UNDP
NIGERIA

THE COVID-19 PANDEMIC IN NIGERIA

Brief 5, February 03 2021

SOCIOECONOMIC IMPLICATIONS OF DELAYED ACCESS TO VACCINES

Without timely access to vaccines to counter the sustained and corrosive primary and secondary impact of COVID-19, the country's social, economic and security conditions will remain fragile.

01

Situation Update

Almost a year since the novel coronavirus emerged and led to the declaration of a global pandemic by the World Health Organization, the fight against it rages on across the globe. Over 95.5 million cases have been registered, including two million deaths (Figure 1). While many countries achieved short-lived success in containing the spread of the virus through economically and socially painful lockdowns, the threat of new waves of infections now loom. By the end of 2020, national lockdowns were reintroduced in several countries across Europe and Asia, for instance, and fresh restrictions on movement have been announced as countries gear up to battle the latest wave.

Potential trajectory of COVID-19 in Nigeria

In mid-December 2020, Nigeria confirmed that a second wave of the pandemic was underway, with daily growth rates of new cases averaging nine percent, compared to two percent at the height of the first wave. The second wave also appears to be more lethal with the average rate of new fatal cases rising much more rapidly when compared to the first wave.

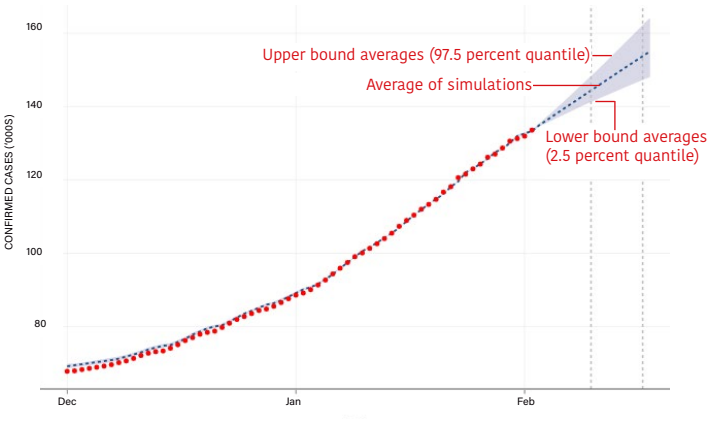
We use an AR (1) model, as in previous briefs, to estimate the trajectory of the number of confirmed cases in Nigeria in the next two weeks. We project that in the next two weeks, confirmed cases will increase by close to 22,000 and exceed 155,000 (lower bound = 148,000; upper bound = 164,000) (Figure 2). It is highly likely that the true number of COVID-19 cases in the country will be greater than those confirmed.

This growth in new cases could even be significantly higher. Mutations in SARS-CoV-2 detected in South Africa and the United Kingdom, which are said to make the virus significantly more transmissible, have also been confirmed in Nigeria and could make this second wave even more acute. In addition to overburdening the limited public health system, the spread of the virus into rural areas or the country's fragile conflict areas could have profound humanitarian implications.

FIGURE 1 CURRENT NUMBER OF CONFIRMED CASES, FATALITIES (03 FEBRUARY 2021)

	TOTAL CONFIRMED	TOTAL FATALITIES	CASE FATALITY RATE (%)	TOTAL CONFIRMED CASES/ 1 MILL POPULATION	TOTAL CASE FATALITY/ 1 MILL POPULATION
	104,529,760	2,265,920	2.2%	13,410	291
	3,616,848	92,509	2.6%	2974	77
	133,552	1,613	1.4%	639	8

FIGURE 2 PROJECTED NUMBER OF CONFIRMED CASES IN NIGERIA



Current state of COVID-19 vaccines

Against the looming backdrop of a second wave, the unprecedented global race by research labs, pharmaceutical companies and governments to develop a vaccine has begun to bear fruit. Traditional vaccine development usually takes 10-15 years. However, as of the beginning of 2021, just a year into the COVID-19 outbreak, 66 vaccines are undergoing clinical trials and another 173 are in pre-clinical development.

