March 2022

COVID-19 information note 19

Reflections on the COVD-19 vaccination campaign in 2021 and future directions

It has been almost a year since Somalia introduced the coronavirus disease 2019 (COVID-19) vaccines for immunizing its adult populations. The first batch of COVID-19 vaccine (SII/COVISHIELD) supplies arrived in the country on 15 March 2021 and the first dose was administered on 16 March 2021 at a fixed vaccination centre in Mogadishu, the capital city. Since then, more than 1.6 million people in the country have received at-least one dose of the COVID-19 vaccine; that is, one in every 10 people in the country has received at least one dose. The adult immunization programme for COVID-19 has been challenging for all countries. Somalia was no exception. In addition, low demand compounded the low uptake of vaccines, possibly because of: a lower number of COVID-19 cases compared with other countries; the unpredictability of supplies, the short shelf life of the vaccines; lack of access to vaccination centres owing to security issues and geographic distance; and, above all, lack of strong political leadership. By the end of 2021, the country had been able to fully vaccinate only 5.5% of its people, which fell far behind WHO's target of reaching at-least 40% of the population by December 2021.

Key points

- Several shipments of coronavirus disease 2019 (COVID-19) vaccines were received from different m anufacturers i n 2 021: AstraZeneca, Sinopharm, Janssen (Johnson & Johnson) and SII/COVISHIELD vaccines which were distributed to all states including Somaliland. In total, 2 051 200 doses of the vaccine had been received by the country by end of 2021.
- Vaccine delivery within the country was challenging and required careful logistics planning. The primary cold store for Somalia is in Nairobi, Kenya so it took time for the supplies to reach the states which caused delays in implementation of vaccination.
- High-risk groups for vaccination against COVID-19 were prioritized according to the recommendations of WHO's Strategic Advisory Group of Experts on Immunization (SAGE).
- The main strategy recommended for vaccination was through outreach and mobile services; some states also used fixed vaccination sites.
- Accelerated efforts were made by increasing appropriate human resources and technical support to the federal member states through deployment of COVID-19 consultants, surge staff f rom WHO and also frequent supervisory and monitoring visits by the WHO field staff.
- In total, 1 605 072 doses of the COVID-19 vaccines were administered in Somalia in 2021 which represented a utilization rate of almost 84% of COVID-19 vaccines received by the country in 2021: 743 363 people received one dose and 861 709 (5.5%) people were fully vaccinated with two doses, meaning 10.2% of the population overall had received at least one dose of the COVID-19 vaccine.
- Most of the vaccines were used before expiring; only one state reported that 18% out of the total number of doses supplied expired before they could be used.
- The main challenges to implementation of COVID-19 vaccination were and still are the unpredictability of supplies and the short shelf life of the vaccines received by the country through bilateral donations. In addition, the low uptake of vaccines was attributed to low demand and lack of a strong engagement with the people and political leadership to drive the immunization programme even though vaccines were regarded essential for ending the COVID-19 pandemic.

World Health Organization
Somalia

COVID-19 vaccine campaign: 2021

Who were vaccinated in 2021?

Certain high-risk groups were prioritized to receive the COVID-19 vaccination: first, health workers and all front-line workers as per the SAGE recommendation[1]. In accordance with this recommendation, people older than 50 years as well as health care workers and other front-line workers were prioritized to receive COVID-19 vaccines at the beginning of the campaign. However, when the supply situation improved in the latter half of 2021 (by the end of the year, 2 051 250 doses of the vaccine had been received, most of them donated by Sweden, France and the United States of America and provided through the COVAX facility), the age eligibility criteria for receiving vaccine was reduced to 18 years.

In 2021, only 32% of the targeted health workers, 26% of teachers, 42% of municipality workers, 21% of the police force and 23% of points-of-entry staff received at least one dose of the COVID-19 vaccine. Among elderly people and people with co-morbidities, 68% received at least one# dose of the vaccine. The proportion of fully vaccinated people in the high-risk groups were: 24% of health workers, 12% of teachers, 24% of municipal workers, 12% of the police, 10% of points-of-entry staff and 19% of elderly people – a total of 861 079 individuals (Fig.1).

