



COVID-19 Vaccine  
Delivery Partnership

# Situation Report

December 2022  
January 2023

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## IN THIS EDITION

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- In-depth: Delivery of COVID-19 vaccines in the Last Mile
- Country snapshot: Chad

**COVID-19 Vaccine**  
DELIVERY PARTNERSHIP



*This report is produced by the COVID-19 Vaccine Delivery Partnership (CoVDP).  
It covers the months of December 2022 and January 2023.*



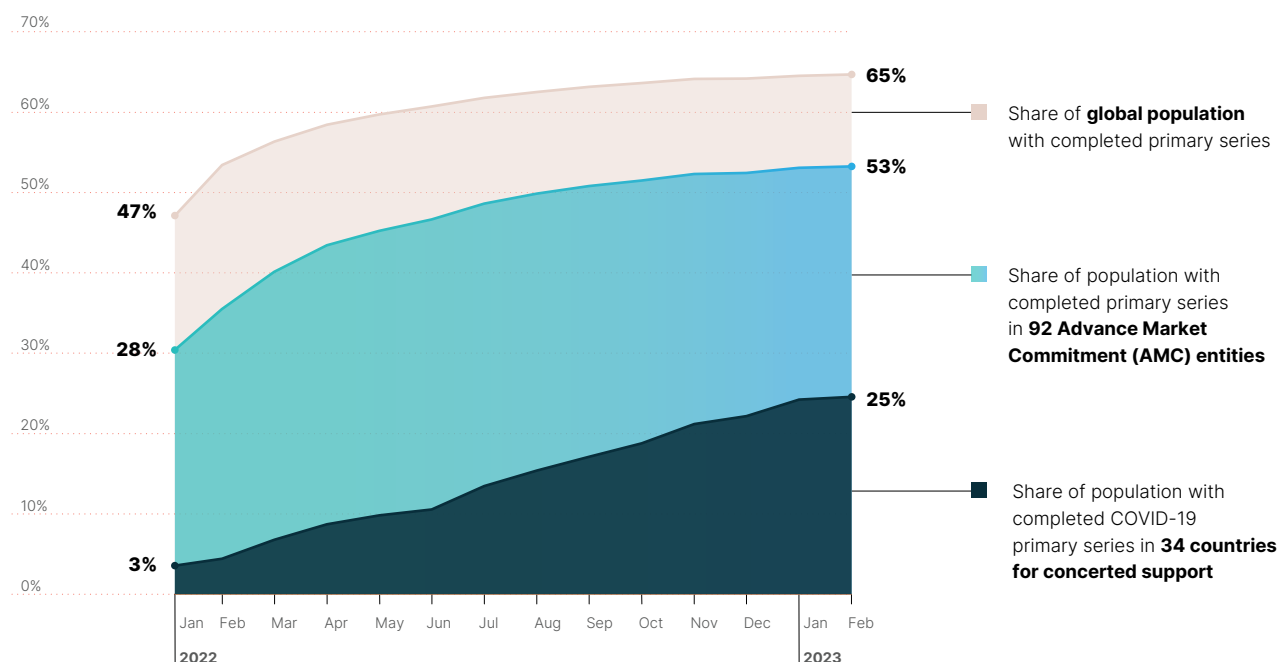
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## SPOTLIGHT

- **Since the start of the vaccine roll-out, 13.2 billion doses have been administered globally**, of which 4.9 billion doses were administered in the 92 Advance Market Commitment (AMC92) entities.
- **By January 2023, the vast majority of WHO member states (183 out of 194) had introduced booster or additional dose programs and globally**, 31% of the population has received at least one booster dose.
- **Globally, vaccination coverage has increased from 47% in January 2022 to 65% in January 2023** while coverage among the AMC92 has doubled from 28% to 53%. Meanwhile, in the 34 countries that were at or below 10% coverage in January 2022, coverage increased from 3% in January 2022 to 25% a year later.
- **Among the 34 countries for concerted support (CCS), the number of countries with coverage above 10% has stayed stable at 27.** Central African Republic, Sierra Leone and Somalia have crossed the 40% mark; Djibouti, Nigeria and Ghana have crossed the 30% mark; while Malawi and South Sudan have gone beyond 20% primary series coverage.
- **Tanzania is now at 49% coverage and Zambia at 47%.** Tangible results have been observed in several countries facing humanitarian emergencies, including the Central African Republic (41% complete primary series), Somalia (41%), Ethiopia (32%), Nigeria (31%) and Afghanistan (28%).