The US FDA has approved two vaccines for emergency use developed by Pfizer/BioNTech and Moderna, and at least half a dozen more are in early use either by individual countries or regional blocs.[1] A record-breaking number of vaccine candidates for COVID-19 is currently in the pipeline – the largest number for any infectious disease.

Fundamentally, however, the demand for coronavirus vaccines will be much higher than the supply, at least for the first few years, so not everyone who needs a vaccine will get one. This has sparked another global race for COVID-19 vaccines.

Wealthier nations had begun making deals to secure millions of vaccine doses for their populations even before official vaccine approvals. For example, the UK government had signed deals of undisclosed vast sums for six prospective coronavirus vaccines.[2] The US also made plans to procure 300 million doses in January 2021 from its COVID-19 vaccine investment programme[3].

Since no country knows which vaccine will be effective, some high-income countries (HICs) are hedging their bets by buying up enormous quantities of multiple vaccines, before completion of clinical trials that certify their safety and effectiveness. According to the Duke Global Health Innovation Center, HICs and upper-middle-income coun-

1 In December 2020, several countries began to approve vaccines and roll out vaccination programmes, including Argentina, Canada, Chile, Costa Rica, Mexico, US, Russia and many EU countries (Aljazeera, 2021).
2 Bailey, Dominic (2020). Coronavirus: How soon can we expect a working vaccine? https://www.bbc.com/news/health-54027269
3 Bailey, Dominic (2020). Coronavirus: How soon can we expect a working vaccine? https://www.bbc.com/news/health-54027269

tries have individually reserved nearly a total of 5 billion vaccine doses4. The locking in of advanced deals with pharmaceutical companies by governments of richer nations is seen to be creating a contentious trend of "vaccine nationalism".

As of 02 February, 2021, 104 million doses of COVID-19 vaccinations had been administered globally. Guinea was the sole low-income country to have received any COVID-19 vaccinations, a mere 55 people in total, including one received by the president.[5] By contrast, vaccination doses administered per 100 people in Israel, the United Arab Emirates and the United Kingdom currently stand at 58, 34 and 15, respectively (Figure 3).[6]

4 Serhan, Yasmeen (2021), Vaccine Nationalism Is Doomed to Fail. https://www.theatlantic.com/international/archive/2020/12/vaccine-nationalism-doomed-fail/617323/

5 Washington Post. https://www.washingtonpost.com/world/2021/01/26/guinea-covid-vaccinations-poor-countries/

6 Counted as a single dose and may not equal total number of population that received the vaccination as in the case of multiple doses received by single person.

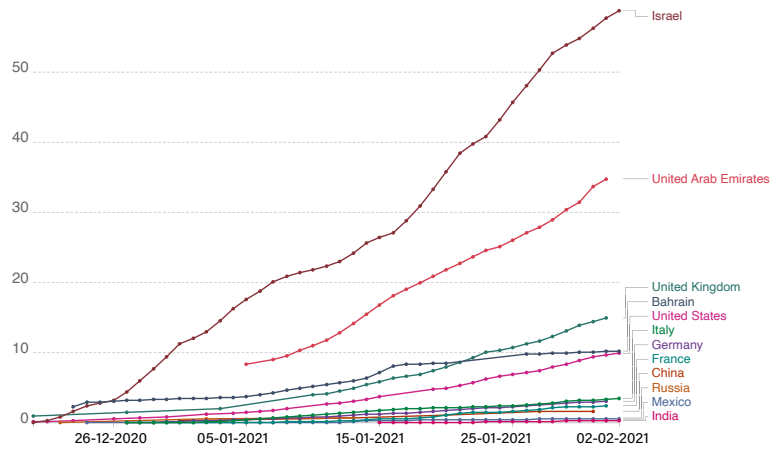
A group of bioethicists have proposed what they term the "Fair Priority Model," advocating for vaccine distribution in three simultaneous phases. The model seeks to reduce premature deaths and irreversible direct/indirect health impacts, reduce serious economic and social deprivation, and reduce community transmission[7].

Similarly, the WHO has proposed a distribution scheme in which vaccines are distributed to countries based on the number of high-risk groups in each one.

The COVID-19 Vaccines Advance Market Commitment (COVAX AMC) distribution framework co-led by the Gavi Alliance, the Coalition for Epidemic Preparedness Innovations (CEPI), and WHO, seeks to ensure rapid development, manufacture and equitable distribution of COVID-19 vaccines for all countries, regardless of income level.