About one and a half times more males were vaccinated than females in all age groups in 2021 (Fig. 2), which may be associated with cultural and demographic determinants, especially the power of decision-making and the economic capacity to reach the immunization services.

At the start of vaccination campaign, the strategy was to use fixed vaccination centres at certain geographic locations. However, later on, a mix of fixed and outreach services were used to scale up the campaign.

Fig. 1 Vaccination rate among priority groups in the first phase of the COVID-19 vaccination campaign, Somalia, 16 March–31 December 2021

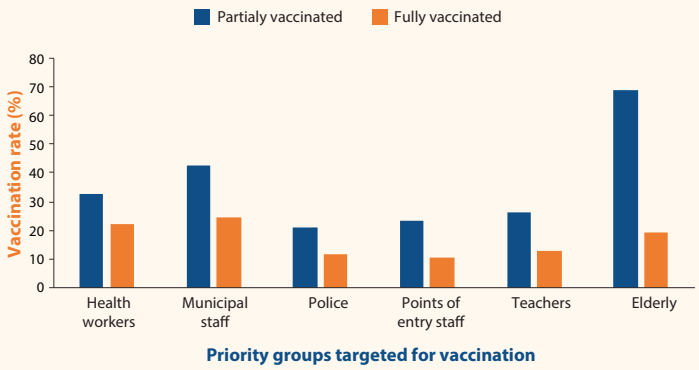
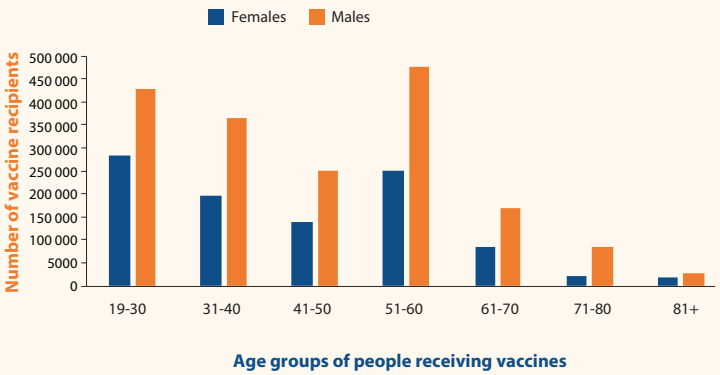


Fig. 2: COVID-19 vaccination rate by age group and sex, Somalia, 16 March–31 December 2021



Vaccine availability in 2021

The effect of the unpredictable supply situation on the low uptake can be gathered from the fact that up to December 2021, the country had received delivery of 2 051 200, doses of COVID-19 vaccines (Table 1), which included the two-dose (1 412 400 doses) and one-dose (638 800 doses) types of vaccine. Thus, 1 412 400 doses of the two-dose vaccines could fully vaccinate 706 200 people if we exclude vaccine wastage, while the one-dose Janssen (Johnson & Johnson) vaccine could fully vaccinate 638 800 people. However the short shelf life of some vaccines received, mainly from bilateral donation, and the wastage factor may have reduced the number of people immunized.

[1] https://www.who.int/news/item/16-07-2021-updated-who-sage-roadmap-for-prioritizing-uses-of-covid-19-vaccines-in-the-context-of-limited-supply

Most of the vaccine donations came from France, United States of America, Sweden and Germany (Table 1): 144 000 doses of the AstraZeneca vaccine from the United Kingdom of Great Britain and Northern Ireland were declined due to the very short time to expiry, making it impossible to administer the vaccines before expiry given the fragile health structure and political situation in the country.

