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COVID-19 Africa Public Finance Response Monitor

COVID-19 vaccine financing, procurement and distribution in African ministries of finance and health

CABRI Working Paper

Contents

Acknowledgements

This report forms part of a series of publications informed by CABRI's COVID-19 Africa Public Finance Response Monitor. The reports support policymakers by providing insight into managing and mitigating crises, what elements of their PFM systems need to be strengthened and how systems can prove more resilient and lower the cost associated with exogenous crises in the future. This report was written by Danielle Serebro and reviewed by Philipp Krause, both of the CABRI Secretariat.

Tables and figures

Acronyms and abbreviations

AMC	Advanced market commitment
AMSP	Africa Medical Supplies Platform
APC	Advanced purchasing commitment
AU	African Union
AVATT	African Vaccine Acquisition Task Team
COVAX	COVID-19 Global Vaccine Access Facility
cYMP	Comprehensive Multi-Year Plan
GAVI	Global Alliance for Vaccines and Immunisations
IFFIm	International Finance Facility for Immunisation
IMF	International Monetary Fund
PEF	Pandemic Emergency Financing Facility
PFM	Public financial management
PPE	Personal protective equipment
RCF	Rapid Credit Facility
RFI	Rapid Financing Instrument
WHO	World Health Organisation

Introduction

For wealthier nations that were able to quickly mobilise resources to secure early access to COVID-19 vaccines, the first half of 2021 will mark the beginning of the end of the pandemic. As shown in Annex 1, vaccine coverage across African countries has been off to a slow start, primarily because of fiscal constraints; only Algeria, Egypt, Guinea,[1] Mauritius, Morocco, Rwanda, Seychelles, Senegal, South Africa and Zimbabwe had begun rolling out their vaccination programmes by 1 March 2021. Widespread distribution of the vaccine is not expected in Africa until 2022 or even 2023 (*The Economist,* 2020).

In Africa, even more than costing individual lives, the COVID-19 pandemic has caused economic devastation as countries were forced to shut down their economies temporarily, and have lost out on income associated with taxes, foreign direct investment, remittances and tourism. Vaccination against COVID-19 is consequently a critical measure, indeed the single most efficient measure, to mitigate against loss of lives and further economic disruption. There is increasing global recognition that the benefits to society of the vaccine are far greater than the associated costs; it has been estimated that for every month without a vaccine, the African continent loses US$13.8 billion in GDP (Reliefweb, 2021a). However, purchasing and implementing the vaccine is a costly exercise and comes at a time when African governments have even less fiscal space than usual. According to the Global Alliance for Vaccines and Immunisations (GAVI), Africa will require between US$8 and 16 billion, with additional costs of 20–30 percent for programme implementation, to vaccinate 60 percent of the continent's 1.3 billion inhabitants and ensure 'herd immunity' (Gitahi, et al., 2020).

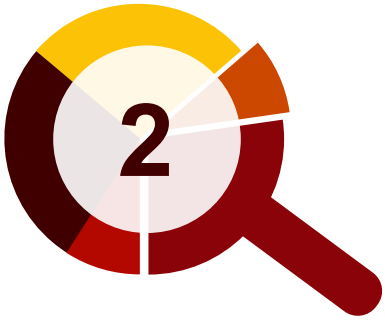
While the international community, particularly the World Bank and the Bill and Melinda Gates Foundation, have made significant contributions towards financing the vaccine, there remains a significant financing gap to be filled through domestic resource allocation (GAVI, 2021). However, fiscal constraints and inadequate planning mechanisms have meant that many African governments are relying exclusively on external partners to fund and provide the vaccine. Considering increasing health costs and financing constraints worldwide, traditional bilateral and multilateral development partners are unlikely to be able to fully finance vaccine programmes in African countries over the next two years or beyond. Thus, it is crucial that African governments consider ways in which to independently finance and distribute this new vaccine in both the short and medium term.

This working paper, informed by data collected for CABRI's COVID-19 Public Finance Response Monitor offers an overview of the landscape of COVID-19 vaccine financing and how procurement decisions are being made across the continent. This working paper should be used as background reading ahead of CABRI's 13–14 April peer-exchange and learning event, after which it will be revised to include country perspectives shared at the event. Both the online exchange and working paper should aid practitioners and policymakers faced with the challenge of how to pay for, procure and distribute the COVID-19 vaccine, and facilitate cross-country learning amongst public financial management (PFM) and health practitioners. This information will be useful for the many African countries that have not yet begun, in earnest, country-owned or direct procurement of the COVID-19 vaccine and for those that will require many more doses than they have already secured. It should also contribute to improving cost-efficiency and effectiveness of future emergency vaccine programmes and the roll out of the COVID-19 vaccine in future years. Finally, it also aims to gently remind domestic actors of the importance of transparency and accountability and country ownership over vaccine programmes, both during normal times and times of crisis.

The first section provides a summary of the secured and potential financing options for COVID-19 vaccine purchasing and distribution available to African governments. This includes external, domestic, public and private resource mobilisation. The second section looks at how countries are deciding on their vaccine procurement, and considers the importance of transparency and accountability when countries opt for self-procurement. The third section considers the interplay between a country's PFM system and the ability to rapidly allocate resources to, account for, and efficiently implement the COVID-19 vaccination programme.

1 Guinea is the only low-income country which has provided any vaccinations, administering doses of the Russian Sputnik vaccine to only 25 people, including its president (*The Guardian*, 2021).

Mobilising resources: international, regional and domestic financing mechanisms



While there are substantial limitations on how governments can access resources to finance the COVID-19 vaccine, it is useful to note some of the traditional financing mechanisms used for vaccines. Table 1 summarises the main sources of financing currently available for COVID-19 vaccine programmes.

As can be seen in Annexure 1, currently some countries appear to be relying exclusively on development loans or grants and donations; this is the case with Mali's aim to finance its US$58 million vaccination plan exclusively with development partner (GAVI and World Bank) funding. However, most will eventually come to use a mix of the above financing options. South Africa, for example, is reprioritising existing budgets, borrowing from multilateral lenders, receiving private sector contributions through the National Solidarity Fund, and subsidies from private medical schemes. Ghana is turning to borrowing, development-partner support, special taxes or levies and private-sector financing. Ethiopia, too, is looking at various sources including local and international donors, multilateral agencies and the private sector (COVID-19 PF Response Monitor).

Table 1: Sources of vaccine financing

	Domestic	External
Public	Tax hikes or levies	Project grants or in-kind donations from bilateral or multilateral agencies
	Budget reprioritisation	Advanced market commitments
	Social health insurance	Debt relief
	Vaccine bonds	Advanced purchasing commitments
Private	User fees	Contributions (often in-kind) from manufacturers
	Private health insurance and cross-subsidies	Project grants from philanthropic agencies
	National solidarity or vaccine funds	Debt relief

2.1 External sources

Given limited fiscal space in developing countries, external funding will continue to play a central role in bringing about herd immunity in African countries. This includes direct development partner financing through bilateral and multilateral loans, grants or in-kind support, support provided through advanced market commitments or advanced purchasing commitments, and debt relief.

2.1.1 Direct development partner financing: loans and grants

As in previous health crises, multilateral organisations and development banks have played a significant role in financing developing countries' crisis response efforts. The IMF, through its Rapid Financing Instrument (RFI) and Rapid Credit Facility (RCF) has provided expeditious financial assistance to member countries facing urgent balance-of-payments needs. Through the Catastrophe Containment and Relief Trust, the IMF has extended post-catastrophe debt relief to include health emergencies as well as natural disasters (IMF, 2021). While there is no clear evidence that countries are using these funds to source vaccines, it is probable that there is scope for this.

While there may be potential to reallocate existing grants and loans to vaccine financing, only the World Bank has issued financing specifically earmarked for the vaccine. The World Bank approved US$12 billion for developing countries to finance the purchase and distribution of COVID-19 vaccines, tests and treatments in October 2020. The funding, which aims to vaccinate up to 1 billion individuals, is part of the

World Bank Group financing envelope of US$160 billion to help developing countries respond to the pandemic.[2] The World Bank is currently preparing emergency vaccine financing projects in 21 countries in Africa, including DRC, Ethiopia, Niger, Mozambique, Tunisia, Eswatini and Cabo Verde. According to World Bank Group President David Malpass, the funds are already available and most African countries qualify for highly concessional terms or grant financing (Reliefweb, 2021a). Only Cabo Verde had finalised its financing arrangement with the World Bank (see Annexure 1).

While emergency pandemic funds have been disbursed with far more haste than traditional financing, given that many of the major partners have not yet committed financing to cover countries' direct vaccine procurement, there may be a need to expedite disbursement. One such tool is the UN's Pledge Guarantee for Health, which provides a loan guarantee for development partner funding when a commitment is made and provides a letter of credit backed by the loan guarantee (CGHD, n.d.). This guarantee would allow the ministry of health or ministry of finance to purchase vaccines immediately, rather than waiting for commitments to be processed.

The World Bank also houses the Pandemic Emergency Financing Facility (PEF); however, this is not specifically for vaccine financing. The PEF was launched in 2016 in response to the difficulties in rapidly mobilising development partner funding during the Ebola crisis. It provides an additional source of financing to the world's poorest countries when they face cross-border, large-scale outbreaks (Reliefweb, 2020). However, the PEF has been controversial. It was established as a public-private partnership with private reinsurance firms and support from high-income countries. During the COVID-19 pandemic, payments from the facility have been delayed and smaller than expected. The World Bank has opted to cease issuing additional pandemic financing bonds (Barasa, et al., 2020).