7 Emanuel, EJ; Persad, G; Kern, A.; al, et (2020), An ethical framework for global vaccine allocation, Science 369 (6509), 1309,1312

FIGURE 3 COVID-19 VACCINATIONS DOSES ADMINISTERED PER 100 PEOPLE



Source: Our World in Data, February 02, 2021

With the WHO as the technical lead on behalf of the UN, the initiative seeks to ensure that the 92 lower and middle income countries (LMICs) that cannot fully afford to pay for COVID-19 vaccines themselves get equal access to them at the same time as self-financing HICs.[8] It prescribes the following sequence for vaccine distribution: first, frontline health care workers, followed by the three percent of the population with the highest risk of infection, and then other high-risk groups such as the elderly and people with comorbidities, until 20 percent of each country's population has been covered.[9]

Presently, COVAX remains the most promising attempt at a global coalition for equitable vaccine distribution. However, with a funding gap of $15 billion, the financial feasibility of its ambitious goal of raising $18 billion to procure two billion doses of vaccines for global distribution across 190 countries (including 98 high income countries, and 92 LMICs) by the end of 2021 appears frail.

Africa's population of 1.3 billion would require at least 780 million people to be vaccinated to achieve herd immunity. At two jabs per person, this would mean a total of 1.56 billion doses with an estimated cost ranging from $16 billion to $21 billion.[10] The Africa Centers for Disease Control (Africa CDC) has secured $5 billion from the African Export-Import Bank (Afreximbank) as part of its plan to cover the remaining 40 percent of the African population, in addition to the 20 percent coverage to be provided through the global COVAX AMC.[11] However, $5 billion is barely enough to cover one-fourth of the population.

Aside from availability and access, the distribution and administration of the vaccines is expected to be 'the biggest logistical challenge the world has seen' and will require an exceptional level of collaboration domestically and globally. For the current leading candidate of the COVID-19 vaccine, the long journey from the manufacturing line to the syringe requires an Ultra Cold Chain (UCC) management network.

The Pfizer/BioNTech vaccines require storage at -70°C, which would be colder than Antarctica winters. The Moderna vaccine requires storage at -20°C – slightly colder than a regular home freezer, which is usually around -15°C. For several African countries, previous experience and success in delivering the Ebola vaccine, which also required ultra-cold equipment at about -70°C, will prove useful. However, there is a significant difference in the scale the COVID-19 vaccination roll out would require. Storage requirements of 2°C to 8°C for the AstraZeneca vaccine, on the other hand, are much less demanding, and it is the most attractive candidate for many African countries, but efforts are still underway to increase its efficacy.

In addition to logistical challenges, the manufacturing sector throughout Africa has long been under-funded, which means the continent cannot rely on local vaccine manufacturing to cater to its vaccine needs. According to the African Academy of Sciences, only two percent of clinical

8 Berkley, Seth (2020), COVAX Explained, https://www.gavi.org/vaccineswork/covax-explained

9 Lie, R.K.; Miller, F.G. (2020), Allocating a COVID-19 Vaccine: Balancing National and International Responsibilities. The Milbank Quarterly

10 Africa Centres for Disease Control and Prevention (2020), COVID-19 Vaccine Development and Access Strategy.

11 Edward-Ekpu, Uwagbale (2020). The challenges African countries face to get hold of the Covid-19 vaccine

trials for all vaccines conducted globally occur in Africa.[12] Presently, the potential for COVID-19 manufacturing capacity is noted in South Africa, Tunisia, Ethiopia, Senegal, Nigeria and Egypt.[13] However, with dwindling financial resources and the adverse economic impact of the COVID-19 lockdowns, the potential for local vaccine manufacturing is dismal.

Furthermore, vaccine review processes by regulatory authorities can also constitute a key challenge to timely COVID-19 vaccine distribution. National regulatory authorities need time to review, pre-approve, inspect, and help ensure the quality, safety, and efficacy of the COVID-19 vaccines before they are released for use. Such review processes can take months and affect timely vaccine distribution in countries across the continent. While many African countries like Nigeria and South Africa have adapted their review processes to expedite approvals, significant delays in vaccine distribution are still expected for many countries.

