Covid-19 Response in Africa bulletin

Situation and Response in the WHO AFRO Region

From Emergency Response to Long-term Covid-19 Disease Management

Issue 11 | 13 July 2023

With the pandemic currently stable in the WHO African region, WHO continues to support effective and sustained Covid-19 response within routine health systems in Member States. Here, the Community Based Response Initiative (CBRI) team reinforces community awareness about Covid-19 in the Democratic Republic of Congo – @WHO AFRO

World Health Organization

African Region

Covid-19 Epidemiological Situation and Response in Africa
July 2023

In this issue:

FOREWORD

Dear Reader,

We are four years into the pandemic and counting. Although the global Covid-19 situation has stabilized the virus continues to circulate and we must learn to live with it for the foreseeable future. We fully expect that this virus will continue to transmit for a very long time, and this reflects the history of pandemics. This pandemic has taught us a lot. It was a steep learning curve for all ---developed and developing countries alike and we have come out wiser than we were at the breakout in 2020. Indeed, we see light at the end of the tunnel, but we must remain vigilant as the situation is still unpredictable.

We commend the Member States in the WHO African Region for the great achievements they have made in fighting the pandemic despite the negative predictions that were made about the likely impact of the pandemic on the African population. It was predicted that Africa would be the worst hit continent in the world, but the reverse is true. In this issue we highlight some of the achievements that we made as a region over the last 3 years with support from WHO and other heath development partners.

In line with the recent declaration from the WHO Director General, Dr Tedros Ghebreyesus, on 5th May 2023 that Covid-19 is now an established and ongoing health issue and no longer constitutes a public health emergency of international concern (PHEIC), the theme for this issue of the bulletin is **"From Emergency Response to Long-term Covid-19 Disease Management"**. Dr Tedros in his comments advised that it is time to transition to long-term management of Covid-19, managing it alongside other diseases within routine healthcare systems. WHO AFRO has developed a Regional Covid-19 Strategic and Preparedness and Response Plan to guide countries on this transition journey. In this issue we highlight experiences of some countries as they undertake this transition.

The Covid-19 Incident Management Support Team at AFRO has been tracking the performance of countries against response effort indicators. We provide a summary of the regional performance over the last 12 months.

Stay vigilant. Don't drop your guard. Let us use the lessons we have learned to prepare better for emerging threats. I urge countries to sustain the national capacity gains and prepare for future events to avoid the occurrence of a cycle of panic and neglect as the IHR Emergency Committee recommended at its 15th meeting. Continue to work with communities to achieve strong, resilient, and inclusive risk communications and community engagement and infodemic management programs. Get vaccinated, especially vulnerable persons, like the elderly and those with comorbidities.

I graciously thank all individuals who were part of the Covid-19 Incident Management Support Team at the Regional and Country Offices that contributed to the achievements that are highlighted in this bulletin.

WHO AFRO will continue to support all the Member States as they navigate through this critical period of transitioning the pandemic response by incorporating Covid-19 management into routine healthcare services alongside other diseases.

Dr Abdou Salam Gueye

Regional Emergency Director, WHO Regional Office for Africa

Situation Overview

The Covid-19 pandemic is in its fourth year following its declaration as a public health emergency of international concern (PHEIC) in 2020. The impact of the pandemic on the health and wellbeing of the people and on national and global economies was significant. The Covid-19 pandemic demonstrated and reaffirmed the fact that health is not only central to development but also fundamental to economies and societies, national security, and political stability.

Predictions made early in the pandemic on the impact of Covid-19 on the African population and her health systems painted a somber picture characterized by massive number of infections, hospitalizations, and deaths with failure of health systems to hold. The reality was different. As of 28 June 2023, over 12.8 M cases of laboratory confirmed Covid-19 cases and 257,872 deaths had been registered in Africa —compared to the 220 million cases and 150 million fatalities that had been predicted in the first year alone[1]. Of the 767M cases and 6.9M deaths reported globally by this date, WHO AFRO Region contributed 1.2% and 2.5% respectively. Other regions were hit worse than Africa. However, the region was found ill prepared to manage the pandemic effectively because our health systems were already weak and overstretched. For a more comprehensive global picture, please see https://covid19.who.int.

The first confirmed case of Covid-19 in Africa occurred in Egypt on February 14, 2020, and the first known case in Sub-Saharan Africa was declared by Nigeria at the end of February 2020. After only three months, the virus had reached every country in Africa, with the Kingdom of Lesotho being last to report its first case on May 13, 2020. Although Covid-19 testing rates were not optimal then, community transmission had occurred in most African countries by May 26, 2020. As of June 2023, five waves of Covid-19 had swept through Africa, causing widespread illness and death.

The ***first*** wave of Covid-19 in Africa started in March 2020 and peaked on 16 July 2020 with 18,273 new cases and 470 deaths on average each day. During this wave, over 1.2 million cases and 30,000 related deaths were recorded on the continent. This initial wave was moderate, and cases increased slowly due to young demographics, exposure to the severe acute respiratory syndrome coronavirus 2 (SARS-COV-2) Alpha variant, international travel bans, and robust public health measures. The ***second*** wave, which began in October 2020, was more severe than the first. The second wave peaked on December 14, 2020, with a daily average of 35,000 new confirmed cases and 800 deaths. This wave caused 2.5 million cases and 70,000 related fatalities on the continent. The emergence of more transmissible SARS-COV-2 strains such as the Beta variant and inadequate public health policies in some countries likely caused this wave's magnitude. The ***third*** wave began in April 2021 and had the highest cases and deaths due to the emergence of the most aggressive SARS-COV-2 Delta variant compared to the previous ones. The third wave peaked on June 10, 2021, with an average of 100,000 new cases including 2,000 deaths reported daily. During this wave, at least 6.5 million new confirmed cases and 150,000 deaths were reported throughout the African continent. The ***fourth*** wave began in November 2021 and peaked on 16 December 2021 with an average of 50,000 new cases including 1,000 deaths reported daily. During this wave, 4.5 million cases and 100,000 deaths were reported over the African continent. It was shorter and less severe than the third wave, probably due to a confluence of circumstances, including higher vaccination rates, prior infection immunity, and the relatively less aggressive Omicron strain. The ***fifth*** wave was mild and quite short, beginning in April 2022 to reach a peak in early May 2022, with over 66000 new cases reported during that week and less than 50 related deaths on average daily.

[1] Cabore JW, Karamagi HC, Kipruto H, *et al*. The potential effects of widespread community transmission of SARS-CoV-2 infection in the World Health Organization African Region: a predictive model. *BMJ Global Health* 2020; 5: e002647. doi:10.1136/bmjgh-2020-002647

The epidemiological situation in the Region is currently stable with a few occasional surges in cases. There are no countries in resurgence or critical concern status. The weekly reported cases and deaths are at the lowest since the start of the pandemic. For instance, the number of cases reported in April- June for 2020, 2021, 2022 and 2023 were 305 417, 959 134, 421 080, and 22 049 respectively showing a 95% decline between the 2022 and 2023 time points. Cognizant of the decline in testing and reporting of cases in the last 15 months.

Using the "whole-of-government" and "whole-of-society" approach, nations have been able to contain the pandemic and minimize its impact. In addition to the Covid-19 pandemic, the Africa region grappled with several other emergencies like Ebola virus disease, cholera, polio, monkey pox, measles, humanitarian crises, etc., further complicating the response. All this happening amidst acute shortages of life saving tools like vaccines, medical oxygen, and personal protective equipment. Though access to vaccines has improved over time, the region still has the lowest vaccination coverage with less than 40% of the population completing their primary vaccination series.

On 5th May 2023, the WHO Director General, Dr Tedros Adhanom Ghebreyesus, declared Covid-19 as no longer a public health emergency of international concern (PHEIC). Covid-19 disease is now an established and on-going health issue stabilizing into an endemic state. Millions of people, however, continue to be infected or re-infected with SARS-COV-2 and thousands of people are dying each week. Furthermore, inequities in access to life-saving tools and significant burdens from Covid-19 in many countries remain, with the risk of emergence of new variants resulting in future surges high. This calls for continued effort in managing the pandemic, albeit with another approach. Given its long-term nature, the management of Covid-19 will be incorporated into routine healthcare services alongside other diseases to ensure sustainability of prevention and response measures.

WHO encourages countries to continue monitoring the pandemic with subnational-level early warning systems, which have been effective throughout the crisis. Vaccination remains a key intervention against severe disease and death due to Covid-19. Countries should integrate Covid-19 vaccination into life course vaccination programs and maintain efforts to increase Covid-19 vaccination coverage for all people in the high-priority groups. It is important that individuals take a risk-based approach and continue following appropriate protective measures to reduce transmission, which include to physically distance, practice good hand and respiratory hygiene, wear well-fitting masks and avoid crowds and poorly ventilated places where possible.

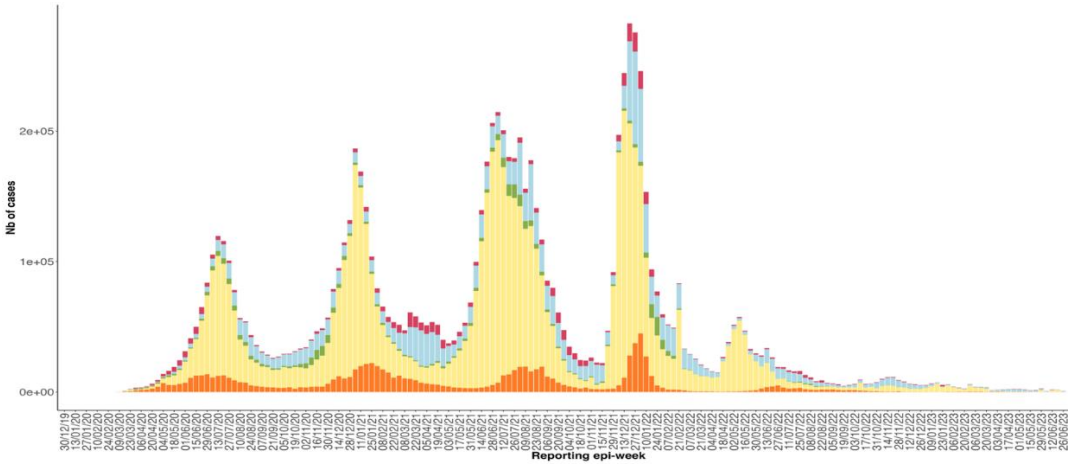


Figure 1. Weekly trend of Covid-19 cases in the WHO African Region (Data as of 30 June 2023 Data source: https://covid19.who.int/

From Emergency Response to Long-term COVID-19 Disease Management

Surveillance in the WHO African region has declined significantly while weekly reported cases and deaths are at the lowest level since the pandemic began. Though the pandemic situation is generally stable in the region, there have been some occasional surges in the number of cases in the last few weeks. These surges, however, are significantly lower compared to previous waves. These events coupled with several other factors led to a declaration by the WHO Director General on 5 May 2023 that Covid-19 is no longer a PHEIC. Instead, the virus is now an established and ongoing health issue. Other factors considered were a decline in Covid-19-related hospitalizations and intensive care unit (ICU) admissions, the currently circulating variants which do not appear to be associated with increased severity, and the high levels of population immunity to SARS-CoV-2 from infection and/or vaccination.