Bilateral donations of vaccines have also been made. As can be seen in Table 2, Seychelles was able to commence with its vaccination programme at the end of January thanks to donations from the UAE and India; the UAE donated 50,000 doses of the Sinopharm vaccine and India donated 100 000 doses of the AstraZeneca Covid-19 vaccine. South Sudan has also received vaccines from the UAE. Senegal, hardly flush in resources for the vaccine itself, donated 10 000 doses to neighbouring The Gambia and Guinea Bissau. While these donations, particularly those originating from Asia and Middle East may be criticised as 'vaccine diplomacy', it is hoped that the Western world begins to follow suit.

2.1.2 Advanced market commitments (AMC)

An AMC is a legally binding contract for a specified amount to subsidise the purchase of a currently unavailable vaccine to tackle a disease that has caused illness and deaths in developing countries. Donors subsidise developing countries' vaccine purchases up to either a set volume or amount. When this is reached and manufacturers have benefitted from the subsidy, they are required to either sell the vaccine to developing countries at an affordable rate or provide access to their technology to competing manufacturers (WHO, 2006). An AMC aims to incentivise timely and quality production by allowing for the possibility that more than one manufacturer may produce the vaccine. Financing vaccine research and development through advanced market commitments is not new; this innovative financing mechanism has been used by GAVI for the pneumococcal conjugate vaccines and Ebola vaccines (Schäferhoff, et al., 2020); however, the scale of the AMCs for the COVID-19 vaccine are unprecedented. Before the current crisis, a commitment of US$1–6 billion per disease was considered reasonable (WHO, 2006); as discussed below, AMCs for the COVID-19 vaccine have already exceeded the upper commitment estimate.

The COVID-19 Vaccines Global Access (COVAX) initiative, established by the World Health Organisation (WHO) in collaboration with the ACT-Accelerator vaccine partners the Coalition for Epidemic Preparedness Innovations (CEPI) and GAVI. It is made up of the COVAX Facility[3] and the COVAX AMC. The COVAX AMC aims to provide vaccine access to 92 middle- and lower-income countries, 46 of which are in Africa. AMCs have been used before to finance the research and development of vaccines. It is funded separately from the COVAX Facility, primarily through official development assistance, and contributions from the private sector and philanthropy (Berkley, 2020a). So far, the AMC has raised its initial seed capital target of US$2 billion, thanks to donations from the European Commission, France, Spain and The Bill & Melinda Gates Foundation and the Republic of Korea (GAVI, 2020a). This funding allows COVAX AMC to access 1 billion doses for AMC-eligible economies, however US$5 billion is still needed in 2021, suggesting a strong probability that the target will not be reached and necessitating that low-income countries still self-finance and engage in direct procurement.

2 This package will also provide financing and technical support so that developing countries can distribute vaccines effectively. Support will be provided for supply chain and logistics management for vaccine storage and transport, training vaccinators, and advocacy and communication campaigns in communities. The World Bank will also support pooled vaccine purchasing led by the World Health Organisation (WHO) and the COVID-19 Global Vaccine Access Facility (COVAX) (WBG, 2020).

3 The COVAX facility comprises self-financed countries and is discussed further in section three, given that it is not strictly a financing facility, but primarily a pooled procurement mechanism.

2.1.3 Advanced purchasing commitments (APCs)

APCs are similar to AMCs; however, whereas the AMC creates incentives for suppliers to manufacture a vaccine, an APC assumes the vaccine will be developed and simply provides a commitment to buy a particular volume of the vaccine at an agreed-upon price (CDG, 2005). The African Union (AU)'s COVID-19 African Vaccine Acquisition Task Team (AVATT) is using an APC through Afreximbank, whereby advance procurement commitment guarantees of up to US$2 billion will be made on behalf of African countries. This will allow for the purchase of 670 million COVID-19 vaccine doses for Africa, to be administered through the Africa Medical Supplies Platform (AMSP), on behalf of the Africa Centres for Disease Control and Prevention (Africa CDC). Unlike the AMC, on receipt of the vaccines, recipient countries will need to pay Afreximbank. This may be done through domestic resources or through an instalment payment facility over five years from Afreximbank (see Afreximbank, 2021) Sixteen African countries have so far expressed interest in this mechanism (Reuters, 2021), but there is no publicly available information on how countries intend to raise funds in this regard.

2.1.4. Debt relief

As discussed in a forthcoming CABRI paper titled 'It Takes a Pandemic: Debt Relief in Response to COVID-19', African leaders, through the AU, and international financial institutions like the IMF and World Bank have advocated for debt-relief measures to respond to the crisis. There have been suggestions to create linkages between debt relief and COVID-19 health spending by using innovative instruments such as debt-to-health swaps. While the G20 has provided debt relief, it would be pragmatic for bilateral creditors, serious about achieving global herd immunity to consider providing debt swaps for vaccines. This could include stipulations that the vaccine is to be purchased from a manufacturer based in the creditor country.

2.2 Domestic sources

Funding from the international community will be insufficient to bring about herd immunity in developing countries. African governments, therefore, need to give due consideration to how they can finance the COVID-19 vaccine through domestic resource allocation, including budget reprioritisation, user fees, vaccine bonds, tax hikes and levies, and private sector support.

2.2.1 Budget reprioritisation

Throughout the crisis, countries have reallocated programmed funds to the crisis response. We would expect this to be the case for financing the vaccine and to see this in 2021/22 annual budgets or in supplementary budgets. However, as Table 2 shows, only 13 countries have publicised information on their COVID-19 vaccination programme costs and amounts budgeted, with only South Africa explicitly stating that budget will be reallocated towards the vaccination programme.

The government of Uganda has indicated that it will purchase of 18 million COVID-19 vaccines from Serum Institute. Since the start of the pandemic, Uganda has passed two supplementary COVID-19 budgets and an annual budget, yet none of these makes provision for vaccine financing. Kenya's 2021 Draft Budget Policy Statement, released on 25 January 2021, does not mention financing for the vaccine. In Nigeria, the ministry of finance released 10 billion naira (US$26.27 million) to support domestic vaccine production, however Minister of Finance, Budget and National Planning, Zainab Ahmed, has said that there is no provision in the 2021 Budget to fund the purchase of COVID-19 vaccines. Somewhat reassuringly, Ahmed expressed the commitment of the National Assembly to provide a supplementary budget for additional spending on COVID-19 vaccines, if needed (COVID-19 PF Response Monitor). South Africa has also not disclosed how it will finance its vaccine purchases in either the emergency COVID-19 budget in June or in the adjusted budget in October; this information should be included in the 2021 budget in February, only after the first (ill-fated) delivery of vaccines has been made (COVID-19 PF Response Monitor). However, there are a few countries that have made clear provision in the budget for vaccine financing. George Guvamatanga, the Ministry of Finance Secretary in Zimbabwe said that the government would use funds from a 2020 budget surplus and reallocate some of this year's budget to buy the vaccines. The Government has set aside US$100 million for the vaccines to procure 20 million doses to immunise 60 percent of the population. In Botswana's 2021 Budget Speech, the Ministry of Health and Wellness' budget recorded a growth of 2.1 percent over the 2020/2021 approved budget; additional funding has been allocated to the acquisition of vaccines in line with the agreement with the WHO (COVID-19 PF Response Monitor). It further appears that even countries that have budgeted for the vaccine and are engaging in bilateral purchases are not openly disclosing the budget for this; for example, the Seychelles' 2021 budget Speech delivered in January does not mention resources for the COVID-19 vaccine (COVID-19 PF Response Monitor).

This trend is of concern, given that governments have known since the beginning of the pandemic that they would need to allocate domestic resources to cover the costs associated with a vaccine; and given the limited avenues for increasing fiscal space for health, budget reallocations were inevitable.

Table 2: Available information on vaccine programme costs, amounts budgeted and financing sources

Angola	The authorities in Angola have approved a vaccination plan, and earmarked US$217 million (roughly 0.24% of GDP) to cover vaccination rollout to 20% of the country's population. The funds from the General State Budget will be for operational costs and strengthening of the cold chain.
Botswana	In Botswana's 2021 Budget Speech, the Ministry of Health and Wellness' budget recorded a growth of 2.1% over the 2020/2021 approved budget; additional funding has been allocated to the acquisition of vaccines in line with the agreement with the World Health Organization (WHO). Health Minister Edwin Dikoloti said Botswana has already paid US$10 million to secure vaccines through different channels.
Eswatini	The Eswatini government budgeted E200 million (US$13.5 million, or 0.04% of GDP) for vaccine purchases.
Ethiopia	The health ministry said the country will need 13 billion Ethiopian birr (US$ 328 million) for vaccines and related expenses. To fund the vaccine, Ethiopia is looking at various financing sources such as local and international donors, multilateral agencies and the private sector.
Kenya	Kenya has set aside Ksh10billion (US$ 91 million) to purchase more doses, which combined will be enough to vaccinate 30% of the country's population.
Lesotho	In addition to the vaccines Lesotho will receive from the COVAX facility, the government announced that it will provide M240million (US$16.2 million or 0.9% of GDP) for vaccine purchases.
Mali	The Council of Ministers said it wanted to buy more than 8.4 million doses of the COVID-19 vaccine, which would cost more than US$58m. It, however, explained the funds would be sought with assistance from the financial contribution of GAVI and the World Bank.
Namibia	Additional resources need to be secured for acquisition of additional doses to vaccinate at least up to 60% of the population. The government has called upon the medical aid industry to support beneficiaries of their medical aid scheme to access the vaccine. In the same vein, the government will be engaging Co-operation Namibia for support.
Nigeria	The Ministry of Finance released 10 billion naira (US$26.27 million) to support domestic vaccine output. There is no provision in the 2021 Budget to fund the acquisition of COVID-19 vaccines but Nigeria will draw up a supplementary budget in March to cover the cost of Covid-19 vaccinations.
South Africa	The 2021 Budget showed that the National Treasury had to reprioritise programmes to procure vaccines. R6.5bn allocated to the national Department of Health; R100m to the SA Medical Research Council; R2.4bn to provincial health departments; and R50m to the government communications agency. National Treasury may tap into the national contingency reserve and emergency reserve fund.
Tunisia	On 21 January, the Ministry of Health announced a vaccination drive aimed at vaccinating 50% of the Tunisian population above the age of 18 (roughly 6 million people). This is expected to cost US$ 111 million (0.3% of GDP).
Uganda	The health ministry had initially budgeted to spend 1.4 trillion shillings (1.07% of GDP) to vaccinate the whole population; however, it is now estimated that the country will have to spend at least sh2 trillion. In a 7 January press release, the Ministry of Health noted it had not received final cost from COVAX but had a working estimate of US$405 million from the National Deployment Vaccination Plan to roll out the COVID-19 vaccine. Including handling costs, the government will spend US$17 per Ugandan and in total, will spend Sh56 billion (approximately US$150 million or 0.43% of GDP) to procure an initial 18 million COVID-19 vaccine doses.
Zimbabwe	The government will use funds from a 2020 budget surplus and reallocate some of this year's budget to buy the vaccines. The government has set aside US$100 million for the vaccines to procure around 20 million vaccine doses.