Nigeria's national vaccination plan

The Nigerian Federal Ministry of Health (FMOH), through the National Primary Health Care Development Agency (NPHCDA), National Centre for Disease Control (NCDC), and the National Agency for Food and Drug Administration and Control (NAFDAC), has developed a National COVID-19 Deployment and Vaccination Plan. The plan aims to have 70 percent of Nigerians, or about 150 million people, vaccinated by 2022, including 40 percent by the end of 2021 and the remaining 30 percent by the end of 2022. In total, this would mean 300 million doses will be administered by 2022.

The government hopes to secure 42 million COVID-19 vaccines to cover 20 percent of its population through the global COVAX Facility with the government covering operational costs and extra vaccine needs beyond the 20 percent. So far, the African Union has also been able to secure a total of 670 million COVID-19 vaccines, including 400 million doses manufactured by Serum Institute of India, for its member states. The vaccines are expected to be rolled out between April and June. Nigeria has requested 60 million doses from the AU stock, but this supply also depends on Nigeria's ability to finance it. The cost of vaccines varies but even at the lower range of US$3/dose, it would require around N68.4 billon, more than six times the N10 billion budgetary provisions that have been made.

12 Makoni, Munyaradzi (2020), COVID-19 vaccine trials in Africa. The Lancet Respiratory Medicine 8 (11) e79-e80
13 Edward-Ekpu, Uwagbale (2020). The challenges African countries face to get hold of the Covid-19 vaccine

Although Nigeria did not qualify for the initial rollout of 100,000 doses of the Pfizer-BioNTech vaccine through COVAX, 16 million doses of the AstraZeneca vaccine from the Facility have been tentatively allocated to Nigeria pending finalisation of negotiations. At the time of writing, however, no doses have been secured for arrival to the country.

The GoN has rapidly assessed its readiness to receive, manage and distribute the COVID-19 vaccines. The vaccines will be stored at the National Strategic Cold Store in Abuja and will be distributed to 13 sites in various state capitals and one site in a local government area (LGA). The country currently has three UCC equipment facilities with a total capacity of 2,100 liters which is sufficient to store up to 400,000 doses of the Pfizer vaccine.

According to the current allocation plans on the basis of the population, approximately 19 percent of the approximately 42 million doses planned for Nigeria will be Pfizer/BioNTech vaccines and the remaining 37 percent and 44 percent will be AstraZeneca and Johnson & Johnson vaccines, respectively. Under this allocation strategy, Nigeria would expect to receive close to eight million vaccines that require UCC management. Based on the country's current capacity, significant operational challenges can be expected.

Effective cold chain management would require temperature thresholds to be held constant along the distribution channel. There are foreseeable operational challenges that increase the risk of compromising the potency of the vaccine. For instance, many health centers in the country lack the power for their storage equipment to hit -70°C, especially in rural areas, and generators would be needed to ensure uninterrupted power supply as well as a monitoring system along the distribution chain to verify stability of temperatures. Rapid mobilisation and setup of infrastructure across the country would be required - as was done by NCDC and testing labs at the start of the pandemic.

Supply challenges aside, the financial implications of securing the vaccine pose another set of hurdles for the country. An estimated N400 billion is required to provide vaccinations to 70 percent of its over 200 million citizens by 2022. This is roughly equivalent to the entire health sector budget for the next two to three years. While budgetary provisions for N10 billion have been made for COVID-19 vaccine procurement in 2021, the significant and apparent financing gap could present further delays in the country's ability to transition into a post-COVID-19 environment.

Nevertheless, the federal government is prioritizing 50,000 frontline health workers and national leaders after pre-qualification by the WHO and safety revalidation by NAFDAC.[14] Each health worker or national leader must be administered two doses, with 21 days between them.[15] Following the vaccination of frontline health workers and national leaders, those over 50 years of age, adults under 50 with co-morbidities, and states with very high risk, like Lagos and Abuja, will be prioritised in vaccination.[16]

In the meantime, Nigeria will have to continue to rely on non-pharmaceutical interventions in its fight against a potentially more lethal wave of the pandemic – both in terms of its impact on health and threat to its increasingly frail socio-economic conditions.