Table 1. COVID-19 vaccine supply, Somalia, 2021

Vaccine type	Donor	Quantity, doses	Expiry date in 2021	Delivery date in 2021
SII/COVISHIELD	COVAX facility	300 000	1 July	13 March
AstraZeneca	France	108 000	21 December	11 August
Janssen (Johnson & Johnson)	USA	302 400	21 December	11 August
AstraZeneca	France	151 200	21 October	15 September
Sinopharm	COVAX facility	231 600	23 July	25 October
AstraZeneca	France	100 800	21 October	25 October
AstraZeneca	Germany	163 200	21 November	25 October
Janssen	USA	336 400	21 December	7 November
AstraZeneca	Sweden	192 000	21 December	21 November
AstraZeneca	Sweden	165 600	21 December	21 November

SII: Serum Institute of India.

WHO vaccination targets

The WHO set the following vaccine coverage targets for the countries to achieve in order to achieve an early end of the COVID-19 pandemic around the world:

- by end September 2021, 10% coverage of the population in all countries
- by end December 2021, 40% coverage in all countries
- by end June 2022, 70% coverage in all countries.

Even though Somalia accelerated its vaccination processes by increasing resources, and vaccine availability improved, similar to many other low- and lower-middle income countries, the country missed the WHO target of vaccinating at least 40% of its population by December 2021.

Constraints faced in vaccination in 2021

Many challenges were anticipated before even the arrival of the vaccine, including: the much larger target population anticipated for COVID-19 vaccines; the epidemiological situation of COVID-19 such as the low case numbers and deaths which might have contributed to low demand; constraints in vaccine storage; the inherent challenges with any adult immunization programme; the fragile health system and poor health infrastructure for delivery of immunization services in an adult vaccination programme; general insecurity; and the widely dispersed population living in scattered settlements across the country with insecure environment.

- **Low demand for vaccines.** This was seen in all federal member states, most notably during administration of the second dose of the vaccine. This low demand was attributed to misinformation and lack of information about vaccine side-effects. The low perception among healthy individuals of the risk of COVID-19 was a contributing factor. The low uptake of the vaccine among health workers also had a negative influence on the community about getting vaccinated for protection. The lack of knowledge of the vaccine and perception of its safety and efficacy may also have played a part in lowering vaccine demand.
- **Unpredictable timeline for vaccine allocation and delivery.** This problem prohibited immediate acceleration of the vaccine scale-up. The country stopped vaccinating more people with the first dose when it was clear that the supply would remain

unpredictable for some time during the initial phase. Doses of the vaccine had to be kept so that all eligible recipients of the first dose received their second dose after at the appropriate time after the first does (as per the period recommended by WHO) and before the vaccine expiry date.

- **Lack of funds for operational cost.** The lack of adequate funds hampered wider coverage and uptake. WHO and UNICEF had to repurpose funds earmarked for routine immunization services and other critical public health interventions and distribute these funds to cover the operational cost of COVID-19 vaccination programme. Even so, these funds were not enough to increase vaccine demand through social mobilization and community engagement activities, manage outreach services and deploy vaccines and vaccinators in remote and geographically inaccessible areas in large numbers.
- **Poor coordination.** Inadequate coordination at all levels between state, regional and district levels impeded vaccination roll-out and led to insufficient organization and timely decisions-making to address low vaccine acceptance in certain districts while the campaign was ongoing.
- **Security.** The security situation in the country also caused delays in vaccination and impeded the timely delivery of COVID-19 vaccines to certain districts.
- **Demographic data.** The absence of accurate demographic and population data made it extremely difficult to estimate target populations and monitor coverage for the COVID-19 vaccines
- **Transportation and vaccine supply.** The main cold chain for Somalia is in Nairobi, Kenya, and all the vaccines initially arrived at the main supply house before they were delivered to the federal member states. The high cost of delivery of these vaccines (most of the vaccines were transported by air) and documentation requirements for release of these vaccines (especially tax exemption certificates from the government) delayed timely delivery of these vaccines from Kenya to federal member states.