2.2.2 User fees

Although a potentially politically unattractive option, another alternative source of domestic funding for the vaccine is user fees, whereby consumers are charged a fee for vaccine services. While most countries have indicated that they will provide the vaccine free of charge to citizens, Egypt's Minister of Health, Hala Zayed has indicated that citizens will pay for the vaccine, but that is will be provided at a low price, i.e. LE100 (US$6.4) or less for each of the two doses. Citizens included in the cash support program, Takaful w Karama, who are unable to purchase the vaccine, will receive it for free (COVID-19 PF Response Monitor).

2.2.3 COVID-19 vaccine bonds

Most governments have significantly increased expenditure to respond to the pandemic with the result that government debt is at record levels globally. In an ideal world, vaccines would not need to be financed by debt, however cash-strapped African governments may have no choice but to turn to the capital markets to fund their vaccine programmes. There is potential for vaccines to be financed at a lower rate if governments can increase demand by differentiating their offerings by issuing a vaccine bond. We have already seen issuance of COVID-related bonds; while not specifically to purchase vaccines, countries including Indonesia and Peru issued bonds last year to tackle the pandemic (Strohecker & Wilkes, 2020). The African Development Bank, in March 2020, listed a US$ 3 billion "Fight Covid-19" social bond on the London Stock Exchange, to support African healthcare systems manage the pandemic.

The vaccine bond would be viewed as a social bond, and is likely to prove attractive to investors as they provide both a social and financial return, while also providing an opportunity for portfolio diversification. Prior issuances of social bonds in Africa have been met with success; in December 2017, Nigeria became the first African nation to issue a sovereign green bond. The issuance was well received, indeed it was oversubscribed. Importantly, the proceeds of the issuance were also found to reach their targeted projects, which included renewable energy micro utilities in 45 unserved communities, a rural electrification initiative, and an afforestation programme (Sogbetun & Dirisu, 2020).

COVID-19 vaccine bonds have already been issued by the International Finance Facility for Immunisation (IFFIm) to support GAVI. The IFFIm, which was established in 2006, receives long-term pledges from donor countries and turns these pledges into bonds. The IFFIm website explains that 'a sovereign donor pledges US$200 million paid in US$10 million tranches annually over 20 years. Without IFFIm, GAVI would be limited to spending only this US$10 million each year and would have to wait 20 years before seeing its full impact. But backed by these pledges, IFFIm issues its Vaccine Bonds on the international capital markets. Capital market investors buy these bonds for an attractive rate of return, which makes funds immediately available to IFFIm. GAVI uses the proceeds of these bond issuances to purchase more vaccines to immunise more children in the world's poorest countries.' (IFFIm, 2020). Until this point, IFFIm has not issued bonds on behalf of a sovereign.

2.2.4 Tax hikes and levies

While this did not come into fruition, the South African government announced that it was considering hiking taxes to cover the costs of its COVID-19 vaccination plan.[4] While not purely for vaccine financing, in July 2020, the Egyptian government announced plans to levy a one-year 1 percent "corona tax" on all public- and private-sector salaries to help fund efforts to contain the spread of the coronavirus. A separate 0.5 percent tax has been levied on state pensions (COVID-19 PF Response Monitor). Kenya, in a similar response, announced it is considering imposing higher taxes on Kenya's super-rich and high-income earners in the new budget starting July as part of a broader strategy to raise revenues that have dropped amid the economic fallout from the COVID-19 pandemic.

Interestingly all three countries have simultaneously been providing tax relief across the board, implying that while earmarked taxes may increase funds available for the fight against the virus, general coffers will remain depleted, at least in the short term. There are also concerns that in countries without progressive tax systems, a tax hike to cover a vaccine will have negative equity implications; Kenya's consideration to only taxing the wealthy is an attempt to circumvent this. Furthermore, there is some evidence that there are significant delays between the time that approval is given for tax revenue to be allocated to programmes and when they are available for disbursement (WHO, 2020c); however, this may be less of a concern given that governments have moved with exceptional haste throughout the pandemic.

2.4.5 Private sector involvement

Given that the public sector in most African countries can ill-afford to finance the full cost associated with COVID-19 vaccine programmes, it is understandable that public-private partnerships are emerging where the sectors are collaborating to pool resources and share risk. South Africa is using public-private co-financing arrangements whereby medical-insurance providers are subsidising public purchase of the vaccine. Discovery Health CEO Ryan Noach explains further: 'Medical schemes have agreed to support a pricing arrangement for the vaccines, which ensures that a surplus is generated by the schemes' purchases of the vaccines, that can be used to cross-subsidise higher risk non-medical-scheme members, on a one-for-one basis, i.e., for each vaccine procured for a medical scheme member, sufficient

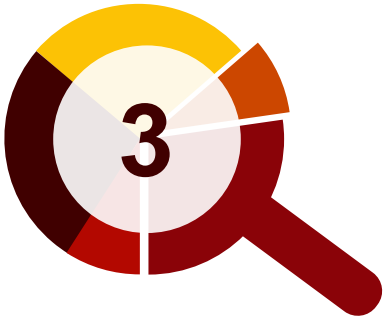
4 In his 2021 Budget Speech, Minister Mboweni made it clear that the South African government would not be increasing taxes to pay for the vaccine programme.

surplus is generated through procurement arrangements for the vaccine to subsidise the vaccination of one non-medical scheme member.' Legislation has also been amended to allow medical schemes to finance vaccines for those without private medical insurance. In addition to medical aid schemes, companies such as mines may contribute funds so their workers can be covered (Medical Brief, 2021). The South African government has also amended the Medical Schemes Act to ensure that COVID-19 vaccination became a prescribed minimum benefit, implying that medical aids are required to cover the cost of the vaccine for all members (COVID-19 PF Response Monitor). The Namibian government has also called upon the medical aid industry to support beneficiaries of their medical aid scheme to access the vaccine. In the same vein, the government will be engaging Co-operation Namibia for support (COVID-19 PF Response Monitor). However, the lack of developed insurance markets in other African countries limits this as an avenue of financing for most. Across the continent, governments have set up solidarity funds, funded by private sector and citizen donations, to help finance the COVID-19 response. The Economic Community of West African States (ECOWAS) has now established a fund, called the Vaccine Revolving Fund, to receive contributions from governments, development banks and the private sector to secure 240 million COVID-19 vaccines (Nourou, 2021). At a country level, where there have been substantial amounts channelled to these funds, they could now be used to finance a portion of vaccine programmes. This has been the case in South Africa, where the 15 percent down-payment (US$19.2 million) to secure entry into the COVAX facility's committed purchase agreement was paid through the National Solidarity Fund, which is almost exclusively funded by private-sector donations (COVID-19 PF Response Monitor (CABRI, 2020; National Solidarity Fund, 2021). Given the impact that the pandemic has had on business throughout the world, these contributions are a sensible investment. There is value in considering how governments can best engage the private sector in vaccine-financing discussions and assure them that their contributions will be used judiciously; some advice from Learning Network for Transition Countries is provided in Textbox 1. Finally, governments may opt to negotiate with pharmaceutical companies for earlier and cheaper access to vaccines by holding clinical trials or producing the vaccine domestically. Kenya, South Africa, Morocco and Egypt have opted to negotiate with pharmaceutical companies by holding clinical trials. This allows pharmaceutical companies to test the vaccine on different populations and to increase the sample size of their trials. As compensation, these countries have received priority access to the vaccine. Morocco has received priority access to 10 million doses in exchange for its participation in Stage 3 trials of the Sinopharm vaccine. South Africa has also received access to the Johnson & Johnson vaccine by producing it locally and Morocco wants China to transfer the technology of the Sinopharm vaccine so it can manufacture the vaccine locally (France24, 2021).

