

# MAPPING COVID-19 ACCESS GAPS:

Results from 14 Countries  
and Territories

AUGUST 2022





## ACKNOWLEDGEMENTS

Matahari Global Solutions is a global health consultancy firm focusing on global health solutions with local relevance. Registered in Kuala Lumpur and with consultants based globally, our work has covered a wide range of global health issues, including pandemic response, transgender legal recognition and impact on access to healthcare, paediatric TB and impacts of advocacy, and the evaluation of multi-country HIV projects, across Africa, Asia, Eastern Europe and Central Asia, and Latin America.

With the support of the International Treatment Preparedness Coalition and the People's Vaccine Alliance, Matahari conducted interviews and desk review on COVID-19 services in fourteen countries and territories (Bangladesh, Democratic Republic of the Congo, Haiti, Jamaica, Liberia, Madagascar, Nepal, Nigeria, Perú, Senegal, Somalia (and de facto state Somaliland), Uganda, Ukraine) (Phase II), to assess progress on access to COVID-19 tools in six months since publication of results from Phase I of the project, which found that, inter alia, that there was no access to COVID-19 self-tests, that there was a lack of data on oxygen needs, and that vaccine access was impeded by poor operational support. In this Phase, Matahari collaborating with local consultants and organisations (Adeyemi Adeitan—Nigeria; Dr Elia Badjo COSAMED—DRC; and Katarzyna Bialous ANKIZY GASY—Madagascar) was able to gain insights from within communities of what barriers continue to exist.

This Report was informed by the experience and insights of numerous experts in pandemic response, public health, health systems, diagnostics, vaccines, therapeutics, and community mobilisation. Our thanks to (listed alphabetically by surname):

<b>Sam Acellam</b>	Senior Laboratory Technical Advisor, FIND, Uganda
<b>Bruce Aylward</b>	Senior Advisor to the Director General, World Health Organization
<b>Dr Ahmed Bello</b>	State Coordinator, WHO Field Office, Nigeria
<b>Dr Maureen Birmingham</b>	WHO Representative, Haiti
<b>Mohamoud Ali Bullale</b>	Programme Manager, Health Poverty Action, Somaliland
<b>Ted Chaiban</b>	Global Lead Coordinator for COVID-19 Vaccine Delivery, COVID-19 Vaccine Delivery Partnership
<b>Dr Gidado Ahmed Danbatta</b>	Public Health Officer, WHO Nigeria
<b>Adelaide Davis</b>	COVID-19 Vaccination Officer, International Federation of Red Cross and Red Crescent Societies (IFRC)
<b>Manisha Dhakal</b>	Blue Diamond Society, Nepal
<b>Dr Carolyn Gomes</b>	Board Member, Developing Country Delegation, Global Fund Board; Co-Chair Caribbean Centre for Human Rights, Jamaica
<b>Dr Alberto Gonzales Guzmán</b>	Proyectos Unitaids-Socios en Salud, Peru
<b>Dr Olga Gvozdetzka</b>	Public Health Center, Ukraine
<b>Dr Serge Kasereka</b>	Consultant Doctor, COSAMED
<b>Julia Kosgei</b>	People's Vaccine Alliance
<b>Dr Javier Llamaza</b>	Researcher, Acción Internacional para la Salud, Perú
<b>Dr Mamunur Rahman Malik</b>	WHO Representative, Somalia
<b>Kateryna Mangatova</b>	Project Manager, C19RM, Alliance for Public Health, Ukraine
<b>Lydie Maoungou Minguiel</b>	Immunisation Specialist, UNICEF country office, Haiti
<b>Richard Musisi</b>	MADIPHA Uganda





<b>Dr Chinwe Nnama-Okechukwu</b>	Department of Social Work, University of Nigeria Nsukka, Enugu state, Nigeria
<b>Dr Marie Petit-Homme</b>	Medical Doctor, Haiti
<b>Ony Rakotoarivelo</b>	Country Representative, Ankizy Gasy (Children of Madagascar)
<b>Bhim Prasad Sapkota</b>	Senior Public Health Administrator, Health Coordination Division, Ministry of Health and Population, Nepal
<b>Dr Saeed Mohamood Soleman</b>	Director of Policy, Planning, Strategic Information, Ministry of Health Somaliland
<b>Dr Marco Tovar</b>	Medical Director, Socios en Salud, Perú

This report was reviewed by Arush Lal, Commissioner for the Chatham House Commission on Universal Health, and Tracy Swan from the International Treatment Preparedness Coalition (ITPC).

**DATE OF PUBLICATION** 25 August 2022

**AUTHORS** Dr Fifa A Rahman, Gisa Dang, Dr Charles Ebikeme, Dr Pedro Villardi

**SUGGESTED CITATION** Matahari Global Solutions, 'Mapping Access Gaps in COVID-19: Results from 14 Countries and Territories' (August 2022)

© Matahari Global Solutions



# TABLE OF CONTENTS

<b>Executive Summary</b>	<b>1</b>
<b>Access to Rapid Antigen Tests</b> (Professional Use and Self-Tests)	<b>4</b>
<b>Access to Novel Antivirals</b> (including Paxlovid)	<b>11</b>
<b>Conflict, Insecurity, and Natural Disasters</b>	
<b>Compromising COVID-19 Response</b>	<b>14</b>
<b>Underinvestment in Oxygen Plant Production and Maintenance</b>	<b>18</b>
<b>*Not* Hesitancy: Factors Influencing Vaccine Uptakes</b>	<b>22</b>
<b>Efforts to Accelerate Vaccine Uptake</b>	<b>26</b>
<b>Health Systems Challenges</b>	<b>29</b>
Health Workforce—including Role of Community Health Workers, Remuneration, and Management.	<b>29</b>
The Role of Community Health Workers in the COVID Response	<b>29</b>
Poor/Delayed Remuneration of Health Care Workers	<b>32</b>
Health Workforce Strengthening and Protection	<b>32</b>
Digitised Health Workforce Databases for Rapid Deployment	<b>32</b>
Health Infrastructure and Supplies	<b>33</b>
Continuity of Routine Health Services	<b>34</b>
Addressing Misinformation and Disinformation	<b>35</b>
<b>Barriers Faced by Minorities and Marginalised Groups in Accessing Covid-19 Tools and Impacts of Lockdowns</b>	<b>38</b>
Access to Health Services During Covid-19	<b>38</b>
Covid-19 and Mental Health	<b>39</b>
Access to Government Services, Food, and Subsistence	<b>40</b>
Policies Constituting Barriers to COVID-19 Services, Including Criminalisation	<b>41</b>
<b>Conclusion and Recommendations</b>	<b>44</b>
<b>Endnotes</b>	<b>46</b>



## ABBREVIATIONS

<b>AgRDTs</b>	Antigen rapid diagnostic tests
<b>ARV</b>	Antiretroviral
<b>C19RM</b>	COVID-19 Response Mechanism
<b>CHW</b>	Community health worker
<b>COVID-19</b>	Coronavirus disease 2019
<b>CoVDP</b>	COVID-19 Vaccine Delivery Partnership
<b>FIND</b>	Foundation for Innovative Diagnostics
<b>IFRC</b>	International Federation of Red Cross and Red Crescent Societies
<b>LGBTIQ</b>	Lesbian, gay, bisexual, transgender, intersex and queer
<b>LMIC</b>	Low- and middle-income countries
<b>MoHP</b>	Ministry of Health and Population
<b>PLHIV</b>	People living with HIV
<b>PPE</b>	Personal protective equipment
<b>PSI</b>	Population Services International
<b>RDT</b>	Rapid diagnostic tests
<b>TB</b>	Tuberculosis
<b>VL(s)</b>	Voluntary License (s)
<b>WASH</b>	Water and sanitation
<b>WHO</b>	World Health Organization



## EXECUTIVE SUMMARY

In 2022, high income countries began transitioning out of the COVID-19 pandemic, dropping masking restrictions and self-isolation requirements, removing access to free rapid self-tests,<sup>1</sup> and other policy changes that signalled the so-called end of the pandemic. With majority of these countries surpassing the 70% WHO target on vaccinations, as well as stark differences in testing and antivirals access—we sought to assess access to COVID-19 tools across 14 countries (**Bangladesh, Democratic Republic of the Congo, Haiti, Jamaica, Liberia, Madagascar, Nepal, Nigeria, Perú, Senegal, Somalia (and de facto state Somaliland), Uganda, and Ukraine**), selected for a variety of factors including having less than 10% vaccination rates at time of writing (DRC and Haiti), domestic insecurity as a key challenge to tools deployment (DRC, Haiti, Nigeria, Somalia, Ukraine), high absolute numbers of COVID-19 deaths (Perú), but also due to factors such as relative poor focus and visibility in academia and in policy discussions on certain countries (Madagascar) despite data on low vaccination rates and anecdotes of low access to other COVID tools such as tests.

Our research finds the following, organised by themes in bold:

**\*Not\* vaccine hesitancy.** Claims of vaccine hesitancy in the Global South lack nuance and accuracy. Factors for low vaccine uptake in countries are multifaceted and heterogenous and include factors such as proximity to vaccination centres and distrust of government (DRC and Haiti), insecurity and violence (Haiti, Nigeria), continuing issues with predictability of supply, insufficient workforce to reach nomadic populations (Somalia), and suspicion due to legitimate concerns from historical memory of experimentation on Black bodies by white colonisers.

**Demand of novel antivirals for COVID must be preceded with knowledge of the antivirals.** Doctors in rural healthcare centres in Haiti, Nigeria, and Madagascar reported either having never heard of the existence of novel antivirals for COVID-19, or

never having heard of the brand name 'Paxlovid'. International press outlets have reported on the low demand for Paxlovid around the globe, but have not included this nuance—that demand cannot exist without knowledge of the product.

### **Need for more nuanced international guidelines.**

International guidelines for self-isolation are impractical for those in the informal economy who do not have savings/disposable income, and for individuals who living in close quarter dwellings—in such circumstances, access to rapid self-tests is especially necessary to manage risk.

**Widespread rapid test inequity.** Most countries examined have widespread rapid testing inequity. Rapid self-tests are essential right to health tools for all, especially for those in the informal economy, mobile populations, low-income communities, and individuals in rural areas.

**Mobile health delivery services essential.** Many communities either due to, inter alia, conflict and displacement, nomadic cultures, lack of disposable income for transportation, cannot access services via fixed health facility locations. Mobile health delivery services remain essential for COVID-19 tools uptake in communities and should be initiated earlier in future pandemics.

**Community health workers are essential for pandemic response but remain unsalaried.** Across the 14 countries and territories, community health workers play an essential role in deployment of tools, community engagement, and vaccine uptake. Yet they largely remain unpaid—a phenomenon some have described as 'modern day slavery'.<sup>2</sup>

**Poor financing plans for maintenance and repair of oxygen plants.** In some countries such as Perú, oxygen planning projections are incomplete, accounting predominantly for oxygen needs between COVID peaks—compromising oxygen access planning and oxygen plant repair needs. Multiyear plans such as Liberia's 2021-2024 National Roadmap to Increase Access to Medical Oxygen,<sup>3</sup> which includes activities such as updating donor



guidelines to include medical oxygen, and to establish and maintain a national database for oxygen equipment inventory, may be a best practice first step that can be adopted by other countries in this report.

**More holistic, intersectional, and comprehensive pandemic responses needed.** Siloed approaches to pandemic commodity deployment will not work, and must be accompanied by culturally competent, gender inclusive, and community-led efforts, including robust communication campaigns. In addition, in several countries (DRC, Madagascar, Nigeria, Uganda), communities reported not having enough food and hence prioritised this over getting tests and vaccinations, suggesting that pandemic response also needs to account for social determinants of health. LGBTIQ communities also faced numerous barriers to accessing COVID services, with accounts of denial of COVID financial relief due to non-recognition of gender identities on official ID.

**Many countries lack digitised health workforce databases,** which compromise rapid mapping, assessment, and deployment of the health workforce during health emergencies.

**Health systems investments are needed—and must be defragmented.** Numerous countries reported key health systems gaps, including on access to water and sanitation (DRC, Liberia, Madagascar, Somalia), digitised health workforce databases (DRC, Ukraine etc), improved supply chains, and professionalising and salarising of community health workers (Peru, Somalia, and others). Health systems issues are exacerbated by fragmentation in health systems strengthening investments, with investments occurring predominantly vertically

through disease programs such as HIV funding, and due to factors related to discrepancies between domestic priorities and global health priorities. In addition, there is insufficient attention to intersectionality and to underlying social determinants of health.

**Social security and pandemic relief as essential for access to COVID-19 tools uptake.** Respondents in several rural areas of countries reported not having regular food, nor disposable income to take transport to health facilities for vaccinations or for other health services. Respondents in several countries (including Perú and Uganda) reported working in the informal economy (at market stalls etc) and could not afford to isolate if diagnosed with COVID-19. Long-term planning is necessary for direct bank transfers and cash support during pandemics.

**A conflict and insecurity lens to pandemic response is necessary.** Respondents in DRC, Haiti, Nigeria, Somalia, and Ukraine spoke about conflict, insecurity, and natural disasters as major barriers to effective COVID-19 response, and as factors that exacerbated transmission. A failure to account for conflict, insecurity, and violence in pandemic planning compromises health commodities deployment and uptake.

In this report, testimonials of health experts in-countries describe challenges that remain—and what's needed for this pandemic, and for future pandemic response.



*Kibonge (left), mid-twenties, speaks to Dr Serge Kasereka, consultant doctor, COSAMED, from outside his home in the village of Kaguri, North Kivu, Democratic Republic of Congo*







## ACCESS TO RAPID ANTIGEN TESTS (PROFESSIONAL USE AND SELF-TESTS)

**O**ur Phase I report published in March 2022 found that in comparison to countries in the Global North, the 8 countries where we mapped data (Bangladesh, Liberia, Nepal, Nigeria, Peru, Somalia, Uganda and Ukraine) had little or no access to rapid self-tests for COVID-19, that those attending TB screening were not offered COVID-19 tests despite WHO recommendations to do so,<sup>4</sup> and that there were a number of pilot projects involving antigen RDTs in a number of countries, including projects funded by the Foundation for Innovative Diagnostics (FIND) to assess feasibility and acceptability of AgRDTs versus PCR in cross border truck drivers (Uganda) and to train health workers and surveillance officers on AgRDTs in health facilities and communities (Somalia).