14 Obiezu, Timothy (2020), Nigeria's Goal: Vaccinate 40% of Population Against COVID-19 This Year

15 Muanya, Chukwuma; Onyedika-Ugoeze, Nkechi (2021), Nigeria to receive 100,000 doses of COVID-19 vaccine in two weeks.

16 Muanya, Chukwuma; Onyedika-Ugoeze, Nkechi (2021), Nigeria to receive 100,000 doses of COVID-19 vaccine in two weeks.

02

Socioeconomic implications of delayed vaccines

While two billion vaccine doses would not be enough to cover high-risk populations in all COVAX member countries, the hoarding of over five billion vaccine doses by richer countries further increases the cost of vaccines and the global economic cost associated with COVID-19.

While governments have a duty to 'take care of its own,'[17] with varying capacities to invest in resources to fund vaccine research, either directly or through commitments, the reality is that vaccine nationalism will only perpetuate the disease and prolong global recovery – for both vaccinated and unvaccinated populations.

Based on estimates by Hafner et al. (2020), the global economy could lose about $3.4 trillion or 3.7% of global GDP annually if COVID-19 vaccines are not made available to inoculate the world population. HICs combined could lose about $119 billion a year if the poorest countries are denied vaccine supply[18]. At the same time, it would cost an estimated $25 billion to supply LICs with vaccines[19]. A clear business case for global cooperation and vaccine equity exists.

Implications for economic growth and poverty

For Nigeria, home to the largest number of multidimensionally poor people in the world and which is ranked 161 out of 189 countries on the Human Development Index, the pandemic has compounded the already vulnerable socio-economic conditions in the country. The slump in oil prices, lockdowns and restrictions on the movement of people have dealt a severe blow to the Nigerian economy.

While still recovering from the 2016 recession, the COVID-19 pandemic and its secondary effects pushed the Nigerian economy into its deepest recession in over four decades with real GDP contracting by 6.1 percent and 3.6 percent in Q2 and Q3 of 2020, respectively. The IMF estimates that Nigeria's GDP growth will average a sluggish 1.2% over the next five years. In fact, real GDP growth rates are not expected to return to pre COVID-19 levels before 2022.

As the economy contracted, poverty rates increased. During the 8 week lockdown, estimates indicate that household incomes fell by a quarter, leading a 9% points increase in the national poverty rate.[20] By 2022, the COVID-19 crisis is already forecasted to drive an additional 10.9 million Nigerians into poverty. [21]

In a scenario closely mirroring the current state of play where only HICs and vaccine developing nations can sufficiently inoculate their populations, the global economy is estimated to contract by 0.3% per year or US$292 billion per year. For Nigeria, delays in inoculat-

17 Ferguson & Caplan, 2020

18 Hafner, Marco; Yerushalmi, Erez; Fays, Clement; Dufresne, Eliane; Stolk, Christian Van (2020), COVID-19 and the cost of vaccine nationalism. RAND Corporation

19 Oxfam International (May 2020), Vaccinating poorest half of humanity against coronavirus could cost less than four month's big pharma profits.

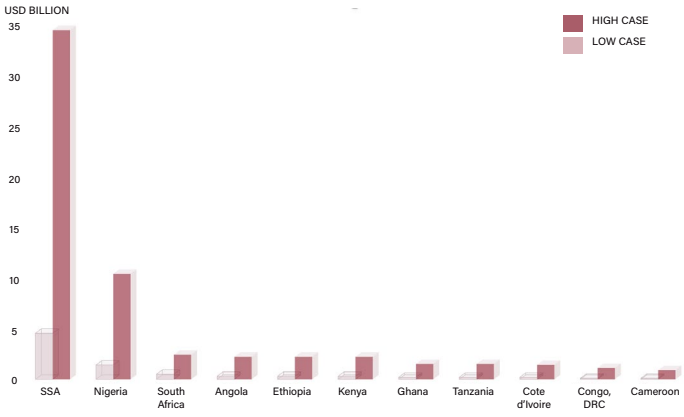
20 Kwaw et. al. Impacts of COVID-19 on food systems and poverty in Nigeria (2020)

21 World Bank Poverty Team, COVID-19 and Welfare in Nigeria: New Evidence for Policy (October 2020)

ing the population and the associated COVID-19-related impaired activity in highly contact-intensive services sectors could result in a loss as high as USD 10.3 billion annually (Figure 4).[22] Sub-Saharan African countries as a whole are estimated to lose US$34 billion per year under this scenario.