Textbox 1: Tips for engaging the private sector

- Consider introducing deliberative processes to leverage private sector actors, including identifying gaps or challenges in the vaccination programme and how the private sector can fill those gaps.
- Develop a policy framework for public-private engagement that optimises current arrangements and considers how to shape the system.
- Align expectations and ensure routine and transparent communication, and flexibility.
- Private sector providers may contribute to equitable coverage by providing vaccination services in areas that the government may have difficulty reaching, such as conflict zones and hard-to-reach areas.
- Encourage private facilities to reduce the burden on public facilities and contribute to improving awareness and acceptance of the new vaccine.
- When considering innovative approaches from the private sector, success has come when there is evidence of impact, local ownership and/or development, integration into the broader health system, and the potential to produce results at scale.

Vaccine procurement mechanisms: pooled and direct procurement



In the previous section, consideration was given to how governments might raise adequate financing to purchase the COVID-19 vaccine. However equally important is how governments can most efficiently and effectively procure vaccines and ensure value for money is attained. This section will discuss the following: (i) the main options governments have in purchasing the vaccine (direct or pooled procurement); (ii) the two main pooled procurement mechanisms relevant for African countries, i.e. COVAX and the AU's AMSP); (iii) how African governments are making use of these in the current crisis; and (iv) the importance of price and contracting transparency on the part of both governments and manufacturers, particularly during a pandemic.

3.1 Pooled procurement and single purchasing blocs

Governments have two main options for procuring vaccines: they can purchase directly from producers, utilising their own procurement processes, or they can utilise an external agent and benefit from pooled procurement mechanisms such as GAVI or regional pooled procurement mechanisms.

Pooled procurement, by allowing suppliers to manufacture at scale, provides countries with bargaining power and should result in lower prices. The benefits are particularly large for smaller countries that only require small volumes of vaccines. However, reliance on external agents for vaccine procurement may inhibit development of local procurement capacities, may require that countries give up some flexibility in terms of product choice, and may require upfront payments. It also requires that countries harmonise their product choices and regulatory requirements, improve their demand forecasts, and secure long-term financing (Results for Development, 2017). Furthermore, it may require exempting vaccines from some procurement laws or regulations, including restrictions on single-source procurement and adherence to international competitive bidding processes; restrictions on pre-payments for goods; customs charges; requirements for producers to have a permanent representative in country; and requirements for payments to be made in local currency (Saxenian, et al., 2019). However, as discussed in a forthcoming CABRI paper on emergency procurement, deviations from procurement processes during the pandemic have been common. In the current context, it is likely that countries will be unconcerned about most of these caveats, except for the requirement for upfront payments given cash-flow constraints. Even in South Africa, which is almost certainly more liquid than most other countries on the continent, the government struggled to find resources to cover its upfront payment and consequently paid through the National Solidarity Fund as mentioned above.

Another type of pooled procurement, and one that has received very little consideration during the current crisis despite its potential to more cost effectively close the vaccine gap left by the AU and COVAX, is establishing single purchasing blocs or smaller regionally based pooled procurement mechanisms. A successful example of a single purchasing bloc for vaccines in Africa, which existed pre-COVID, is that of five Small Island Developing States São Tomé and Príncipe, Mauritius, Cabo Verde and Seychelles, which due to their small populations opted to unite to improve their bargaining power and access reduced prices. These countries, in November 2019, also agreed to join other middle-income countries which no longer qualify for GAVI support, Algeria, Botswana, Kingdom of Eswatini, Gabon, Namibia, in establishing a pooled procurement mechanism. This commenced with an agreement to first share information on vaccine purchasing practices, including prices paid and suppliers, and then pooling orders. As this commitment was only made a few months before the pandemic hit Africa, it is understandable that it has not been used during this pandemic, however perhaps there is still potential to leverage this.

This group of countries is dispersed geographically, however for neighbouring countries there would also be benefit in collaborating, if not to purchase the vaccines together, then to coordinate delivery arrangements. Cheaper transportation rates may also be secured if countries are able to coordinate and harness their collective bargaining power. Given that Ethiopian Airlines and Kenya Airways are running vaccine transportation programmes, African governments may have easier access to initiate these discussions.

3.1.1 Pooled procurement mechanisms: AMSP and COVAX

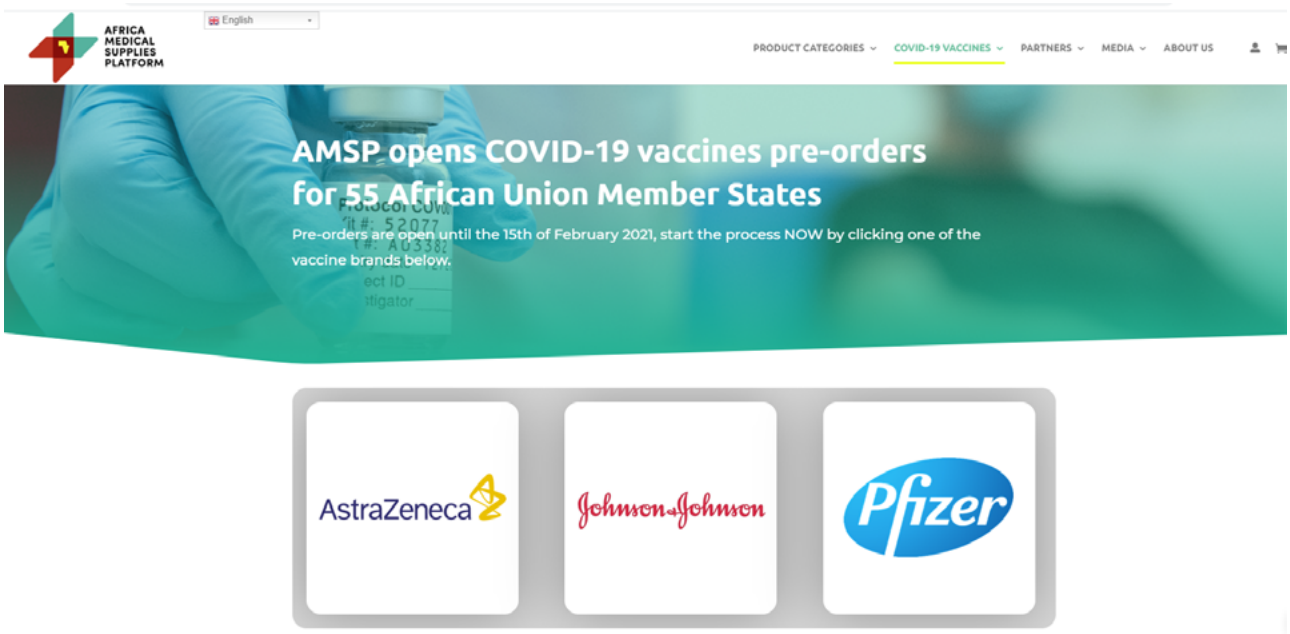
Africa Medical Supplies Platform

As discussed in the second section, the AU, through Afreximbank, provided advance procurement commitment guarantees of up to US$2 billion to purchase an initial 270 million vaccine doses on behalf of its member states

(Afreximbank, 2021). An additional 400 million doses was subsequently secured. According to a draft briefing on the vaccine plan prepared by Afreximbank and obtained by Reuters, the AU has managed to negotiate very satisfactory prices with manufacturers: Pfizer will provide 50 million doses at US$6.75 each (the European Union and the United States are paying around US$19 per dose, while Israel is paying US$30); Johnson & Johnson will provide 120 million doses at US$10 each (the U.S. is paying around US$14.50, including development costs); and the Serum Institute of India will provide 100 million doses of AstraZeneca's vaccine at US$3 each, in line with what the Indian government is paying (Lewis & Winning, 2021). Sixteen African countries have expressed interest in receiving COVID-19 vaccines through the AU programme (Aljazeera, 2021).

The AMSP, the tool through which this financing will be used to purchase the vaccine, is an AU initiative launched in response to the COVID-19 pandemic and disruptions in the global supply of essential medical equipment and medicines, and African countries' consequent vulnerability to substandard medical supplies. It provides countries with access to vetted manufacturers and procurement partners and 'aims to enable AU Member States to purchase certified medical equipment such as diagnostic kits, personal protective equipment (PPE) and clinical management devices with increased cost effectiveness & transparency. The platform serves as a unique interface enabling volume aggregation, quota management, payment facilitation as well as logistics & transportation to ensure equitable & efficient access to critical supplies for African governments' (AMSP, n.d.). The platform works in five simple steps: (i) critical medical supplies are sourced; (ii) buyers place orders on the platform; (iii) buyers make payments; (iv) sellers prepare shipments, and (v) sellers deliver to countries (AMSP, 2021).

In January 2021, the platform opened for pre-orders of the vaccine. Importantly, the AMSP has also launched vaccine accessories, including ultra-low temperature freezers, cotton wool rolls, syringes and needles (Afreximbank, 2021). Countries are given login details and can then pre-order the vaccine of their choice (up to a specified limit determined by population size and disease burden). While it is unclear if this is precisely how it will work for vaccine purchasing, in an interview conducted by the Milken Institute's COVID-19 Africa Watch, Strive Masiyiwa, the AU's special envoy for mobilising the private sector response to COVID-19, explained at the launch of the AMSP that 'countries designate Ministry of Health officials, technocrats for the platform, and we have designated treasury officials, and then they meet with a team from our platform, as well as the African Export-Import Bank and the Centre for Disease Control. Usually the Minister of Health will come, and they go through the platform, and they can ask for certain things that they want us to try and secure'. While this may not be the case for the vaccine, for other products the platform facilitates swap deals. Masiyiwa explains: 'you have an allocation say for face masks, but actually what you're looking for is a head protection gear or gowns. So is there a country out there willing to swap that for something else? Can I swap my quota with somebody else? So that's already happening. It's a trade platform.' Once countries have been informed of their quota, they have seven days to accept and make payment. They are then required to transfer funds to a holding account or open a credit line at Afreximbank (Milken Institute, 2020).