In Phase II involving 13 countries, we sought to first understand PCR turnaround times, defined as the time from collection of sample to time of communication of results to the individual. The results ranged from 8-12 hours (urban Bangladesh) to more than two weeks (rural DRC). On the latter, we spoke to Dr Thierry Turano, the head of the Nyiragongo health zone in eastern DRC, an area that in 2021

was devastated by a volcanic eruption, resulting in migration and displacement, and health issues resulting from exposure to sulphur dioxide and other irritants. According to him:

***The sample for PCR is done to be analyzed in Goma, which takes at least 48 hours and the rendering of the results more than two weeks. We have a single lab for analysis for (samples from) North Kivu, South Kivu, and Maniema. Sometimes the results come after the patient has been discharged with the risk of infection."***

**DR THIERRY TURANO**

Head of the Nyiragongo health zone, North Kivu, DRC

Slow PCR processing times increase the risk of transmission while patients are awaiting results and necessitate health staff progressing to treatment and care in advance of results. Given the similarity of symptoms between COVID-19 and other health conditions such as TB (cough, respiratory symptoms) and malaria (fever), rapid diagnosis remains relevant to prevent misdiagnosis and effective treatment. In **Madagascar**, we worked with



View over  
Ambohidratimo,  
Madagascar, a  
semi-rural town  
approximately 11km  
from Antananarivo



local NGO Ankizy Gazy to assess community and healthcare worker access to COVID-19 tools, including tests. Local consultants conducted interviews in Ambohidratimo, a semi-rural community 15 kilometres from the capital Antananarivo, and found narratives of the cost burden of tests, poor health communications and outreach to local communities with COVID-19 information, and fear of needing to stay home after a positive result and loss of income. One student nurse interviewed for this report said:

***I have never been tested... it is quite difficult. I know that you can get tested at the state hospitals. There are PCR and rapid antigen tests. I have administered them before—people are quite scared of the test because they are worried about the result. People often ask me for advice about where to get a test—but there aren't enough in our community. People are most interested in rapid tests, because they want to know the result as soon as possible.***

**20-YEAR-OLD STUDENT NURSE**

Ambohidratimo, Madagascar

Limited test availability and poor communications about the role, value, and price of testing were also represented in our interviews with members of the community. A 65-year-old woman who does laundry for a living, and who has caring responsibilities, told us that the test was not free, and that she wasn't sure of the nature of the test:

***I don't know where to go to get tested, because as far as I know from television etc, you have to pay. If it was free, then I would go. But I was happy with the vaccination because it was free—I just paid for the bus! If I tested positive, I would go to the doctor, for sure. I've heard that to do the test, they put something in your nose—but I'm not sure.***

**65-YEAR-OLD LAUNDRY WORKER**

Ambohidratimo, Madagascar

Another member of the community, a 32-year-old mother with five children, and who was the sole breadwinner in her family due to her husband's disability, also did not understand what a COVID test involved but said that the COVID testing facility was far away from her and that she had to pay 600 ariary (14 U.S. cents) to get there. She told us:

***I've never had a test—but I know where to get one. It's at the government place at Akoor Digue—it's very far away and you have to take a bus and pay 600 ariary. I have never thought about getting a test because I haven't ever had symptoms. If I tested positive, I would go to the hospital. I don't know how you get tested for COVID—I think it's a blood test.***

**32-YEAR-OLD MOTHER OF FIVE**

Sole earner, Ambohidratimo, Madagascar

Given that as the operator of a market stall she earns approximately 150,000 ariary (USD\$35) per month, 14 cents is a stretch for a mother needing to feed and care for five children, and raises the question of the utility and value of mobile delivery services for COVID-19 and other health services.

One 2021 article<sup>5</sup> reports that in Ifanadiana District (a rural district approximately 421 kilometres and a 9-hour drive south of Antananarivo), while rapid antigen tests were deployed to health facilities across the district, a range of factors including supply chain challenges, sensitisation and trust, etcetera, meant that patients were likely to be under-screened, under-tested, and that cases would be likely under-reported, and that this didn't only apply to COVID-19, but also to malaria, pneumonia, and diarrheal disease, and that rapid testing was necessary in rural areas of Madagascar with poor access to molecular testing.

In Jamaica, rapid self-tests are not freely available, and access to testing generally is heavily influenced on whether an individual can afford to get tested. In the words of Dr Carolyn Gomes, Co-Chair of the Caribbean Centre for Human Rights:



Posters along a main street in Lima, Peru, advertising free access to tests (photo taken July 2022)

***Only If you have money can buy rapid self-tests in any pharmacy across the island. You can get a PCR or an Antigen RDT at a big cost any time you want—if you have money. If you can't afford to pay, you can't get a PCR, or an Antigen RDT, or a self-test.***

**DR CAROLYN GOMES**

Co-Chair of the Caribbean Centre  
for Human Rights

In **Nigeria**, rapid antigen tests have been deployed to primary healthcare settings in several locations. In Ekiti State in southwestern Nigeria, for example, AgRDTs were scaled up in September 2021, allowing for quicker turnaround of COVID-19 test results.<sup>6</sup> Prior to the introduction of AgRDTs, it took 3-4 days for PCR results to be returned to individuals, even if they were symptomatic. In Osun state, however, one respondent cited low motivation among health workers as a reason for poor RDT testing within primary healthcare centres.<sup>7</sup>

In Ondo state in southwestern Nigeria, one community member from Idanre told us that stigma of a positive result prevented him from wanting to access tests. In her own words:

***“Social stigmatization is common among people here because they tend to avoid anyone who once tested positive even after treatment. I didn't get tested for COVID-19 for fear of being positive but I know that the test is free.”***

**COMMUNITY MEMBER FROM IDANRE**

Ondo State, Nigeria

Further research is needed on how stigma impacts uptake of rapid tests and what interventions can be adopted to encourage testing.

In **Perú**, colleagues from *Socios en Salud* told us that timeframes for processing and return of PCR results depended on locations—in urban and suburban areas time from sample collection to communication of results varied between 1-2 days, whereas in rural areas it takes approximately 3-4 days. In the capital city of Lima, rapid antigen tests are offered for free at certain points throughout the city.

In **Senegal**, Institut Pasteur de Dakar is carrying out COVID-19 testing at 25 sentinel sites across the country. As PCR results are processed weekly, rapid antigen tests are playing a critical role in ensuring speedy diagnosis. At these sentinel sites, given similar symptoms (fever), staff are reflexing between malaria and COVID-19 tests. This means that instead of doing both tests with every individ-





ual, testers are testing for one condition first and pivoting to another if the test is negative and the other condition is still suspected.

In Somalia, where 25% of the population is nomadic, there remains serious challenges to testing equity. Notably, that PCR was ill-suited to nomadic populations and that there was insufficient health workforce to deploy rapid tests to hard-to-reach areas.

We spoke to Dr Mamunur Rahman Malik, the WHO Representative for Somalia, who told us:

***25% of the people in Somalia is nomadic (and) are moving from one place to another. Unless we have mobile facilities like laboratories and mobile health services, we cannot cover these nomadic populations. In order to cover these people living in hard-to-reach areas, we need to have a separate strategy having by laboratories, close to the very close proximity to where they're living... rapid tests are ideally suitable for these types of conditions. But having deployment of rapid diagnostic tests will be most useful if we have a mobile health workforce who is deployed in these places to make sure that all containment and mitigation measures are also put in place. In Somalia, our workforce density is very low because many skilled health workers have migrated, thus the density of health workforce in Somalia is less than one per thousand when it should be four to five times higher. This workforce issue comes with another layer of funding needs.***

**DR MAMUNUR RAHMAN MALIK**  
WHO Representative for Somalia

In Somaliland, Health Poverty Action is implementing a project funded by the Foundation for Innovative Diagnostics (FIND) to provide rapid antigen tests to seven health facilities in Hargiesa and five facilities in the Sahil region.<sup>8</sup> According to the Ministry of Health,<sup>9</sup> there is no PCR capability or capacity in rural areas, with PCR infrastructure only functional in two of four regional capital cities (Hargiesa and Boroma), given that at time of interview (July 2022), two machines were broken. Given

that more than 60% of the population is nomadic, rapid antigen tests (both professional use and self-tests) are necessary to ensure access.

Respondents from Health Poverty Action told us: "Across Somaliland, supplies, subtechnical capacity, and staffing is lacking to carrying out robust rapid antigen test programmes" but that rapid antigen tests were necessary and could lead to "increments in number of people taking up vaccinations, because it would help make people realise that the pandemic is still there."

In Uganda, in Phase I of this exercise we reported on several implementation projects supported by the Foundation for Innovative Diagnostics (FIND) to increase evidence for professional use and self-administered rapid tests. These include a project with Premise to understand population perceptions on access to COVID-19 testing (end date Q3 2022), FIND/Transaid projects to assess feasibility and acceptability of AgRDTs versus PCR among cross-border truck drivers (end date Q4 2022), FIND/Population Services International (PSI) projects on service delivery models for antigen self-tests (end date Q3 2022), and digitally-enabled community testing with AgRDTs with Uganda National Health Laboratories (UNHLS) (end date Q2 2022).

We spoke to Sam Acellam, Senior Laboratory Technical Advisor at FIND in Uganda, about progress and preliminary findings on this work. From the Premise population perceptions study, it was observed that individuals believed that testing was no longer necessary post-vaccinations, and that they felt that they had been lied to in vaccination campaigns that they would not get COVID again. Others didn't want to be tested because they didn't want to be required to take time off work. Sam told us:

***Many people don't have disposable income. They go and earn money day to day in a market stall, or they have a business that is running, so testing takes time out of their stations and workplaces. They don't have that disposable income. And it's gotten even worse with the economy.***

**SAM ACELLAM**  
Senior Laboratory Technical Advisor, FIND Uganda



This raises important questions about the suitability of international guidelines on self-isolation for those working in the non-formal economy, and the need for financial support for those required to self-isolate. In specific, international guidelines for self-isolation are impracticable for those requiring daily paychecks and have limited disposable income. It is imperative that these individuals are given free access to self-tests to enable them to manage risk, continue working, and make contingency plans in case of infection.

The Transaid project on cross-border truck drivers sought to assess testing amidst a number of COVID-19 related issues, including backlogs at border crossings and strikes<sup>10</sup> from the refusal to pay the US\$20 testing fee, which also resulted in bribes being paid by truck drivers to evade COVID testing.<sup>11</sup> Among cross-border truck drivers engaged in the Transaid project, uptake of testing remained low, however the requirement for vaccinations for crossing the border meant that there was higher uptake on vaccinations. Overall, it was established that COVID-19 prevalence among these drivers was very low. Results from the project provided evidence for allowing vaccinated cross-border truck drivers to obtain a 14-day pass to enter countries within the East African Community.

The PSI self-tests project will kick off in public health settings in Kampala and areas within a 50km radius in August 2022, and hence results will be available in Q4 2022. On the project to assess digitally enabled community testing with antigen RDTs, issues emerged with the cumbersome nature of the digital tool, including that there were multiple fields to fill up, including name, age, symptoms, etcetera. Digital tools must be streamlined to achieve a balance between collecting robust surveillance data and ensuring access to tools for communities. In addition, FIND Uganda reported challenges with ensuring there were secure locations for storage of tablets that were deemed to be at risk of theft.

In **Ukraine**, there has been a relative de-prioritisation of COVID-19 given Russian aggression. Despite this, according to the Ukrainian Public Health Center, COVID-19 PCR results take a minimum of 24 hours for the issuance of a result, and up to 48 hours for communication of results to the individual.<sup>12</sup>

According to Dr Olga Gvozdetska from the Public Health Centre in Ukraine:

***There is a difference in time of PCR testing in urban and rural conditions and this depends on available capacity such as equipment, reagents, etcetera, and staffing. In wartime, this time (of 24-48 hours) has not changed in regions that are not under constant bombardment (like Kharkiv, Mykolaiv) or are not occupied by Russian troops. The Centers for Disease Control and Prevention laboratories conduct PCR tests within 1 business day in case they have received sufficient biological material, power supply, and no hostilities and/or air threats.***

**DR OLGA GVOZDETSKA,**  
Public Health Center, Ukraine

Dr Gvozdetska further explained that COVID-19 testing decreased significantly during wartime, with 1,580,221 PCR tests done at the peak of testing in October 2021 versus 27,293 PCR tests conducted as of June 2022 (a 98.27% reduction), with rapid tests decreasing by 93.24% from February 2022 through to June 2022.

Taking into account the total time spent on sampling, a minimum of 24 hours is required before the result is issued, and a maximum of no more than 48 hours is required (to communicate results to the individual). There is a difference in the time of PCR testing in urban and rural conditions, and this depends on available capacities such as equipment, reagents, etcetera, and staffing. In wartime, this time has not changed in those regions that are not under constant bombardment (like Kharkiv, Mykolaiv) or are not occupied by Russian troops. The Centers for Disease Control and Prevention laboratories conduct PCR tests within 1 business day in case they have received sufficient biological material, a power supply, and no hostilities and/or air threats.

The private laboratories started doing PCR testing only in June 2022. Many of them have closed, unfortunately. Regarding communal care facilities,



they have been repurposed, and today they are more focused on emergency/urgent care and surgical profile, especially in the southern and eastern regions. As of now, within martial law in the country, testing has dropped dramatically in the western regions and is almost zero in the southern and eastern regions.

Rapid antigen testing continues among HIV key affected populations and their contacts in Ukraine, with 95,000 COVID-19 antigen tests deployed and 6000 PCR tests made available to these individuals in August 2022 through a Global Fund regional grant implemented by the Alliance for Public Health based in Kyiv. In addition, at time of writing, there is an operational evaluation study ongoing to assess the ways, channels, and mechanisms used by various HIV key populations to access COVID-19 services.

According to Kateryna Mangatova, Project Manager for the C19RM (COVID-19 Response Mechanism) Project at the Alliance for Public Health, it was essential that additional procurement of tests and other COVID-19 tools occur given increased COVID-19 infection risks due to communities gathering in close quarters in bomb shelters and temporary accommodation shelters:

***At the beginning of the COVID-19 pandemic, key populations were more vulnerable to COVID-19 infection due to their lifestyles. During this war in Ukraine, people are closely gathering even more than before within displacement centres and bomb shelters, and so the risks of infection have grown even higher. Testing by NGOs allows diagnosis of a larger number of people simply because HIV communities have a higher degree of trust in social workers compared to medically trained ones... particular attention should be paid to the mobility of services. (Donors) should support mobile teams consisting of medical and social workers who can quickly reach temporary and permanent accommodations of communities.***

**KATERYNA MANGATOVA,**  
Project Manager, C19RM,  
Alliance for Public Health, Ukraine

Overall, access to rapid antigen testing remains inadequate across all 14 countries and territories examined.



*Kimoka village, North Kivu, Democratic Republic of Congo, nearby the Centre de Santé de Kimoka (the Kimoka rural health centre).*







## ACCESS TO NOVEL ANTIVIRALS (INCLUDING PAXLOVID)

In Phase I of our work released in March 2022 we stated that middle-income countries would struggle in gaining access to novel antivirals due to non-inclusion in Medicine Patent Pool voluntary licences<sup>13</sup> for molnupiravir and Paxlovid. At time of writing, while Ukraine has been included in the voluntary licence and has a local manufacturer for production of generic Paxlovid, advocacy continues in Perú on the access to Paxlovid. Overall, however, most countries examined in Phase II continue to have inadequate access to the novel antivirals, despite news that there is a projected surplus of 70 million courses of Paxlovid on the market by end of 2022 due to slower-than-expected patient uptake.<sup>14</sup>

In Perú, Paxlovid has not yet received marketing authorisation. On 5 May 2022, local civil society, including Acción Internacional para la Salud, presented an official request for a government use licence at the presidential office and the Ministry of Health—such a licence would allow access to generic versions of Paxlovid at public health facilities. At time of writing, however, advocacy continues towards a government use licence. We spoke to Javier Llamaza, Researcher at Acción Internacional para la Salud, who told us:

*The mechanism for government use has never been used in Perú. However, we have held bilateral meetings with civil society and officials from the Ministry of Health, INDECOPI (Authority on Intellectual Property), and the National Institute of Health, and have made the Ministry of Health request a consultancy with an external expert to use this mechanism. We hope that this consultancy will soon end in such a way that the Ministry feels sure (about using the government use mechanism).*

**DR JAVIER LLAMOZA, RESEARCHER**  
Acción Internacional para la Salud, Perú

According to Dr Marco Tovar, Medical Director at Socios en Salud (Partners in Health—Perú): ‘so long as the medicines are expensive, they are not going to include them (in the treatment regimen)’. Given this fact, a government use licence remains relevant and necessary for access.

