Leveraging Covid-19 Investments to **Strengthen Health Systems in Africa**

How investments in Covid-19 vaccine and product rollouts today can build stronger health systems for tomorrow.

CIFF CHILDREN'S INVESTMENT FUND FOUNDATION
WILLIAM + FLORA Hewlett Foundation
Dalberg

Introduction

African countries are at the start of what is likely to be the largest and fastest ever roll-out of vaccines and health supplies. At least 60% of Africa's population is targeted for vaccination by the end of 2022 through the COVAX Facility, the African Union Vaccine Mechanism, and bilateral agreements. This will mean delivering approximately 800 million vaccine courses to people across the continent. In tandem, the ACT-Accelerator[i] partnership will procure and deliver up to 100 million therapeutic courses and 900 million tests globally in 2021, together with wider efforts to increase access to diagnostics, treatment, oxygen, and personal protective equipment (PPE). A roll-out of this scale, speed and reach has never been seen before.

This will inevitably pose significant challenges to already overstretched health systems. Fully vaccinating 60% of African populations would involve an estimated 1.65 billion patient visits - approximately nine times the number required for three-dose DPT immunisations over the same period[ii]. Workforce shortages were estimated at 4.2 million in Africa prior to the pandemic[iii]. Covid-19 product roll-outs, delivered alongside the broader Covid-response, will place tremendous pressure on health systems and extend the disruption of essential healthcare services. Health systems need considerable support to limit the negative consequences.

Meanwhile, the continent is facing other major health challenges. African countries have, so far, been less affected by the pandemic than some regions, while also continuing to face higher addressable burdens in other key areas. Africa has the highest maternal mortality rates and largest unmet need for contraceptives in the world. Malaria kills over 400,000 people per year, the majority infants in Sub-Saharan Africa. Disruptions to antimalarial treatment of 25% or 50% could cause an additional 46,000 or 100,000 deaths in the region, respectively[iv]. Similarly, models suggest that a six-month disruption to HIV/AIDs medical supplies could cause an additional 500,000 AIDS-related deaths in sub-Saharan Africa by the end of 2021[v]. Co-morbidities with other diseases disproportionately prevalent in Africa can exacerbate the conditions of Covid-19 patients[vi]. Embedding vaccine rollouts as part of broader efforts to strengthen health systems will be critical to ensure that any gains against Covid-19 also save lives in other health areas and, at a minimum, do not reverse progress across other health priorities.

Investments being made to accelerate Covid-19 product roll-outs could have the power to transform health systems and create massive impact across the health space. Governments, international organisations, and other Covid-19 response actors have been working together to rapidly finance the roll-out of vaccines and other products. Government and their partners are being urged to further increase health systems strengthening (HSS) budget allocations to strengthen the response and support roll-outs. These HSS investments could offer unmatched potential to reorganise health systems in a way that maximises impact and health gains of programs across the entire health landscape, in support of Covid-19 *and* other health issues. If well-designed, they could generate a lasting legacy in terms of the reach, impact and resilience[vii] of health systems.

Support and planning are needed now to generate a long-term health and broader societal impact. This is a unique opportunity for decisionmakers to invest strategically in strengthening overstretched health systems; one that countries and their partners cannot afford to miss. Holistic investments that generate synergies across health areas - as opposed to single-disease approaches - are needed to maximise health gains. Coordinating the roles of the private sector with the public and philanthropic sectors will lead to better results. Equally important is considering the human, financial, and economic consequences of Covid-19 in health systems strengthening approaches. An estimated 100 million people in emerging markets and developing economies (EMDEs) will fall back into extreme poverty by the end of this year due to the pandemic[viii]. Investments in financial protection, employment, and education will be needed to ensure that entire populations have equitable access to high quality and efficient healthcare.

Below, we share six impactful ways that countries and their global partners can leverage Covid-19 investments to build a positive and lasting legacy for health systems in Africa. Between January and June 2021, the Children's Investment Fund Foundation (CIFF), the Hewlett Foundation and Dalberg conducted consultations with over 30 experts involved in the Covid-19 response in Africa, to discuss the risks and opportunities to health systems linked to Covid-19 vaccine and product rollouts. This included country representatives, policymakers, representatives of international and civil society organisations, and other technical partners. These conversations helped to map a universe of options to mitigate risks, maximise health impact, and sustain a health system legacy through Covid-19 investments (see Annex 1). Following this, a short-list of six promising options emerged, intended to *complement* current discussions around health systems strengthening. Findings were discussed and further refined in a virtual meeting with global and African health experts on June 3rd 2021, co-convened by CIFF, the Hewlett Foundation, the Global Financing Facility for Women, Children and Adolescents (GFF), and the Africa Centres for Disease Control and Prevention (Africa CDC).