COVAX Facility

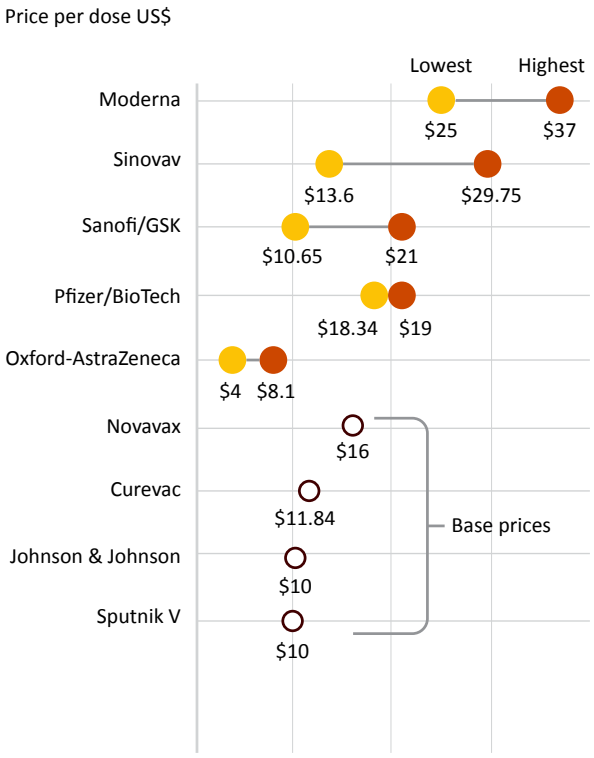
South Africa, Namibia, Libya, Botswana, Gabon, Equatorial Guinea, Seychelles and Mauritius did not qualify to receive the vaccine under the AMC and have committed to self-financing their participation in the COVAX Facility. The COVAX Facility, the global procurement mechanism of COVAX, co-ordinated by GAVI has invested in a variety of promising vaccines using the pooled purchasing power of participating countries. The Facility offers two arrangements for self-financing participants: the Committed Purchase Agreement and Optional Purchase Agreement.[5] The COVAX Facility will distribute these doses using an allocation framework developed by the WHO, to protect vulnerable groups in participating countries. During phase one of distribution, participating countries will progressively receive doses until all countries reach 20 percent of their population (or less, by request). The timing with which countries receive their allotment depends on country readiness and the availability of doses (not on threat and vulnerability). During the first half of 2021, 90 million doses will be made available through COVAX to support countries to immunise 3 percent of the African population (Reliefweb, 2021b)

Once all countries have reached 20 percent coverage, phase two begins; it may commence ahead of this if some participants are not ready or have not secured the requisite financing. The number of doses allocated in phase two will correspond with the amount requested by each country (minus the 20 percent allocated in phase one), provided funds are available. Countries will know the total number of doses they will receive ahead of time to ensure that they are able to plan for the distribution of the vaccine. GAVI is working with UNICEF and WHO to ensure that the infrastructure and technical support are in place to ensure COVID-19 vaccines can be rolled out (Reliefweb, 2021b).

3.2 Direct or self-procurement of vaccines

While some have expressed concerns that self-procurement or direct procurement risks undermining pooled procurement mechanisms, such as GAVI, if countries are to vaccinate enough people to reach herd immunity, self-procurement is unavoidable. However, as seen in Table 2, only eight African governments, Guinea, Morocco, Algeria, South Africa, Egypt, Uganda, Seychelles and Mauritius, have announced their intention to purchase vaccines directly from manufacturers. While few governments have confirmed the price they will be paying for the vaccine, it appears that manufacturers are charging countries very different prices based on overhead costs, the size of the order, when the order is placed, transport costs, and the amounts of down-payments or deposits. Figure 1 provides an indication of the upper and lower limits which countries across the world have been charged for the vaccine.

Figure 1: Vaccine-makers are charging different prices



Note: all prices are subject to trade agreements
Source: Unicef, US Government contracts, WHO

Uganda made a direct deal with the Serum Institute of India to purchase 18 million doses of AstraZeneca vaccines. News reports suggest that Uganda will be paying US$7 per dose for – a price that is 20 percent higher than for South Africa and roughly triple that being paid by the European Union (Nakkazi, 2021). This secrecy around vaccine pricing and contract terms for self-procuring countries is not unique to COVID-19; this lack of transparency led the WHO to establish the Vaccine Product, Price and Procurement (V3P) Project in 2011. Through this project, the WHO collects and disseminates data on vaccine prices and other elements of vaccine procurement (WHO, 2016). While the V3P seems to currently be inactive, a similar project could be launched in Africa to ensure that countries are paying a fair price and are able to enter into negotiations with full information and enhanced bargaining power.

5 Both arrangements involve an upfront payment, but the committed purchase arrangement requires a lower upfront payment of US$1.60 per dose and a financial guarantee of US$8.95 per dose. Those who opt for the committed purchase option may only exclude candidate vaccines if their contract specifies that they are not interested in purchasing doses costing in excess of US$21.10. Those that choose the optional purchase arrangement make an upfront payment of US$3.10 per dose. In return, these participants get to decide which candidates they will purchase. The final all-inclusive costs are the same for both arrangements. See GAVI (2020b).

3.2.1 Transparency and accountability in direct procurement

Another reason why price transparency is crucial is that it allows citizens to hold their governments accountable for the way vaccines are procured, and to verify whether value for money has been secured. Corruption and misuse of COVID-19 funds have already been observed across the continent,[6] and there is no reason why vaccine procurement will not be subject to the same. The responsibility for ensuring price and contract transparency lies with both the procuring government and the vaccine manufacturer. However, prior attempts to obtain details of COVID-19 vaccine contracts have been rejected due to confidentiality clauses, a practice common in global pharmaceutical procurement. Transparency International UK has called for greater accountability on the part of manufacturers, given that, in many instances, public resources have contributed to the development of COVID-19 vaccines. They argue that 'pharmaceutical companies should be accountable not just to shareholders but to the public who have also been key investors.' (Rhodes, 2021). Others have called for transparency in production costs, with cost-related pricing and with a predetermined margin in line with the non-profit principle, in terms of which AstraZeneca and Johnson & Johnson have committed to treating the vaccine as a not-for-profit enterprise. However, for AstraZeneca this only applies during the pandemic, which can be declared over at the pharmaceutical company's discretion (Berkley, 2020b).[7]

Of course, price transparency is but one tool to foster accountability. Countries that have opted to self-procure will need to put other safeguards in place. To mitigate corruption in vaccine procurement, the National Treasury of South Africa has said that the Department of Health is negotiating directly with vaccine producers to avoid third party involvement. Another safeguard is that the vaccine procurement process has been centralised, so that the National Treasury and the Department of Health have full control over negotiations with vaccine producers (COVID-19 PF Response Monitor).

3.2.2 COVID-19 vaccine procurement: country practices

CABRI's COVID-19 PF Response Monitor has been tracking African governments' purchases of COVID-19 vaccines, either through pooled procurement mechanisms or through self-financing. This information, correct as of 1 March 2021, is presented in Table 3. The table consolidates information sourced through online research and a survey (see Annexure 2) disseminated to African ministries of finance and health. While the data collection exercise is comprehensive, given the sensitive nature of direct purchasing discussions, some information may not be available for public consumption and would, therefore, not be included in the table.

There is evidence that 16 countries on the continent have indicated that they have procured or will procure vaccines directly. This implies that significantly more than half of African countries are relying exclusively on the COVAX mechanism, bilateral donations or procurement through the AMSP. It is perhaps surprising to note that Eritrea, Madagascar and Burundi, despite qualifying for the COVAX AMC, have not been included on the COVAX distribution forecast and, therefore, appear not to be taking advantage of their free allotment. It would be useful to understand whether this is due to lack of readiness on the part of these countries or lack of interest in rolling out any sort of COVID-19 vaccination programme. It is also apparent that despite the AU's magnanimous effort to secure 670 million doses, very few countries have indicated that they will procure through the AMSP. This is likely a consequence of limited fiscal space and displeasure that interest will be charged on top of the cost of their vaccine purchase.

Misuse of COVID-19 funds has been observed across the continent; responsibility for ensuring COVID-19 vaccine price and contract transparency lies with both the procuring government and the vaccine manufacturer.

6 In South Africa, overpricing and potential fraud in the use of COVID-19 relief funds was uncovered. In Kenya, 'irregular expenditure' of 7.8 billion Kenyan shillings (US$71.96 million) has been identified (Jain, 2020).

7 A memorandum of understanding between AstraZeneca and a Brazilian manufacturer defines the 'Pandemic Period as ending on 1 July 2021. The period could be extended if AstraZeneca considers that the pandemic is not over.