**Ukraine** has been included in the MPP voluntary licence and in March 2022 a sublicense agreement with local company Darnitsa enabled the produc-



*Healthcare workers in Ondo State reported never having heard of either molnupiravir or Paxlovid for COVID treatment (photo taken July 2022)*



tion of generic versions of Paxlovid.<sup>15</sup> According to the Public Health Center in Ukraine, by end of May 2022, 200,000 courses of Paxlovid were delivered for use in medical facilities free of charge.

By contrast, **Somalia** has only had 300 courses of Paxlovid available for use in the most critical cases—marking horrific inequality in a country and health system already burdened by the worst drought they have had in four decades<sup>16</sup> and the resulting widespread famine. Dr Mamunur Rahman Malik, WHO Representative to Somalia, told us how supplies were secured through the web portal, but that quantities received were smaller than what was requested:

***When the supplies were secured through our web portal, we had to provide the money for it. We wanted to ensure that even a critically ill patient in Somalia should have access to those advanced therapeutics like any other countries in the world. And that's how we believe a fairer, healthier, and equitable world can be established. But in doing so, we have requested 3000 plus courses, but we got only 300 courses, because there was a distribution plan for different countries. I do not know how this distribution plan was developed. But we got the information that for Somalia, 300 courses have been allocated. So based on that we had to put money and then that's how we received. So, in a country with a population of fifteen million people, I don't think it is enough in terms of managing the critical care for COVID-19 patients.***

**DR MAMUNUR RAHMAN MALIK**  
WHO Representative, Somalia

Other countries also continue to have limited supply. In **Jamaica** for example, Paxlovid has yet to be approved by the Ministry of Health, and thus is not available privately or publicly.<sup>18</sup>

In northern Nigeria for example, in both Kano state (the most populous state in Nigeria with an estimated population of 20 million people) and Jigawa state (population approximately 4.3 million people), Paxlovid continues to be unavailable and inaccessible as of July 2022.<sup>19</sup> In Imafon and Idanre in Ondo State, approximately 300km east of Lagos in southwestern Nigeria, two health care workers in rural primary health centres told us that they both had never heard of the novel antivirals for treatment of COVID-19.

A similar story was found in **Haiti and Madagascar**. In **Haiti**, Dr Petit-Homme, a primary health clinician, told us: “(The) new generation of antivirals do not yet exist here.” In **Madagascar**, a doctor from an urban health centre reported that treatments for COVID-19 had been limited to paracetamol, vitamin C, traditional remedies, and hydroxychloroquine, a treatment that has long been proven ineffective for COVID-19.<sup>20</sup> She reported never having heard of molnupiravir or Paxlovid.<sup>21</sup> Another clinician from the island who had just recovered from COVID-19 also spoke of never having heard of the existence of antivirals for COVID-19, much less specific brand names such as Paxlovid.<sup>22</sup>

Several international press articles have detailed low demand for Paxlovid around the globe and have attributed this predominantly due to complicated eligibility requirements, reduced testing, and potential for drug interactions.<sup>23</sup> The above testimonials lend further context as to why demand is low—that demand cannot exist without knowledge of the product.





*Man cycles past St Joseph's school in Ambohidratimo, Madagascar, a semi-rural community approximately 11km outside the capital Antananarivo*





# CONFLICT, INSECURITY, AND NATURAL DISASTERS COMPROMISING COVID-19 RESPONSE

**I**n DRC, Haiti, Nigeria, Somalia, and Ukraine interviewees spoke about conflict, insecurity, and natural disasters as major barriers to effective COVID-19 response, and as factors that exacerbated transmission.

In May 2021, in the midst of the COVID-19 pandemic, Mount Nyirangongo in North Kivu, **eastern DRC**, erupted, creating a crisis within a crisis<sup>24</sup> Volcanic eruptions cause the discharge of different pollutants into the air including sulphur dioxide (SO<sub>2</sub>), causing acute and chronic respiratory disorders, and in addition creates a brown fog caused by volcanic degassing that disrupts agriculture and food supplies. The result of this is large groups of the local population being displaced, and facing multilayered health issues caused by volcanic emissions, COVID-19, poor access to water, and poor nutrition.

We spoke to Dr Thierry Turano, the chief clinician for the Nyiragongo rural health zone (Médecin chef de zone de santé rural de Nyiragongo), who said:

***In the Health Zone the big problem that leads to other diseases including COVID-19 and other waterborne diseases is the lack of water in the area. We've also had a phenomenon with skin rashes beginning in February 2022 and general poor hygiene among displaced persons living in the Kayembe camps for internally displaced people. The volcanic ash and emissions have caused numerous skin reactions and we're currently investigating this.***

**DR THIERRY TURANO**

Chief Clinician of the Nyiragongo health zone,  
North Kivu, DRC

In **Haiti**, the Port-au-Prince metropolitan area has experienced violent clashes between armed gangs which spread to multiple residential neigh-

bour-hoods. In May 2022, it was estimated that at least 188 people had been killed, including 92 non-gang members, and that 113 people had been injured, with another 49 that had been kidnapped for ransom.<sup>25</sup> Armed violence is also interspersed with after-effects of earthquakes and flooding. Dr Lydie Maoungou Minguél, Immunisation Officer with the UNICEF country office in Haiti, told us of challenges in the context of trying to increase COVID-19 vaccination uptake, and described multilayered challenges pertaining to violence, natural disasters, and the resulting displacement:

***We have many people displaced at first due to the earthquake. And after that we had flooding—every time we have some rain, we have flooding. And the last reason is just insecurity and during that, people have been leaving housing areas and going to other more secure areas. Some people have moved even twice or three times during this year (2022) and we even have some UNICEF staff members who have moved three times already this year.***

**DR LYDIE MAOUNGOU MINGUIEL**  
Immunisation Officer, UNICEF Haiti

In addition, a number of health centres were closed due to the activity of armed groups preventing health worker travel:

***Even with strategies with mobile teams, we've had problems with COVID-19 vaccinations. We are organising strategies and mobile activities to go to the community to provide the vaccination, but our challenge is in the capital (Port-au-Prince) where we have many armed groups and people are leaving the area. Some of them are staying there, but we cannot reach them or even the health facility since***



***that area is closed due to health workers being unable to travel there for work because of the armed groups, they can kill them in this area.***

**DR LYDIE MAOUNGOU MINGUIEL**

Immunisation Officer, UNICEF Haiti

The insecurity has driven food and fuel shortages, complicating health service delivery, including COVID-19 vaccinations. According to Dr Minguiel: “Last year we had three months without food. So to distribute (the COVID) vaccine was a big challenge to go and deploy the staff on the ground and support them. Starting again since last week (June 2022), there have been some shortages of fuel, and when this happens fuel prices go up and this is a challenge for our budgets.”

The WHO Representative for Haiti, Dr Maureen Birmingham, told us in June 2022 that Moderna, Pfizer, and Janssen vaccines were available in the country, and the focus was to regain some vaccine momentum in areas that were more accessible, with some campaigns occurring in June 2022, but that fuel shortages were hampering delivery. In addition to this, Dr Birmingham said ‘There is high vaccine hesitancy and very low perception of risk for COVID-19, amidst other more pressing problems for the population.’

In **Nigeria**, multiple different conflicts have occurred and continue to occur in the midst of the COVID-19 pandemic and in some cases, caused by loss of income due to COVID, including robbery and banditry as a means for survival. In addition, intra religious conflicts continue, with members of Islamic State West African Province attacking villages in Kaduna and Katsina state. In one 2021 study in the Journal of African Security, a participant illustrated: “We were battling with insecurity of all sorts, but COVID is increasing insecurity. People cannot move on, everybody is angry because everybody is hungry,” with conditions worsened due to a lack of financial support for those taking time off work for COVID self-isolation.<sup>26</sup>

Dr Chinwe Okechukwu, a researcher from the Department of Social Work from the University of Nigeria Nsukka in the southeast of Nigeria, told us of shifting priorities due to insecurity and kidnapping

even in the south of the country, where bloody clashes with the Indigenous People of Biafra (IPOB) continue:

***The concern is not COVID now but about insecurity in Nigeria. COVID has come and gone, and the concern is about insecurity, kidnapping, banditry, and all that.***

**DR CHINWE OKECHUKWU**

Lecturer, Department of Social Work,  
University of Nigeria Nsukka

In Zamfara state in northwestern Nigeria, which is categorised as a high security risk state, at time of writing, WHO Nigeria continues to conduct COVID-19 vaccination activities despite security risks, detailed in the Vaccine Uptake section below.<sup>27</sup>

**Somalia** is undergoing its worst drought in forty years,<sup>28</sup> with worsening food insecurity at time of writing. As in other countries detailed above, these add complexities to health delivery and health outcomes. In Somalia, this has resulted in severe malnutrition, and juxtaposed with that, complexities resulting from the emphasis on COVID-19 vaccinations compromising childhood vaccinations. In the words of Dr Mamunur Rahman Malik:

***There are other priorities at the moment as the country is going through a severe drought, which means that people have less access to health care, the food security situation is very bad, close to 450,000 children are estimated to be suffering from severe forms of malnutrition... This has also led to a situation where we have seen that children are suffering from measles, because it is the same immunisation services we have used for rolling out the COVID-19 vaccine. And in doing so, what has happened, that we have compromised Childhood Immunisations, meaning that there have been pockets where we have seen measles cases because the immunisation services were disrupted because***





***we have shifted those services to support the rollout of COVID-19 vaccines.***

**DR MAMUNUR RAHMAN MALIK**  
WHO Representative, Somalia

And in **Ukraine**, Russian aggression has also resulted in large numbers of displaced populations living in shelters, increasing COVID-19 risk. Because of violence, COVID-19 has been relatively deprioritised, although COVID-19 risk remains and is amplified due to increased gathering in bomb shelters and shelters for internally displaced persons. In the words of Kateryna Mangatova with the Alliance for Public Health: "Taking care of one's own health is a lower priority. Satisfaction of basic needs comes to the fore: to be safe and to provide for one's humanitarian needs."

In summary, these testimonials demonstrate that a commodities approach to pandemic tools deployment are insufficient for fragile states. It is well established that violent conflict often exacerbates

infectious diseases and other health conditions such as malnutrition discussed above. Based on these, it is important that future pandemic response, in line with recommendations put forth by experts on fragility, conflict, and violence, that pandemic response be undertaken with 'conflict sensitivity',<sup>29</sup> i.e. that teams establish a clear understanding of root causes of conflict and fragility, as well as sources of resilience in each situation, that multi-lateral partnership and collaborations be established, and that investments are made into community engagement to build trust of government interventions. On this latter point, experts Bousquet and Fernandez-Tarranco state:<sup>30</sup>

***Basic services like health, social protection and education are of course critical in themselves, but they are also the main ways that people interact directly with the state, including local institutions. They are the primary vehicle to create trust and confidence in governments.***





Farm in Ambohidratimo, Madagascar, where members of the community said that they would have to travel far to access COVID-19 testing.





# UNDERINVESTMENT IN OXYGEN PLANT PRODUCTION AND MAINTENANCE

In the Phase I report published in March 2022, after examining oxygen access in 8 countries, we found that insufficient data on oxygen needs and supply hampers multilateral oxygen response, and pointed out that while the COVID-19 Oxygen Needs Tracker<sup>31</sup> developed by PATH, CHAI, and Every Breath Counts estimates the daily need for oxygen for COVID-19 patients in low- and middle-income countries (LMICs), there are no estimates of how much of that need is currently being met. This is a critical health systems gap not only for COVID, but for numerous other health conditions.

Six months later, at time of publication of this report, while some new investments have been made to install new plants and increase access to liquid oxygen in selected countries, our examination of 13 countries shows that poor planning on oxygen and under-resourcing of maintenance for existing plants and mobile oxygen concentrators remains. Out of the 13 countries examined, Perú had the highest oxygen need with 58,217 m<sup>3</sup> needed per day,<sup>32</sup> with Liberia reporting the lowest daily need at 137 m<sup>3</sup> per day.

In Haiti, WHO Representative Dr Maureen Birmingham told us as of May 2022, that three oxygen plants were not working:

**Haiti is divided into ten departments, and three out of ten departmental generators are not working at the moment. We have already been involved in repairing others. The estimated cost of repair for these three remaining generators is USD 10,474 plus the cost of an engineer who we have already contracted for this work.**

**DR MAUREEN BIRMINGHAM**  
WHO Representative, Haiti

Dr Petit-Homme, a clinician at primary healthcare settings in Haiti, described the effect of these

infrastructure challenges on access to oxygen across the island:

**Within the health system if someone has COVID and it is the severe form the prognosis is very sombre... we do not really have the rooms adapted to treat COVID—respirators etcetera. There are very few hospitals that are equipped. Only in one town does this exist and in the other towns it is more difficult. People die because of the inability to get oxygen.**

**DR MARIE DELCARME PETIT-HOMME**  
Clinician, Haiti

At time of writing, Liberia has recently launched a 2021-2024 National Roadmap to Increase Access to Medical Oxygen in Liberia.<sup>33</sup> This document states that there are 6 health facilities with an on-site oxygen plant (Phebe Hospital, JJ Dossen Hospital, ELWA Hospital, Redemption Hospital, St. Joseph Catholic Hospital, and Jackson F. Doe Memorial Hospital), with only three of these plants functioning. Lack of spare parts was the most cited reason why plants were non-functional. The roadmap contains several key planned activities, including work to:

- ✿ Update national donation guidelines to incorporate considerations for oxygen technologies and supplies, such as integration of national technical specifications
- ✿ Develop and maintain a national database of oxygen equipment inventory for tracking of oxygen devices and equipment
- ✿ Conduct routine supervision and mentoring in health facilities to ascertain availability and functionality of oxygen technologies and supplies.

We also received anecdotal evidence of several PSA plants in Madagascar that require repair and





of areas that require installation of new oxygen plants, but was unable to confirm locations, scale, and cost of repair.

In April 2022, Partners in Health reported how at the peak of third wave of COVID pandemic in Perú that month, some oxygen plants in Lima's hospitals were in disrepair, did not have mechanics to fix them, and lacked reliable electricity to run, leading patients and families to procure oxygen on the black market.<sup>34</sup> Since then through Unitaïd investments with Socios en Salud (as Partners in Health is known locally) has enabled the building some additional plants, poor planning on maintenance and future needs means that Perú remains in a precarious place vis-à-vis oxygen access.

