million to produce messenger RNA, the technology underlying its Covid vaccines, at the facility in Kenya. It could fill Covid vaccine doses at the Kenya facility as early as 2023 subject to demand, according to the company. The news come after Moderna has faced criticism from groups such as Oxfam International and Doctors Without Borders for not sharing its vaccine technology with middle- and lower-income countries.

First African countries are getting mRNA vaccine technology needed for vaccine manufacturing in WHO project: Selected countries are Egypt, Kenya, Nigeria, Senegal, South Africa, and Tunisia. The mRNA technology is used by Pfizer-BioNTech and Moderna for their COVID-19 shots. The deal was unveiled at the EU-African Union summit in Brussels.

Eighth Meeting of the Multilateral Leaders Task Force on Covid-19, 1 March 2022 – “Third Consultation With the CEOs of Leading Vaccine Manufacturers”. The Multilateral Leaders Task Force issued the following statement: “In the past few months, we have seen unprecedented levels of disease transmission across the world due to the Omicron variant. Still, unequal access to COVID-19 vaccines, tests and treatments is rampant, prolonging the pandemic. 23 countries are yet to fully vaccinate 10% of their populations, 73 countries are yet to achieve 40% coverage and many more are projected to miss the 70% target by middle of this year.”

6. Vaccination Licensing Issues/IP/tech transfer

Moderna patent application raises fears for Africa COVID vaccine hub. The Africa hub firm says the patent will impede freedom to operate. Moderna says the patents will not affect vaccine distribution. They have pledged not to enforce mRNA patents during the pandemic but charities fear it will, once COVID-19 is declared an endemic.

The WTO's TRIPS Council has a new chair — Sierra Leone's permanent representative to the UN in Geneva, Lansana Gberie. He replaces Norway's Dagfinn Sørli. Gberie has the unenviable task of trying to nudge countries towards agreement on the TRIPS waiver discussions — something that has not happened under two previous chairs and for 1.5 years.

Civil society groups in South Africa have sent a letter to Moderna on Monday, asking the company to immediately withdraw the mRNA vaccine patents it has filed in South Africa, and to provide technical expertise to the WHO Hub. “The only conclusion we can draw from Moderna's selective patent filings is that Moderna does indeed intend to enforce these patents, despite public announcements to the contrary,” they write. Moderna had said that it would not enforce its patents during the pandemic, but it remains unclear what will happen when it subsides, and when Moderna will decide this time has come.

7. Emerging Variants

Multiple variants of the virus that causes COVID-19 are circulating globally. In collaboration with a SARS-CoV-2 Interagency Group (SIG), US CDC established three classifications for the SARS-CoV-2 variants being monitored: Variant of Interest (VOI), Variant of Concern (VOC), and Variant of High Consequence (VOHC).

The US Centers for Disease and Prevention (CDC) Global Variants Report is tracking the worldwide distribution of five variants; as of March 8th, 2022, all five variants are reported to be circulating in Africa:

- Alpha (B.1.1.7): (VOC) initially detected in the UK, December 2020
 - Verified in all African countries except: not reported in Eritrea, and unverified in Botswana and Niger.
- Beta (B.1.351): (VOC) initially detected in South Africa, December 2020
 - Verified in all African countries except: not reported in Algeria, Egypt, Eritrea, and Niger.
- Delta (B.1.617.2): (VOC) initially detected in India, December 2020
 - Verified in all African countries except: not reported in Eritrea and Madagascar.
- Gamma (P.1): (VOC) initially identified in travelers from Brazil, January, 2021
 - Verified in Sudan, Kenya, United Republic of Tanzania, South Africa, Namibia, Angola, Gabon, Congo, Equatorial Guinea, Cameroon, Benin, Togo, Ghana, Cote d'Ivoire and unverified in Madagascar.
- Omicron (B.1.1.529), initially identified in South Africa, was designated a VOC on November 26, 2021.
 - As of March 8th, 2022, it is still unverified in Mali, and not reported in: Madagascar, Lesotho, Somalia, Eritrea, Burundi, Somalia, Libya, Chad, Equatorial Guinea, Guinea-Bissau, Liberia