Table 3: COVID-19 vaccine procurement

	Non-COVAX donations received	COVAX AMC or self-financed	Doses secured from AU	Bilateral deals
Algeria	200 000 from China	AMC		Algeria announced in late December that it had reached an agreement to obtain 500 000 doses of the Russian vaccine.
Angola		AMC		
Benin		AMC		
Botswana		SFP: The government has secured enough doses through COVAX to immunise its frontline workers through an upfront payment of US$2.9 million.	A further US$7.1 million was paid to the African Vaccine Acquisition Task Team (AVATT).	The government is engaging directly with vaccine manufacturers to secure adequate doses for the country's 2.3 million population.
Burkina Faso		AMC		
Burundi		Burundi is among the few African countries not participating in the COVAX initiative, despite being eligible for free vaccines since it is a low-income country.	Burundi is eligible to receive 2.3 million doses of the COVID-19 vaccine through the AU.	
Cabo Verde	The World Bank has committed US$ 5 million to Cabo Verde to acquire 400 000 vaccines	AMC; qualified for the Pfizer vaccine, requiring countries to store and distribute doses at minus 70 degrees Celsius.		
Cameroon		AMC		
CAR		AMC		
Chad		AMC		
Comoros		AMC		
Congo	The Chinese government provided 100 000 doses of COVID-19 vaccines, worth US$62.7 million. The World Bank has committed US$12 billion to African countries to support vaccination programmes. Congo is among these 21 countries.	AMC		

	Non-COVAX donations received	COVAX AMC or self-financed	Doses secured from AU	Bilateral deals
Côte d'Ivoire		AMC		Côte d'Ivoire ordered 200 000 Pfizer vaccines and has established an immunisation plan.
Djibouti		AMC		
DRC		AMC		
Egypt	Egypt received 50 000 vaccine doses in December from the United Arab Emirates. In February, Egypt received 300 000 donated doses of the Sinopharm vaccine from China.	AMC		Egypt has bought 40 million doses of the Sinopharm vaccine. Health Minister Hala Zayed announced that the government signed a deal to import another 100 million vaccine doses.
Equatorial Guinea	China donated 100 000 vaccine doses to Equatorial Guinea.	SFP: Equatorial Guinea initially registered interest in the COVAX Facility but appears not to have made an upfront payment to secure its participation.		
Eritrea		Eritrea is among the few African countries who have chosen not to participate in the COVAX initiative, despite being eligible for free vaccines since it is a low income country.		
Eswatini	The World Bank has committed US$12 billion to African countries to support vaccination programmes. Eswatini is among these 21 countries.	AMC	237 328 doses from the AU	The government ordered 2 million doses from the Serum Institute of India, expected to arrive in second quarter of 2021.
Ethiopia		AMC	Ethiopia is set to receive 23.1 million doses of the COVID-19 vaccine from the AU.	
Gabon		SFP; despite submitting an intent to participate in the COVAX Facility, Gabon appears not to have made an upfront payment to secure its participation.		

	Non-COVAX donations received	COVAX AMC or self-financed	Doses secured from AU	Bilateral deals
Gambia	Received 10 000 doses from Senegal	AMC		
Ghana		AMC; Ghana was the first country to receive its allotment through COVAX		Through bilateral and multilateral means, aim to procure 17.6 million vaccine doses by June.
Guinea		AMC		Guinea order 2 million doses of the Sputnik V vaccine.
Guinea-Bissau	Received 10 000 doses from Senegal	AMC		
Kenya		AMC	Kenya is expected to receive 10.8 million doses from the African Union, bringing the total of expected doses for the country to 47 million.	Kenyan government plans to purchase 12 million from other sources
Lesotho		AMC		
Liberia		AMC		
Libya		AMC		Libya signed a contract for the purchase of 2.8 million doses of the AstraZeneca vaccine. The cost of these vaccines is estimated at US$9.4 million (0.02% of GDP), and delivery is expected in late Spring.
Madagascar		Madagascar affirmed its decision not to participate in the COVAX global initiative.		
Malawi		AMC		
Mali		AMC		
Mauritania		AMC		
Mauritius	India has donated 100 000 AstraZeneca COVID vaccines to Mauritius.	SFP		Mauritius is discussing with the Serum Institute of India for the acquisition of one million additional doses of the anti-COVID vaccines.
Morocco		SFP		Morocco ordered 65 million doses of the Sinopharm vaccine from China and of the AstraZeneca vaccine from Serum Institute India and Russia's R-Pharm.

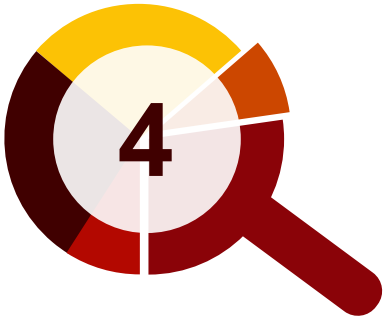
	Non-COVAX donations received	COVAX AMC or self-financed	Doses secured from AU	Bilateral deals
Mozambique	Mozambique received 200 000 doses of Sinopharm vaccine donated by China. India has also pledged to donate 100 000 doses.	AMC		
Namibia	Namibian officials said Beijing would donate 100 000 doses of vaccines and that India would donate 30 000 shots.	SFP: Namibia has approved an upfront payment of NAD 26.4 million (US$1.7 million or 0.01% of GDP) to COVAX. The government also signed a financial commitment agreement on 5 November 2020 for the remaining US$9 096 780.		There have been engagements with Pfizer and on a bilateral basis with China and Russia.
Niger		AMC		
Nigeria		AMC	40 million. Nigeria is 'exploring multiple payment options' for the doses including through the African Export-Import Bank to make repayments in instalments over 5–7 years	
Rwanda		AMC Rwanda qualified for the Pfizer vaccine through COVAX, requiring countries to store and distribute doses at minus 70 degrees Celsius.	Rwanda is set to receive 2.6 million doses of the COVID-19 vaccine from the AU.	
São Tomé & Príncipe		AMC		
Senegal		AMC	The country is eligible to get 3.4 million doses for just under US$23 million.	Senegal purchased 200 000 vaccines from China's Sinopharm. The government said it paid a little over 2 billion CFA francs (US$3.74 million) for the Sinopharm doses. It is also in negotiations with Russia to purchase its Sputnik V vaccine.

	Non-COVAX donations received	COVAX AMC or self-financed	Doses secured from AU	Bilateral deals
Seychelles	The UAE donated 50 000 doses of the Sinopharm vaccine and India donated 100 000 doses of the AstraZeneca COVID-19 vaccine.	SFP: Seychelles announced it would make an initial contribution of US$64,000 towards COVAX. Seychelles is not included on the COVAX distribution forecast, suggesting it did not sign an agreement with the COVAX Facility, and appears not to be participating in COVAX.		
Sierra Leone	Received a donation of 200 000 doses of the Sinopharm vaccine from China.	AMC		
Somalia		AMC	Somalia is set to receive 3.2 million doses of the COVID-19 vaccine from the AU.	
South Africa		SFP: South Africa qualified for the Pfizer vaccine The Solidarity Fund paid ZAR 283 million (US$ 19.2 million) as a 15% down-payment to the Covax Facility.	South Africa has so far secured 12 million from an AU arrangement	South Africa got 1.5 million vaccines from Serum Institute India; however these could not be used. South Africa paid US$5.25 per dose. South Africa purchased 9 million doses from Johnson & Johnson.
South Sudan		AMC	South Sudan is set to receive 2.3 million doses of the COVID-19 vaccine from the AU.	
Sudan	The United Arab Emirates (UAE) has granted Sudan 'considerable quantities' of the COVID-19 vaccine.	AMC		
Tanzania			News reports note that Tanzania is set to receive 12 million doses of the COVID-19 vaccine from the AU. However, Health Minister Dorothy Gwajima announced 'the ministry has no plans to receive vaccines for COVID-19'.	
Togo		AMC		

	Non-COVAX donations received	COVAX AMC or self-financed	Doses secured from AU	Bilateral deals
Tunisia		AMC; Tunisia qualified for the Pfizer vaccine, requiring countries to be able to store and distribute doses at minus 70 degrees Celsius.		
Uganda		AMC	Uganda is set to receive 9.1 million doses of the COVID-19 vaccine from the AU.	Uganda made a direct deal with the Serum Institute of India to purchase 18 million doses of AstraZeneca vaccines.
Zambia		AMC	AU has allocated 8.7 million COVID-19 vaccines to Zambia for 2021 so far. The AU has also stressed that a further 17 million could be allocated to Zambia by as soon as December 2021.	
Zimbabwe	400 000 from China	AMC		Zimbabwe will buy an additional 1.2 million COVID-19 vaccine doses from China at a preferential price.

Significantly more than half of African countries are relying exclusively on the COVAX mechanism, bilateral donations or procurement through the AMSP.

Vaccine distribution and PFM implications: strengthening the immunisation service delivery system



Dr Kwaku Agyeman Manu, Minister of Health for Ghana, has noted 'As we've learned with routine immunisation vaccines don't save lives, vaccination does. This means we need the health infrastructure in place – from supply chain and logistics to well-trained health workers – to ensure the effective and streamlined distribution of vaccines' (WHO, 2020b). In addition to financing the purchase of the vaccine, countries need to be considering how they will finance and prepare for its distribution. According to the WHO's Vaccine Readiness Assessment Tool (VIRAT) based on countries' self-reporting, Africa as a region scores 33 percent readiness for a COVID-19 vaccine roll-out, far below the benchmark of 80 percent. Furthermore, only 24 percent self-reported haaving adequate plans in place for resources and funding of the roll-out (UN News, 2020).

A key reason for underperformance of vaccine programmes is the financing of 'last-mile' distribution; it is estimated that for lower-income countries, 10–15 percent of vaccination programme funding is required for distribution costs. In addition to financing constraints, whenever the flows of funding are delayed, vaccination programmes are threatened, primarily because of the need to maintain temperature control (Krautmann, et al., 2016). Financing for last-mile vaccine distribution has traditionally been neglected by both development partners and policymakers, and it is critical that this mistake is not made in the case of the COVID-19 vaccine. In this section, we will look at how countries can cost and budget for the roll-out, utilise the private sector, and ensure that funds flow efficiently to service-delivery centres.

4.1 Costing of distribution

Roll-out of the vaccine will require governments (or development partners) to cover the cost of transportation, syringes and vials, vaccine storage, handling, training and wages of vaccinators, waste management, and large-scale communication and outreach campaigns to sensitise communities to the need for and safety of the vaccine. Successful vaccination programmes depend on effective supply chain and logistics systems.