We spoke to Dr Marco Tovar, Medical Director at Socios en Salud, and his colleague Dr Alberto Gonzales Guzmán, who works on the Unitaïd-funded oxygen projects, and they described that in Loreto, an area in northeast Perú that is part of the Amazon rainforest, there was only enough oxygen at any one time to last three days according to daily need during COVID-19 time between peak waves, meaning that should the daily need in this region increase to peak levels, there will be insufficient supplies of oxygen. They suggested that areas which are sparsely populated and hard-to-reach like Loreto should be planned for in a different way compared to urban areas with better supply chains. In Gonzales's own words:

**Overall, it may look like Peru is doing well in terms of oxygen capacity, but we must look at the disaggregated data within the country. There are areas that are very difficult to access. How do we reach them? The issue of oxygen plants—how is it understood and interpreted at different levels of care or is it only concentrated at the first level of care? The issue is, we need to be able to see the country not as a homogenous unit, but as a set of heterogeneous realities. We need to understand that within that heterogeneity we have critical areas of focus.**

**DR ALBERTO GONZALES GUZMÁN**  
Proyectos Unitaïd-Socios en Salud, Perú

They also stressed that preparedness for future outbreaks and acute periods is also compromised by decentralised oxygen plant maintenance plans and varying capacity for performing maintenance in different areas of the country can derail supply during acute periods. Gonzales elaborated further, while sharing a presentation with a map of Perú and oxygen needs, with many of the regions shaded green (for adequate oxygen supply):

***“There are many tasks that are decentralised (to different regions) and one of them is the issue of oxygen plant maintenance. It's not formally the responsibility of the central government—that responsibility has been transferred and it was established that regional governments should assume the responsibility for plant maintenance. So, there is heterogeneity according to the capacities of each department or region, and when they prioritise preventive and corrective maintenance. And that is the risk of having equipment that that requires maintenance in a country where we do not have a culture of maintaining it. This document is so volatile—it shows many regions in green which means apparently, we're okay, but it is misleading because many regions are shaded green because it is displaying the oxygen consumption between waves and not during a COVID wave.”***

**DR ALBERTO GONZALES GUZMÁN**  
Proyectos Unitaïd-Socios en Salud, Perú

This raises important questions about accountability in pandemic preparedness—and that decentralised decision-making without monitoring may mean different levels of oxygen access in different parts of the country.

In the Phase I report, we reported that in Nigeria, National Agency for the Control of AIDS issued an August 2021 tender<sup>35</sup> for the repair of 31 oxygen plants across the country, from the National Hospital in Abuja to University of Port Harcourt oxygen



plant in Rivers state in southern Nigeria. At time of writing, there has been a threefold increase in daily oxygen need in Nigeria (from 2,601 m<sup>3</sup> in March 2022 to 6,717 m<sup>3</sup> in July 2022) however the reasons for this remain unclear. We spoke to a Public Health Officer at WHO Nigeria, who told us about repair work done to the oxygen plant at the Federal Medical Centre (FMC) in Gombe, north-eastern Nigeria—but that there are frequent breakdowns:

***The FMC Gombe oxygen plant has been working recently but not at full capacity after the repair work. The Oxygen plant breaks down whenever there's high demand and in needs upgrading in other wards and further installation of another one with regular maintenance.***

**PUBLIC HEALTH OFFICER**  
WHO Nigeria

As in the Phase I report, our conclusion in this Phase is similar, that data on oxygen needs and supply remains scant, and underinvestment continues in oxygen plant repair and maintenance—boding poorly not only for COVID, but for health systems responses generally.





# ZONE DE SANTE RURALE DE KILOTSHE CENTRE DE SANTE DE KIMOKA / ARMÉE DU SALUT



NOS ACTIVITES: 1 Curative  
2 Préventive  
3 Promotionnelle



Dr Elia Badjo from COSAMED, clinician and local researcher for DRC, outside the Kimoka Rural Health Centre in North Kivu





## \*NOT\* HESITANCY: FACTORS INFLUENCING VACCINE UPTAKE

**V**accine hesitancy is often invoked as a key obstacle to vaccinating the world. In September 2021, Pfizer CEO Albert Bourla stated in an interview<sup>36</sup> that vaccine hesitancy in African countries would be a greater challenge than in the Global North. This was followed by a March 2022 interview in which Bourla said that vaccine uptake relied on infrastructure and education.<sup>37</sup>

Our research finds that the picture in LMICs is more nuanced than a simple attribution to ‘hesitancy’ or ‘poor education’, consistent with findings elsewhere.<sup>38</sup> Numerous structural access barriers exist, including insufficient local cold chain storage; insufficient advance notice about arrival dates, which impedes national planning and implementation abilities; physical infrastructure barriers, including access roads, in some places coupled with limited access to acceptable transportation and the price of available transportation; unpredictable wait times and stock fluctuations at vaccination centres coupled with people’s inability to leave employment or job sites; (lack of) access to information, and suspicion of medical technologies brought to countries by Westerners and white men, owing to historical memory and perceptions of experimentation on Black bodies.<sup>39</sup>

We spoke to Adelaide Davis from the International Federation of Red Cross and Red Crescent Societies (IFRC), who is leading the Vaccine Delivery Partnership’s efforts to increase vaccine uptake in DRC:

***It’s easy to say that is hesitancy. It’s not—it’s more complex than that. Vaccines aren’t in close proximity to people—and we’re trying to make sure that there are mobile vaccination sites to ensure that vaccines are as close to the community as possible. What we’ve learned is***

***that static vaccination sites isn’t the strongest strategy in DRC.***

**ADELAIDE DAVIS**

IFRC, leading the Vaccine Delivery Partnership’s efforts in DRC

As exemplified in the above quote, physical access—even when vaccines are available—remains a challenge in many countries and particularly for rural and/or otherwise marginalised populations. In **Uganda**, Richard Musisi from the Masaka Association of Persons with Disabilities living with HIV and AIDS told us that rural access to vaccination sites was impeded by the rising price of gasoline, placing transportation hires out of reach for many that rely on vehicle transport, both because fuelling their own cars/motorcycles may be too expensive or because hired ride prices increased too much.<sup>40</sup>

While Africa Centres for Disease Control and Prevention (Africa CDC) surveys in 15 countries found an average of 79% of the respondents were keen to get vaccinated,<sup>41</sup> in some countries a lack of trust in government and therefore the healthcare system may be an additional factor why some individuals and communities require additional convincing to get vaccinated. In **DRC**, it has been reported that the level of distrust in government affects distrust in healthcare, which can manifest in distrust of vaccines.<sup>42</sup> Distrust in government is also linked to healthcare workers’ salaries going unpaid for long stretches, including through the COVID-19 pandemic, leading to strikes and disruption of the healthcare system, including vaccination efforts.<sup>43</sup> There is also very low vaccine coverage amongst the health workforce, with only 2% of the health workforce having been vaccinated as of April 2022.<sup>44</sup> More in-depth information is needed about what factors influence healthcare worker vaccinations.



As of April 2022, in **Haiti**, vaccination among health workers shows 59% (12,688 of 21,397 targeted healthcare workers) that have received 1st dose and 29% (6,205) considered fully vaccinated with 2 doses, however this may be attributable at least in part to insecurity in country.

In **Nepal and Nigeria**, long queues at vaccination sites were cited as a big deterrent to getting vaccinated, and that in many cases, people were not able to step away from work for unknown or unpredictable amounts of time or simply couldn't afford to stay away from work.<sup>45</sup> Interviews done by our local consultant Adeyemi Adeitan uncovered that similar queues for tests continue to impede access to COVID-19 testing in rural areas in Ondo state.<sup>46</sup> In her own words:

***When you go to test for COVID, the stress is kind of rigorous for some people that see long a long queue, hundreds or even 10s of people waiting on the queue to get tested for COVID. And people have things they want to do. So, they just get discouraged and then feel like okay, maybe I'll do it another time, which might not come in the future.***

**ADEYEMI ADEITAN**  
Local Researcher, Nigeria

At time of writing, access to information continues to impede vaccination efforts. In North Kivu, **DRC**, our research found that people in rural areas did not have sufficient knowledge about where to access vaccines. In the words of one community member living in Kaguri, a village in the environs of the Nyiragongo volcanic region, North Kivu:

***I have never taken the vaccine and do not know where to get it... I know a traditional medicine against COVID-19 but I have never used it because I am not sick.***

**KIBONGE, MID-TWENTIES**  
Living in rural Kaguri, Nyiragongo province, eastern DRC

The above quote reflects how not only did the individual not know where to access vaccines, but also that he had insufficient information about effective treatments.

In **Uganda**, the way in which information was communicated was not suitable for rural populations, including that it was not translated into local languages, and used unnecessarily complicated jargon. Richard Musisi, Executive Director from a local NGO based in Masaka, elaborated further:

***When the key vaccinations started, the fact (was) that people could not find access to such information, most of the information was communicated in English, it was not put into local languages. So those two men were going through the radio talks, the President used to come on radios and TVs, pass out the information about COVID and how people could be supported. But again, he was speaking in English, and the scientific language that was used was hard for the Layperson to understand.***

**RICHARD MUSISI**  
Executive Director, Masaka Association of Persons with Disabilities living with HIV and AIDS (MADIPHA), Uganda

Furthermore, Musisi spoke about vaccination myths within the communities, including fears that the vaccines could impact reproductive health and fertility.<sup>47</sup> These raise important questions about the siloed commodity-based approaches without robust and culturally competent communications campaigns.

In Ondo state, **Nigeria**, healthcare workers reported frequent state-sponsored advertisements both on TV and radio to educate people about COVID-19 vaccinations, as well as regular technical updates on the evolving COVID-19 situation.<sup>48</sup> Despite these regular technical updates, healthcare workers still weren't aware of the existence of Paxlovid and molnupiravir in July 2022, raising questions about ability to communicate about effective treatments to patients at their centres, even if those treatments aren't available yet.



At time of writing, **Peru** is 84% vaccinated and thus has reached the WHO target of 70% of the population vaccinated before September 2022. According to colleagues at Socios en Salud, barriers to vaccinating the remaining population lie in insufficient nursing staff in remote and rural locations, logistics issues in hard-to-reach areas, and cultural beliefs about vaccinations.<sup>49</sup>

The arguments about hesitancy are also insufficiently nuanced to capture the realities in **Somalia**, which has administered 90% of all vaccine supplies provided; especially notable given that a quarter of the population is nomadic. According to Dr Mamunur Rahman Malik:

***90% of vaccines received as of 31st of December 2021 were administered. In 2021, countries like Somalia had difficulty with the predictable supply of vaccines. It is not about the inability of the country to vaccinate people—it was supply issues. That narrative needs to change.***

**DR MAMUNUR RAHMAN MALIK**  
WHO Representative for Somalia

Issues with predictability of supply filtered through to Somaliland, where Dr Saeed Mohamood from the Ministry of Health said, “Sometimes we will find out that the Somaliland shipment is on a plane in the air, en route, and we do not know when it’s going to expire and how much resources we will have.”

Our research has focused on vaccine uptake among adults as most countries in our study are not able to prioritise child COVID vaccination while insufficient vaccination for adults remains. In our Phase I report, we reported that only Peru had reached the WHO target of having 40% of its population vaccinated by the end of 2021. 2022’s target calls for the achievement of 70% coverage with COVID-19 vaccines in all countries as a global imperative by September 2022. At the time of writing, of the countries we examined only Bangladesh and Peru have reached this level of coverage. Despite a global surplus of COVID-19 vaccines, equitable access remains a challenge. This is likely to be exacerbated

as winter surges and new variants emerge.



COSAMED interviews in village of Kimoka, DRC







## EFFORTS TO ACCELERATE VACCINE UPTAKE

**C**ountries who have not reached the 70% vaccination targets have several strategies towards addressing these gaps.

In **DRC**, the COVID-19 Vaccine Delivery Partnership (CoVDP), a vaccine uptake initiative established by WHO, UNICEF, and Gavi in March 2022, is working with national and local governments, and religious institutions, to increase vaccine uptake. According to Adelaide Davis at the IFRC, the CoVDP is seeking to increase mobile vaccination units, and increase proximity of individuals to vaccination sites:

***60% of the health system is run by Christian religious institutions... we're working quite closely with churches and with mosques, to try and engage religious leaders to help increase acceptance on vaccination. The key is linking that with actual provision of vaccines—because a priest can give a wonderful speech about COVID vaccination and sensitise his congregation, but then when they leave, if there's no vaccine nearby, we're going to lose them in that gap. So trying to close that gap between the offer and sensitisation.***

**ADELAIDE DAVIS**

IFRC, leading the Vaccine Delivery Partnership's efforts in DRC

The CoVDP is also working amidst a precarious security situation in **Haiti**. Elsewhere in this report, Dr Lydie Maoungou Minguél, Immunisation Officer, UNICEF Haiti described violence between armed groups, flooding, earthquakes, fuel shortages, and resulting internal displacement as major barriers to vaccine uptake. Dr Minguél described how under the CoVDP, UNICEF was working intensively to increase vaccine uptake, with initial groundwork in the form of a survey, then heading into campaigns to encourage vaccine uptake alongside vaccine deployment. In her own words:

***We did our survey, and it was good that 90% of people know that COVID-19 vaccines also available and exist, but unfortunately, only 14% of people were agreed to take the vaccine. Since the second of June 2022, we have had an intensive campaign of vaccination in departments 50 in the north and northeast of the country. The number of fully vaccinated people at this stage is approximately 130,000 people. We are increasing every week, but it is slow. Each week, we are vaccinating around 2000 people. And that's the trend of the country. People are not very motivated for the campaign. We have done a lot related to social mobilisation and communication to have more impact.***

**DR LYDIE MAOUNGOU MINGUIEL**

Immunisation Officer, UNICEF Haiti

In **Nigeria**, where approximately 10% of the population have received two doses of the vaccine, we spoke to WHO Nigeria about scale-up plans under the SCALES 3.0 project. As mentioned elsewhere in this report, various parts of Nigeria are undergoing security challenges, however despite these, vaccination efforts continue. According to WHO Nigeria:

***At the moment I am facilitating COVID-19 SCALES 3.0 state-level training of trainers' sessions in Jigawa state and Zamfara state, which are high security risk states. COVID-19 vaccination activities are ongoing using several strategies and keeping up to date with security challenges.***

**PUBLIC HEALTH OFFICER**

WHO Nigeria





According to WHO Nigeria, SCALES 3.0 utilises several approaches, including a 3-month campaign mode beginning in August 2022, which will be followed by decentralised demand generation, which is targeting health workers and gatekeepers, with grassroots demand generation, and community referrals. In addition, the project integrates COVID-19 vaccinations with regular primary healthcare services and some private health facilities, and utilises mobile teams deployed to areas with high

population density, and outreach to rural and hard-to-reach areas.

The majority of countries examined in this report have been unable to vaccinate children given that they have thus far had insufficient supplies even for adults. In January 2022, however, Nepal received a shipment of 1.66 million Moderna doses financed by the World Bank for deployment among adolescents aged 12-17 years old.<sup>51</sup>



Village path in Ambohidratimo, Madagascar





## HEALTH SYSTEMS CHALLENGES

**D**uring the pandemic, the maintenance of essential health services was critical to continued health provision in many countries. The pandemic disrupted the normal functioning of countries' health systems, including services for health promotion, disease prevention, diagnosis, treatment, rehabilitation, and palliative care. This disruption of services had, at times, a greater impact on population health outcomes than the direct effects of COVID-19 itself, especially on vulnerable and at-risk populations. Healthcare workers have been at the frontline of the COVID-19 pandemic response, and the wellbeing and emotional resilience of healthcare workers was critical to maintaining essential healthcare services.<sup>52</sup> As such, safeguarding the health workforce is needed for an adequate pandemic response and continuation of essential health services.

Challenges to the health systems include challenges in delivering COVID-19 services such as COVID-19 diagnostics, therapeutics, vaccines, oxygen, and PPE. Across the countries investigated for this study, reported bottlenecks were experienced across all these categories.

Interviewees described many systemic challenges that underlie the functioning of the healthcare system. Many of these challenges are not new but have become acute in the face of the COVID-19 pandemic and the additional strain the disease continues to put on health systems around the world and are rooted in fragmented governance for health and in financing for health systems strengthening, including funding only through vertical disease programs such as HIV, and differences in domestic health priorities versus global health priorities.<sup>53</sup>

According to the WHO, the most common bottleneck experienced globally for the delivery of COVID tools were challenges to the health workforce and lack of funding within the health system.<sup>54</sup> Data from our respondents corroborates this—with issues arising around poor remuneration or non-remuneration of healthcare workers, includ-

ing CHWs, both also other issues, including availability of digitised health workforce databases to ensure rapid planning and deployment during a pandemic, maintenance of essential health services; availability of PPE; and healthcare worker recruitment, training, and retention.