The World Health Organization has currently designated two Variants of Interest (VOI):

- Lambda (C.37). initially detected in Peru, August 2020
 - Verified in South Africa
- Mu (B.1.621), initially detected in Colombia, August 2021
 - Currently the MU variant is not verified to be circulating in Africa

The category, Variant of High Consequence, is reserved for variants that have clear evidence that prevention measures or medical countermeasures have significantly reduced effectiveness relative to previously circulating variants.

- Currently, there are no SARS-CoV-2 variants that rise to the level of high consequence.

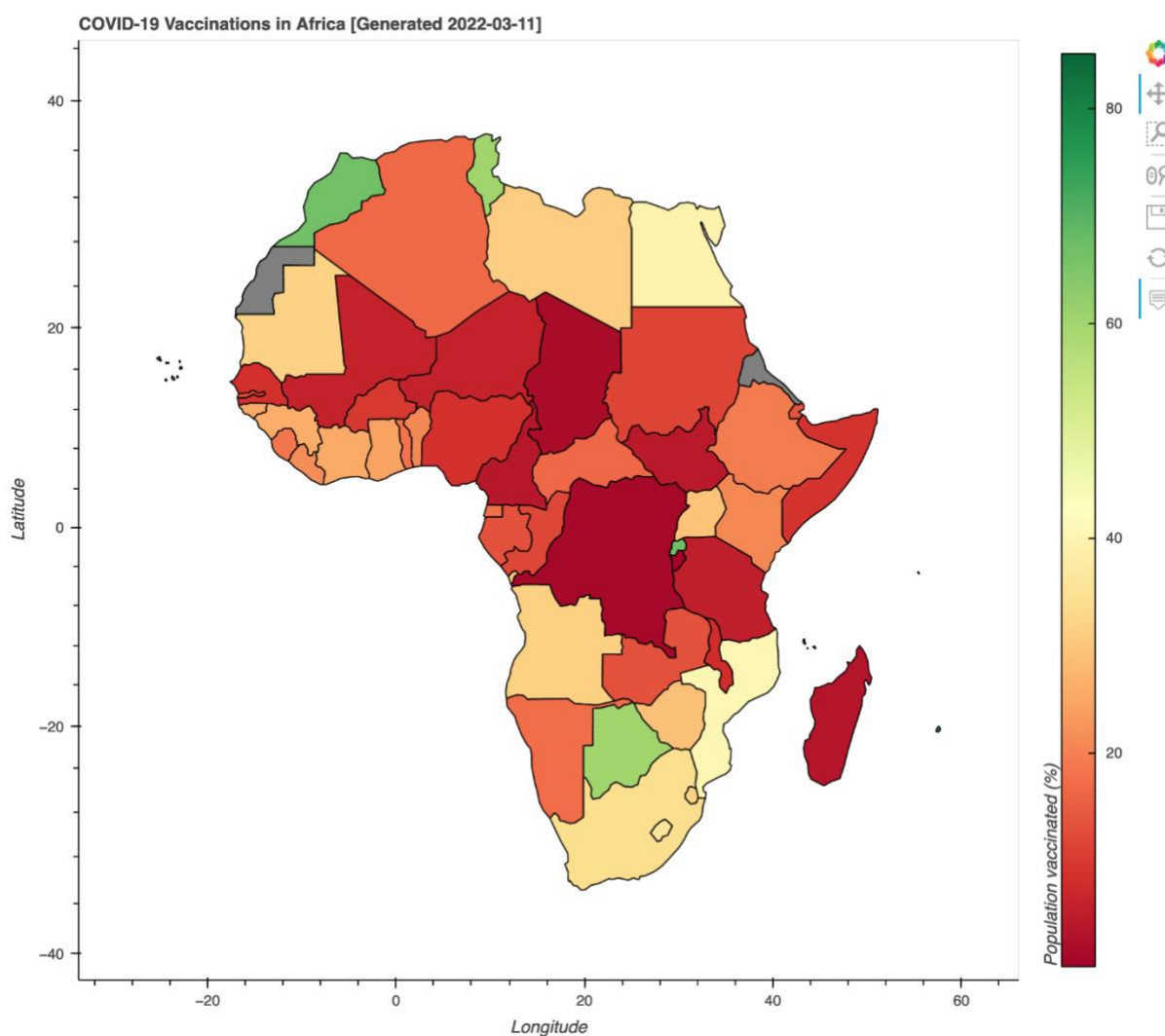
Appendix

Figures and Supplemental Information