The declaration called for continued efforts towards managing the pandemic by integrating Covid-19 management into routine health services alongside other diseases. To support countries in this process, WHO Regional Office for Africa (AFRO), developed a Regional Covid-19 Strategic Preparedness and Response plan (SPRP) for 2023-2025. This was based on a global SPRP 2023-2025 developed by WHO headquarters (HQ). The document is a guide for countries on how to manage Covid-19 over the next two years in the transition from acute emergency response to a longer-term, sustained response. Although we are in a much stronger position in facing the Covid-19 pandemic, the virus is here to stay, and countries need to manage it alongside other infectious diseases. The plan lays out how to do so.

Strategic Direction of the WHO- AFRO SPRP 2023-2025

The Covid-19 Strategic Preparedness and Response Plan for AFRO serves as a guide for a holistic public health response to Covid-19 at regional, national, and sub-national levels. The two-year SPRP builds upon the lessons learnt from the implementation of the 2020, 2021 and 2022 SPRPs and outlines a regional preparedness, response, and recovery strategy for Covid-19. The SPRP has been adapted to reflect the WHO African regional context and its challenges. It also considers epidemiological changes and recommendations emerging from the annual and evaluation reports of the previous SPRPs. The 2023-2025 Covid-19 strategy outlines practical, high-level actions that need to be sustained as response activities to address the drivers of SARS-CoV-2 transmission and prioritizes activities that will strengthen health systems and lessen the impact of the Covid-19 disease in the region.

Goal and objectives of the AFRO SPRP

The goal of WHO-AFRO 2023-2025 SPRP is to build resilient and sustainable health systems and resilient communities to prevent and respond to Covid-19 and other public health threats with minimal disruption to essential health services. During the 24-month transition period, it is hoped that the emergency response to Covid-19 in all member states would shift to sustainable comprehensive management of Covid-19 within broader disease prevention and control programs.

Overall, this will be achieved through **five major objectives** that are aligned within the five components of health preparedness, readiness, and response – schematically presented below:

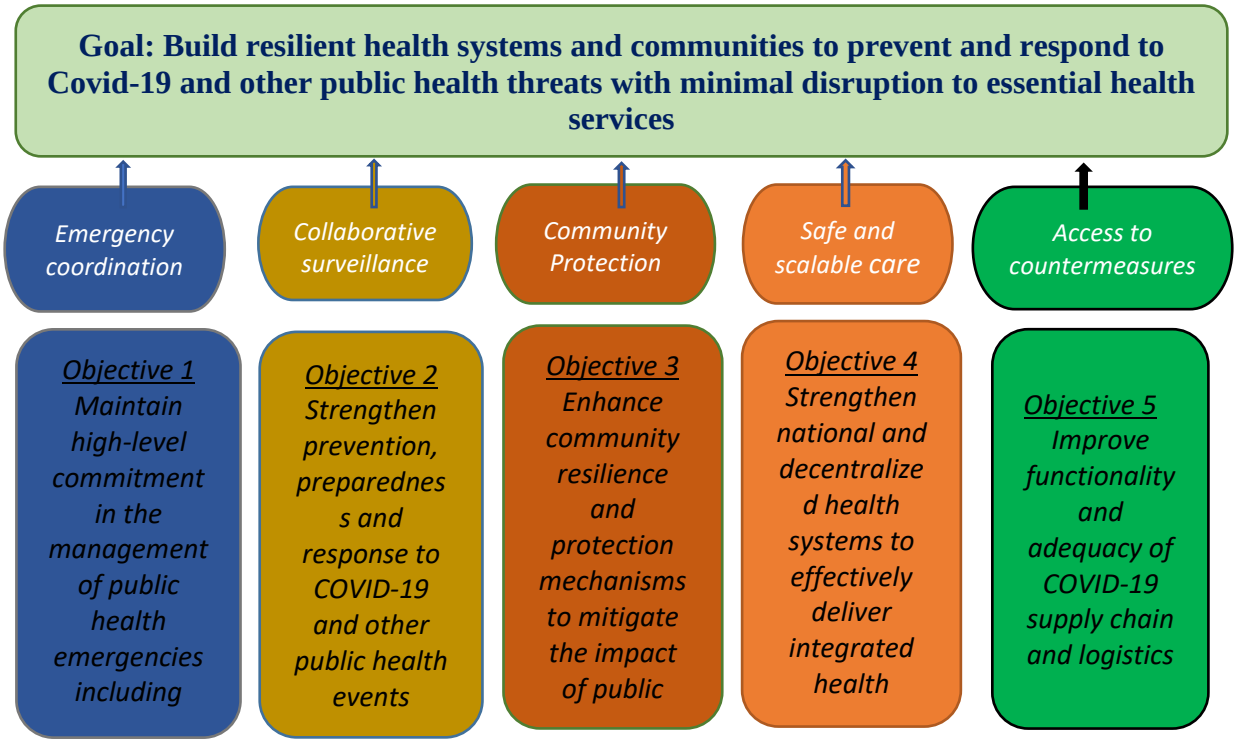


Figure 2. Goal and objectives of the AFRO Covid 19 SPRP 2023-2025

The goal and objectives will be achieved through approaches that increase the access and optimal use of safe and effective tools.

1. ***Integration of Covid-19 vaccination and Covid-19 disease management into existing primary health care services.***
2. ***Early diagnosis, treatment, and clinical care and vaccination of at risk and vulnerable groups to reduce morbidity and mortality.***
3. ***Strong surveillance and monitoring of SARS-CoV-2 variants, including strategic and geographically representative sequencing to track known and future variants, respiratory pathogens, and other pandemic threats.***
4. ***Strengthening health systems.***

Getting countries back on track: Covid-19 transition experience in Ethiopia, Malawi, Rwanda, Guinea Bissau & South Africa

With a significant reduction in the number of Covid-19 cases recorded in **Ethiopia**, the government and health authorities began implementing a series of activities to integrate Covid-19 into routine health systems in July 2022. The implementation of the country's transition efforts kicked off with the Ministry of Health (MoH) restructuring the country's Covid-19 response team. Health stakeholders with guidance from the ministry ensured that the 258 staff who had been galvanized for the Covid-19 response all returned to their routine work while those recruited as part of the surge team were laid off with caution to be on standby in the event of a surge in cases. The country has since ensured that Covid-19 is incorporated into the Integrated Disease Surveillance and Response (IDSR) framework. Consequently, Ethiopia has trained her staff to focus on screening suspected cases while the Rapid Response Teams (RRTs) prioritize investigation of clusters of cases and high-risk contacts. Through this system, more than five clusters (87.5% of the notified) of flu-like illnesses have been investigated since July 2022, while 75% of close contacts (health care workers, households & congregate settings) were traced and monitored.

At the Ports of Entry (POEs), the country no longer conducts routine screening of passengers, and travelers self-report any signs/symptoms at entry/exit while rapid diagnostic tests (RDT) are offered freely at the various POEs.

Furthermore, Ethiopia has centralized RT-PCR testing at national and regional public health, and private laboratories. By mid-January 2023, SARS-CoV-2 Ag RDTs had been introduced for use at 90% of health centers and hospitals in all but the Tigray region. Laboratory personnel have been trained in the use of Ag RDTs while clinicians have been trained to conduct point of care (POC) testing at various pilot facilities. The country's case management clinical guidelines have been updated to reflect changes in treatment strategies. Ethiopia has reinforced oxygen production and rational use with back-up power and as a result, 30% of the nationally installed oxygen plants have back-up generators. The central line oxygen system for ICU services has increased from 2 to 13 facilities. Equally, all facilities have integrated home-based care in their operations.

WHO on a support supervision mission of the CBRI at a community Covid-19 testing site in DRC/WHO AFRO

Integration of Covid-19 activities into routine health services is ongoing in several countries.

In Rwanda, Covid-19 surveillance has been integrated into the country's existing health information systems, the District Health Information Software 2 (DHIS2), which is a widely used health data management platform. By leveraging this existing infrastructure, Rwanda can rapidly collect and analyze Covid-19 data, enabling timely reporting and response.

Covid-19 vaccination in **Malawi,** as in many countries, has been focused on vertical implementation strategies driven by mass campaign approaches to accelerate vaccine delivery towards improvement in population immunity. Since 2022 however, global discussions towards sustainable Covid-19 vaccination using integrated approaches with emphasis on mainstreaming Covid-19 in Primary Health Care (PHC) have been encouraged.
In 2022, a unique vaccine delivery strategy was birthed in Malawi, 'vaccinate my village". This concept commenced in Mangochi District of Malawi and was subsequently scaled up across the nation. This vaccination approach leveraged on the existing primary health care structures especially the community level health delivery system. Community based health workers or health surveillance assistants (HSA's) are the main interface at the community-level providing key health interventions such as community- based surveillance, preventive and risk reduction education, and childhood immunization. These health surveillance assistants are

assigned to catchment areas and deliver key health interventions to the populace within these areas using the life-course approach. Guided by integrated approaches, the 'vaccinate my village' intervention allowed the HSAs to integrate Covid-19 vaccination with the routine health services provided within the communities and villages. This included integration with outreach child welfare clinics and immunization services, house to house surveillance activities amongst others. This strategy helped improve access since it brought Covid-19 vaccine closer to the community and improved utilization. Uptake of vaccines by community members was tracked using the village registry HSA's use to track and monitor their community interventions. Using this community-based approach, Covid-19 has also been integrated with other community interventions such as

Health Surveillance Assistants providing door – door vaccination services and integrated outreach services as part of routine community-based health service delivery/WHO AFRO

bed net distribution and social interventions such as fertilizer distribution.

In August 2022, with support from WHO, the Ministry of Health was supported to conduct microplanning exercises in ten high priority districts with the highest burden of Covid-19. This microplanning was down as a bottom-up exercise from the health facility -level through the district level and was focused on improving equitable access to the most vulnerable and at-risk groups within the population whilst ensuring cost effectiveness. Subsequently districts developed strategies to improve access to vaccines especially in clinics where persons with comorbidities are managed such as hypertension clinics, diabetes clinics and established systems for referring such patients to vaccination sites. Following the microplanning exercise which emphasized integrated approaches, significant progress has been seen in these districts. Machinga district for instance has increased its primary series coverage in the target population from 12% to 70%. Kasungu district has also increased from 22% to 55% coverage.

Guinea Bissau has started incorporating SARS-CoV-2 screening into routine health services and existing surveillance such as that of influenza-like illnesses. This strategy was initiated in a region of the country that registered a high number of cases of Covid-19. The country's MOH has taken full ownership of the community-based response initiative operated within the Public Health Emergency Operations Centre (PHEOC), that is the coordination body for Covid-19 in the country. WHO supported the setup of the PHEOC. Additionally, there are plans to reposition various Covid-19 pillar activities into routine service central departments that closely collaborate with the PHEOC which houses focal points of all service pillars. Covid-19 vaccination has been integrated into the routine vaccination strategy. Under this strategy, the country has already conducted two campaigns with an integrated approach.

Guinea Bissau conducted two vaccination campaigns in an integrated Covid-19 campaign and EPI routine vaccination/@WHO AFRO.

South Africa is in the process of integrating Covid-19 response into routine health services, setting up PHEOCs, rolling out IDSR, and updating the Pandemic Preparedness and Response Plan. As the country transitions its Covid-19 response, the focus is now on improving capacities built over the past three years to address existing challenges and gaps. Currently Covid-19 data are reported as part of respiratory syndromic sentinel surveillance updates and are made available on the National Institute for Communicable Diseases webpage (weekly in season and monthly outside of the respiratory/winter season). South Africa discontinued its weekly reporting of Covid-19 hospitalization and death numbers on 31 December 2022, with these data now being reported routinely through the Notifiable Medical Conditions platform. The country has continued with other monitoring activities such as severe acute respiratory illness (SARI) and influenza like illnesses (ILI) and wastewater surveillance.

