

Supplementary Tables

Table S1. COVID-19 vaccination deployment across African countries: commencement, rollout Programmes, and vaccine sources.

Country	Vaccination Start Date (d/m/y)	Dedicated Rollout Program	Nature of Program			Sources of Vaccines
			Public	Private	Both	
Botswana [232]	26 March 2021	√	√	√	√	<ul style="list-style-type: none"> • COVAX facility—cost covered by the Government of Botswana • NGOs and COVISHIELD, vaccine donation from the Serum Institute of India • African Union (AU) / African Vaccine Acquisition Trust (AVAT)
Cameroon [233,234]	12 April 2021	√	√			<ul style="list-style-type: none"> • Donation from the Chinese government • COVAX -WHO • GAVI
Egypt [235,236]	24 January 2021	√	√	√	√	<ul style="list-style-type: none"> • Donations from different countries including China, UAE, Spain, and Japan • COVAX initiative and in most cases in cooperation with GAVI • Procurements by the government of Egypt facilitated by a loan agreement with the International Monetary Fund (IMF) to support addressing COVID-19's health and economic consequences • Subsequent plan to produce both China's Sinovac and Sputnik V locally through a joint agreement with both China and Russia
Eswatini [237]	24 March 2021	√	√	√	√	<ul style="list-style-type: none"> • Oxford/AstraZeneca—India • COVAX • Johnson and Johnson—USA • Pfizer—USA
Ghana [238,239]	01 March 2021	√	√	√	√	<ul style="list-style-type: none"> • COVAX • GAVI • NGOs • Donations from the governments of Germany, Denmark, Iceland, Norway, and the USA
Kenya [240,241]	08 March 2021	√	√	√	√	<ul style="list-style-type: none"> • COVAX donations from India, Denmark, France, Greece, Canada, Poland, China, Germany, Argentina, Netherland, Belgium, Slovakia, UK, and USA • Government of Kenya/AVAT • Belgium/AVAT
Malawi [180,242,243]	17 March 2021	√	√	√	√	<ul style="list-style-type: none"> • Donations by WHO through COVAX facility • Donations from UK government, India, CEPI, GAVI, UNICEF, and ACT-accelerator among others • Donations from African Union Vaccine Acquisition Trust (AVAT)

						<ul style="list-style-type: none"> • In-country logistic costs covered by the Malawi government with donors help and World Bank
Nigeria [243–251]	05 March 2021	√	√	√	√	<ul style="list-style-type: none"> • Donation from multi-lateral and corporate organisations – GAVI, COVAX, MTN, AU, and African CDC • Donations from other countries including USA, France, India, Japan, Italy, and Spain • Procurement by the Nigerian government
South Africa [109]	17 February 2021 *	√	√	√	√	<ul style="list-style-type: none"> • Bilateral agreement with Pfizer and Johnson and Johnson for local vaccine manufacture • NGO, i.e., Sisonke Programme ** • Donations from USA • COVAX-WHO
Sudan [252]	05 April 2021	√	√	---	---	<ul style="list-style-type: none"> • COVAX-WHO • Donations form UAE, USA
Tanzania [253,254]	26 July 2021	√	√	√	√	<ul style="list-style-type: none"> • COVAX- WHO and Johnson and Johnson • Donations from China
Uganda [255–257]	10 March 2021	√	√	√	√	<ul style="list-style-type: none"> • COVAX -WHO • Donations from Danish government, USA, and China
Zambia [258]	14 April 2021	√	√	√	√	<ul style="list-style-type: none"> • COVAX – WHO • Procurement by the government of Zambia
Zimbabwe [109]	18 February 2021	√	√	√	√	<ul style="list-style-type: none"> • Donations from the governments of China, Russia, and India • Procurement through the government of Zimbabwe

NB: * Although South Africa was one of the first African countries to receive the COVID-19 vaccine (Oxford/ AstraZeneca COVID-19 vaccine produced by AstraZeneca-SK Bioscience and the Serum Institute of India) on 2021/02/01, the planned roll-out of the vaccine was suspended on 2021/02/08 following evidence that the vaccine had low efficacy against the 501Y.V2 variant [109,259].** Sisonke Programme is a research collaboration between the National Department of Health (NDoH), South African Medical Research Council (SAMRC), Desmond Tutu Health Foundation, CAPRISA, Janssen and Johnson and Johnson [260,261]. Please refer to the principal paper for details of the references.

Table S2. COVID-19 vaccination coverage across African countries (up to the end of 2021).