Six investments that could support the Covid-19 response AND create a lasting health systems legacy in Africa

1. Formalise the role of community health workers (CHWs) involved in Covid-19 roll-outs. CHWs play an outsized role in preventing and responding to disease outbreaks. As trusted contact points within the health workforce, CHWs have proven essential in sustaining delivery of healthcare to underserved communities. However, they frequently work on a transient or voluntary basis, receiving only sporadic training. Recognising this, many governments have introduced measures to mobilise, support and incentivise new and existing CHWs during the pandemic. South Africa retrained 27,000 HIV and tuberculosis CHWs in Covid-19 screening[ix], while Africa CDC facilitated deployment of 17,154 CHWs across 25 member states to support contact tracing, active case searches and linkages to testing and care[x]. As well as addressing immediate emergency needs, such approaches – if carefully designed and sustained – represent an opportunity to formalise the role of CHWs long-term.

Building a more formal and salaried health workforce is fundamental to promoting health worker retention and alleviating pressure on primary care facilities. Liberia's experience of launching its national CHW program following the devastating Ebola pandemic in 2014-15 provides a wealth of lessons on how to do this successfully[xi]. By formally training, supervising, and paying nearly 4,000 CHWs, the country has doubled the reach of its health system in under five years. The programme focuses on female candidates in CHW recruitment and supports gender-sensitive training – important measures to consider, among others, to promote gender equity in the health workforce and improve women's and girls' health and well-being. In addition, as governments roll out or scale their CHW programs, they could leverage digital incentives to motivate and retain health workers. For example, providing CHWs with mobile phones or tablets empowers them to provide critical services remotely, as well as to access training through e-learning modules.

2. Develop a health worker census to improve the accuracy of health workforce deployment and better inform the design of health programs. The health workforce is being deployed at an unprecedented scale during the Covid-19 pandemic. This includes the mobilisation of additional CHWs, volunteers, and allied health professionals to address health workforce shortages. As health authorities start to vaccinate the larger and more diverse health workforce, they should consider using this unique opportunity to collect national health worker census data for both public and private sector service providers – including qualifications, skillsets, location, and other information.

A greater understanding of health worker mix is critical for designing health programs in ways that deploy scarce human resources most efficiently. It also informs decision-making across a broader range of health workforce challenges. For example, Uganda's national Human Resources for Health Information System has enabled the country to tackle health workforce issues ranging from absenteeism to credential verification, to geographical imbalances, to training gaps. Meanwhile, Capacity Kenya's use of iHRIS Suite – an Open Source software tool – has supported the hiring and management of health workers in Kenya's North

Eastern Province. Governments can consider harnessing or scaling these and similar technologies as they seek to capture health worker data during the Covid-19 vaccine rollout.

3. Expand information systems for stock management and tracking. Africa relies on imports for at least 80% of its pharmaceuticals and medical consumables[xii]. Inefficiencies and blind spots in national stock management systems can lead to delays in procuring and distributing those vital supplies, as well as increase the risk of counterfeits and wastage. In this way, measures that improve not just the cost efficiency, but also the agility, responsiveness and safety of regional procurement are necessary. This can enable clearer sight over when vaccines will arrive in health facilities[xiii], as well as help to track and target second doses to appropriate sites – allowing for reallocation of doses that are close to expiry to avoid wastage.

Ensuring that supply chain investments made today include efforts to strengthen underlying information systems for stock management and tracking can help accelerate and target the Covid-19 vaccine rollout. It would also create a strong foundation for improving health in the future. With a growing movement towards digitally enabled procurement and delivery models, investments could help scale information technologies already being pioneered within the private sector to address wastage, stock-outs, and leakage of medical products. Some models have already demonstrated success. Macro-Eye's use of artificial intelligence to collect high-frequency data on vaccine logistics and supplies was able to drastically reduce misallocation of DPT vaccine vials in Tanzania.[xiv] mPharma, a Ghanaian health tech start-up, increases the efficiency of drug supply chains for pharmacies and their partners – thereby improving access to medicines for over 100,000 patients per month across six countries in Africa[xv]. Strengthening and scaling stock information systems could create a lasting legacy of safer and more responsive medical supply chains.