- **For the first time since the vaccine rollout, three CCS have surpassed their national coverage target** – Sierra Leone (46% against a target of 40%), Somalia (41% against a target of 40%) and Zambia (47% against a target of 46%).
- **Since the start of the Partnership, more than US\$152 million in quick-impact funding has been disbursed across 20 countries.** Two-thirds of this funding (over US\$106 million) contributed to more than 23 vaccination campaigns targeting 140 million people.
- **However, inequalities in global coverage persist,** with only 23% of the population of low-income countries (LICs) having completed their primary series against 76% in upper-middle income countries (UMICs) and 75% in high-income countries (HICs).
- **There are significant equity gaps with booster dose coverage as low as 2% in LICs versus 48% in HICs.** Disparities in booster dose coverage are even more glaring among healthcare workers (5.5% in LICs versus 15% in HICs) and older adults (less than 1% in LICs versus 93.5% in HICs).
- **Meanwhile, despite global progress on vaccine delivery, the month of December has seen the highest level of COVID-19 cases** since the start of the pandemic, driven primarily by the surge of cases in China.
- **In the coming months, CoVDP will gradually transition some of its core functions back to partner agencies and enhanced partner platforms** – several upcoming events (on data systems strengthening and the country stock-take) will provide valuable opportunities to showcase lessons learnt that will inform the future shape of pandemic preparedness and response (PPR).

**Increase in coverage over time** – Global, AMC92 and 34 Countries for Concerted Support



# Global Situation Overview

December 2022 saw a dramatic rise in COVID-19 cases, driven by the significant spread of the disease, following the removal of strict lockdown rules in China. Approximately 102 million new cases were registered – the highest monthly volume since the start of the pandemic. Practically all these were registered in the Western Pacific region and in China in particular.

This surge was followed in early January 2023 by an increase in recorded deaths; approximately 127,000 in January 2023, of which the vast majority were in the Western Pacific region.

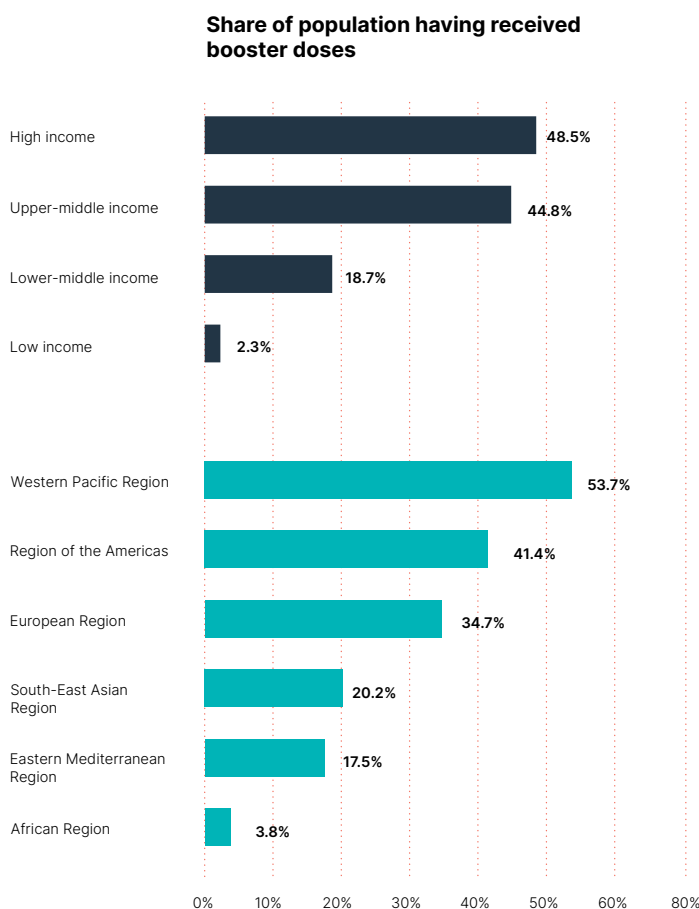
In other regions, the surge that started in mid-November continued into December 2022, with Europe and the Americas seeing cases peak by mid-December. In both regions, deaths increased in December but declined through January. All other regions continued to see a decline in COVID-19 cases.

Globally, 65% of the population have completed their primary series coverage – 1 percentage point more than at the end of November 2022. Most WHO Member States have started to implement booster/ additional dose programs. However, 10 out of 27 LICs have not yet implemented any. Globally, 31% of the population has received at least one booster dose but the proportion drops to just 4% in the WHO African region, 18% in the Eastern Mediterranean and 20% in South-East Asia.

By late January, a total of 13.2 billion vaccine doses had been administered globally – an increase of 200 million since end of November. Approximately, 100 million of these doses were administered in the AMC92, including 38 million across the 34 CCS. Nonetheless, rates of vaccination have been declining across the AMC92.

The supply of COVID-19 vaccines continues to be sufficient for countries' needs and in LICs a large share of this supply is secured through COVAX. A cumulative total of 1.9 billion doses have been shipped through COVAX to 146 participants, including more than 280 million doses for LICs (accounting for 72% of their total vaccine supply). However, shipments have been decreasing since August 2022 and in the December-January period, only 29 million doses were shipped to participants.