### HEALTH WORKFORCE—INCLUDING ROLE OF COMMUNITY HEALTH WORKERS, REMUNERATION, AND MANAGEMENT

#### THE ROLE OF COMMUNITY HEALTH WORKERS IN THE COVID RESPONSE

In Phase I of our study, we recommended that development banks, including the World Bank, the Islamic Development Bank, and the African Development Bank, to invest in routine salaries for CHWs to enable a robust COVID-19 response. In this report, we document similar sustained challenges for the health workforce, health systems, and in delivery of services. Robust evidence is available on the role of CHWs in pandemic response. In a 2022 time-series analysis, Ballard and colleagues found that paid, protected, professional CHWs maintained speed and coverage of healthcare services for 5 million people across 4 countries during the pandemic.<sup>55</sup> Another 2022 article states that 'CHWs in most countries provide not only promotive but also clinical care',<sup>56</sup> and recommends that:

- a. Building back better post-COVID must occur through advancing CHW professionalisation; and that
- b. Bi/multilateral aid as well as private philanthropies must review investment practices to replace those that cause harm (including short-termism and appropriation of sovereignty) with practices that ensure timely and effective implementation of priorities (through longer commitments and alignment with evidence-based guidelines).



*Mburano Kitsa tells Matahari/  
COSAMED interviewers about  
why he got vaccinated*

**CHWs in most countries provide not only  
promotive but also clinical care.**

**BALLARD ET AL. 2022**

The testimonials below on community health workers in several project countries illustrate further why these reforms are necessary.

In **Bangladesh**, local community clinics operate to provide primary health care services to rural and often marginalised populations. Each clinic has a full-time community health care provider, who is assisted by 2 other community health workers who serve part-time in the clinic and part-time visiting households in the community catchment area... help revive trust in the health system. Community health workers also conducted contact tracing, facilitated home quarantine, isolation, referral and follow up in the rural and hard-to-reach areas.<sup>57</sup> Inadequate community engagement on the myths and misinformation about COVID-19 vaccination affected demand generation which was relatively slow.<sup>58</sup>

In **DRC**, where low vaccination rates exist even in the health workforce population, there is a backlog of healthcare workers' salaries being paid, adding

to the already existing distrust with the government by healthcare workers.<sup>59</sup> Respondents indicated that the government of DRC has made the decision to pay community health workers working to support the rollout of COVID-19 vaccinations,<sup>60</sup> however questions remain as to the long-term sustainability of this decision and if this will be institutionalised once the acute phase of the pandemic has subsided. Of note was the testimony of a community health worker working in a rural area in North Kivu:

***I am vaccinated with the J&J vaccine and the whole process took no more than thirty minutes. I got vaccinated to be an example to other people who I will be educating.***

**MBURANO KITSA**

Community health worker working in Kimoka, North Kivu province, eastern DRC

This testimony illustrates how CHW who know their context and community's concerns can be highly effective at increasing vaccine uptake. This is also illustrated in examples from **Liberia**, where there are 4,000 CHW working across Liberia's 15 counties, acting as 'a crucial first line of defence against infectious diseases.'<sup>61</sup> According to an April





2022 article, these CHW are paid and receive months of training, including on malaria diagnosis and first aid.

In several contexts community health workers have helped to drive rapid testing within communities. In **Jamaica**, however, where tests remain accessible only to those with financial ability, community health workers were not allowed to deploy rapid antigen tests within communities.<sup>62</sup> On this decision, Dr Carolyn Gomes told us:

***The Government of Jamaica missed a huge opportunity to make testing more accessible and equitable when they refused to allow community health workers to do testing. This in stark contrast to the amazing work done by community health workers in other parts of Latin America and the Caribbean and countries as diverse as Bangladesh and Rwanda where community health workers became the backbone of the COVID responses across their countries.***

**DR CAROLYN GOMES**

Co-Chair of the Caribbean Centre for Human Rights

While the reasons for this decision have not been documented, there is belief among diagnostics decisionmakers in some countries that PCR should be prioritised over other more rapid ways of testing, and that testing should only be delivered by laboratory-trained staff. The result of these beliefs inevitably results in poor access for communities.

In **Peru**, we spoke to Oscar Ramirez who elaborated on the situation with community health workers there, i.e., that they carried out important activities, but worked without remuneration:

***Almost all the community workers work ad honorem, that is to say, FREE OF CHARGE. In some cases, local authorities or municipalities collaborate so that community health workers receive some type of income on a regular basis, and 'executing units' (divisions in charge) deliver vests, caps, audiovisual materials, PPE,***

***and other items for CHWs to carry out entrusted activities.***

**OSCAR RAMIREZ**

Socios en Salud, Peru

In **Senegal**, Institut Pasteur de Dakar is carrying out COVID-19 testing at 25 sentinel sites across the country. According to Dr Joe Fitchett, Senior Adviser for Biotechnology there, community health workers are the 'bedrock of our program'.<sup>63</sup> CHWs played an essential role during COVID, with one study sampling 100 respondents in the Sédhiou region in southwest Senegal, where 57% of those reviewed said that they had been in touch with community health workers during the pandemic, with 85.2% of those detailing that it was to distribute masks, and with 12.3% saying CHWs helped to assess symptoms and rule out COVID-19,<sup>64</sup> illustrative both the promotive and clinical function of CHWs described above.

In **Somaliland**, we spoke to Dr Saeed Mohamood from the Ministry of Health, who talked about poor remuneration structures for community health workers, but that they were valued and that it was 'critically important' that they are supported:

***We had 186 community health workers support our response in the whole of Somaliland. This is very minimal community health workers to support 4.5 million people... And based on the polio pay structure, they were getting minimal pay of \$5 a day or something like this. The community mobilisers that we (MOH) were deploying, we're not getting financial support for them, they were volunteers and working and mobilising people and sending people, particularly at the height of COVID-19, for testing or reporting to the rapid response teams to visit them and take them to the treatment and isolation centres. And to be able to do that that is an area for us that is critically important to be supported.***

**DR SAEED MOHAMMOOD SOLEMAN**

Ministry of Health, Somaliland



Two years into the COVID-19 pandemic the role of community health workers and the health workforce in general continues to be an essential facet of effective pandemic response, playing critical roles in antigen rapid testing, community engagement on concerns about vaccinations and other COVID-19 tools, and in bringing communities to vaccination sites. Lack of remuneration still persists in most countries covered in our report. No consolidated data source on COVID-19 vaccinations among health workers, including CHWs, exist in many countries, raising important questions about the need to engage in serious discussions on financing and support for this essential part of LMIC health systems.

### POOR/DELAYED REMUNERATION OF HEALTH CARE WORKERS

A number of countries reported poor remuneration of doctors, nurses, and other healthcare staff in addition to CHWs detailed above. In **DRC** for example, nurses in North Kivu earn approximately US\$80 per month, and some reported not having been paid since the beginning of the pandemic.<sup>65</sup> This is consistent with reports at the national level, and unpaid health care workers have chosen to protest unpaid salaries and have initiated strikes.<sup>66</sup>

In **Haiti**, health workers are remunerated very poorly by the state. In addition, there are other challenges such as the difficulty in conducting bank transfers, making simple and timely payments a challenge. In the words of Dr Marie Delcarme Petit-Homme in Haiti:

***If you work in health in Haiti, it is for love and not for the pay. We are quite badly paid. If you work in Haiti, normally it is the state that pays you. If you work in a private hospital, it is another system. Sometimes doctors and nurses can go 6 months, a year without receiving remuneration. Lower bands have it worse, they don't really have access to remuneration. Sometimes we are forced to leave the country if we want a better pay.***

**DR MARIE DELCARME PETIT-HOMME**  
Clinician, Haiti

Remuneration challenges, therefore, affect health-care workers across the spectrum in the countries we examined—from doctors to community health workers—and represent a significant threat towards healthcare worker retention.

### HEALTH WORKFORCE STRENGTHENING AND PROTECTION

The most commonly cited technical support priority needs for ensuring access to essential COVID-19 tools were similar to those most frequently reported for continuity of essential health services. These were health worker recruitment, retention and training.<sup>67</sup> From our study it is unclear what the main strategies employed by countries were in order to overcome service disruptions. In **Somalia**, however, between March 2020 to March 2022, WHO country office trained 12,864 healthcare workers in disease surveillance, case management or infection prevention and control measures.<sup>68</sup>

In addition, in most of the countries investigated, there was no evidence of structured psychosocial support for the health workforce (either through government or other NGO instruments). Only **Nepal** possessed structured psychosocial support for its health workforce. The Ministry of Health and Population of Nepal through its National Health Training Center conducted trainings for frontline health workers on psychological support, working closely with WHO Nepal, Nepal Medical Association, Nepal Nursing Association, Recross, NGOs, and other stakeholders to ensure psychological support, training, and related activities.<sup>69</sup>

### DIGITISED HEALTH WORKFORCE DATABASES FOR RAPID DEPLOYMENT

In addition to remuneration of the health workforce detailed above, broader health system functioning challenges also impact the effective implementation of COVID-19 services. Digitised health workforce databases, for example, enable quick identification of human resources available for rapid deployment and organisation of health interventions. Such databases should also contain details and quantity of community health workers available in each region, given the value of community health workers in pandemic response.





Out of the 14 countries surveyed, only three reported having some form of digitised health workforce database: Haiti, Liberia, and Nepal. In **Haiti**, while the Haitian Ministry of Health has an online, digitised, health workforce database, it does not account for contractors paid by donors and employees of the private health sector.<sup>70</sup>

In **Liberia**, there is a mobile phone-based communication system that connects Ministries of Health and health workers called mHero, and has been lauded as a tool that ‘allows health workers to feel a part of the process’.<sup>71</sup> mHero was initially innovated and utilised during the Ebola outbreak, and was since operationalized to support the COVID-19 response—essentially connecting Liberia’s health workforce information system (iHRIS) with a platform that delivers basic text and audio messages (RapidPro).<sup>72</sup>

In **Nepal**, according to the Ministry of Health and Population (MoHP), a Human Resource Information System (HuRIS) is utilised to collect the information of government service holders in Nepal. Similarly, the MoHP has established a Nepal Health Workforce Registry (NHWR) to collect and analyse the human resources in health (HRH) information who have registered in professional councils. In addition to this, the Department of National Personnel Records (Rashtriya Kitabkhana (Nijamati) in Nepali) has a Personnel Information System (PIS) and tracks employee history of government officials, including officials working in health. Furthermore, in 2022, MoHP developed a new platform to conduct an online survey on human resources in health to gather real-time data on health staffing and availability.

In **Nigeria**, only analogue health and human resource databases exist, which reduced the ability of government to rapidly assess health workforce capabilities on both the macro- and micro-levels within regions, districts and zones, and this in turn affects rapid deployment during pandemics.

In **Ukraine**, the Public Health Center reported that there is no register of medical workers.<sup>73</sup> While the Ministry of Education collects basic information about medical students, the Ministry of Health only has partial data on the health workforce. On 27 September 2021, however, an intersectoral working group was established to develop a “Strategy for

the Development of the Health Care System until 2030”, with a document dated November 2021 detailing key issues in the Ukrainian health system, including that there is an inadequate distribution of health workers due to a lack of planning system of human resources in accordance with the needs and burden of disease, with a recommendation to create a register of health workers in Article 53.<sup>74</sup>

## HEALTH INFRASTRUCTURE AND SUPPLIES

Two countries (DRC and Madagascar) explicitly reported poor access to clean water and sanitation (WASH) facilities as a key health infrastructure barrier to limiting disease transmission, although through desk review of additional countries (Liberia, Somalia) also suggested limited WASH infrastructure and need increased investments in these contexts.

In **DRC** for example, the chief clinician of the Nyiragongo health zone told us of the lack of clean water in the region, including in the Kayembe camp for displaced people, approximately 4 kilometres north of Goma, where thousands of households continue to stay in makeshift shelters.<sup>75</sup> In **Madagascar** for example, many rural districts have limited water and sanitation infrastructure, and across the nation only approximately 15% of the population has access to clean water and <3% have access to a toilet.<sup>76</sup> In **Liberia**, 25% of the population don’t have access to clean water,<sup>77</sup> and in Somalia, at least US\$115 million<sup>78</sup> is required to ensure access to clean water.

Access to PPE fluctuated in a number of countries during the pandemic and continues to do so in some countries. Given the importance of the health workforce to the pandemic response, adequate PPE for health workers became a priority during the pandemic. During the pandemic, in some regions, infections among health workers were several times higher than the general population.<sup>79</sup> Depleted stocks of PPE have been reported at various times over the course of the pandemic.<sup>80</sup> Protecting front-line health workers is particularly relevant in places with the worst health workforce shortages such as on the African continent. Such



shortages are even more pronounced in rural areas, where access is low.

In **Haiti**, Dr Marie Delcarme Petit-Homme told us that poor PPE access for health workers remains:

***There are so many flaws in our health care system. There are inadequate materials. In the emergency rooms sometimes, you cannot find gloves, and there is insufficient equipment.***

**DR MARIE DELCARMÉ PETIT-HOMME**  
Clinician, Haiti

In **Nigeria**, access to PPE fluctuated as the different phases of the pandemic progressed. According to Nigerian respondents working in Osun and Jigawa states, adequate stocks exist although there is less demand for PPE now than at the start of the crisis, and in **Nepal**, ensuring the availability of the PPE at the early stage of the COVID-19 pandemic was challenging and there was lack of sufficient PPEs reported in rural and remote areas initially due to geographical difficulties and access to transportation.<sup>81</sup>

## CONTINUITY OF ROUTINE HEALTH SERVICES

Across a selection of African countries analysed by the Partnership for Evidence-based COVID-19 Response, many who required healthcare services delayed, skipped or were unable to obtain the necessary services.<sup>82</sup> These incidents were higher among those reporting long-standing illness or health problems. Concerns about going out and risk of catching COVID-19 were the most frequently mentioned reasons for disruption of health services. For example, In Nigeria, the most frequently missed health service visits were for malaria.

According to the recent WHO's Global Pulse survey on continuity of essential health services, nearly all countries are still affected by the COVID-19 pandemic with 92% of 129 countries reporting some kind of disruption to services from June to November 2021.<sup>83</sup> This was similar to what was reported in previous global pulse surveys. Functional supply chain systems are critical to ensure that necessary health products are available in the right quantities for delivery of essential health services. Disruptions across supply chain systems



Based on the findings from interviews in rural zones in North Kivu, COSAMED held a dialogue with local clinicians, other health care workers, and civil society organisations, with the objective of discussing recommendations and solutions for improving access to COVID-19 tools.





can limit capacities across the continuum of care. Disruptions in the supply chain system were recorded in DRC, Haiti, Senegal, Uganda and Ukraine (World Health Organisation 2022). No information was recorded for Somalia, Liberia, Jamaica while Bangladesh, Nepal and Peru recorded no disruptions to their supply chain system.