Covid-19 Community Based Response Initiative

The community-based response initiative (CBRI) was first implemented in the African region during the third wave of the Covid-19 pandemic driven largely by highly transmissible variants of concern, particularly the Delta variant, amidst limited adherence to public health and safety measures. AFRO developed the initiative to support Member States to improve detection and response to the Covid-19 pandemic in hotspot areas. Districts with hotspots in selected countries were chosen to implement a set of community-based response activities.

CBRI employs personnel from all healthcare specialities in the Covid-19 response for testing and identifying cases, referrals of serious cases, and homebased care, while addressing other non-covid emergencies – WHO AFRO

Initially implemented in September 2021 to detect Covid-19 cases in hotspot districts in eight countries, the initiative has since expanded to 21 countries: Democratic Republic of Congo, Burundi, Cameroon, Congo, Cote d'Ivoire, Guinea-Bissau, Mozambique, Senegal, Zambia, Botswana, Cameroon, Comoros, Eswatini, Guinea, Liberia, Mali, Namibia, Niger, South Africa, Zambia, and Zimbabwe.

CBRI applies a combination of strategies such as active case finding, testing using antigen rapid diagnostic tests (Ag-RDT), home-based isolation and care (HBIC), provision of community infection prevention and control (IPC) kits, assessing hotspot communities for compliance to public health and safety measures (PHSM), and implementing risk communication and community engagement (RCCE) to improve prevention and response. The initiative has also enhanced genomic surveillance (GS), and increased vaccination in communities exhibiting vaccine hesitancy.

WHO and partners engaged in household supervision in Koloma neighborhoods within the framework of CBRI – @WHO AFRO

While the experience gained from the Initiative has confirmed that PHSM remain a key aspect of disease control**,** additional technical, logistical, and operational capacities have enabled Member States to boost and sustain pandemic response efforts.

As a result of the CBRI, 1,013,843 Ag-RDT tests were performed during the second phase of the initiative (Jan 2022-Dec 2022), representing 94.6% of expected tests and 50-90 % of all tests performed in the implementing districts covered by the initiative, resulting in 14,127 cases detected. Since the implementation of the third phase of the initiative in January 2023, a total of 498,791 RDT tests have been performed, representing 99.8% of the target (500,000 tests for 2023). Out of the tests performed, at least 3,361 cases have been detected (Test Positivity Rate: 0.7%).

Additionally, IPC materials such as medical masks, reusable face masks, alcohol-based hand sanitizers, liquid soap, and wastebin liners were distributed to 338,008 high-risk contacts, and at least 4 million people received information on Covid-19 risk factors and prevention measures, such as vaccination, hand washing and case management. In addition to CBRI, the AFRO team continues to support other emergencies which may occur in the districts covered by the project.

In some countries, CBRI teams have provided support to other disease outbreaks such as measles, mpox, and yellow fever in Congo; cholera in Cameroon and Zambia; African Human Trypanosomiasis in DRC, and mumps

in Namibia. With the success of the initiative, it is hoped that that countries will continue using it in current and future disease outbreaks.

The Zambian Experience

To break chains of Covid-19 transmission in communities, Zambia's National Public Health Institute and the MoH embraced the WHO-supported community-based response initiative.

Launched in June 2021, the initiative has contributed to the reduction of Covid-19 cases and deaths through early detection. According to statistics from the country's CBRI implementing partner, ZNPHI, 174,842 Ag-RDT tests have been performed, contributing to 50-90% of all testing in some hotspot districts and at the national level. These tests have detected 3,769 cases, resulting in a test positivity rate of 2.2%. Furthermore, a total of 4,513 samples have been collected and sent for genomic sequencing. Additionally, IPC materials, such as hand sanitizer and face masks, have been distributed to 180,710 high-risk contacts. More than 10 million people have received information on Covid-19 risk factors, prevention measures, and treatment options through community outreach programs. Notably, around 81% of all vaccinations in implementing districts have been conducted through the project. Given the impact of the initiative, health stakeholders in Zambia are leading the drive to use the initiative and rapid response teams to support other outbreaks such as cholera and measles.

Using the CBRI model to respond to a Measles outbreak in Zambia

While responding to the Covid-19 pandemic among communities, Zambia reported an outbreak of measles in August 2022. Already faced with several challenges, including healthcare worker shortages and other logistic resources, health stakeholders in Zambia resolved to use the Covid-19 response teams that were already engaged in communities to respond to the outbreak.

The teams received training on how to identify measles cases, methods of intervention and how to report cases to health facilities. According to Justina Phiri, a community health worker at Kafue Health District in Zambia, most measles cases at the Kafue district were identified by Covid-19 response teams while conducting door to door Covid-19 prevention campaigns. At a visit in one district to find cases of Covid-19, the District Health Rapid Response Team identified suspected cases of measles at a home with 12 children. Through this initiative 17 measles cases were detected and reported in *Shalengwa* village. The RRTs implemented the CBRI model to identify and confirm cases of measles while establishing and providing control measures.

> **"Integrating Covid-19 vaccination with measles routine immunization and awareness has resulted into better community understanding and acceptance of the vaccine. The same teams were used to conduct mass vaccination campaigns," said Justina Phiri, Community Health worker at Kafue Health District in Zambia**

Additionally, CBRI rapid response teams provided risk communication messages to counter misinformation against hospitalization and use of conventional medicines. *"In Kafue district for instance, most patients do not believe in the use of conventional medicine"* Justina Phiri said.

Despite the advantages of community-based response initiatives, the team faces some challenges. Community health workers carry a huge workload that accumulates over time. This delays the execution of planned activities. Data collection and management is another challenge for CBRI teams resulting in late reporting

WHO AFRO team on a support supervision mission to a CBRI team at a Covid-19 vaccination site at *Shikoswe* Secondary School in Zambia /WHO -Marriane Tabi

Emergency Coordination through Public Health Emergency Operations Centers: The Eswatini experience

Across the African region, countries continue to register several public health emergencies – from disease outbreaks to climate-induced, natural disasters such as cyclones and flooding. Crucial to being able to adequately address these emergencies is the presence of public health emergency operations centers (PHEOCs), whose functions have become even more valuable since the outbreak of the Covid-19 pandemic. The WHO has been supporting countries in the region to establish PHEOCs that serve as hubs for supporting emergency response of public health events through better sharing of information, coordination of activities and joint programming.

With training support from WHO, the national public health emergency operations center has played a vital role in the Covid-19 response since the disease was declared a pandemic in 2020. They have provided a direct link between communities and emergency health responders while at the same time serving as an avenue for providing health information to the public on the pandemic.

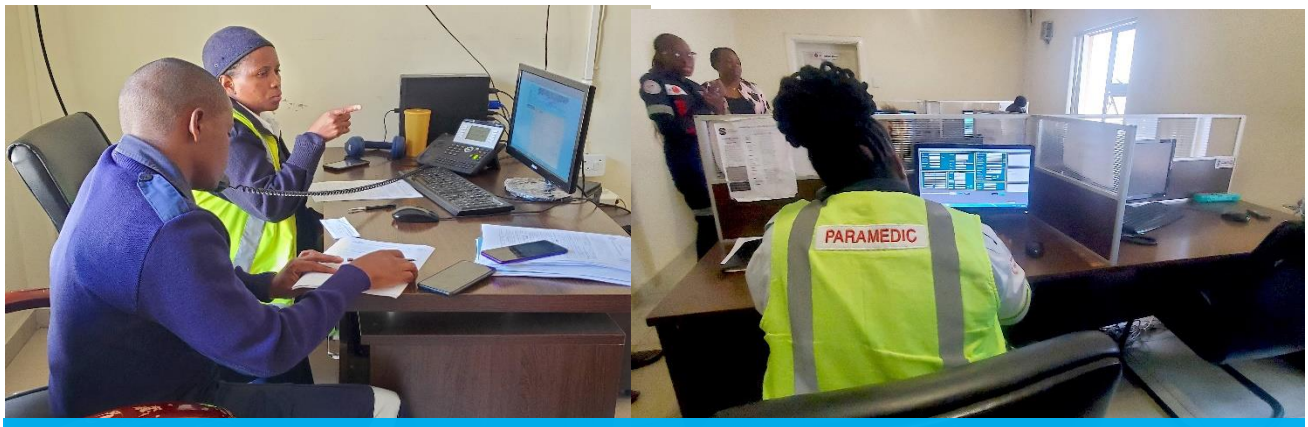
Through a centralized data collection, storage, and management platform, the MoH is able to monitor disease trends and provide appropriate responses in a timely manner. WHO has also supported the center with laptops to facilitate its daily operations.

> **"Through weekly meetings, we get timely updates on health threats and alerts, which is also helping us institute timely response measures, says Dr Masitsela Mhlanga, the manager of the Eswatini National Public Health Operations Centre**

In addition to Covid-19, the center has been crucial in supporting the response to other disease outbreaks such as the recent case of cholera that was registered in the country in April 2023.

"*Through our call center, we were able to get alerts from different communities about suspected cases of cholera. This helps in early detection of any disease but also its management to limit the spread,*" adds Dr Mhlanga.

The center, he says, is contributing to the overall strengthening of the country's healthcare system while providing timely information to communities.



In Eswatini, the National Public Health Emergency Operations Centre (PHEOC)plays a vital role in the public health response to the Covid-19 pandemic and other health events in the country-- @WHOAFRO/Evelyn Lirri

Our Achievements over the past 3 years

Coordination

To effectively respond to the pandemic in the Region, the WHO AFRO leadership identified key strategic orientations and areas of focus for supporting Member States such as reinforcing testing and genomic surveillance capacities; implementing adapted community-based response actions; increasing oxygen and other Covid - 19 case management and treatment capacities from the health system perspective; increasing vaccination; reinforcing Covid -19 monitoring and evaluation, data and intelligence collection; reinforcing and augmenting critical human resource capacities and medical and non-medical supplies; diversifying collaboration with existing and new partners; scaling-up fundamental and operational research; and transitioning progressively Covid -19 response capacities into the formal health system.

The first strategic step was to set up a dedicated Covid-19 core response team at the Regional Office, the Incident Management Support Team (IMST), responsible for coordinating and ensuring the rollout of the strategic orientation. Similar teams were set up in parallel at the sub regional hubs in Nairobi and Dakar for the East & South Africa and West & Central Africa regions respectively. In addition, three Incident Support Teams (ISTs) were set up in Zimbabwe (Harare), Burkina Faso (Ouagadougou) and Gabon (Libreville) and dedicated Covid-19 teams were set up at WHO Country Offices (WCOs). These teams were to provide close operational support to Member States and to coordinate partners support for the Covid-19 response under the established multi-agency technical working groups. To effectively monitor the performance of Member States in response to the pandemic, the IMST developed twenty key performance indicators (KPIs) covering 12 response functions namely leadership, coordination and planning, surveillance, case management, risk communication and community engagement, infection prevention and control, laboratory support, vaccination, health system and continuity of care, operational support and logistics, monitoring and data management, research and finance & general administration.

Laboratory & Surveillance

To effectively manage the Covid-19 pandemic required great innovation in all areas of response. The surveillance team developed an early warning and alert response tool that was used to identify countries in situations of concern that needed intervention.

Over the course of the pandemic countries expanded their laboratory capacities to enable greater population access to Covid-19 testing, including the establishment of additional testing facilities, procurement of necessary equipment and supplies, and training of laboratory personnel. The turn-around-time from sample collection to receiving results from PCR tests improved from an average of three days to an average of one day. At the beginning of the pandemic, only two countries – Senegal and South Africa – had reagents to test for the virus. By June 2020, all 47 countries had at least one laboratory with capacity to detect the virus using PCR.