VacSafe Working Group Website

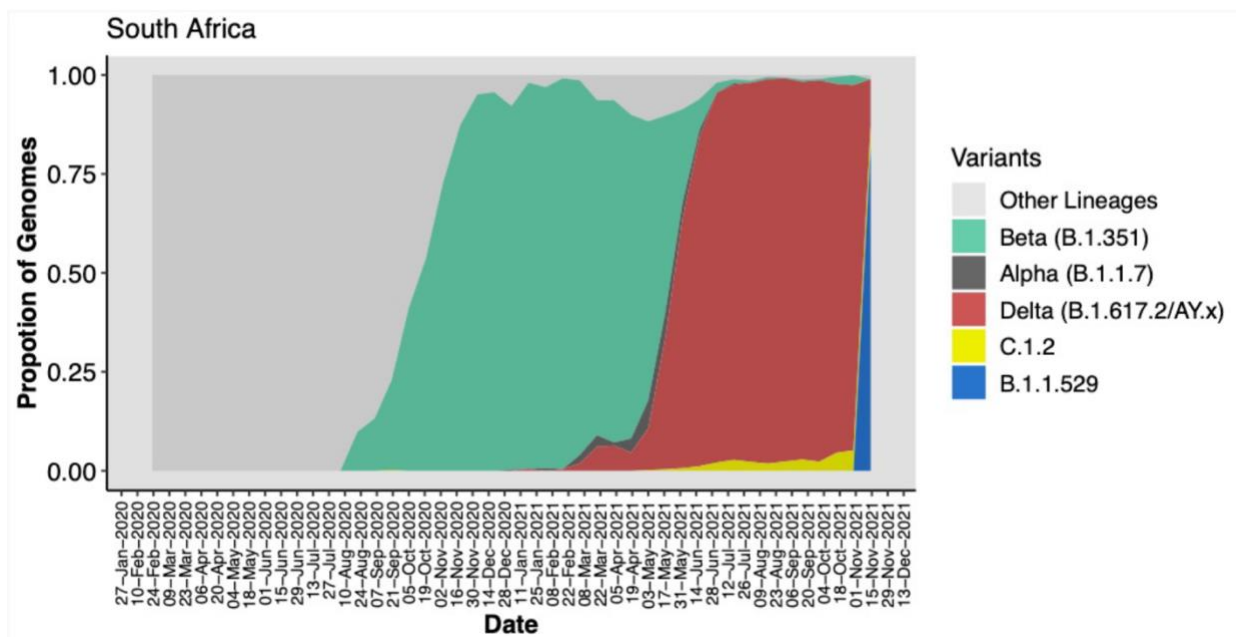
The VacSafe Working Group website houses publicly facing versions of these briefings, an interactive map that tracks COVID-19 vaccination rates and their correlates in Africa, and up-to-date information on the working group's convenings and projects. The website can be found at <http://www.vacsafe.columbia.edu/>

Figure 1: VacSafe Africa Map



The interactive map is hosted here: <https://vacsafe.columbia.edu/content/vacsafe-africa-map>.

Figure 2: Omicron (B.1.1.529) Variant Evolution in South Africa



Source: https://www.krisp.org.za/manuscripts/25Nov2021_B.1.1.529_Media.pdf

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