COVID-19 vaccine campaign: planning into 2022

Vaccine availability until June 2022

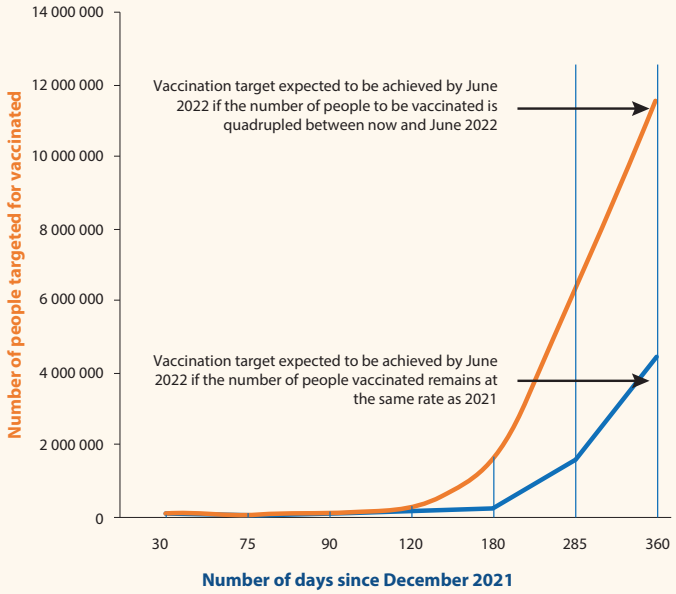
The current supply forecast up to June 2022 shows that Somalia is expected to receive new batches of different vaccines donated by countries through the COVAX facility or provided through COVAX directly. The country is expected to receive 2.5 million doses of Janssen, 540 000 doses of AstraZeneca and 250 360 Pfizer vaccine in the first quarter of 2022. The ultra-cold chain needed for the Pfizer vaccine is under construction.

The unpredictable supply forecast and lack of funding for operational costs may continue to severely inhibit vaccination in 2022 directly.

Strategies for a more rapid roll-out of the COVID-19 vaccines will be needed to support the country in achieving the next vaccination milestone at the end of June 2022.

In order for Somalia to meet the WHO target of 70% coverage by June 2022, Somalia may require an additional 8 837 394 doses of the single-dose vaccine and double that figure of the two-dose vaccines. Furthermore, assuming these doses are available, the country will need to vaccinate at least 73 644 people a day between now and the end of June 2022 (Fig. 3). However, the country's average vaccine uptake has been 6688 doses a day and the maximum number of doses administered in a single day

Fig. 3. Current and simulated COVID-19 vaccination target to meet the WHO target of 70% total population coverage, Somalia



was 19 607 during the period 16 March to 31 December 2021. Based on this trend, the country will need to quadruple its efforts to meet the WHO target.

The requirements for vaccinators and teams to be deployed to administer the 1.2 million COVID-19 vaccine doses that the country currently has in stock (as of March

2022) are shown in Table 2. Nationwide, 960 vaccination teams comprising one vaccinator per team, 1919 social mobilizers and 1919 data assistants will need to be deployed. These teams will need to vaccinate 73 644 people every day for the rest of the 120 days until end June 2022 provided the supply of the vaccine remains constant.

Table 2. Human resources required to vaccinate 70% of the Somali population with COVID-19 vaccines by end June 2022, by state

	Total population	Teams	Supervisors	Vaccinators	Data assistants	Social mobilizers
Somalia	11 451 650	960	960	960	1919	1919
Banadir	1 469 685	77	77	77	154	154
Galmudug	626 826	56	56	56	112	112
Jubaland	1 211 774	109	109	109	217	217
South West	2 103 255	196	196	196	392	392
Hirshabelle	923 299	84	84	84	167	167
Puntland	1 768 183	157	157	157	315	315
Somaliland	2 866 349	240	240	240	480	480

Securing funds for operational costs

Insufficient financial resources and vaccine allocation will remain a problem for countries such as Somalia in their efforts to reach WHO's 2022 target. Administration of a single dose of a COVID-19 vaccine costs US$ 5, which for Somalia means that US$ 11 451 650 would be needed for a scaled-up vaccination drive to achieve WHO's 70% vaccination coverage target by the end of June 2022.