4. Support and scale home-based and digital healthcare models mobilised during the crisis. The significantly reduced operation of many in-person health facilities, coupled with rising demand for healthcare, has increased the relevance and prominence of home-based care models. Many health enterprises are drawing on new technology and business model innovations to deliver diagnostic, treatment and prescription services remotely, often via digital platforms. This includes tools for self-care[xvi] to further empower individuals to take control of their own health. These innovations have reinforced access to health services while limiting the risk of Covid-19 transmission. For example, enterprises like Babyl Rwanda and oDoc offer telephone or video consultations with registered doctors and nurses, as well as remote pharmacy prescriptions and lab test orders, to thousands of patients per day. More broadly, Rwanda is pioneering what would be the world's first digital-first universal primary care service.[xvii]

To accelerate the uptake of home-based and remote healthcare models, governments across Africa may need to support and encourage digital-first approaches. This includes creating an enabling policy environment around data security, privacy, and access, that ensures that digital inequalities are not exacerbated. Many countries have already developed new guidance and policies to enable self-care and digital health interventions – for example, the Ministries of Health of Uganda and Nigeria have adapted the World Health Organisation (WHO) Consolidated Guideline on Self-Care Interventions for Health. Creating the appropriate enabling environment to scale home-based and digital models offers the potential to facilitate more accessible, participatory, cost-effective, and affordable healthcare to the entire population while releasing pressure on health workers and facilities.

5. Integrate the delivery of additional health services with the rollout of Covid-19 vaccines. Lockdowns, together with the redeployment of health resources to the Covid-19 response, have led to disruptions across an average of 40% of health services in Africa between January-March 2021.[xviii] As LMICs seek to vaccinate their populations against Covid-19, they could consider addressing healthcare disruptions through carefully designed service integrations. Offering additional services alongside vaccines, such as malaria nets or family planning counselling and advice, would enable governments to maximise health gains in the face of constrained health system capacity. Facilities could also consider sharing simple health messages with those arriving for vaccination to combat vaccine misinformation and hesitancy.

Integrative approaches have demonstrated success in the context of sexual and reproductive health, in particular. For example, integrating family planning services and routine immunisation programs was found to increase contraceptive use in Rwanda and Togo with no negative effects on immunisation services.[xix] Given the challenges facing Covid-19 vaccine rollouts, it will be important to choose simple interventions that do not create additional risks to deployment in the form of time lags, increased vaccine hesitancy, or occupational hazards to health workers.

6. Invest in local-level public finance systems to ensure funding reaches communities sooner. Governments worldwide have invested significant funds in their healthcare systems to procure and deliver critical health commodities to frontline facilities in response to Covid-19. However, excessive bureaucracy and fragmentation within national financial systems can keep needed funds from the front lines, especially in more centralised health systems. In some cases, these inefficiencies, combined with the urgency of the ongoing crisis, have led healthcare providers to implement more dynamic approaches to financial management, contracting out, and purchasing health services from the private and public sector service providers. Resorting to *ad hoc* approaches in the face of a crisis illustrates the need for reforms that build more dependable local-level public finance systems.

As institutions finance the procurement and delivery of Covid-19 vaccines, they should consider how to build on local-level investments beyond the pandemic and harness the entire health system under government stewardship, including private sector and NGO service providers. This will ensure that vital resources are able to reach the frontline more quickly, reliably, and cost-effectively in the long-term.

Conclusion

A once-in-a-generation opportunity to strengthen health systems, alleviate pressure on frontline health workers and improve care delivery for patients across Africa cannot be missed. With billions of funding allocated to the Covid-19 response, it is time to plan, accelerate, and sustain new approaches to service provision, data collection and finance. Investments are needed now to strengthen health systems across Africa, save lives today in a number of disease areas, help bounce back post-Covid, and prepare for future pandemics. In short, now is the time to turn urgency into legacy.

Annex 1: Universe of Options

This annex provides the long list of interventions identified during the consultations and convening. Possible interventions are mapped against the World Health Organization's Six Health System Building Blocks: Governance & Leadership, Information, Financing, Service Delivery, Health Workforce, Medicines & Technologies.