The WHO offers various tools for costing vaccine roll-out. The COVID-19 vaccine introduction and deployment costing tool is an Excel-based template that facilitates a rapid, and comprehensive, estimate of the incremental costs associated with vaccine distribution. The tool is pre-populated using available data from international databases (WHO, 2021). Launched in 2006 by the WHO and UNICEF, the comprehensive Multi-Year Plan (cMYP) is an immunisation-specific planning tool encompassing planning, costing and financing. The outputs are intended for use in budget submissions and national health plans; however, they can be developed separately from general budgets or health planning. A cMYP involves developing a situation analysis; determining specific activities, milestones and strategies; identifying links to national, regional and international goals; preparing activity timelines and monitoring and evaluation plans; estimating immunisation-specific costs (such as for vaccines, injection supplies, and full-time staff); and identifying financing sources (Results for Development, 2017).

While most countries are likely to use internationally developed costing tools, South Africa is making use of a costing tool developed for the Department of Health and the National Treasury by a research organisation called Health Economics & Epidemiology Research Office (HE2RO) (COVID-19 PF Response Monitor).

4.2 Budgeting for the COVID-19 vaccine

While the costing exercise will typically be undertaken by the health ministry, the finance ministry must ensure that these programmes are represented in the budget presented to Parliament and that the different elements of the PFM system are sufficiently flexible and reliable to facilitate vaccine programme implementation. This requires close collaboration between ministries of finance and health, both before and after vaccine purchase. Many countries have set up national task forces to this end. In Nigeria, in addition to setting up a task team made up of the ministries of foreign affairs and finance, the central bank and the Coalition Against COVID-19 (CACOVID) to help the government in mobilising resources for the vaccine, an 18-person National COVID-19 Vaccine Task Team with seven terms of Reference was inaugurated in December. The task team will include generating strategies for acquisition and deployment, and options for licensed production by Biovaccine Nigeria Ltd (Ezigbo, 2020). The Learning Network for Transition Countries suggests other ways in which ministries of finance meet their commitments to providing immunisation services to their citizens (see Textbox 2).

Textbox 2: How ministries of finance provide immunisation services to their citizens

- Incorporating increasing immunisation programme requirements into budget plans or Medium-Term Expenditure Frameworks (MTEFs).
- Exploring ways in which subnational levels of government can support the immunisation or health programme, including incentive mechanisms.
- Ensuring that immunisation financing requirements are framed within national health financing policies for universal health coverage (UHC), including social health insurance.
- Rationalising the financing of immunisation between the development and recurrent side of the national budget.
- Encouraging the Ministry of Health to track and monitor immunisation spending.
- Encouraging and enabling the Ministry of Health to obtain greater value for money and efficiencies in the immunisation programme.
- Exploring budget structure reforms such as programme-based budgeting that allow autonomy and flexibility in how health funding is spent and increase accountability for health programme performance and budget allocations.

4.3 Flow of funds to cost centres

Ensuring a sufficient and reliable flow of funds to the point of vaccine delivery is key to an effective vaccination programme; however, many countries face challenges in transferring funds on time or in full, hindering programme implementation. For example, a survey of immunisation bottlenecks in the Republic of the Congo found that delays in disbursement and commitment shortfalls from the national budget contributed to vaccine shortages around the country (Results for Development, 2017). The emergency nature of the current pandemic means that these challenges are likely to be exacerbated. Bottlenecks in the flow of funds can arise at different points in the system, depending on how it is set up and which agencies are designated to receive and disburse funds. For example, a vaccination programme might be adequately funded at the state level, but funds may not get to cost centres due to weak systems, poor accounting or corruption. Politics may also affect the flow of funds, if, for example, a district bank account holds funds for both health and non-health programmes, determining how to allocate the funds between these can be a challenge. Rigidities in the PFM system can also inhibit the use of strategic purchasing or cost-efficient procurement. Decentralised countries may face even greater issues in managing budgets and co-ordinating vaccine procurement across levels (Results for Development, 2017). As discussed in Textbox 3, delays in disbursing funds to frontline workers during the Ebola epidemic in Liberia were cited as an obstacle to an effective response.

Many countries face challenges in transferring funds on time or in full, hindering vaccine programme implementation; the emergency nature of the current pandemic means that these challenges are likely to be exacerbated.

Textbox 3: Digitising payments for frontline healthcare workers

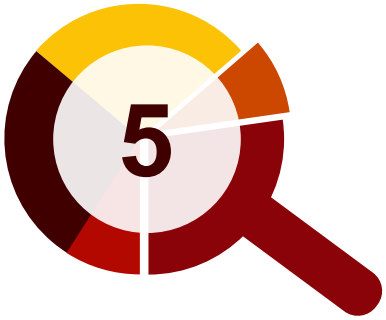
During the Ebola outbreak, the government of Liberia and development partners introduced new financial incentives for frontline healthcare workers. However, transfer of these payments was unreliable, given that workers were often in remote areas with limited access to banks. The government and its partners relied on cash, disbursed by 'pay teams' who drove cash to rural towns; however various factors made pay teams inefficient and slow. Delays in the disbursement of funds contributed to healthcare worker strikes, impeding response efforts. The difficulties in making payments and the ensuing health workers' discontent highlighted the critical role that efficient payment processes play in mobilising health workers during a health emergency. Sierra Leone managed to avoid this challenge through the digitisation of salary payments, which is estimated to have saved 2 000 lives and US$11 million in security and other costs related to moving cash. These divergent experiences highlight the importance of having a sound payment system in place for frontline healthcare workers and the interaction between PFM and payment systems (Kourgialis, 2018).

4.4 Private sector involvement in implementation

Given the strain that many African public health systems are under, the private sector could be used to increase efficiencies in the vaccine roll out. One aspect of this is whether governments should allow the vaccine to be traded in private markets, concurrent to public distribution. In non-crisis times, most countries allow their citizens to gain preferential access to medicines and healthcare by permitting private purchase. However, given the crisis we currently face, governments may feel the vaccine and other essential goods must be rationed and prohibit its private purchase. Where governments opt for private purchase, they may still regulate prices and track and verify private use of the vaccine (Roope, et al., 2020). There could also be merit in encouraging or requiring private facilities to vaccinate on behalf of the public sector. This is already the case in Sudan where more than half of private health facilities offer vaccinations. In this case, the government provides the vaccines and other essential resources to private facilities. In Côte d'Ivoire, a partnership between the government and Orange produced M-Vaccin, a programme which uses text and voice messaging to educate caregivers about vaccines, deliver reminders of appointments, and improve availability and quality of data (LNCT, 2020).

Given the strain that many African public health systems are under, the private sector could be used to increase efficiencies in the vaccine roll out.

Conclusion and recommendations



While there may be general recognition that to defeat the COVID-19 pandemic, all countries need to achieve herd immunity through vaccination, this working paper shows that many African countries have not yet allocated state resources to procuring the vaccine. This trend is concerning given that governments have known since the beginning of the pandemic that they would need to allocate domestic financing for their vaccination programmes. It is also likely that prioritising this in national budgets will act as a catalyst for increased external support. The paper also shows that given limited avenues for increasing fiscal space for health, budget reallocations were inevitable. If governments do not approach the process of reprioritisation carefully and with foresight, other priority expenditure, including other health programmes, may suffer. If approached carefully and timeously, the reprioritisation exercise may benefit the economy as a whole. Given that this is a live issue, governments in Africa can still use this as an opportunity to re-evaluate spending decisions, and direct funds away from non-priority areas or loss-making projects. Governments without a clear plan and budget may well be rushed into making quick decisions about who should receive the vaccine rather than following evidence-based guidelines for equitable distribution. Ensuring early availability of funding would also have increased countries' chances of receiving the vaccine early and at a reasonable price. Manufacturers are already struggling to render supply in line with what has been requested, primarily by developed countries that signed purchasing arrangements last year. Furthermore, many of the existing agreements require manufacturers to supply the vaccine at their cost price; once the stocks of the initial vaccines are depleted, it is likely that increased demand will result in a bidding war and higher prices (GAVI, 2020c). In addition to increasing the domestic allocation of resources, the international community can also do more to assist developing countries by introducing innovative financing mechanisms. The IFFIm's COVID-19 vaccine bond was mentioned as one such tool. Given the current fiscal constraints facing developing countries, which need doses of the vaccine beyond what pooled procurement mechanisms can provide, perhaps a case can be made for IFFIm to either issue bonds on their behalf or consider guaranteeing sovereign-issued vaccine bonds. An alternative would be for countries with close bilateral ties to consider a situation where the recipient borrows against a country with a stronger balance sheet. This would allow for rapid mobilisation of resources at a reasonable rate. Developed countries may also be in a position to contribute towards vaccine purchasing in developing countries by levying a microtax for global vaccine financing. The global nature of the pandemic means that it would be pragmatic for developed countries to do this, and there is precedent for this in UNITAID. UNITAID, which helps fund developing countries' response to HIV/AIDS, tuberculosis and malaria, receives 60 percent of its funding from airline ticket levies. Airlines have supported this levy as they recognised the negative impact they would suffer from a global health crisis (National Academies of Sciences, Engineering, and Medicine, 2016). However, airlines, which have indeed suffered near irreparable damage over the past year, are not the only area in which a microtax or levy could be introduced.