Ensuring a responsive and agile vaccination strategy

Following the first phase of the vaccination campaign, the focus shifted to vaccinating all people older than 18 years in Somalia. In view of the challenges faced in the first 9 months of the COVID-19 vaccine campaign, the following operational strategies may help boost vaccine uptake if planned effectively: addressing vaccine hesitancy; expanding the eligibility criteria for vaccination; organizing outreach services; vaccinating health care workers in the public and private health sector; protecting staff in high-contact settings; engaging the private sector; organizing ring vaccination; and improving coordination.

A customized method will be needed, taking into consideration the lessons learnt from implementation of vaccination in 2021 with a blend of outreach and fixed site services, especially in federal member states.

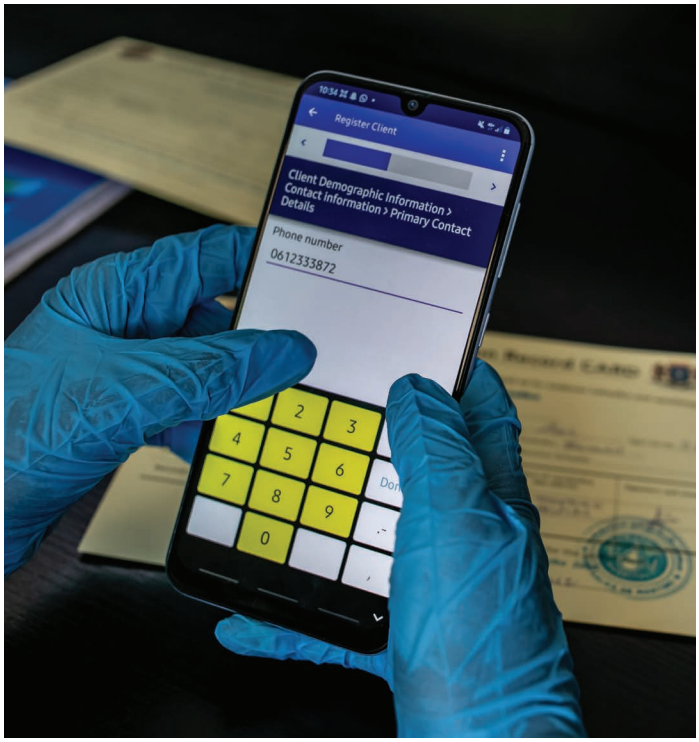
Using the COVID-19 vaccination drive to strengthen Somalia's health system

The current COVID-19 vaccination drive is the largest one in Somalia's history, both in numbers needing to be vaccinated and costs, in order to achieve a vaccine coverage of at least 70–75%.

The enormous investment that is being made in vaccination against COVID-19[2] provides an ideal opportunity to strengthen immunization delivery systems and infrastructure to ensure improved vaccine access and equity for routine immunization. Furthermore, the system built to respond to COVID-19 and efforts made to vaccinate the population against COVID-19 can be used to improve and strengthen the health system in Somalia in the following areas.

- Strengthen national regulatory systems.
- Improve essential aspects of the vaccine delivery chain, including creating and maintaining an efficient and environmentally friendly cold chain and a high-quality, large-capacity storage infrastructure.
- Digitalize registration and vaccine information systems for tracking vaccines and monitoring vaccination side-effects.
- Establish health care waste management systems.
- Establish effective pharmacovigilance for routine immunization.
- Develop a health communication strategy to tackle vaccine hesitancy for other diseases, especially hesitancy in childhood immunization.
- Deliver other priority mother and child health interventions in combination with delivery of COVID-19 vaccines.

[2] Please see COVID-19 information note 11 available at http://www.emro.who.int/images/stories/somalia/documents/covid-19-information-note-11.pdf?ua=1



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