When asked on the importance of accessing COVID-19 services, health worker respondents in DRC, Madagascar, Nigeria, and Somalia discussed routine health services and the need to balance and/or integrate COVID-19 with other diseases and risks. In DRC, Dr Thierry Turano said:

***Apart from COVID-19 we have other very common pathologies in our health area such as: malaria, malnutrition, sexual violence, typhoid fever, and others ... there is also the problem of insecurity that worries us.***

**DR THIERRY TURANO**

Médecin chef de zone de santé rural  
de Nyiragongo, DRC, July 2022

In **Somalia**, there is a complex public health environment with a catastrophic drought and ongoing security issues. In addition, a focus on COVID-19 vaccine deployment has seen a displacement of health resources away from childhood immunisation, increasing risk of childhood illnesses, including measles. As Dr Mamunur Rahman Malik, the WHO Representative for Somalia elaborates:

***We have the complexity of the drought, security issues, and issues related to political instability. And, the COVID vaccines that we have administered in the country has also led to a situation where we have seen that children are suffering from measles, because it is the same immunisation services we have used for rolling out the COVID-19 vaccine. And in doing so, what has happened is that we have compromised the Childhood Immunisation (programme), meaning that there have been pockets where we have seen***

***measles cases because the immunisation services were disrupted because we have shifted those services to support the rollout of COVID-19 vaccine. The perception of the people and the community is that what COVID-19 has brought for us has created increasingly complex discourse—that yes, COVID-19 is important. Yes, COVID-19 needs to be ended, but not at the cost of other essential health services that fragile countries need to be stepped up.***

**DR MAMUNUR RAHMAN MALIK**

WHO Representative for Somalia

The general disruption of access to health services was compounded by considerable burdens from lost income and food insecurity as a result of the COVID-19 crisis.<sup>84</sup> Both high prices and lower incomes have been reported as a barrier to accessing food. This suggests an urgent need for scaling up investments in socioeconomic protections and safety nets that address upstream social determinants of health in order to mitigate impacts of COVID-19 and other health emergencies.

## ADDRESSING MISINFORMATION AND DISINFORMATION

Health systems have an important role to play in responsibly managing the accurate and timely flow of information. As mentioned in other sections, access to quality health information in local languages is an important factor. The health system's methods, means, and frequency of communication in times of a health emergency are essential to helping everyone understand the evolving situation, ways to address the health emergency, and why to choose which health tools to counter the pandemic. While this is not a new finding—the same has been true for past and other ongoing health emergencies, including HIV/AIDS or the current expansion of monkeypox in countries beyond the African continent—it remains important and was referenced on several occasions throughout the interviews and accompanying desk research.



It has been shown that high levels of distrust of government can affect trust in healthcare.<sup>85</sup> For example, a study in **Nigeria** conducted by Chinwe U Nnama-Okechukwu, who was also interviewed as part of the research for this report, that examined the relationship between knowledge of COVID-19 and compliance with health measures during the COVID-19 pandemic, distrust of government and expectation of government corruption stood out in quotes as the below by a respondent who blamed the invention of coronavirus on medical doctors and the federal government:

***I don't believe that there is anything like coronavirus in Nigeria. Our governors and the people at the top just want to spend money ... yes state governors are declaring themselves positive because they want to spend government money.***<sup>86</sup>

**RESPONDENT**

Nnama-Okechukwu (2020)  
Social Work in Public Health

Other instances of misinformation mentioned in interviews for this report pertain to treatment of symptomatic COVID-19 with home-made reme-

dies, as mentioned in interviews from DRC, Nigeria and Uganda. The points on misinformation and countering disinformation, i.e., false information that is spread knowingly, bear repeating in the health systems context because the factors mentioned above, in particular factors impacting the ability of healthcare workforce and community health workers to fulfil their duties of education, treatment and care to the fullest extent, are linked to the functioning of the health system. Healthcare workers themselves must be able to adequately protect themselves with science-based methods and support their communities in making science-based decisions with up-to-date information and tools for COVID-19. The health system must be able to share sufficient resources, including payments, information, and tools. This is important especially for those parts of the population that may have more challenges in getting to clinics or that have come to be weary of health services or service providers due to stigmatisation.

As mentioned elsewhere in this report, health workers in **DRC, Nigeria, and Madagascar** for example, lack crucial information about effective treatments for COVID-19, and this information gaps will need to be filled for future pandemic response.





Mobile vaccine truck from the MoH in  
Ambohidratimo, Madagascar



## BARRIERS FACED BY MINORITIES AND MARGINALISED GROUPS IN ACCESSING COVID-19 TOOLS AND IMPACTS OF LOCKDOWNS

**F**or people with preexisting conditions such as HIV/AIDS or TB, or those living and working in close environments with lots of people contacts such as sex workers, gaining access to COVID-19 testing and vaccination is of particular importance. Our research suggests that access relied heavily on local situations and ability of community organisations to advocate to their respective authorities. For example, in Bangladesh, vaccination was initially rolled out for those 45 years and older, without special accommodation for e.g., people living with HIV (PLHIV). The government has since expanded vaccination coverage but challenges with access for PLHIV remain.<sup>87</sup>

In one case in Nepal, Blue Diamond Society was able to negotiate special early access for some of their staff that provide HIV/AIDS services to their communities, under the priority category of healthcare providers. Access to COVID-19 vaccination for LGBTIQ and transgender sex workers was slow in Nepal, but eventually facilitated for many via UNDP and Blue Diamond Society.<sup>88</sup>

LGBTIQ people face challenges based on their inability to change the gender designation in their identification documents. In Nepal, for example, quarantine is required for those entering the country, which applies to many sex workers and cultural workers that work in the border region with India. The quarantine in Nepal is divided into male and female categories, which does not respect the needs of transgender and nonbinary individuals and exposes them to potential stigmatization, abuse, and violence. Similarly, there are no priority queues for LGBTIQ people lining up for vaccinations or COVID-19 tests, which may again lead to stigmatization or experience of ridicule or physical harm, depending on the social acceptance in the country. The same is true for those LGBTIQ individuals who are hospitalized and who have a different gender expression from their ID.

Facing the possibility of physical or mental harm, some LGBTIQ individuals prefer to seek private healthcare facilities over government hospitals. However, COVID-19 services such as testing in private facilities require payment, unlike many government-provided services. PCR tests in private facilities in Nepal can cost between 2,000-3,000 rupees. Manisha Dhakal, from a civil society organisation in Nepal, further said that while trans people aren't ultimately denied services, they are subject to bigoted comments which 'hinders trans people (from) going to the hospital'. These barriers were further illustrated by one member of the LGBTIQ community (who asked to be anonymised):

***In Bangladesh culture, people who look different than mainstream population are mostly vulnerable in the public places. Even women are getting harassed on the public places. Keeping mind this reality, during the COVID situation the testing was offered in the public hospitals. As a result, most of community people aren't comfortable to go to the testing centers (because they) fear getting harassed by the public and service providers... During the testing and vaccination program, the hospitals maintained two lines, one for the male and another for female, (and) no line has created for the hijra or transgender person, and as a result obviously the community (was) being discriminated (against). General people aren't willing to accept the concerned community in the lines. Moreover, no confidential booths were setup for vaccination and transwomen has been forced to unclothe them in front of many people to get the injection, which was insulting for them.***

**MEMBER OF THE LGBTIQ COMMUNITY**  
Dhaka, Bangladesh





This quote illustrates how gender-sensitive services, such as ensuring separate lines for transgender people, providing private areas for removal of clothing or separate facilities for pandemic services for trans people – can ensure that trans people are able to access testing, vaccinations, and PPE collection. It also raises questions as to the impact of this exclusion/stigma – i.e., how many people who weren't able to access services that eventually needed hospitalisation and/or died.

### ACCESS TO HEALTH SERVICES DURING COVID-19

LGBTIQ and other vulnerable communities face additional challenges during COVID-19 and lockdowns. For PLHIV, access to antiretroviral medication is essential, as is access to continued treatment for those LGBTIQ individuals on hormone therapy.

In **Uganda**, MADIPHA, an organization focused on people with disabilities who are living with HIV and or vulnerable to HIV and TB, reported that many essential health services for their community became very difficult if not impossible to access. Reasons include government prioritization on COVID-19 services over other health services, unavailability of public transport during restriction periods, and increased prices for fuel during COVID-19 making private transportation too expensive for many in their community whose ability to work ended due to COVID-19 restrictions. Many also rely on financial support by relatives, which was negatively impacted by loss of employment. Some people who relied on regular treatments in their community have died during the COVID-19 pandemic.<sup>89</sup> We spoke to a local organisation working on access for persons with disabilities living with HIV:

***The programs from the government, most of them were concentrated on COVID-19. And other programs were neglected, especially around TB, HIV, then cancer and diabetes those kinds were neglected. And such services were not easy to get by that time.***

**RICHARD MUSISI**

Executive Director, Masaka Association of Persons with Disabilities living with HIV and AIDS (MADIPHA), Uganda

In **Nepal**, Blue Diamond Society, an organization working with transgender people, transgender sex workers, and other LGBTIQ communities, was eventually able to negotiate ARV treatment delivery services during early COVID-19 lockdowns, coordinating with key agencies including the National Center for AIDS and STD control to enable CSO-led medicine delivery to homes. In the beginning, however, some community peers making drug deliveries were subject to physical violence at the hand of security forces. In Dhakal's own words:

***In the initial days it was interrupted, but after that, we continue providing the medicine. But what happened is the police and security forces restrict the movement, because there is a restriction and in one case that was in also in media, the police brutally the beat the our peer navigator, our peer workers in the Bara district and we raised these issues in front of the donor and the government and the National Center for STD Control and the director was so helpful, they instantly wrote to the Home Ministry 'don't do any restriction and any discrimination or violence against the field worker who is supplying the medicine for the people who need the medicine'.***

**MANISHA DHAKAL**

Blue Diamond Society, Nepal

### COVID-19 AND MENTAL HEALTH

COVID-19 stay-at-home orders posed a particular challenge to LGBTIQ mental health, particularly for those that live in countries with little or no legal support for LGBTIQ people. In many of the countries included in the study, there are no legal protections for LGBTIQ people, nor recognition of same sex marriage. Lockdowns shuttered the ability of LGBTIQ people to gather in safe and supportive environments, or access support services provided by community-based organisations. Manisha Dhakal describes this in the context of Nepal:



***On one hand, there is my community requesting for support and assistance, and they are suffering. On the other hand, I'm infected and my family also. And the government rules and regulation of restriction is another angle. It restricts me to go out and to serve the community. So, it's very challenging during the COVID-19 for my own well-being, well-being of community. This kind of scenario makes the mental health worse in my experience.***

**MANISHA DHAKAL**  
Blue Diamond Society, Nepal

Dhakal also described how 38 members of the LGBTIQ completed suicide during lockdown, and how there was inadequate state support to prevent and mitigate mental health crisis and provide a safe space for LGBTIQ populations:

***There are mental health issues and during our lockdown 38 LGBTIQ committed suicide. We know that for some their gender identity and their family's attitude [lead to] confrontation, when they were forced to live inside the home with their families, they clash. There was one incident in a district one young transgender (completed) suicide and her friends said that it is because of their family pushing on her gender identity... The laws and policies are not made in favour of LGBTIQ. There is no criminalisation in our country, but the supportive laws and policies are not there. So because of all this, marriage equality will not happen. Frustration and loneliness and panic led LGBTIQ people to suicide during the lockdown.***

**MANISHA DHAKAL**  
Blue Diamond Society, Nepal

Based on this information and learning from COVID-19, however, Blue Diamond Society worked towards securing funding for safe homes that LGBTIQ people could stay at during lockdowns. According to Dhakal, "We called them the 'respect homes'. We opened the nine respect homes in nine districts with support

from the Global Fund. That respect home allows a part of the community people to access their safe home accommodation here, meals, legal support, (and) counselling support. And this is because of our learning from COVID."

## **ACCESS TO GOVERNMENT SERVICES, FOOD, AND SUBSISTENCE**

The inability for LGBTIQ individuals to change their gender marker in their IDs can also lead them to lose out on government pandemic relief services. In **Nepal**, relief assistance eligibility required citizenship through provision of national ID. For transgender people and sex workers, these are severe obstacles. Local CBOs and key and vulnerable population (KVP) organizations remain essential interlocutors for service provision and supporting those who are initially left out of government plans. Manisha Dhakal described these challenges:

***The main problem is government have failed to do the mapping, who are the most vulnerable. Those who really need this are the minorities within the minorities... They required citizenship (to access pandemic relief), so it's very difficult for our community because they don't have the citizenship and those who have their identity document, their gender identity is very different (from the sex in their ID). And it's difficult to go to the government or local government office to access that relief assistance.***

**MANISHA DHAKAL**  
Blue Diamond Society, Nepal

Sex workers also completely lost incomes during lockdown and needed food support from organisations like Blue Diamond Society, who worked with multiple institutions, celebrities, etcetera to raise funding for food for those who had lost their incomes due to lockdowns.<sup>90</sup>

Whereas in **Uganda**, Richard Musisi spoke about lockdowns disproportionately affecting many people with disabilities who could not receive the support they needed:



*Health workers, decision-makers, and CSOs participate in a June 2022 roundtable organised by COSAMED to discuss findings of the data mapping.*

***The majority of our community have been affected by the consequences of COVID-19 for example, that the presidential measures that you put in place to avoid the spread of COVID-19 affected and find that many people with disabilities where they could not go to the could not move would not go to their work places could not go to especially those in, in urban areas, by those who were in the rural areas were affected that that we could not get that they will not be supported, because most of them they are supported by people by their relatives that are in towns that are working. So, you find that when they went into the lockdown, many of them could not receive the support that they would use they used to get.***

**RICHARD MUSISI**

Executive Director, Masaka Association of Persons with Disabilities living with HIV and AIDS (MADIPHA), Uganda

## **POLICIES CONSTITUTING BARRIERS TO COVID-19 SERVICES, INCLUDING CRIMINALISATION**

In June 2020, the UN Independent Expert on protection against violence and discrimination based on sexual orientation and gender identity (IE SOGI) issued a report and developed a set of guidelines for the recognition of LGBTIQ communities in the COVID-19 response. The report found that in many cases country's COVID-19 responses "intentionally or unintentionally discriminate against LGBT persons. In particular, LGBT persons and communities have, as a rule, not been part of the formulation of pandemic response or mitigation policies, and in many cases are facing discrimination or disproportionate impact stemming from them."<sup>91</sup>

Several countries in the study criminalize same sex behaviour, leaving little to no space for affording LGBTIQ communities protection during health emergencies, such as COVID-19. These include **Bangladesh, Jamaica, Liberia, Madagascar (for youth under 21 years of age), Nigeria, Senegal, Somalia, and Uganda.**





Though some countries may not formally criminalise same sex behaviour, this does not necessarily equate to equal protection under the law. In the **DRC**, no law prohibits consensual same sex behaviour, but LGBTIQ individuals have been pursued under a public decency clause.<sup>92</sup> In **Haiti**, homosexuality is not illegal, but same sex marriage and public display of LGBTIQ is prohibited and LGBTIQ individuals suffer other legal disadvantages, including on the job market.<sup>93</sup> In **Ukraine**, LGBTIQ partners are not protected under the law and do not yet enjoy the same legal rights and protection as heterosexual spouses. However, in August 2022 the Ukrainian President formally tasked the parliament with considering legalization of same sex marriage.<sup>94</sup>

In **Peru**, the current government does not support legalization of same sex marriage,<sup>95</sup> meaning same sex partners cannot gain the same legal rights as heterosexual spouses, including possibly being barred from accessing patient data for life partners, because they are not legally married. However, Peru has made some accommodations for the LGBTIQ community during COVID-19. In 2020, the government rescinded a quarantine social distancing order that allowed men and women to move outside their homes on different days, after LGBTIQ civil society advocacy pointed that this rule could be

misused as grounds for discrimination and harassment.<sup>96</sup> According to Amnesty International, “the Ministry of Justice issued a resolution recognizing same-sex couples for the purpose of granting economic benefits to those whose partners were health workers who died due to COVID-19.”<sup>97</sup>

In August 2022, prominent **Ugandan** LGBTQ advocacy organization Sexual Minorities Uganda (Smug) was shut down by the government, weakening the community’s ability to provide important support.<sup>98</sup>

In June 2020, Youth Voices Count published a report on the experiences of LGBTIQ youth in Asia-Pacific during early COVID-19. The main themes of concern identified were mental health, sexual health, civil and political life, and social and economic status of LGBTIQ youth. For example, information from **Bangladesh** pointed to the inaccessibility of tools, including condoms, lubricants and clinic services, for sexual and reproductive health.<sup>99</sup> The Youth Voices Count report also found that during lockdowns, shelters for LGBTIQ seeking refuge from domestic violence that provide essential protections remained closed in **Nepal**.<sup>100</sup> The report highlighted the immense importance of LGBTIQ community-based organisations for countering pandemic-specific challenges to their communities.