Africa's surveillance systems have been strengthened because of these interventions. This includes, enhanced data collection and reporting mechanisms, and improved coordination between health facilities and public health authorities. Additionally, digitization of surveillance systems and prompt sharing of information have been instrumental in facilitating evidence-based decision-making during the pandemic.

By leveraging digital tools and technologies, such as mobile reporting systems and real-time data dashboards, countries have been able to collect, analyze, and share data more efficiently. This has enabled policymakers and public health authorities to make informed decisions and respond rapidly to Covid-19 resurgence situations.

During this transition phase, the surveillance team of the Covid-19 Emergency Management Support Team will continue supporting countries to strengthen their surveillance systems. This includes incorporating Covid-19 surveillance into the Integrated Disease Surveillance and Response system and influenza sentinel surveillance systems that are used routinely in countries for disease surveillance and were in existence before Covid-19 came on the scene.

Over the years, the laboratory and surveillance team has made significant progress in the rapid detection and diagnosis of Covid-19 cases. Testing capacity has expanded in the region/@WHO AFRO

Genomic Surveillance

Genomic surveillance was recognized as an important tool during the pandemic once it was identified that SARS CoV-2 virus was evolving and variants causing more severe disease in comparison to the Wuhan strain were identified. Globally, genomic surveillance has been an essential tool for characterizing SARS CoV-2 viruses and identifying new variants. In September 2020, in collaboration with Africa CDC the Covid-19 sequencing laboratory network was launched. The network is composed of 3 specialized and 9 regional reference laboratories. Since its launch capacities to characterize SARS CoV-2 viruses and detect new

variants has improved with 37 countries now able to conduct whole genome sequencing of SARS CoV-2. The Regional Center of Excellence for Genomic Surveillance and Bioinformatics (RCEGSB) was established in September 2021 by WHO AFRO in collaboration with South African National Bioinformatics Institute (SANBI), Cape Town, as part of scaling-up pathogen genomic surveillance and sequencing for improved epidemic preparedness and response to the ongoing SARS-CoV-2 in Africa. Laboratories where capacity has not been established ship specimens to reference laboratories to ensure continental geographic coverage. To build capacities reference laboratories and countries have been supported with equipment, reagents, and the technical support.

Countries in the WHO African region have shared **117 373 SARS-CoV-2** genome sequences and metadata (as of December 2022) to the Global Initiative on Sharing All Influenza Data (GISAID). East and Southern Africa (ESA) countries contributed 73% (85 401 out of 117 373) of genome sequences to GISAID. WHO AFRO also plans to roll out wastewater surveillance in the region in collaboration with other specialized regional reference laboratories.

With the Covid-19 response transitioning out of the acute phase of the pandemic, maintaining pathogen genome surveillance capacities within countries will continue through ongoing lab-epi-bioinformatics country support. Looking forward, regional workshops to develop and revise the National Genomic Surveillance Strategy will be conducted to support countries to transition from Covid-19 to other pathogens. To continue strengthening genomic surveillance in the region, the team is working with Integrated Disease Surveillance and Response (IDSR) system and the community-based response initiative (CBRI) to develop trainings and workshops to ensure provision of technical support for countries.

With genomic sequencing we can track Covid-19 virus evolution, monitor mutations that can lead to new variants and respond effectively and timely with appropriate interventions/@WHO AFRO

Case Management

Case management capacity for Covid - 19 disease was non-existent at the onset of the pandemic but has been built in the region over the 3 years of the pandemic. Through several capacity building initiatives approximately 66,000 health care workers were trained at the peak of the pandemic between 2020-2021.
Furthermore, WHO deployed International Emergency Medical Teams to 25 countries in the region to support national staff.

Given that many countries had minimal ICU capacity to provide care for patients with severe or critical illness, the team implemented home-based care, putting in place clearly defined referral pathways for patients who developed severe disease. To date, 32 countries in the region have received ICU equipment such as ventilators, monitors, oxygen cylinders and concentrators. WHO also supported an increase in ICU beds from 0.8 to 2.0/ 100,000 population between 2020-2022.

WHO developed 10 guidelines on Covid-19 clinical care and supported their adaptation in 32 countries. Twenty-nine out of 47 countries have been supported to update their national treatment and therapeutics guidelines to include novel recommended COVID drugs.

Covid-19 Therapeutics

Covid-19 disease presented with numerous challenges including limited knowledge of the disease in the early days, its complex clinical presentation and emerging SARS-COV-2 variants which made treatment difficult. As such, antibiotics and other antimicrobial agents were widely misused as curative measures. The WHO has been supporting randomized clinical trials of several drugs, to treat the disease and in January 2023, several repurposed drugs were found to be effective in reducing mortality, length of hospital stay and preventing sequelae. These drugs which are restricted drugs are broadly indicated for use in mild conditions and in hospitalized patients with severe and critical diseases. In patients with mild conditions who are at high risk of hospitalization such as those who are unvaccinated, the elderly, patients with co-morbid diseases e.g hypertension, diabetes, HIV/AIDs and other immunosuppressive conditions, timely use of the oral antivirals; *Molnupiravir*, *Remdesivir* and *Nirmaltrevir- ritonavir* has been effective in reducing disease severity thereby preventing hospital admissions. For patients with severe disease, the cost-effective and widely available systemic corticosteroids are recommended for use together with either the interleukin-6 blocker *Tocilizumab* or the Janus kinase inhibitor, *Baricitinib*.

Despite available funding mechanism from UNITAID, Global Fund and UNICEF to support pool procurement through the WHO ACT A platform at the onset, uptake has been low in the WHO AFRO region and at the end of 2021 only 400 vials of *Tocilizumab* were made available to Ghana, Uganda, Tanzania, Burkina Faso, and Cabo Verde through this Platform. Countries reported budgetary allocations and regulatory delays as key challenges hindering procurement. In 2022, 4 countries (Mozambique, Ethiopia, Lesotho, Zimbabwe) received 95,000 doses of *Molnupiravir* and 19 countries received only 6,790 vials of *Tocilizumab*.

To support countries to access and use these drugs, WHO is building capacity of health workers, reviewing, and updating guidelines to include these drugs in the Essential Medicine Lists and has negotiated with the manufacturing company Pfizer to produce low -cost *Nirmaltrevir* under the medicine patent pool.

Medical oxygen: Major investments have been made by WHO, the Global Fund and several partners to provide countries with medical oxygen using different approaches including direct procurement of PSA oxygen plants, concentrators, and cylinders, but also through reinforcing capacities to use and maintain the available supplies and equipment to limit disruption. In 2022, WHO AFRO supported the installation of oxygen production plants in nine countries. These plants have increased oxygen production by approximately 7.9 million liters per day, enough to treat 1130 patients in critical conditions, daily. Supporting countries to produce their own medical oxygen has significantly improved access and use of medical oxygen. Some countries have also produced sufficient oxygen to supply neighboring countries, thus reducing demand.

Member States are urged to develop minimum standards for ICUs including oxygen capacity to ensure that adequate minimum supplies are always available.

Senegal Emergency Medical Team providing care to a Covid-19 patient during a simulation exercise (SIMEX)@-WHO/Dakar

Infection Prevention and Control (IPC)

IPC practices are important in preventing the spread of diseases. The Covid-19 pandemic has brought in a unique opportunity to improve IPC programs across countries in the WHO African region, where for a long-time implementation of minimum requirements for IPC programs at the national level was below 30 per cent of the minimum requirement. Over the past year, WHO has supported 20 countries in developing national action plans for sustainable IPC programs and implementation of priority activities. This has been achieved through providing practical technical guidelines, continuous education, and partnership with Africa CDC.

In the past year, in collaboration with partners, WHO initiated a Community of Practice platform to monitor country IPC capacities, share best practices and lessons learnt.

The WHO AFRO infection prevention and control team supported multiple trainings for healthcare staff on Covid-19 prevention measures and raised their awareness in households, schools, and public places. The team also developed guidelines for the prevention and management of Covid-19 and a training manual for IPC in the community in the context of Covid-19. The team supported the use of the IPC scorecard in healthcare facilities to evaluate IPC performance.

IPC training courses have raised awareness on the need to comply with standard precautions before, during, and after treatment. Furthermore, the implementation of the multimodal strategy in IPC activities is producing good results in terms of behavior change in hygiene. The involvement of traditional and religious authorities and public figures (journalists, artists, sportsmen and women, etc.) has ensured that communities adhere to IPC measures effectively.

WHO will continue to support countries to set up active IPC programs that meet the minimum requirements based on WHO recommendations.

Risk Communication and Community Engagement (RCCE)

RCCE has been central to the fight against Covid-19 through the use of evidence based interventions. To facillitate evidence generation and operational research, the RCCE team carried out five qualitative studies in the Republic of Congo, the Democratic Republic of Congo (DRC), Guinea-Bissau, Zimbabwe and Namibia. The main objective of these studies was to understand the reasons for non-adherence to Covid-19 prevention measures, particularly mask wearing, rapid testing and vaccine uptake. Using findings from these studies, the team realigned key messages based on each country's context and the prevailing pandemic situation. This has significantly boosted vaccination drives in countries.

Creating and implementing RCCE interventions in line with community concerns, beliefs, and cultures has been one of the best ways to engage them in the fight against Covid-19 and other pandemics

The RCCE team engaged in campaigns and dialogues with community gate keepers and people with influence therein including religious and traditional leaders, women, youth, teachers, and the military, all of whom were useful in enhancing the reach of messages. WHO has supported countries to build capacity in RCCE for Covid-19. In collaboration with regional partners, a repository of RCCE resources was established to support partners in emergency response. Media dialogies with journalists were held to spread Covid-19 RCCE messages in the region. These monthly dialogues have since expanded to address communication needs for other emergencies. The team is supporting demand generation for Covid-19 vaccination.

Information Management

The Covid-19 IMST started a monthly bulletin to inform all stakeholders of Covid-19 response activities that were ongoing in the region and WHO's contribution to the response. Ten issues of the bulletin have been produced and they can be accessed here

Operational Partnership

Recognizing the key role of civil society organizations (CSOs) in the response to public health emergencies, the WHO built new strategic and operational partnerships with non-State actors. While WHO's main mission is to support the ministries of health (MoH), the inclusion of CSOs opens new perspectives to improving the response to public health emergencies both at the national and community levels. In 2019, WHO designed a new pilot initiative to better engage CSOs in the response to outbreaks. In 2020, the Covid-19 pandemic shed light on the critical role of CSOs to ensuring that communities understand and accept the public health response measures targeting vulnerable people. To respond to the Covid-19 pandemic, WHO AFRO engaged in operational partnerships with 23 CSOs from 12 countries both in humanitarian and non-humanitarian settings [Algeria, Burkina Faso, Cameroon, Congo, Côte d'Ivoire, the Democratic Republic of the Congo, Gabon,

Kenya, Mali, Nigeria, Senegal, and Zimbabwe]. WHO AFRO not only provides financial support, but also technical knowledge and know-how with the involvement of WHO country offices (WCO) and working in close collaboration with health authorities. As a result, CSOs managed to reach 3 558 573 direct beneficiaries in 2021 through high impact activities ranging from community-based surveillance to infection prevention and control (IPC), case referral, risk communication and community engagement, and vaccination. Moreover, the 23 CSOs were able to participate in the governance of Covid-19 response in their respective countries, foreseeing long-term and sustainable change in the approach of responding to public health emergencies. These evidence-based outcomes are important and need to be communicated to all stakeholders.