Country	Age Groups Vaccinated and Order of Priority	Children Vaccinated	Commencement of Booster Doses and Target Groups
Botswana	Adults ≥18 years	≥12 to <18 years planned for Phase IV of the roll-out	<p><i>Commenced on 17 January 2022</i></p> <ul style="list-style-type: none"> • Adults ≥18 years previously vaccinated • Pfizer (≥6 months after completing vaccination series) • Moderna (≥6 months after completing vaccination series) • Johnson and Johnson (≥2 months after completing primary vaccination dose) • Oxford/AstraZeneca (≥3 months after completing vaccination series) • Sinopharm (≥5 months after completing vaccination series)
Cameroon	Order of priority: (1) HCWs (2) High-risk groups (3) Adults ≥18 years	Children not yet vaccinated	<p><i>Booster doses commenced</i></p> <p>HCWs and adults >50 years, 3 months after the primary schedule</p>
Egypt	<p>First phase with order of priority:</p> <p>(1) Priority for health workers/medical staff dealing with COVID-19 patients at quarantine</p> <p>(2) Those dealing with other patients (fever, and chest hospitals)</p> <p>(3) Elderly and those with chronic and immune diseases</p> <p>Second phase:</p> <ul style="list-style-type: none"> • Adults ≥18 years 	<p>Order of priority:</p> <p>(1) 15–18 years</p> <p>(2) 12–15 years with informed consent of parent/legally authorized representatives</p>	<p><i>Booster doses commenced</i></p> <p>Administered in phases with similar order of priority as for the initial doses</p>
Eswatini [167,262]	<p>Order of priority:</p> <p>(1) Adults ≥60 years with co-morbidities</p> <p>(2) Adults ≥18 years</p> <p>Children ≥12 years</p>	≥12 years	<p>Booster doses commenced late 2021/early 2022 with the Oxford/AstraZeneca vaccine added as a booster to list of vaccines available late January/ early February 2022</p>
Ghana [263,264]	<p>Order of priority:</p> <p>(1) HCWs</p> <p>(2) Adults ≥60 years and those with underlying health conditions</p> <p>(3) Frontline executive, legislature, judiciary, and their related staff</p> <p>(4) Frontline security personnel</p>	≥15 to <18 years	<p><i>Commenced January 2022</i></p> <p>Target groups:</p> <ul style="list-style-type: none"> • HCWs • ≥ 60 years • Frontline security personnel <p>Members of the executive, judiciary, and the legislature</p>

	(5) Some religious leaders and other personalities		
Kenya [265,266]	Adults ≥18 years with priority given to essential workers, i.e., HCWs, security officers, teachers, older persons, and those with co-morbidities	≥15 to <18 years	<i>Booster doses commenced late December 2021</i> <ul style="list-style-type: none"> Fully vaccinated can receive an additional dose of either the Oxford/AstraZeneca, Moderna or Pfizer vaccine 6 months after completion of the primary series By 22 January 114,007 booster doses had been administered
Malawi	Order of priority: (1) HCWs, police, immigration, Malawi Defence Force, prison warders, prisoners, teachers, adults ≥60 years, and those with underlying conditions considered at the highest risk (2) Adults ≥18 years	<i>As of November 2021</i> ≥12 years	No booster doses yet
Nigeria [267]	Adults ≥18 years with priority to HCWs and people at risk with co-morbidities	Children not yet vaccinated	<i>Commenced early December 2021</i> Eligibility criteria is any adult ≥18 years ≥6 months after receiving the second dose of Pfizer, Oxford/AstraZeneca, or Moderna vaccine
South Africa	<i>Phase 1: Sisonke 1 Programme targeting 1.2 million HCWs 17/02/2021 to 16/05/2021</i> <i>Phase 2: National roll-out with order of priority:</i> (1) 17 May 2021: ≥60 years (2) 01 July 2021: ≥50 years (3) 01 August 2021: 35–49 years (4) 20 August 2021: 18–34 years (5) 30 August 2021: Eligible pregnant and lactating women	≥12 years <18 years 1) 20 October 2021: 1st dose of Pfizer vaccine 2) 09 December 2021: 2nd dose of Pfizer vaccine	<i>Commenced 8 November 2021</i> (1) 8 November 2021 to 1 February 2022: Johnson and Johnson vaccine for all HCWs who were part of Sisonke 1, 6 months after the primary dose (2) 17 February 2022: Immunocompromised individuals eligible for an additional booster dose: <ul style="list-style-type: none"> Johnson and Johnson: 60 days after the booster (2nd) dose Pfizer: 90 days after receiving the booster (3rd) dose (3) 26 February 2022: ≥18 years <ul style="list-style-type: none"> Johnson and Johnson: 60 days after primary dose Pfizer: 180 days after receiving the 2nd dose
Sudan	Order of priority: (1) HCWs and any person with a chronic disease (2) Adults ≥45 years and adult travellers Currently: All adults ≥18 years	Children not yet vaccinated	No booster dose yet
Tanzania	Only adults ≥18 years eligible	Children not yet vaccinated	No booster dose yet

Uganda [268-271]	Started with HCWs, security officers, journalists, the elderly, and teachers. The intention was to double vaccinate key personnel as soon as possible. Strategy changed in March 2021 to increase the number receiving single doses in view of its effectiveness	≥12 to <18 years Order of priority: Those with co-morbidities Will be extended in 2022 to all	<i>Commenced December 2021</i> Adults ≥50 years and those with co-morbidities, to further enhance their immunity, 6 months after primary schedule
Zambia [272]	Adults ≥18 years Priority: HCWs	<i>As of January 2022</i> ≥12 to <18 years	<i>Commenced 27 December 2021</i> Available for everyone <18 years
Zimbabwe [109,273,274]	Adults ≥18 years targeted initially	<i>As of November 2021</i> ≥16 to <18 years	<i>Commenced end December 2021</i> Priority are HCWs 6 months after receiving their second vaccine dose

NB: HCWs: healthcare workers; Available published data up to the end of 2021; extended occasionally for more reliable data. Please refer to the principal paper for details of the references.