*Adeyemi Adeitan, local consultant for Nigeria, interviews a member of the community in a rural area in Ondo state, southwestern Nigeria, about her experience with access to COVID-19 tools.*



## CONCLUSION AND RECOMMENDATIONS

**O**ur findings demonstrate that as the world moved and transitioned from COVID-19, massive inequities remain in access to all COVID-19 tools, including oxygen and rapid tests. Continued health systems failures exacerbate challenges of delivering COVID-19 tools and deplete the workforce that health systems depend on—through the lack of professionalisation and remuneration of community health workers, through the lack of structured psychosocial support and poor remuneration for doctors, nurses, and other professionalised health workers, and through analogue health worker databases that compromise rapid workforce deployment in emergencies.

There continues to be poor oxygen supply planning, and financing for health systems strengthening remains fragmented at the global level, with HSS predominantly financed vertically through disease programs, and there being discrepancies between what global funders want and what domestic experts and ministries want. Crucially—as Paxlovid was developed to reduce risk of hospitalisation for mild- to moderate-COVID and is accessible in high income- and some upper middle-income countries, doctors and nurses in several rural communities reported never having heard of Paxlovid and of novel antivirals for COVID-19—and demand cannot occur without knowledge of the drug.

In addition, COVID-19 pandemic response failed to adequately account for contexts where there is insecurity and violence, for minoritized populations such as LGBTIQ persons, and for those in the informal economy without sufficient disposable income to self-isolate if tested positive, and for those living in single room homes. These point to the need for direct cash transfers during pandemics and long-term planning on social security nets on the domestic level, but also to the failure of global pandemic platforms to account for local and specialised contexts. This has been attributed to unequal and inadequate intellectual partnership of LMIC experts at the global level.<sup>101</sup>

Support of independent vocal civil society advocacy is essential and effective in holding governments to account and in contributing in-country transparency and leadership in pandemic responses. Unless civil society advocacy is integrated into global pandemic preparedness discussions, including integration of COVID-19 and pandemic response into primary health systems, these efforts will suffer in their speed, adaptability, and trust among intended beneficiaries in the general public.

The following recommendations are essential reflections not just for this pandemic, but for future pandemic response:





TARGET	RECOMMENDATION
DONORS, INTERNATIONAL PARTNERS, INGOS	Health systems investments at the global and regional level need to be defragmented. In other words, specific health systems funding external to disease programs is necessary, and domestic expertise must be prioritised.
GOVERNMENTS	Robust multi-year oxygen infrastructure plans, including national databases for inventory of oxygen equipment and technical workforce for maintenance, and updated donor guidelines that include access to medical oxygen.
GOVERNMENTS, CENTRAL LABORATORIES, NORM-MAKING BODIES	Rapid tests as essential tools across whole populations, but especially for those in rural communities far from health facilities, for mobile populations, for those without disposable income, and nomadic populations. PCR puritanism (conservative PCR-only approaches) compromise equity and access.
GOVERNMENTS, DEVELOPMENT BANKS	Long-term planning for direct cash support and pandemic relief necessary, especially for individuals in the informal sector.
GOVERNMENTS, DONORS	<p>Building back better post-COVID must occur through advancing CHW professionalisation and adequate remuneration.</p> <p>Health worker needs must be addressed as part of urgent and critical health systems work, including need for structured psychosocial support, and timely and adequate remuneration.</p> <p>Robust programs to sensitise health workforce in rural areas on Paxlovid as a first step to increase demand.</p> <p>Insecurity, violence, and displacement lens needed in pandemic response planning.</p> <p>Integrating mobile health delivery early within future pandemic response plans and ensuring existence of digitised health worker databases to enable rapid workforce deployment in emergencies.</p> <p>Intersectional, gender-inclusive, and decolonised lens needed to pandemic response, including accounting for LGBTIQ communities and racialised minorities, nomadic populations, and people without disposable income. Social determinants of health, including access to food, must be accounted for in emergency plans.</p>
INTERNATIONAL AGENCIES	White, HIC-dominated global pandemic response mechanisms and members in those mechanisms to recognise that the COVID-19 pandemic, as in other disease responses, lacks local context and expertise, and to consciously include local expertise and equal intellectual partnership in decision-making and policy as part of an active global health decolonisation agenda.
MEDIA, POLICYMAKERS, VACCINE INDUSTRY REPRESENTATIVES	Nuance needed in international reporting and policy discussions—it is *not* vaccine hesitancy, but rather a litany of structural barriers.
WORLD HEALTH ORGANIZATION, REGIONAL NORM-MAKING BODIES	International guidance for future pandemics needs more nuance, particularly for those in informal economies, without disposable income, nomadic populations, and those in close quarter dwellings/single room homes.



# ENDNOTES

- 1 BBC News (3 May 2022) <<http://www.bbc.co.uk/news/health-51943612>> accessed 12 August 2022
- 2 Vuyiseka Dubula, AIDS Conference (July 2022)
- 3 Ministry of Health, Republic of Liberia, 'National Roadmap to Increase Access to Medical Oxygen in Liberia' (October 2021) <<https://stoppneumonia.org/wp-content/uploads/2022/05/National-Roadmap-for-Oxygen-Access-2021-2024-FINAL-FOR-PRINTING.pdf>> accessed 9 August 2022
- 4 WHO, 'Information Note: Tuberculosis & COVID-19' (May 2020) <<https://www.who.int/docs/default-source/hq-tuberculosis/covid-19-tb-clinical-management-info-note-dec-update-2020.pdf>> accessed 27 January 2022
- 5 Rado J. L. Rakotonanahary, Herinjaka Andriambolamanana, and others, 'Integrating Health Systems and Science to Respond to COVID-19 in a Model District of Rural Madagascar' *Frontiers in Public Health* (July 2021) doi: 10.3389/fpubh.2021.654299, 6
- 6 WHO Nigeria, 'Boosting COVID-19 case detection- Ekiti State expands use of antigen rapid diagnostic tests in health facilities' (27 September 2021) <<https://www.afro.who.int/news/boosting-covid-19-case-detection-ekiti-state-expands-use-antigen-rapid-diagnostic-tests-health>> accessed 4 August 2022
- 7 Interview with Dr Ojediran Shobowale COVID-19 Response Coordinator for Osun state, Nigeria, via Zoom, 23 June 2022
- 8 Interview with Mohamoud Ali Bullale, Programme Manager, Health Poverty Action—Somaliland
- 9 Interview with Dr Saeed Mohamood Soleman, Director of Policy, Planning, and Strategic Information, Ministry of Health, Somaliland
- 10 Alexander Chagema, 'Truck drivers at Kenya-Uganda border on strike over Covid-19 tests' *The Standard* (January 2022) <<https://www.standardmedia.co.ke/article/2001433667/truck-drivers-at-kenya-uganda-border-on-strike-over-covid-19-tests>> accessed 29 July 2022
- 11 Peter Clotey, 'East African Truckers Pay Bribes for Negative Coronavirus Tests, Official Says' *VOA* (19 October 2020) <<https://www.voanews.com/a/africa-east-african-truckers-pay-bribes-negative-coronavirus-tests-official-says/6197325.html>> accessed 29 July 2022
- 12 Interview with Olga Gvozdetzka, Public Health Centre, Ukraine (via email, 23 May 2022)
- 13 'Pfizer and the Medicines Patent Pool (MPP) Sign Licensing Agreement for COVID-19 Oral Antiviral Treatment Candidate to Expand Access in Low- and Middle-Income Countries' (16 November 2021) <<https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-medicines-patent-pool-mpp-sign-licensing>> accessed 13 December 2021
- 14 Jamie Smyth, 'Slow uptake of Pfizer's Covid drug hints at end to sales boom' *Financial Times* (25 July 2022) <<https://www.ft.com/content/0eb0b444-c516-4abf-85a2-8cc9326cf84e>> accessed 28 July 2022
- 15 Medicines Patent Pool, 'Update: Ukrainian company Darnitsa signs sublicense agreement with MPP bringing to 36 the number of generic manufacturers to produce generic versions of Pfizer's oral COVID-19 treatment' (22 March 2022) <<https://medicinespatentpool.org/news-publications-post/update-ukrainian-company-darnitsa-signs-sublicense-agreement-with-mpp-bringing-to-36-the-number-of-generic-manufacturers-to-produce-generic-versions-of-pfizers-oral-covid-19-treatment>> accessed 28 July 2022
- 16 Jaysim Hanspal, 'Somalia braces for worst drought in 40 years while food prices soar' *The Africa Report* (8 June 2022) <<https://www.theafricareport.com/212109/somalia-braces-for-worst-drought-in-40-years-while-food-prices-soar/>> accessed 28 July 2022
- 17 It should be noted that official recommendations are that Paxlovid be provided to mild-to-moderate COVID-19 patients, and who have risk factors for progression to serious disease. CDC Health Advisory (24 May 2022) <[https://emergency.cdc.gov/han/2022/pdf/CDC\\_HAN\\_467.pdf](https://emergency.cdc.gov/han/2022/pdf/CDC_HAN_467.pdf)> accessed 9 August 2022
- 18 Interview with Dr Carolyn Gomes, Caribbean Centre for Human Rights (Via Whatsapp, 8 August 2022)
- 19 Interview with Public Health Officer, WHO Nigeria (via Whatsapp, 30 July 2022)
- 20 National Institutes of Health, 'Hydroxychloroquine does not benefit adults hospitalized with COVID-19' (9 November 2020) <<https://www.nih.gov/news-events/news-releases/hydroxychloroquine-does-not-benefit-adults-hospitalized-covid-19>> accessed 2 August 2022
- 21 Doctor, urban health centre in Antananarivo, Madagascar, interviewed by Charlotte Baker, Director, Small Steps for Africa (July 2022)
- 22 Doctor based in US-Malagasy NGO in Antananarivo, Madagascar, interviewed by Charlotte Baker, Director, Small Steps for Africa (August 2022)
- 23 Michael Erman, 'Analysis: Demand for Pfizer's COVID pills lags around the world' *Reuters* (19 April 2022) <<https://www.reuters.com/business/healthcare-pharmaceuticals/demand-pfizers-covid-pills-lags-around-world-2022-04-19/>> accessed 10 August 2022
- 24 Olivier Uwishema and others, 'Nyiragongo Volcano's Eruption Amidst the COVID-19 Pandemic in the Democratic Republic of Congo: A Crisis Within a Crisis' (2021) *Disaster Med Public Health Prep* <[https://www.cambridge.org/core/services/aop-cambridge-core/content/view/A953865B40FD5EA035A769BFA14007D9/S1935789321003232a.pdf/nyiragongo\\_volcanos\\_eruption\\_amidst\\_the\\_covid19\\_pandemic\\_in\\_the\\_democratic\\_republic\\_of\\_congo\\_a\\_crisis\\_within\\_a\\_crisis.pdf](https://www.cambridge.org/core/services/aop-cambridge-core/content/view/A953865B40FD5EA035A769BFA14007D9/S1935789321003232a.pdf/nyiragongo_volcanos_eruption_amidst_the_covid19_pandemic_in_the_democratic_republic_of_congo_a_crisis_within_a_crisis.pdf)> accessed 30 July 2022
- 25 UN Office for the Coordination of Humanitarian Affairs, 'Violence in the Port-au-Prince metropolitan area, Situation Report #3, As of 26 May 2022' (30 May 2022) <<https://reliefweb.int/report/haiti/haiti-violence-port-au-prince-metropolitan-area-situation-report-3-26-may-2022>> accessed 30 July 2022
- 26 Emmanuel Chiwetalu Ossai, 'Crises, Conflict and Cooperation: The Two-Sided Impact of COVID-19 on Peace in Nigeria' (November 2021) *African Security* 410-438 <<https://www.tandfonline.com/doi/full/10.1080/19392206.2021.2008138>> accessed 30 July 2022