Options are organized by whether they would mitigate risks, leverage opportunities, or build legacy. For each WHO Building Block, a range of options have been identified and organised based on their impact on the health system. Interventions would help:

- **Mitigate risks** to the broader health system posed by the roll-outs of commodities
- **Leverage opportunities** to maximize the health impact of Covid-19 product roll-outs
- **Build legacy** of investments being made during the response, for other disease areas and broader health system

Table 1: Long list of options to protect and strengthen the health system during and beyond Covid-19 product roll-outs, organised by WHO Health System Building Blocks

WHO Building Block	Health System Risks	Mitigate Risks	Seize Opportunities	Sustain Legacy
Governance & Leadership *The governance and leadership of health systems has come under increased pressure during the Covid-19 vaccine roll-out, as decisions regarding service delivery and workforce deployment must be made and revised in the context of a rapidly evolving pandemic.*	+ Use of existing infrastructure, workforce for vaccine delivery reduces the capacity of health systems to deliver routine care + Development and revision of service delivery increases uncertainty and risk of discontinuous care	+ Providing logistical/technical assistance and funding to governments to plan for continuity of critical health services	+ Building on current consensus with respect to procurement, regulation and service delivery processes to benefit non-Covid health areas + Developing a country- or regional- level vaccine registry to track Covid-19 immunisation rates, which could be used for routine immunisations	+ Building on public financial management system reforms achieved during Covid-19 roll-outs to improve responsiveness of health systems to "front line" requirements + Leveraging increased engagement of CSOs during the COVID-19 pandemic for other health areas + Capturing learnings from Covid-19 roll-outs that could inform future pandemic preparedness and reforms of global health security and cooperation frameworks, funding, and infrastructure
Information *The collection, analysis and dissemination of information at all levels of the health system is challenged by Covid-19 vaccine roll-out. The resources required to track COVID-19 vaccine delivery; monitor and evaluate progress towards program objectives; promote vaccine uptake and fight*	+ Reduced capacity for planning and data collection for other health priorities + Diversion of funds, resources and personnel from non-Covid-19 health services + Reduced ability of governments, multilateral organisations and donors to engaged in	+ Integrating marketing campaigns to socialise both the Covid-19 vaccine and non-Covid-19 interventions + Building anti-disinformation campaigns from bottom up with input from communities to identify messages which resonate + Supporting MEL activities for non-COVID health areas, through increased funding or	+ Capitalising on population-level health data collection and analysis to improve targeting of future health campaigns + Capturing health workforce data collected during Covid-19 product roll-out, building a comprehensive picture of workforce skill-mix and distribution to inform deployment + Utilising existing channels (e.g., radio stations, TV, phone notifications) to reinforce messages	+ Mainstreaming more advanced IT and data collection systems used in Covid-19 product roll-out for planning and M&E of health interventions (improving equity and sustainability outcomes) + Establishing 'life course' immunisation programmatic capacity for use in other health areas + Maintaining and expanding communication strategies and technologies developed during Covid-19 product roll-out to engage