This working paper has also discussed the role the private sector can play in both financing and implementing vaccine programmes. The example of medical insurance providers subsidising the South African government's purchase of the vaccine has been discussed; however, this may not be a viable option for other developing countries which lack a well-developed private health sector. Channelling private-sector donations through COVID-19 funds may be a more realistic option and one which has been used to finance the overall response. Given the impact that the pandemic has had on business throughout the world, these contributions are a sensible investment. There is value in considering how governments can best engage the private sector in vaccine-financing discussions and assure them that their contributions will be used judiciously. As discussed, this may involve introducing deliberative processes to leverage private sector actors, identifying gaps or challenges in the vaccination programme and how the private sector can fill those gaps, and aligning expectations and ensuring routine and transparent communication.

Finally, vaccination programme underperformance is often the consequence of challenges encountered during programme implementation, particularly in the financing of 'last-mile' distribution. In addition to financing the purchase of the vaccine, careful consideration is needed as to how to finance and prepare for distribution. This involves accurately costing this part of the programme, executing through country financial management systems where possible, ensuring human and capital resources are in place, and ensuring that funds flow efficiently to service-delivery centres.

Annexure 1: Vaccination campaign status and information on programme cost, amounts budgeted and financing sources (as of 28 February 2021)

	Vaccination campaign commenced as of 28 February 2021	Available information on programme cost, amounts budgeted and financing sources
Algeria	Yes; end-January	
Angola	No	The authorities in Angola have approved a vaccination plan, and earmarked US$217 million (roughly 0.24% of GDP) to cover vaccination rollout to 20% of the country's population. The funds from the General State Budget will be for operational costs and strengthening of the cold chain.
Benin	No	
Botswana	No	In Botswana's 2021 Budget Speech, the Ministry of Health and Wellness' budget recorded a growth of 2.1 percent over the 2020/2021 approved budget; additional funding has been allocated to the acquisition of vaccines in line with the agreement with the World Health Organization (WHO) . Health Minister Edwin Dikoloti said Botswana has already paid US$10 million to secure vaccines through different channels.
Burkina Faso	No	
Burundi	No	
Cabo Verde	No	
Cameroon	No	
Central African Republic	No	
Chad	No	
Comoros	No	
Congo	No	
Côte d'Ivoire	No	
Djibouti	No	
DRC	No	
Egypt	Yes; end-January	
Equatorial Guinea	No	
Eritrea	No	
Eswatini	No	The Eswatini government budgeted E200 million (US$13.5 million, or 0.04% of GDP) for vaccine purchases.

	Vaccination campaign commenced as of 28 February 2021	Available information on programme cost, amounts budgeted and financing sources
Ethiopia	No	The health ministry said the country will need 13 billion Ethiopian birr (US$328 million) for vaccines and related expenses. To fund the vaccine, Ethiopia is looking at various financing sources such as local and international donors, multilateral agencies and the private sector.
Gabon	No	
Gambia	No	
Ghana	No	
Guinea	Yes; end-January (albeit only 25 people were vaccinated)	
Guinea-Bissau	No	
Kenya	No	Kenya has set aside Ksh10billion (US$91 million) to purchase more doses which combined, will be enough to vaccinate 30% of the country's population.
Lesotho	No	In addition to the vaccines Lesotho will receive from the COVAX Facility, the government announced that it will provide M240million (US$16.2 million or 0.9% of GDP) for vaccine purchases.
Liberia	No	
Libya	No	
Madagascar	No	
Malawi	No	
Mali	No	The Council of Ministers said it wanted to buy more than 8.4 million doses of the COVID vaccines, which would cost more than $58m. It, however, explained that the funds would be sought with assistance from the financial contribution of GAVI and the World Bank.
Mauritania	No	
Mauritius	Yes; end-January	
Morocco	Yes; 28 January with 2 million doses of AstraZeneca vaccine	
Mozambique	No	
Namibia	No	Additional resources need to be secured for acquisition of additional doses to vaccinate at least 60% of the population. The government has called upon the medical aid industry to support beneficiaries of their medical aid scheme to access the vaccine. In the same vein, the government will be engaging Cooperation Namibia for support.
Niger	No	

	Vaccination campaign commenced as of 28 February 2021	Available information on programme cost, amounts budgeted and financing sources
Nigeria	No	The Ministry of Finance released 10 billion naira (US$26.27 million) to support domestic vaccine output. There is no provision in the 2021 Budget to fund the acquisition of COVID-19 vaccines but Nigeria will draw up a supplementary budget in March to cover the cost of Covid-19 vaccinations.
Rwanda	Yes; 17 February with 1 000 doses of the Moderna vaccine.	In media reports, Rwanda said it will spend US$124 million to ensure vaccination coverage of at least 60% of its population.
São Tomé & Príncipe	No	
Senegal	Yes; 23 February with 200 000 doses of the Sinopharm vaccine	
Seychelles	Yes; middle-January with doses of the Sinopharm vaccine	
Sierra Leone	No	
Somalia	No	
South Africa	Yes; mid-February with the Johnson & Johnson vaccine	The 2021 Budget showed that the National Treasury had to reprioritise programmes to procure vaccines. R6.5bn allocated to the national Department of Health; R100m to the SA Medical Research Council; R2.4bn to provincial health departments; and R50m to the government communications agency. National Treasury may tap into the national contingency reserve and emergency reserve fund.
South Sudan	No	
Sudan	No	
Tanzania	No	
Togo	No	
Tunisia	No	On 21 January, the Ministry of Health announced a vaccination drive aimed at vaccinating 50% of the Tunisian population above the age of 18 (roughly 6 million people). This is expected to cost US$111 million (0.3% of GDP).

	Vaccination campaign commenced as of 28 February 2021	Available information on programme cost, amounts budgeted and financing sources
Uganda	No	The health ministry had initially budgeted to spend 1.4 trillion shillings (1.07% of GDP) to vaccinate the whole population; however, it is now estimated that the country will have to spend at least sh2 trillion. In a 7 January press release, the Ministry of Health noted it has not received final cost from COVAX but has a working estimate of US$405 m from the National Deployment Vaccination Plan to roll out the COVID-19 Vaccine. Including handling costs, the government will spend US$17 per Ugandan and, in total, will spend Sh56 billion (approximately US$150 million or 0.43% of GDP) to procure an initial 18 million COVID-19 vaccine doses.
Zambia	No	
Zimbabwe	Yes; middle February with donation of 200 000 doses from Sinopharm.	The government will use funds from a 2020 budget surplus and reallocate some of this year's budget to buy the vaccines. The government has set aside US$100 million for the vaccines to procure around 20 million vaccine doses.

Annexure 2: Survey on vaccine financing, purchasing and distribution in African countries

Country name:

Survey respondent name:

Ministry or department:

Survey respondent email address:

1. **Has your government engaged with vaccine manufacturers directly?**

☐ No

☐ Yes

2. **Have any commitments to purchase been signed directly with manufacturers?**

☐ No

☐ Yes

3. **If an agreement for direct purchase has been signed and this information is available for public consumption, please tell us:**

a. how many vaccines have been purchased and from which manufacturers and of which vaccine?

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b. the cost per vaccine?

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4. **How will you cover the costs of direct procurement? (Please tick all that apply)**

☐ Reallocation from existing health budget

☐ Reallocation from non-health budget

☐ User fees

☐ Borrowing, please specify where funds are being borrowed from to finance the vaccine

☐ Development-partner project support or grant

☐ Special tax or levy

☐ Private sector financing

☐ Other, please specify

5. **If you are self-financing as part of the COVAX Facility, how are you financing this? (Please tick all that apply)**

☐ Reallocation from existing health budget

☐ Reallocation from non-health budget

☐ User fees

☐ Borrowing, please specify where funds are being borrowed from to finance the vaccine

☐ Development-partner project support or grant

☐ Special tax or levy

☐ Private sector financing

☐ Other, please specify

6. **Will you be getting the vaccine through the AU's African Medicines Supply Platform?**

☐ No

☐ Yes

7. **If yes, what payment arrangements have you made with Afreximbank? What are the terms of the financing on offer?**

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8. **If you answered yes to question 6, how will you pay back Afreximbank? (Please tick all that apply)**

☐ Reallocation from existing health budget

☐ Reallocation from non-health budget

☐ User fees

☐ Borrowing, please specify where funds are being borrowed from to finance the vaccine

☐ Development-partner project support or grant

☐ Special tax or levy

☐ Private sector financing

☐ Other, please specify

9. **What tools are you using to cost your vaccine programme?**

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10. **Which ministries or departments are responsible for costing and budgeting for the vaccine programme?**

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11. **Is there specific allocation made for the COVID-19 vaccine in your latest budget or supplementary budget?**

☐ No

☐ Yes

12. **If yes, how much has been allocated through the budget?**

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13. **Have you included the COVID-19 vaccination programme in your chart of accounts?**

☐ No

☐ Yes

14. **Will the COVID-19 vaccination programme be managed using your financial management information system? Please provide additional information if relevant.**

☐ No

☐ Yes

15. **What adjustments have you made to your procurement processes to procure the vaccine either unilaterally or through pooled procurement mechanisms?**

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16. **Have you included the cost of the vaccination in your medium-term planning and budgeting?**

☐ No

☐ Yes

17. **How have decisions to purchase the vaccine been made? How was it decided to opt for either direct procurement or pooled procurement?**

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18. **What PFM- or finance-related challenges do you foresee in implementing your COVID-19 vaccine programme and are there any measures in place to mitigate against these?**

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19. **In what ways, if any, are you collaborating with private healthcare providers, non-governmental organisations or private medical insurance in purchasing and distribution the COVID-19 vaccine?**

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20. **What measures are in place to ensure transparency and accountability of COVID-19 vaccine financing?**

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