In 2022 and 2023, WHO AFRO continued its support to CSOs by scaling-up existing community-based interventions and integrating new CSOs from the African Region. The aim is to advocate for an increasing role for CSOs in Covid-19 preparedness, readiness, response, and recovery with a focus on vulnerable and hard-to-reach people. To do so, WHO AFRO is committed to strengthening CSO capacity to respond to public health emergencies. With CSOs, the community can engage in all the phases of public health emergency response. That is why it is fundamental for WHO/AFRO to ensure a strong and sustainable partnership with CSOs to prepare for future medical emergencies and build resilience at local level.

For instance, they organized community-based surveillance collaboration with the regional networks of medical CSOs – CADMEF in Côte d'Ivoire and Mali, which led to the training of community members on aspects of Covid-19 surveillance and information-sharing on Covid-19 prevention, especially among vulnerable populations. In countries such as Kenya and Zimbabwe, REPONGAC (Central Africa Network Platforms of NGOs) and AFRIYAN (African Youth Network) developed Covid-19 prevention strategies that were posted in public places and on social media. In addition, they supported the connection of hard-to-reach communities and marginalized groups to basic services in the context of Covid-19 resurgence. Also, the CSOs initiated activities targeting migrants and people with disabilities in Burkina Faso, Gabon, and Zimbabwe through collaboration with the Burkinabé Red Cross, REPONGAC in Gabon, and DOT in Zimbabwe.

Several lessons were learned from this initiative. With WHO AFRO support, CSOs efficiently responded to the Covid-19 epidemic at community level with key interventions in surveillance, IPC and RCCE. CSOs play a key role in supporting access to health care by linking the community and the wider health system. Communities trust CSOs, and trust is a key factor for acceptance of public health measures (for instance, vaccination, in a context of very low Covid-19 vaccination coverage in the African Region). CSOs can reach vulnerable people, such as IDPs, in humanitarian settings and people living with disabilities. Read more on CSO engagement here

WHO AFRO engaged 150 technical partners through the WHO AFRO regional partner platform and provided technical and financial support to 26 CSOs in 15 countries to respond to the Covid-19 pandemic.

A regional strategy for operational partnership has been drafted, that leverages on Covid-19 best practices and lessons learnt.

To ease the destruction of hazardous biomedical waste, WHO partnered with @FondationVeolia, @medecin-afrique to construct a biomedical waste incinerator at the M'filou hospital in Brazzaville/WHO-Marriane Tabi

Health Services Continuity (HSC)

Disruption of essential health services during the Covid-19 pandemic significantly impacted the health system. Based on this context, WHO prioritized the maintenance of essential health services during the response. Through funding support, countries like Malawi established continuity of health services for severe cases, coordination, and vaccination while in Eritrea, funding was used to support the strengthening of the sub-national level laboratories to ensure access to testing and treatment in rural and hard-to-reach populations. The funding also supported access to essential diagnostic healthcare services. The establishment of Health Services Continuity Pillar at country-level facilitated awareness on service disruption to the attention of stakeholders. This has driven actions to restore and maintain essential health service delivery.

With the lifting of the PHEIC on Covid-19, WHO AFRO has since been guiding and supporting Member States in developing transition strategies based on country specific peculiarities. Some Member States like Ethiopia, Rwanda and Nigeria are already integrating some response activities into routine health services while development partners are now keen on supporting ministries of health in building resilient health systems during the transition period and beyond.

Across the region, there is increased awareness among countries on the need to strengthen health systems and ensure the capacity to effectively respond to COVID-19 and future public health threats.

The Health Services continuity team of the COVID-19 EMST is working closely with other programs at WHO AFRO and WHO Country Offices (WCOs) to integrate COVID-19 management into ongoing health care programs.

Covid-19 Vaccination

The WHO Regional office for Africa has and continues to support countries to increase Covid-19 vaccination coverage in the region. Covid-19 vaccination was scaled up through the multi-partner country support (CST) initiative, where human resource capacity was augmented to provide dedicated support for Covid-19 vaccination activities. Technical and financial support was provided to boost countries' Covid-19 vaccination data management and ensure timely availability of data for decision making. Surge missions were conducted

to support preparation and implementation of mass vaccination campaigns (MVCs) as a key strategy to reach different target groups and increase Covid-19 vaccination coverage. Under the Covid-19 Vaccine Delivery Partnership (CoVDP), WHO worked with UNICEF and Gavi, the Vaccine Alliance to carry-out political advocacy at the highest level of governments to prioritize Covid-19 vaccination and provide technical support to low performing countries in the region.

Three countries implemented successful campaigns with support from the WHO AFRO surge teams and other partners. As a result, Zambia's coverage for complete primary series increased from 31% to 43% in the general population after a 10-day Mass Vaccination Campaign (MVC). Malawi's coverage improved from 13% to 17% after a 5-day MVC while Cameroon's coverage increased from 4.6% to 10% after a 10-day MVC.

These efforts resulted in the overall increase in Covid-19 vaccination coverage in the region, with 30% of the population having completed the Covid-19 primary vaccination series and 36% having received at least one dose as of 30 June 2023. Four countries have achieved more than 70% coverage for primary series; 12 countries have achieved coverage between 40% and 69%; 27 countries have coverage between 10% and 39%. At least 47% of targeted health workers have completed primary series in 23 countries and 52% of targeted elderly persons have completed primary series in 23 countries. Cumulatively, 852 million Covid-19 vaccine doses have been delivered to the region.

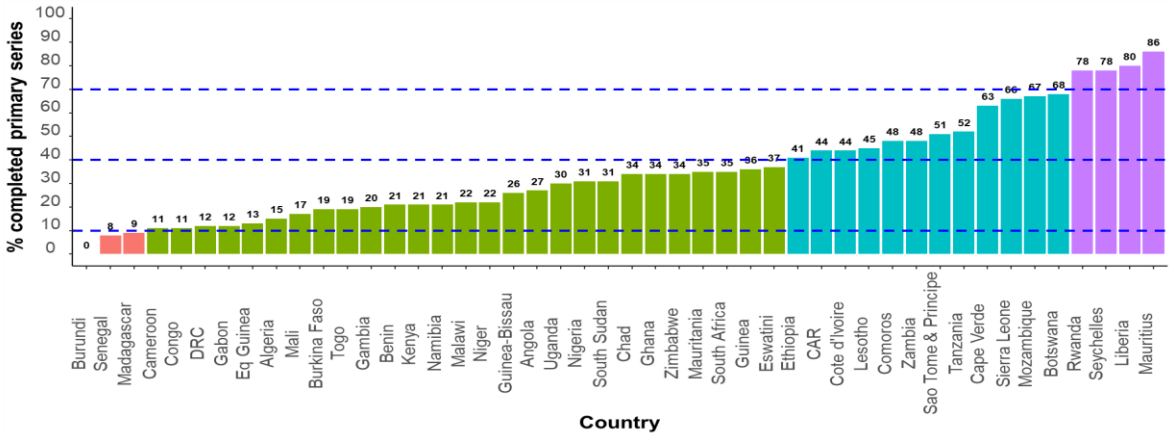


Figure 3. Percentage of the population that have completed primary series by country (as of June 30, 2023)

Currently, the focus is supporting countries to 1) improve COVID-19 vaccination coverage among high priority populations (older adults; persons with comorbidities persons with immunocompromising conditions), pregnant persons; and frontline health workers) and 2) integration of Covid-19 vaccination into immunization programs and primary health care. Delivery of Covid-19 vaccination as part of the life course provides the opportunity to strengthen immunization and essential health services across the life course – from pregnant women, to newborns, to the elderly. Countries have reported differing degrees of integration activities, with higher levels of integration in supply and delivery of COVID-19 vaccines along with different vaccines and common use of cold chain facilities, compared with integration into the overall planning and funding of combined health programs and health workers." The Covid-19 vaccine team is providing technical support to countries to develop and implement national integration plans, conduct integration readiness assessments, and coordinate partner support.

WHO AFRO on a mission to support integration of Covid-19 vaccination into routine immunization programs -@WHOAFRO

Regional and Member State performance against response indicators as of May 2023

Key Performance Indicators (KPIs) were revised to align with the prevailing situation and make them fit for purpose. Thirty-four countries (72.3%) reported in May 2023. This was the first round of data collection using the revised set of KPIs. This narrative covers 34 countries that reported (Figure 4).

24/34 (70.6%) WCOs have personnel to cover the key functions for Health Emergency Preparedness, Response and Resilience (HEPR) to support their countries in the transition to long term management of Covid-19 (Figure 5). Countries are at different levels of transition and 17/32 (53%) reported that they had a transition plan (Figure 6).

Covid-19 is now an established and ongoing disease and needs to be integrated into routine disease surveillance programs for continued management. In May 29/33 (87.9%) countries reported having incorporated Covid-19 surveillance into the Integrated Disease Surveillance and Response system that is the mainstay for disease surveillance in most countries in the AFRO region (Figure 7) with 24/33 (72.7%) countries reporting that their districts or regions were sharing timely and complete epi surveillance data on Covid-19 (cases and deaths) through weekly IDSR reporting channels or existing surveillance platforms in the country (Figure 8). With a decline in cases in the region, genomic surveillance has also plummeted. In May 2023, only 16/34 (47.0%) shared SARS-CoV-2 genomic sequencing (Figure 9). Since Covid-19 is still Grade 3, enough stocks of SARS CoV-2 diagnostics such as antigen RDT and PCR reagents should be available in member states. As of May 2023, 21/31 (67.7%), reported the availability of at least 70% of the required minimum stocks of SARS-CoV-2 diagnostics (Figure 10).

Covid-19 is not yet over, and it continues to pose a big public health threat. Risk communication and community engagement activities need to continue throughout the protracted phase of the pandemic. In May 19/23 (82.6%) countries developed and disseminated appropriate messages for the current Covid-19 phase. (Figure 11).

WHO guides that countries should continue to adjust any remaining international travel-related measures, based on risk assessment, and to not require proof of vaccination against Covid-19 as a prerequisite for international travel. In May 2023, 25/33 (75.8%) had lifted travel restrictions, except Burkina Faso, Chad, DRC, Guinea-Bissau, Kenya, Sierra Leone, Togo, and Zimbabwe (Figure 12).

Vaccination remains a key intervention against severe disease and death from Covid-19. In many countries, only a fraction of delivered vaccines were administered. In May the proportion administered ranged from 5% in Burundi to 96% in Eswatini with 19 out of 46 countries administering at least 70% of received doses. Burundi, Namibia, Republic of Congo, Gabon, and Togo administered fewer than 30% of the doses received. (Figure 13). In four countries, at least 70% of their general population have completed the primary vaccination series: Liberia, Mauritius, and Seychelles and Rwanda. Botswana and Mozambique are very close to that target at 68%. In Senegal and Madagascar less than 10% of the population have completed the primary vaccination series (Figure 14). 22/31 (71.0%) countries have integrated Covid-19 vaccination into routine immunization services (Figure 15).

Efforts to improve infection prevention and control during the transition period in Africa are ongoing. 27/33 (81.8%) countries reported to have an active IPC Operational Action Plan that follows WHO guidelines. (Figure 16). Linkage to care for Covid-19 cases ensures timely treatment and reduces chances of developing severe disease and death. To that end, 27/32 (84.4%) countries have integrated Covid-19 clinical care pathways into primary health care systems (Figure 17). Managing Covid-19 as an ongoing concern requires stable oxygen supplies in intensive care units. 27/31 (87.1%) countries reported being able to produce oxygen locally. (Figure 18). Essential services are gradually recovering in countries. 2/17 countries reported comparable number of outpatient consultations as pre-Covid period (2019) (Figure 19) and 3/16 countries reported comparable number of facility-based deliveries as 2019 (Figure 20).