vaccine hesitancy will be immense.		MEL activities and measure progress in non-Covid-19 health areas		allocation/ring-fencing of dedicated MEL personnel for these areas	+	Considering how insights gathered to inform roll-out communications can be expanded to improve messages of other health campaigns Broadening MEL of roll-out to capture the impact on health systems, and where possible the performance of interventions to optimise health impact during the Covid-19 product roll-out	+	with hard-to-reach, linguistically diverse communities	
Service Delivery *Vaccination for Covid-19 will primarily be delivered through existing health care facilities and pathways, significantly impacting their ability to deliver routine health services.*	+	Disruption in the distribution of non-Covid-19 supplies due to diverted funds/ resources and capacity constraints Disruption in delivery of non-Covid-19 health services due to diverted resources and personnel	+	Ring-fencing supply chain capacity for critical non-Covid-19 health products Providing contingency funding plans for services that will lose health personnel Bundling additional critical health services and commodities with the Covid-19 vaccine to maintain, or reinstate, their delivery during roll-out	+	Integrating distribution of other health products with distribution of Covid-19 vaccines (e.g., distribution of Vitamin A, routine immunisations and/or mass drug administration, family planning, alongside COVID vaccinations, depending upon disease burden and country context) Scaling-up alternative care models (e.g. pharmacy, self-care, digital) for other health services	+	Sustaining surge cold-chain capacity beyond Covid-19 product roll-out to support distribution of other commodities (including routine immunisations) Establishing track and trace systems of serialised medical products to protect supply chain integrity of all products Mainstreaming surge community workers in the health workforce (consider greater incentives/payment) Maintaining and expanding country- or regional-level vaccine registry to non-COVID vaccinations	
Health Workforce *Covid-19 vaccine roll-out will require the engagement of existing and surge health worker capacity. In many cases, health workers will need to be redeployed from other areas of the health system, resulting in disruption to health service delivery in those areas. Vaccine delivery as well as adjacent activities (e.g., adverse event monitoring) will also require additional training of health workers.*	+	Training health workers on Covid-19 product roll-out temporarily disrupts their delivery of critical health services	+	Staggering training of health personnel to maintain continuity of critical health services Continuing training and certification activities for health workforce (e.g., mandatory trainings) by administering them online.	+	Integrating broader health training with planned Covid-19 related training Exploring the possibilities of task-shifting, upskilling and community building to improve health workforce efficiency Utilising and investing more in existing digital/mobile training platforms to reach health workers in more remote locations Designing health systems, infrastructure, workforce planning, and supply chains that are "future fit". With digitally-enabled consultations, screening, remote prescriptions, and follow up, there may be less of a need for doctors deployed in remote areas, and physical infrastructure needs (clinics and hospital beds) may decrease	+	Mainstreaming community health workers (who play a key role in health service delivery but are often voluntary/transient workers) into the health workforce and training them in transferable skills (e.g., delivering immunisation shots) Building upon digital workforce management and training platforms established during Covid-19 product roll-out to improve health workforce deployment efficiency Massive health systems savings as African health systems do the equivalent of "leapfrogging phone land lines", avoiding building unnecessary infrastructure and a health system that is not fit-for-purpose 10 years from now	
Financing *The financing and procurement of non-COVID health services and commodities faces unprecedented*	+	Diversion of funds from non-Covid-19 health interventions Disruption in procurement activities of non-	+	Providing contingency funding for critical non-Covid-19 health services Installing "two track" procurement processes which	+	Crowding in new funders and international organisations whose strategic objectives are aligned with potential opportunities	+	Invest in local-level finance systems to help resources reach communities sooner Making the case for longer-term investment in vaccine roll-out technologies and techniques to	

disruption during Covid-19 vaccine roll-out as international and domestic financial resources are focused on ensuring rapid and widespread delivery of vaccines.	Covid-19 supplies due to diverted funds and resources	enable essential health commodities to be procured during Covid-19 procurement processes. +	Creating national level procurement structures to bring together & co-ordinate all involved stakeholders + Improve contracting-out and health purchasing capabilities, including purchasing from quality private sector providers +	sustain prioritisation and funding of Covid-19 product roll-out activities Funding of projects to institutionalise the procurement agents and processes involved in the Covid-19 product rollout (to streamline procurement activities of all medical products) Harnessing the entire health system (including public and private) under government stewardship, financing, and regulation.
Medicines & Technologies + *The research and development, manufacture and regulation of Covid-19 vaccines, therapeutics and related commodities has been prioritized by international actors and governments during the Covid-19 pandemic. This activity, while vitally important, has reduced the capacity for research, development, manufacture and regulation of non-Covid health commodities and technologies.*	Disruption in the manufacturing of non-Covid-19 supplies + Delays to the approval of other health products (and potentially loss of perceived credibility of approval processes/ institutions) + Delays in the critical R&D of non-Covid-19 commodities +	Funding production of critical non-Covid-19 health commodities + Installing "two track" regulatory processes which allow essential non-Covid-19 health products and medical devices to achieve regulatory approval during Covid-19 pandemic period. + Funding campaigns to attract new expertise into global health R&D (to focus on non-Covid-19 R&D challenges) Funding critical non-Covid-19 R&D projects +	Investing to maintain increased manufacturing capacity for Covid-19 vaccination production for use in producing other health products + Funding the development of 'lower maintenance' vaccines to use in low resource settings (i.e., beyond cold chain reach) +	Documenting new vaccine manufacturing techniques, tools and technologies to manufacture wider health products in large volumes and at speed Harmonising international regulatory practices to improve the efficiency of regulatory processes Documenting new research techniques, tools, and technologies for use in future pandemics or other global health R&D contexts

[i] WHO, *ACT-Accelerator Prioritized Strategy & Budget for 2021*, April 2021
[ii] Assumptions: (1): Covid-19 courses require 2 doses, DPT immunisation courses require 3 doses, (2) DPT immunisation coverage rates of 2019, ranging from 66-99% within Africa. Source: *UNICEF regional immunization snapshots*, October 2020
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