**FIGURE 1**  
**Coverage with complete primary series in AMC participants**





COVAX's portfolio continues to evolve in response to market shifts, manufacturer production decisions, and country demand. The latest availability of vaccines will continue to be shared in the Monthly Supply Snapshot shared by Gavi SCM/PM or Strategic Liaison. As highlighted for several months, the remaining supply of two formulations – Pfizer original strain RTU and Pfizer original strain pediatric – is severely limited due to manufacturer production changes. COVAX supply of these two vaccines is expected to be depleted, but alternative supply for primary series remains available. Future supply of these two formulations cannot be guaranteed, and will depend on manufacturer availability, donor commitments, and confirmation of firm demand from countries. When Participants' first-choice product preference cannot be met, we encourage countries to check the availability of substitute vaccines that can be utilized for their programmatic needs by referring to the Supply Snapshot.

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## FOR MORE ON THE GLOBAL SITUATION:

- [WHO COVID-19 Weekly Epidemiological and Operational Updates](#)
- [WHO COVID-19 Dashboard](#)
- [UNICEF COVID-19 Vaccine Market Dashboard](#)
- [UNDP Global Dashboard for Vaccine Equity](#)
- [COVID-19 Vaccine Delivery Partnership Information Hub](#)

## High-priority Groups

Globally, 89% of health care workers have completed their primary series coverage. The WHO African region has seen coverage of healthcare workers increase 5 percentage points in the past two months to reach 61% (based on 36 reporting countries). This region has the lowest primary series coverage among healthcare workers in reporting countries, followed by the Eastern Mediterranean region (71% across 12 reporting countries) and the European region (75% across 39 reporting countries).

Similarly, data on primary series coverage of people aged 60 or above show that 81% of elderly people globally have been vaccinated. However, that coverage is lagging in some of the regions, including the African (56%) and the Eastern Mediterranean (57%).

Globally, 30% of healthcare workers and 56% of older adults (60+) have received at least one booster dose but there are significant regional disparities in booster uptake. While 99% of South-East Asian and 83% of American region healthcare workers have received at least one booster dose, the proportion is just 2% in the WHO Western Pacific region, 10% in the African region and 27% in the European region. Among older adults, coverage is just 4% in the African region, 27% in the Eastern Mediterranean and 30% in the European region.

# Advance Market Commitment (AMC) Countries

Across the 92 [Advance Market Commitment](#) (AMC92) countries, primary series coverage has increased from 28% to 53% between January 2022 and January 2023. While coverage rates continue to increase, the rate of change has slowed down. Since November 2022, there has only been a 1 percentage point increase in coverage. The vaccine equity gap between the global population and that of the AMC92 has remained stable at 12 percentage points.

In this group of countries, 81% of healthcare workers and 69% of older adults (60+) have completed their primary series, representing a gap of 8 percentage points and 12 percentage points respectively vis-à-vis global coverage figures. While the coverage rate for healthcare workers has remained stable, that of older adults has increased 3 percentage points since late November 2022.

Among the AMC92 who report on booster coverage, 15.5% of the population have received at least one booster dose – a significant gap relative to the global booster coverage of 31%.

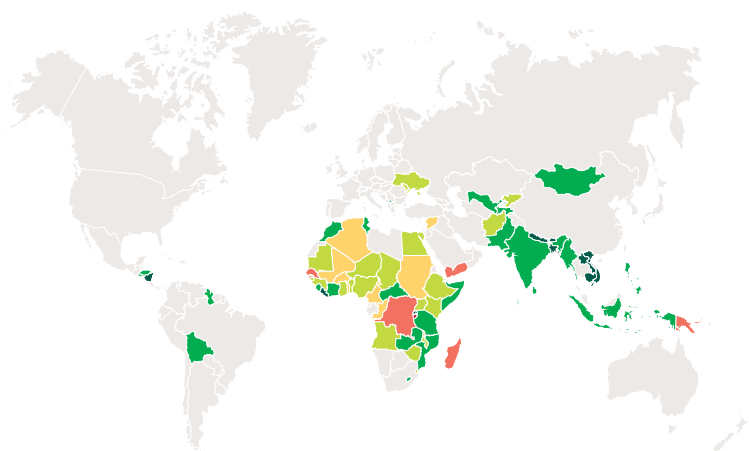
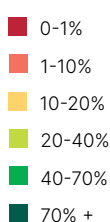
In contrast, AMC92 entities have fared better than the global average in getting booster doses to healthcare workers, with 57% having received at least one booster dose (against 30% of healthcare workers globally).