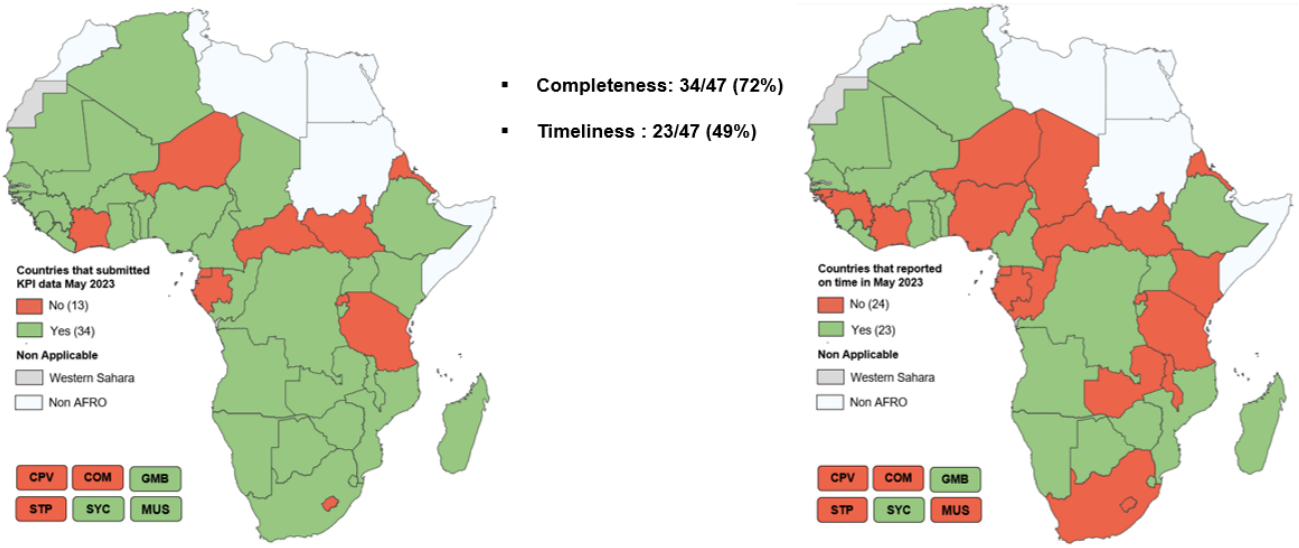


Figure 4. Completeness and timeliness of reporting

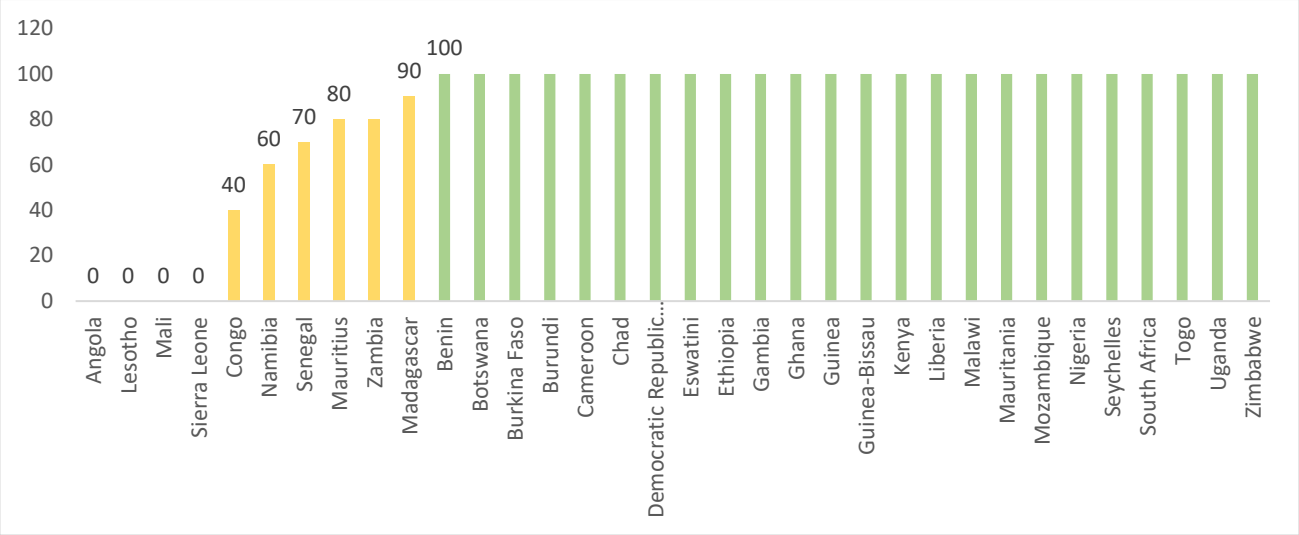


Figure 5. % Coverage of key HEPR functions in countries

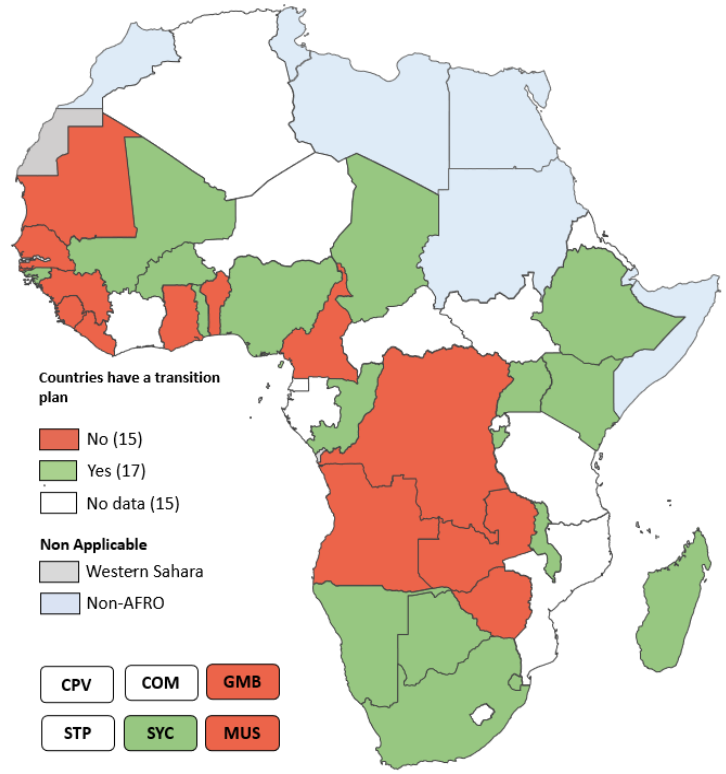


Figure 6. Countries with a transition plan

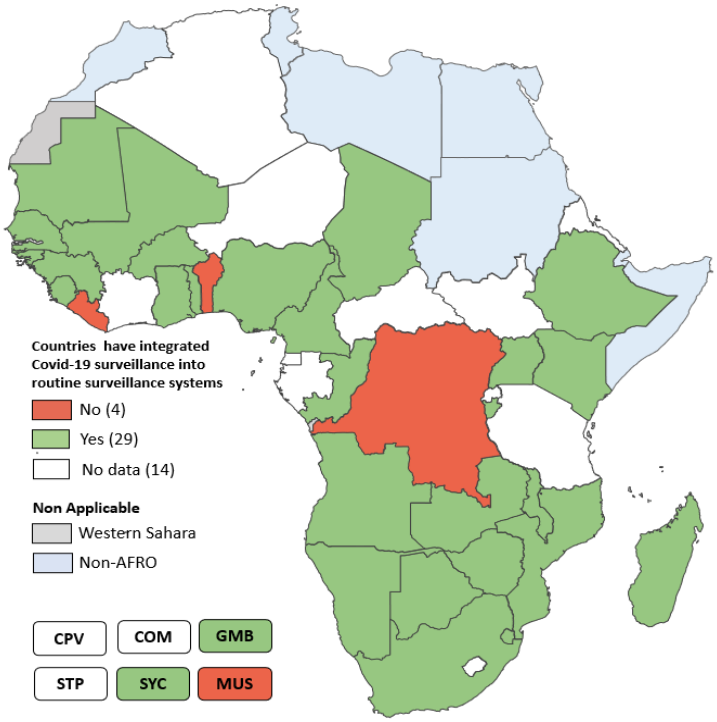


Figure 7. Integration of Covid-19 surveillance into routine surveillance systems

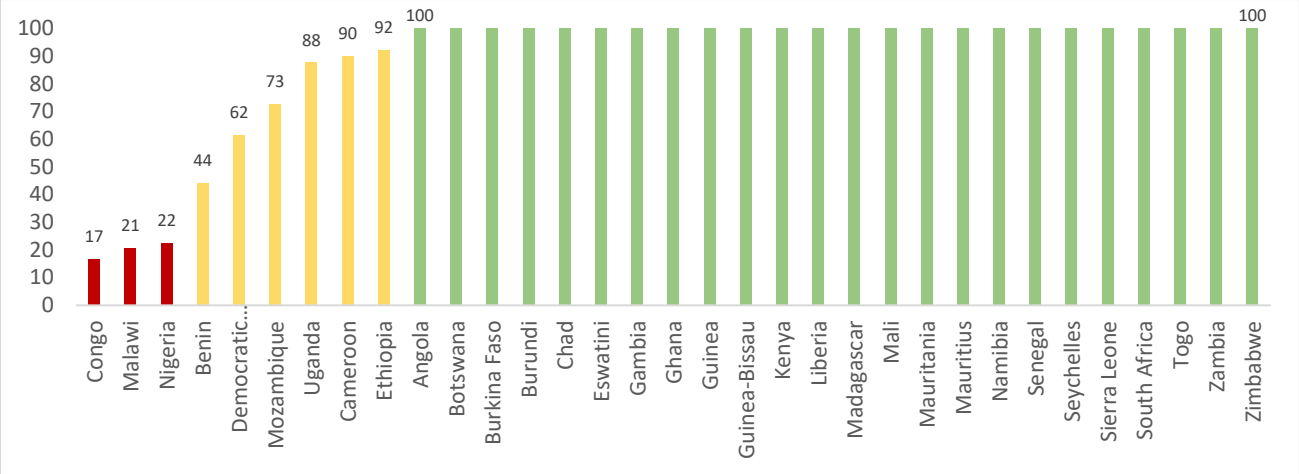


Figure 8. Percentage of districts (or regions) in countries that share timely and complete epi surveillance data