For the time being, the passthrough effects of economic contraction on households and on the severity and level of poverty in the country will remain active.

FIGURE 4 ESTIMATED ANNUAL GDP LOSS UNDER INSUFFICIENT VACCINE ACCESS TO MIDDLE- AND LOW-INCOME COUNTRIES, SSA SELECTED COUNTRIES



Source: Hafner et al. (2020)

Implications on labour productivity

Labour productivity is the main determinant of sustained per capita income growth and, subsequently, poverty reduction. The effects of the COVID-19 pandemic, including the collapse of global trade and restriction of movement that could encourage allocation of labour and capital away from high productivity sectors or enterprises, and the stifling of fiscal spaces, hit the fundamental engines of productivity growth the hardest.

With an already large gap in productivity between advanced economies and emerging and developing economies (which is even larger for the Sub-Saharan Africa region where average output per worker is just at eight percent of advanced economy productivity levels), the economic impact of COVID-19 threatens to further deepen this divide.[23]

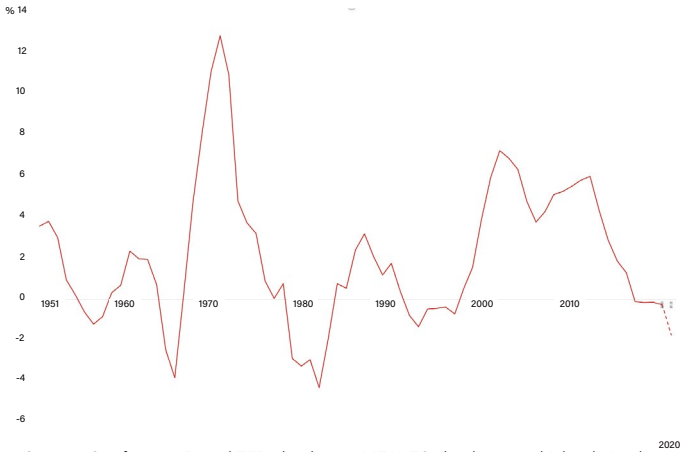
22 Hafner, Marco; Yerushalmi, Erez; Fays, Clement; Dufresne, Eliane; Stolk, Christian Van (2020), COVID-19 and the cost of vaccine nationalism. RAND Corporation

23 World Bank Group. Global Productivity: Trends, Drivers and Policies.

Since 2011, Nigeria had begun registering a sharp and general decline in labour productivity per capita (Figure 6). The added impact of COVID-19 could sustain this trend, compounding protracted losses and negatively impacting long-term development goals. [24]

Given the global nature of COVID-19, the impact on labour productivity trends could lead to a much longer and deeper decline. The growing debt profile in the country adds yet another layer of vulnerability to productivity growth.

FIGURE 4 GROWTH RATE OF OUTPUT PER PERSON EMPLOYED



Source: Conference Board TED database, IMF WEO database and Nigeria National Bureau of Statistics. Accessed January 2021. Shows moving 5-year average with labour productivity calculated as GDP per person employed. Dotted line for 2020 only an indication of potential trend based on estimates on productivity lossess from past epidemics.

Moreover, despite in the rise in the working age population compared to 2018, the labour force population has shrunk from 90.4 million in 2018 Q3 to 80.2 million in Q2 of 2020.[25] In addition to issues of labour supply availability, this could have implications on the size of the already significant informal sector in the country, including the vulnerabilities and challenges associated with it.