- 27 Interview with Public Health Officer, WHO Nigeria (via whatsapp, 30 July 2022)
- 28 Jaysim Hanspal, 'Somalia braces for worst drought in 40 years while food prices soar' The Africa Report (8 June 2022) <<https://www.theafricareport.com/212109/somalia-braces-for-worst-drought-in-40-years-while-food-prices-soar/>> accessed 28 July 2022
- 29 Franck Bousquet and Oscar Fernandez-Taranco, 'COVID-19 in Fragile Settings: Ensuring a Conflict-Sensitive Response' <<https://www.un.org/en/un-coronavirus-communications-team/covid-19-fragile-settings-ensuring-conflict-sensitive-response>> accessed 30 July 2022
- 30 Ibid
- 31 PATH, 'Oxygen Needs Tracker' <<https://www.path.org/programs/market-dynamics/covid-19-oxygen-needs-tracker/>> accessed 30 July 2022
- 32 Ministry of Health data as of June 2022
- 33 Ministry of Health, Republic of Liberia, 'National Roadmap to Increase Access to Medical Oxygen in Liberia' (October 2021) <<https://stopppneumonia.org/wp-content/uploads/2022/05/National-Roadmap-for-Oxygen-Access-2021-2024-FINAL-FOR-PRINTING.pdf>> accessed 9 August 2022
- 34 Partners in Health, 'Repairing 15 Oxygen Plants in Peru Amid COVID-19' (27 April 2022) <<https://www.pih.org/article/repairing-15-oxygen-plants-peru-amid-covid-19>> accessed 30 July 2022
- 35 Federal Government of Nigeria, 'Bidding Document for the Repair of Oxygen Plants in Federal Tertiary Hospitals in Nigeria' (August 2021) <<https://naca.gov.ng/wp-content/uploads/2021/08/2021.08.02-SBD-for-Oxygen-Plant-Repair.pdf>> accessed 12 December 2021
- 36 Dr Albert Bourla, 'Live video interview, IFPMA, 'Executives COVID-19 Media Briefing' (7 September 2021) <<https://www.youtube.com/watch?v=qA7oos-7sU8Y&t=3820s>> accessed 31 July 2022
- 37 Dr Albert Bourla live video interview, CBS Mornings (7 March 2022) <<https://www.youtube.com/watch?v=fN-MGK3O2OZI>> accessed 31 July 2022
- 38 Azfar Hossain, Stephen Asimwe and Louise Ivers, 'Claims of Vaccine Hesitancy in African Countries are at Odds with the Reality on the Ground' (21 December 2021) <<https://www.statnews.com/2021/12/21/claims-of-vaccine-hesitancy-in-african-countries-are-at-odds-with-the-reality-on-the-ground/>> accessed 31 July 2022; Kyle Knight and Harris Solomon, 'The Dangers of Confusing Vaccine Hesitancy with Vaccine Access' (3 February 2022) <<https://www.thinkglobalhealth.org/article/dangers-confusing-vaccine-hesitancy-vaccine-access>> accessed 31 July 2022
- 39 Benjamin Mason Meier, 'International Protection of Persons Undergoing Medical Experimentation: Protecting the Right of Informed Consent' (2002) 20(3) Berkeley Journal of International Law 513 -554
- 40 Interview with Richard Musisi, Executive Director, Masaka Association of Persons with Disabilities living with HIV and AIDS (MADIPHA), Uganda (via Zoom, 8 July 2022)
- 41 Africa Centres for Disease Control, 'COVID-19 Vaccine Perceptions: A 15 country study' (10 March 2021) <<https://africacdc.org/download/covid-19-vaccine-perceptions-a-15-country-study/>> accessed 31 July 2022
- 42 Marie-Noël Cikuru and others, 'Colonialism and foreign interventions have driven distrust during the pandemic in eastern DRC' (8 September 2021) <<https://blogs.lse.ac.uk/africaatlse/2021/09/08/colonialism-foreign-interventions-ngos-have-driven-distrust-covid19-pandemic-eastern-drc/>> accessed 22 June 2022
- 43 Crisis 24, 'DRC: Public sector doctors continue nationwide strike as of July 30 /update 1' (30 July 2021) <<https://crisis24.garda.com/alerts/2021/07/drc-public-sector-doctors-continue-nationwide-strike-as-of-july-30-update-1>> accessed 22 June 2022
- 44 Interview with Dr Elia Badjo, via Zoom, June 2022
- 45 Interview with Adeyemi Adeitan, Nigeria (via Zoom XX July 2022); Interview with Manisha Dhakal, Blue Diamond Society, Nepal (via Zoom, 19 July 2022)
- 46 Interview with Adeyemi Adeitan, Nigeria (via Zoom XX July 2022)
- 47 Interview with Richard Musisi, MADIPHA, Uganda (via Zoom, 8 July 2022)
- 48 Interviews with healthcare workers at primary healthcare settings in Ondo state, Nigeria (in-person interviews, July 2022)
- 49 Interview with Oscar Ramirez, Socios en Salud (via email correspondence, 1 August 2022)
- 50 'Departments' are the administrative divisions of Haiti. Haiti is administratively divided into ten departments, which are further divided into 42 arrondissements.
- 51 World Bank, 'World Bank-financed Moderna vaccines arrive in Nepal to protect children and youth from COVID-19' (25 January 2022) <<https://www.worldbank.org/en/news/press-release/2022/01/25/world-bank-financed-moderna-vaccines-arrive-in-nepal-to-protect-children-and-youth-from-covid-19>> accessed 3 August 2022
- 52 Rana H Almaghrabi and others, 'Healthcare workers experience in dealing with Coronavirus (COVID-19) pandemic' (2020) 41 Saudi Medical Journal 657.
- 53 Arush Lal, Ngozi A Erundu and others, 'Fragmented health systems in COVID-19: rectifying the misalignment between global health security and universal health coverage' (2021) 397(10268) Health Policy P61-67
- 54 World Health Organisation, Third round of the global pulse survey on continuity of essential health services during the COVID-19 pandemic, <[https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS\\_continuity-survey-2022.1](https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS_continuity-survey-2022.1)>, 2022
- 55 Madeleine Ballard, Helen E Olsen, and others, 'Continuity of community-based healthcare provision during COVID-19: a multicountry interrupted time series analysis' (2022) 12 BMJ Open e052407. doi: 10.1136/bmjopen-2021-052407
- 56 Madeleine Ballard, Ari Johnson, and others, 'Community Health Workers in Pandemics: Evidence and Investment Implications' (2022) 10(2) Global Health: Science and Practice e2100648; <https://doi.org/10.9745/GHSP-D-21-00648>
- 57 World Health Organization, 'Bangladesh: Community health workers at the heart of a stronger health system and the fight against COVID-19' (24 October 2021) <<https://www.who.int/news-room/feature-stories/detail/bangladesh-community-health-workers-at-the-heart-of-a-stronger-health-system-and-the-fight-against-covid-19>> accessed 29 July 2022
- 58 WHO AFRO, 'Documenting Liberia's experience in COVID-19 vaccination' July 2022 <<https://www.afro.>





- who.int/countries/liberia/publication/documenting-liber-  
ias-experience-covid-19-vaccination> accessed 29 July  
2022
- 59 Interview with Adelaide Davis, IFRC, DRC (via Zoom, 7  
July 2022)
- 60 Interview with Adelaide Davis, IFRC, DRC (via Zoom, 7  
July 2022)
- 61 Peter Yeung, 'How Liberia's frontline health workers are  
protecting us all' BBC <[https://www.bbc.com/future/  
article/20220406-how-liberias-frontline-health-work-  
ers-stop-next-pandemic](https://www.bbc.com/future/article/20220406-how-liberias-frontline-health-workers-stop-next-pandemic)> accessed 3 August 2022
- 62 Interview with Dr Carolyn Gomes, Caribbean Centre for  
Human Rights (Via Whatsapp, 8 August 2022)
- 63 Interview with Dr Joe Fitchett, Senior Adviser for Bio-  
technology, Institut Pasteur de Dakar (Via Whatsapp,  
July 2022)
- 64 Rehema Chengo and others, 'A Situation Assessment of  
Community Health Workers' Preparedness in Support-  
ing Health System Response to COVID-19 in Kenya,  
Senegal, and Uganda' (2022) *Journal of Primary Care &  
Community Health* doi:10.1177/21501319211073415
- 65 Interviews conducted by COSAMED, North Kivu (July  
2022)
- 66 Crisis 24, 'DRC: Public sector doctors continue na-  
tionwide strike as of July 30 /update 1' (30 July 2021)  
<[https://crisis24.garda.com/alerts/2021/07/drc-public-  
sector-doctors-continue-nationwide-strike-as-of-july-  
30-update-1](https://crisis24.garda.com/alerts/2021/07/drc-public-sector-doctors-continue-nationwide-strike-as-of-july-30-update-1)> accessed 22 June 2022
- 67 World Health Organisation, 'Third round of the global  
pulse survey on continuity of essential health services  
during the COVID-19 pandemic.' (2022).
- 68 Interview with Dr Mamunur Rahman Malik (via Zoom, 7  
July 2022)
- 69 Interview with Bhim Prasad Sapkota (via email, 5 May  
2022)
- 70 Interview with Dr Maureen Birmingham, WHO Repre-  
sentative, Haiti (via email, 25 May 2022)
- 71 Leah McManus, 'mHero for Health Workers' Needs'  
UNICEF Office of Innovation (13 January 2015) <[https://  
www.unicef.org/innovation/stories/mhero-health-work-  
ers-needs](https://www.unicef.org/innovation/stories/mhero-health-work-ers-needs)>
- 72 VITAL, 'What's mHero's Secret to Giving Health Officials  
Real-Time Information during a Pandemic?' <[https://  
www.intrahealth.org/vital/whats-mheros-secret-giv-  
ing-health-officials-real-time-information-during-pan-  
demic](https://www.intrahealth.org/vital/whats-mheros-secret-giv-<br/>ing-health-officials-real-time-information-during-pan-<br/>demic)> accessed 4 August 2022
- 73 Interview with Olga Gvozdetska, Public Health Center,  
Ukraine (via email, 23 May 2022)
- 74 'СКЛАД міжсекторальної робочої групи з питань  
розробки Стратегії розвитку системи охорони  
здоров'я до 2030 року (Order of the Ministry of Health  
dated November 19, 2021 No. 2577 "On Amendments  
to the Intersectoral Working Group on the Development  
of the Health Care System Development Strategy until  
2030)" <[https://moz.gov.ua/uploads/ckeditor/Стратегія/  
15%2C02%2C2022/01/2577.pdf](https://moz.gov.ua/uploads/ckeditor/Стратегія/15%2C02%2C2022/01/2577.pdf)> accessed 4 August  
2022
- 75 Interview with Dr Thierry Turano, Chief Clinician of the  
Nyiragongo Health Zone (in-person by COSAMED, July  
2022)
- 76 Rado J. L. Rakotonanahary, Herinjaka Andriambola-  
manana, and others, 'Integrating Health Systems and  
Science to Respond to COVID-19 in a Model District of  
Rural Madagascar' *Frontiers in Public Health* (July 2021)  
doi: 10.3389/fpubh.2021.654299
- 77 WaterAid <[https://www.wateraid.org/where-we-work/  
liberia](https://www.wateraid.org/where-we-work/liberia)> accessed 4 August 2022
- 78 OCHA, 'Somalia WASH Cluster Dashboard for June  
2022' <[https://www.humanitarianresponse.info/en/op-  
erations/somalia/water-sanitation-hygiene](https://www.humanitarianresponse.info/en/op-<br/>erations/somalia/water-sanitation-hygiene)> accessed 4  
August 2022
- 79 Ballard M, Bancroft E, Nesbit J, et al Prioritising the role  
of community health workers in the COVID-19 respon-  
se *BMJ Global Health* 2020;5:e002550.
- 80 World Health Organisation, Third round of the global  
pulse survey on continuity of essential health services  
during the COVID-19 pandemic, [https://www.who.int/  
publications/i/item/WHO-2019-nCoV-EHS\\_continui-  
ty-survey-2022.1](https://www.who.int/publications/i/item/WHO-2019-nCoV-EHS_continui-<br/>ty-survey-2022.1), 2022
- 81 Interview with Bhim Prasad Sapkota (via email, 5 May  
2022)
- 82 Partnership for Evidence-Based COVID-19 Response,  
'Responding to COVID-19 In Africa—Finding the Bal-  
ance.' (2021)
- 83 World Health Organisation, 'Third round of the global  
pulse survey on continuity of essential health services  
during the COVID-19 pandemic.' (2022).
- 84 Partnership for Evidence-Based COVID-19 Response,  
'Responding to COVID-19 In Africa—Finding the Bal-  
ance.' (2021)
- 85 Marie-Noël Cikuru and others, 'Colonialism and foreign  
interventions have driven distrust during the pandemic  
in eastern DRC' (8 September 2021) <[https://blogs.lse.  
ac.uk/africaatlse/2021/09/08/colonialism-foreign-inter-  
ventions-ngos-have-driven-distrust-covid-19-pandem-  
ic-eastern-drc/](https://blogs.lse.ac.uk/africaatlse/2021/09/08/colonialism-foreign-inter-<br/>ventions-ngos-have-driven-distrust-covid-19-pandem-<br/>ic-eastern-drc/)> accessed 22 June 2022
- 86 Chinwe U Nnama-Okechukwu, 'COVID-19 in Nigeria:  
Knowledge and compliance with preventive measures'  
35(7) *Social Work in Public Health* 590-602
- 87 Rajesh Didiya, PLHIV Network in Bangladesh (written  
communication, 1 July 2022)
- 88 Interview with Manisha Dhakal, Blue Diamond Society,  
Nepal (via Zoom, 19 July 2022)
- 89 Interview with Richard Musisi, MADIPHA, Uganda (via  
Zoom, 8 July 2022)
- 90 Interview with Manisha Dhakal, Blue Diamond Society,  
Nepal (via Zoom, 19 July 2022)
- 91 Mandate of the Independent Expert on protection  
against violence and discrimination  
based on sexual orientation and gender identity, 'AS-  
PIRE Guidelines on COVID-19 response and recovery  
free from violence and discrimination based on sex-  
ual orientation and gender identity' (18 June 2020)  
<[https://www.ohchr.org/en/special-procedures/ie-sex-  
ual-orientation-and-gender-identity/lgbt-inclusive-re-  
sponse-covid-19](https://www.ohchr.org/en/special-procedures/ie-sex-<br/>ual-orientation-and-gender-identity/lgbt-inclusive-re-<br/>sponse-covid-19)> (accessed 9 August 2022)
- 92 Carl Collison, 'Congo-Kinshasa: DRC Queer Rights Ac-  
tivist Forced to Go Into Hiding' (16 May 2022) <[https://  
allafrica.com/stories/202205210100.html](https://allafrica.com/stories/202205210100.html)> (accessed 9  
August 2022)
- 93 OutRight Action International, 'Haiti' <[https://outrightint-  
ernational.org/region/haiti](https://outrightint-<br/>ernational.org/region/haiti)> (accessed 9 August 2022)
- 94 Reuters, 'Ukraine president asks gov't to study legalising  
same-sex marriages' (2 August 2022) <[https://www.  
reuters.com/world/europe/ukraine-president-asks-govt-  
study-legalising-same-sex-marriages-2022-08-02/](https://www.reuters.com/world/europe/ukraine-president-asks-govt-<br/>study-legalising-same-sex-marriages-2022-08-02/)>



- (accessed 9 August 2022)
- 95 Republicworld, 'Peruvian couples celebrate symbolic same-sex wedding' (14 February 2022) <https://www.republicworld.com/world-news/south-america/peruvian-couples-celebrate-symbolic-same-sex-wedding-articleshow.html> (accessed 9 August 2022)
- 96 Guerrero Gámez, Sofía and Giselle Marie Bello, 'The Rights and Inclusion of LGBTI People in Peru in times of coronavirus' (30 June 2020) <https://blogs.worldbank.org/latinamerica/rights-and-inclusion-lgbti-people-peru-times-coronavirus> (accessed 9 August 2022)
- 97 Amnesty International, 'Report 2020/2021. The State of the World's Human Rights', (2021) p 291 <<https://www.amnesty.org/en/wp-content/uploads/2021/06/English.pdf>> (accessed 9 August 2022)
- 98 Leo Sands, 'Uganda LGBT rights: Government shuts down key advocacy group' (6 August 2022) <<https://www.bbc.com/news/world-africa-62453344>> (accessed 9 August 2022)
- 99 Acaba, Jeffry and Bionat, Justin Francis "#Coping-WithCOVID: The WellBeing of LGBTIQ Adolescents and Youth during the COVID-19 Pandemic in Asia and the Pacific", Youth Voices Count, Inc., (June 2020), p 22 <<https://yvc-asiapacific.org/wp-content/uploads/2022/03/13-CopingWithCOVID-discussion-paper.pdf>> (accessed 9 August 2022)
- 100 Jeffry Acaba and Bionat, Justin Francis "#CopingWithCOVID: The WellBeing of LGBTIQ Adolescents and Youth during the COVID-19 Pandemic in Asia and the Pacific", Youth Voices Count, Inc., (June 2020), p 27 <<https://yvc-asiapacific.org/wp-content/uploads/2022/03/13-CopingWithCOVID-discussion-paper.pdf>> (accessed 9 August 2022).
- 101 Amruta Byatnal and Jenny Ravelo, 'Devex CheckUp: What ACT-A's New Strategy Can't Ignore' Devex (14 October 2021) <[www.devex.com/news/devex-check-up-what-act-a-s-new-strategy-can-t-ignore-101834](https://www.devex.com/news/devex-check-up-what-act-a-s-new-strategy-can-t-ignore-101834)> accessed 12 August 2022

DOWNLOAD REPORT [HERE](#)