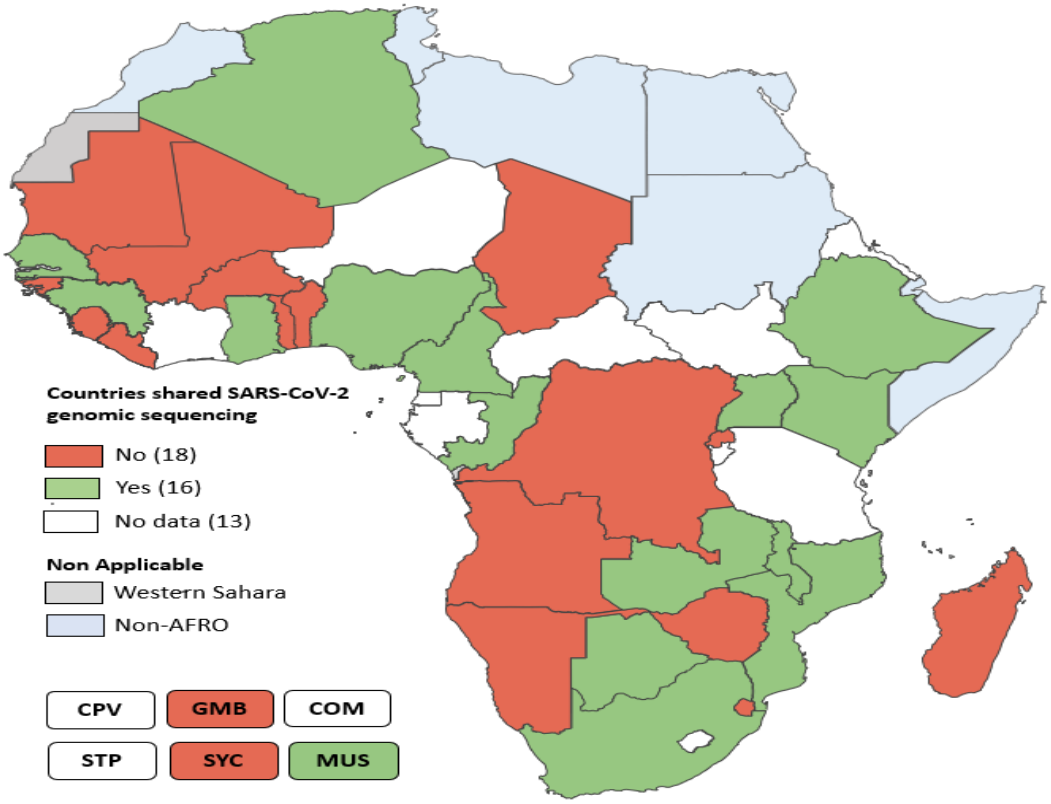


Figure 9. Countries sharing genomic sequence data

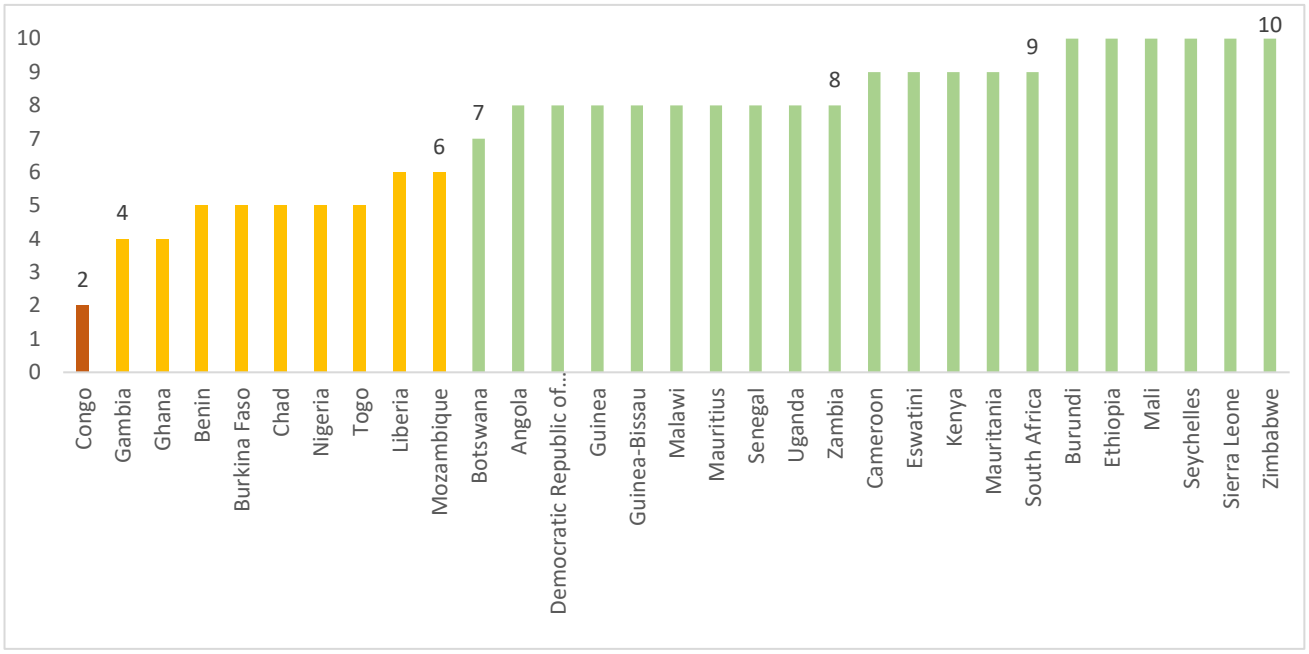


Figure 10. Availability of enough stocks of SARS-CoV-2 diagnostics (0-no stocks, 10-enough stocks)

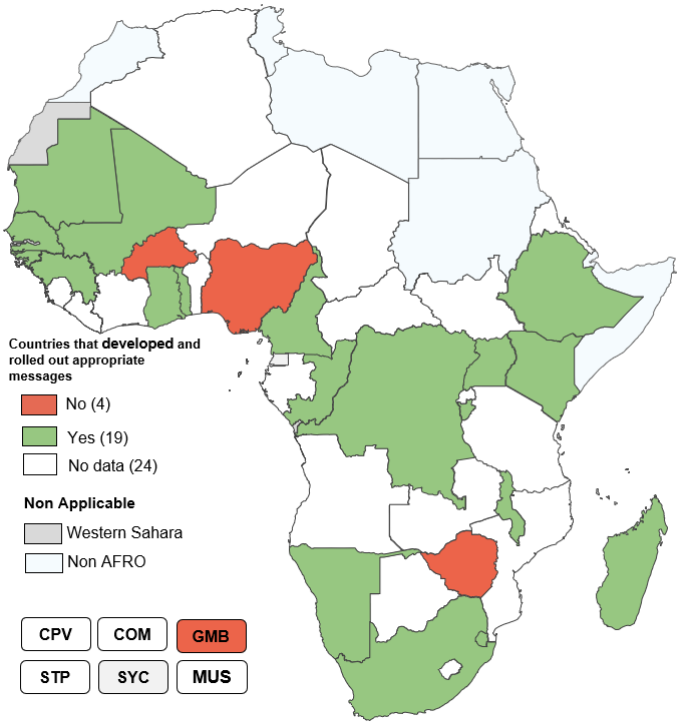


Figure 11. Development and dissemination of appropriate messages for the current phase

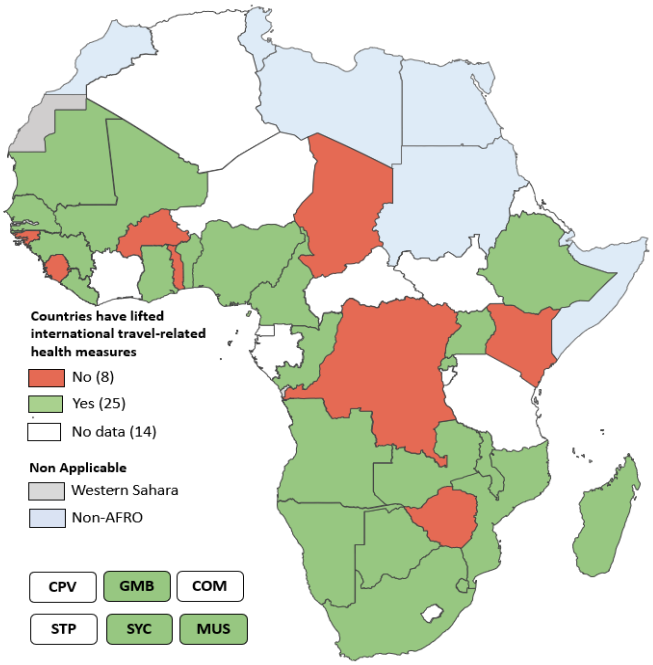


Figure 12. Adjusting of international travel-related health measures such as proof of vaccination against Covid-19

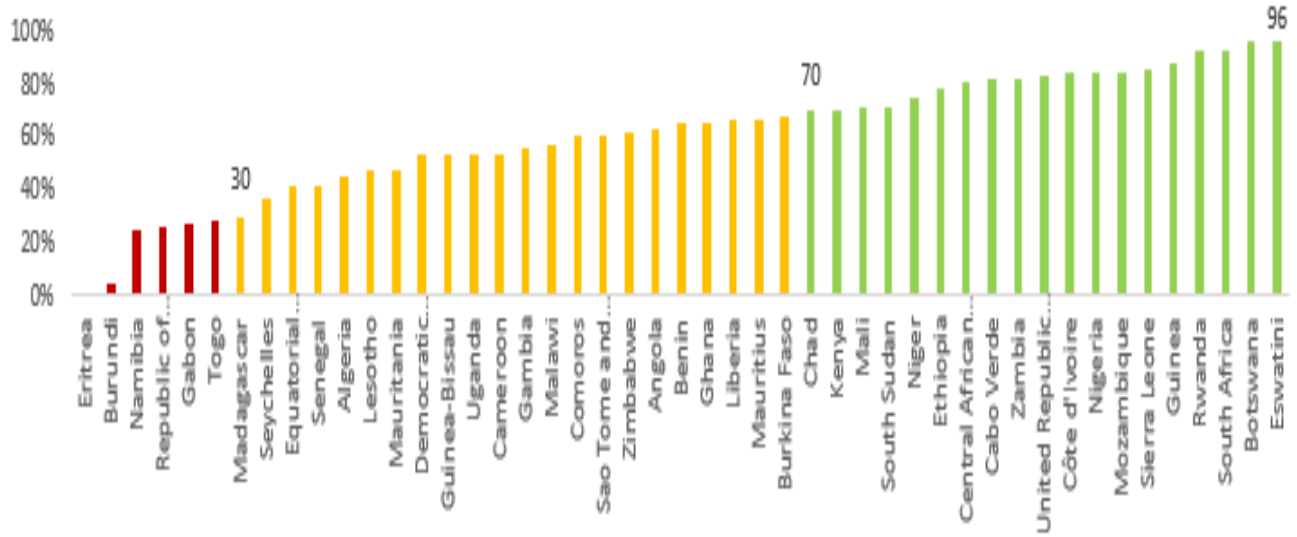


Figure 13. Percentage of vaccine doses administered

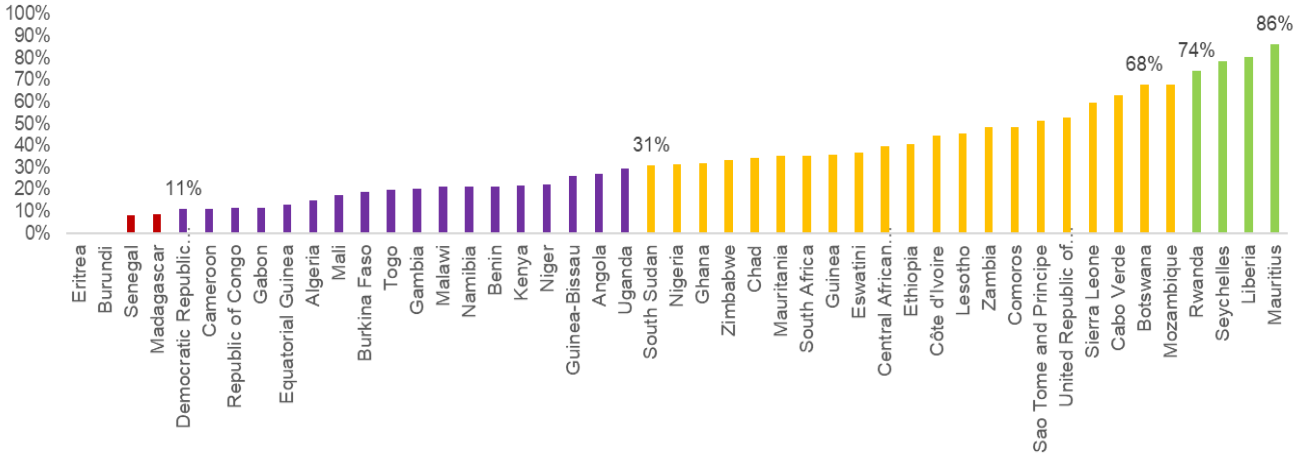


Figure 14. Percentage of general population that has completed primary vaccination series