Implications on social cohesion

A bleak GDP outlook coupled with unemployment and underemployment rates rising from 43 percent in Q3 2018 to 56 percent in Q2 2020[26] could have profound implications on social cohesion. As a response to the harsh socio-economic realities of many Nigerians on account of the COVID-19 lockdowns, a number of strikes and unprecedented nationwide demonstrations, such as the protest against the Special Anti-Robbery Squad (SARS) and teachers', doctors' and labour union strikes, took place, followed by the easing of lockdowns. Without timely access to vaccines to counter the sustained and corrosive primary and secondary impact of COVID-19, the country's social, economic and security conditions will remain fragile.

As countries race to vaccinate their populations, there will be clear winners and losers. For Nigeria, restrictions on movement and the devastating socio-economic consequences could remain an ongoing reality, at least in the short term.

24 World Bank Group. Global Productivity: Trends, Drivers and Policies.

25 National Bureau of Statistics, Labour Force Statistics 2018 and 2020

26 National Bureau of Statistics (2020), Labour Force Statistics: Unemployment and Underemployment Report. Abridged Labour Force Survey under COVID-19 (Q2 2020)

03
Key Policy Options

The significant financial and operational challenges in inoculating the population will continue to threaten the economy and the well-being of Nigerians. Rapid mobilisation of response efforts to shorten the period of procuring and administering COVID-19 vaccines is imperative. To this end, proposed policy options include:

Supplement procurement efforts outside COVAX AMC Facility. Getting adequate vaccine doses for Nigeria's high-risk populations will not be easy due to the scarcity of vaccines and financial resources at the global and national levels. While COVAX AMC provides a safety net for Nigeria to access vaccines, it can only provide 20% of the needed doses. This means supplementary efforts such as bilateral deals made independently with manufacturers and/or with regional support, such as from the African Union (AU), need to be accelerated.

Routine immunization vaccines in the country are stored at 2°C and 8°C, including those for polio and MMR (measles, mumps and rubella). The Oxford-AstraZeneca vaccine, for instance, requires storage temperatures within this range. Such vaccines can be distributed using already available and less demanding infrastructure, and they ought to be targeted for procurement.

Set up supply chain infrastructure to optimise delivery and surveillance of vaccine administration. The process of coordinating service delivery, surveillance and microplanning, vaccine safety, and cold chain logistics will need foresight and proactive thinking at the policy and practical levels to integrate innovative approaches during the vaccine rollout. A key foundation for this is a coordinated and multi-sectoral policy and technical assistance that leverages business intelligence for rapid data collection, operations support and process innovation, with systematic use of data for feedback and process iteration to provide the much-needed monitoring and evaluation of the rollout. This will complement epidemiological analytics that will frame the vaccine rollout process to the larger society and across sectors with policy actions for the near and long term. It will be important to ensure that tailored decentralized administration strategies at the state level are aligned with the Vaccine Introduction and Deployment Plan (VIDP), which is complemented by the National Multi-sectoral COVID-19 Response Plan coordination framework at the federal level.

Set up a coordinated funding mechanism for potential supply side openings. A coordinated financing mechanism to channel both public and private resource mobilisation efforts for potential supply side openings is recommended. The One UN COVID-19 Response Basket Fund implemented in collaboration with the Nigerian government, for instance, has proven effective for the procurement of PPE and testing equipment at the start of the pandemic. A similar approach could be established for an efficient, effective and equitable rollout and distribution of the COVID -19 vaccines to the populace.

Complement and accelerate ongoing efforts towards strategic advocacy, confidence building and risk communications around the vaccine. A national public communications strategy to build confidence and trust around the vaccination effort, mitigate the conspiracies around its uptake, and ensure accurate information is disseminated, is a key factor in ensuring increased access and vaccine acceptance. Transparency in designating prioritized populations would ensure that sentiments of injustice around distribution and access are minimized. In addition, efforts are needed to ensure equal access to information for marginalized populations. Moreover, with

initial polls conducted by UNDP indicating that 30 percent of the population in some states is opposed to receiving the vaccine, cultural and social barriers towards the vaccine rollout will need to be carefully addressed.

Continue efforts on non-pharmaceutical interventions and accelerate structural transformation for long run recovery. As Nigeria waits to vaccinate 70 percent of its population and restart its economy, continued efforts towards non-pharmaceutical interventions coupled with strategic approaches to accelerate the structural transformation of the economy are vital to stemming the tide of the second wave as well as paving the pathway to recovery.