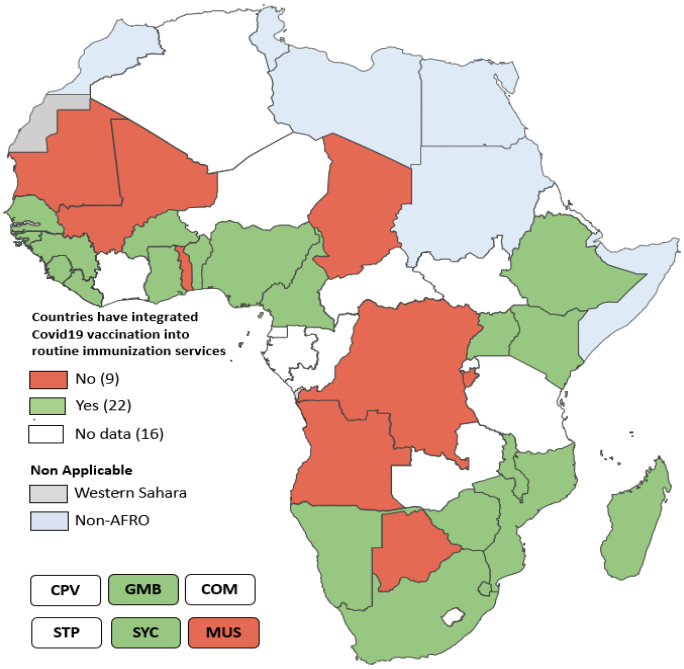


Figure 15. Integration of Covid19 vaccination into routine immunization services

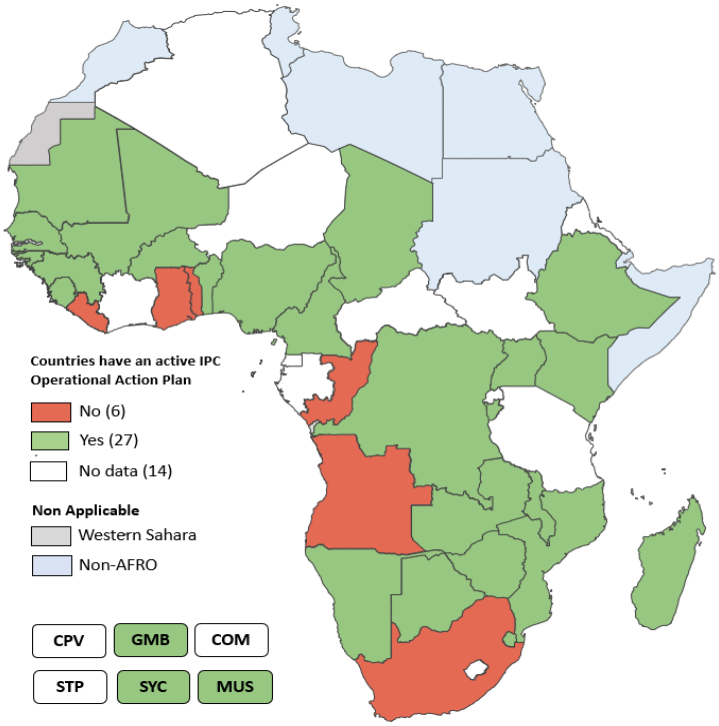


Figure 16. Countries with an active IPC Operational Action Plan

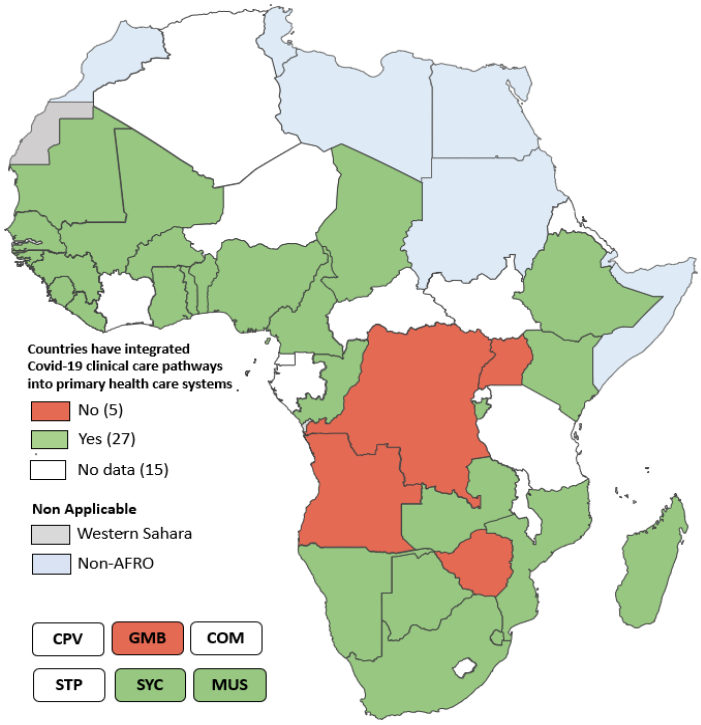


Figure 17. Integration of Covid-19 clinical care pathways into primary health care systems

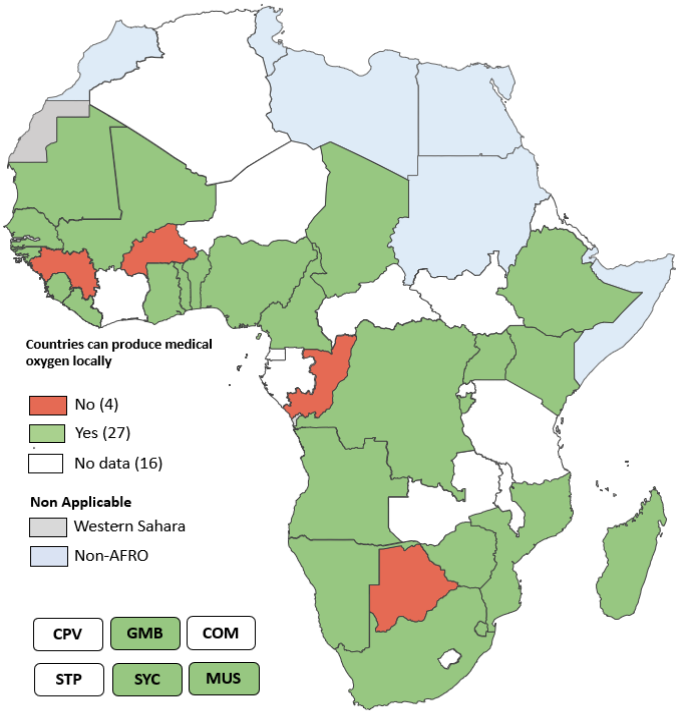


Figure 18. Capacity to produce medical oxygen locally

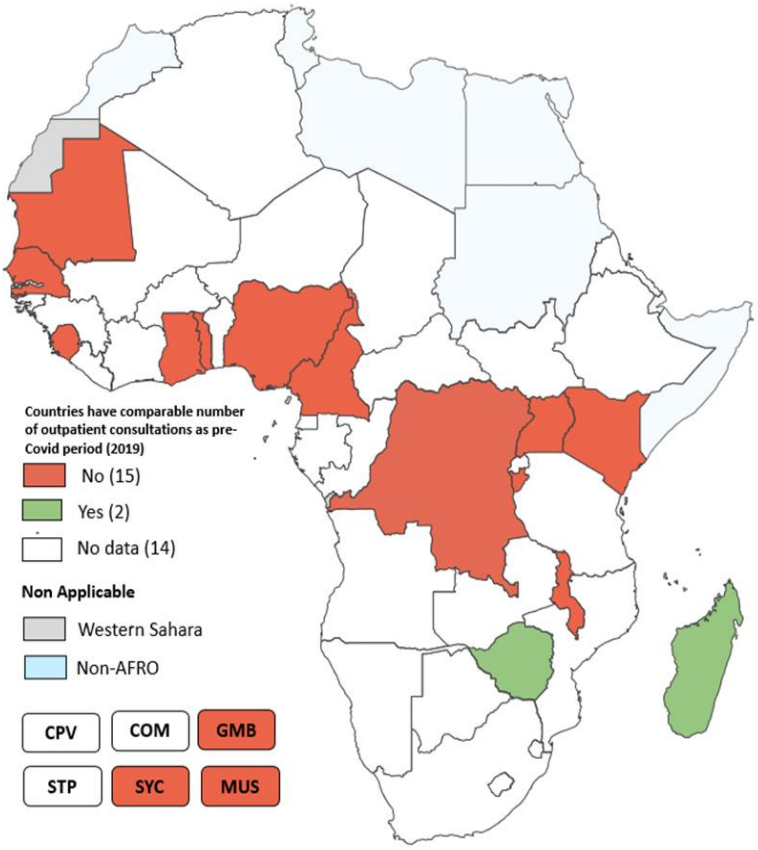


Figure 19. Comparison of outpatient consultations May 2023 and May 2019 (pre-Covid)

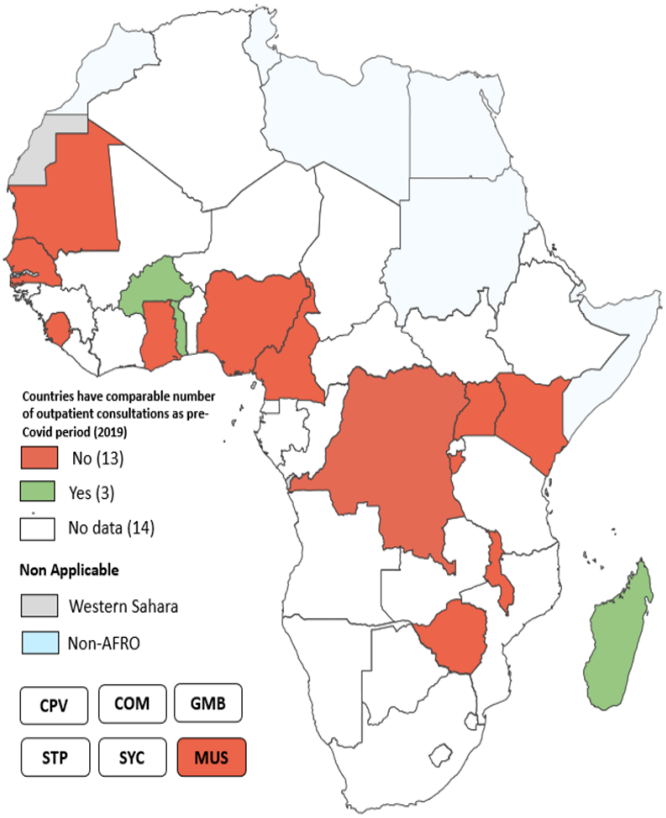


Figure 20. Comparison of facility-based deliveries May 2023 and May 2019(pre-Covid)

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