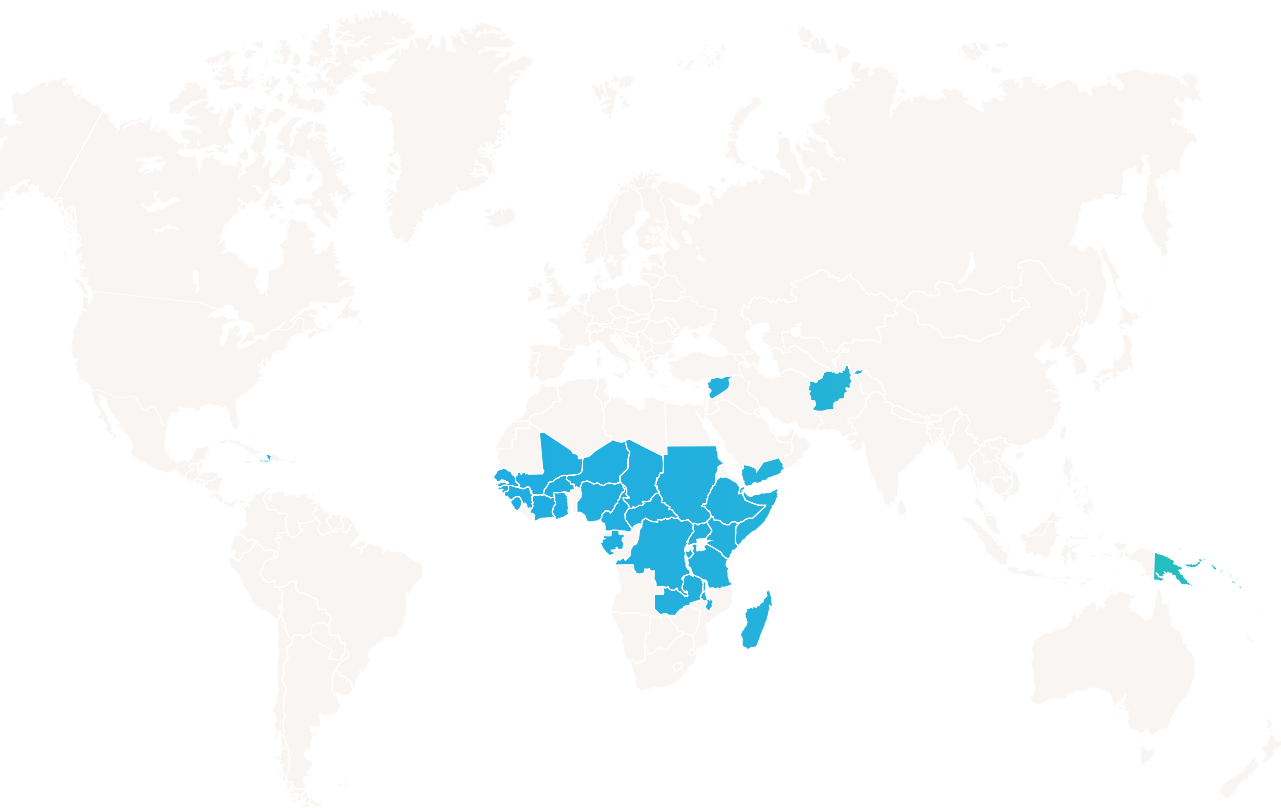
Older adults in the AMC92 entities still face hurdles to getting booster doses – at the end of January only 22% of the elderly population in the AMC92 had received at least one booster dose versus 56% of elderly globally.

- A cumulative 4.9 billion doses were administered in the AMC92 but the rate of administration is slowing down, with only 48 million additional doses administered in December and 49 million in January 2023 (the lowest monthly volumes since March 2021).
- Daily vaccine absorption rates remain low (<0.15% pop/day) for 75 out of the 92 countries, and most countries have not reached their national vaccination targets or are off-track to meet them. Only the Gambia, Laos, Micronesia, Mozambique, Myanmar, Sierra Leone and Tuvalu have had high (>0.65% pop/day) vaccination rates over the past 4 weeks.
- Nonetheless, three additional countries – Sierra Leone, Somalia and Zambia, all of which are countries for concerted support – have met their national vaccination target since late November. This brings the total number of AMC92 entities that have met their target to 8.

**FIGURE 2**

**Coverage with complete primary series in AMC participants**





# 34 Countries for Concerted Support

## PROGRESS ON COMPLETED PRIMARY SERIES AND BOOSTER COVERAGE

- Average vaccination coverage among the 34 countries for concerted support increased from 3% in January 2022 to 25% by the end of January 2023. Since late November, there has been an increase of 2 percentage points.
- Tanzania and Zambia are both approaching the 50% mark in terms of coverage. The Central African Republic, Sierra Leone and Somalia have exceeded 40% primary series coverage, while Djibouti, Nigeria and Ghana have moved beyond 30% coverage.
- Twenty countries now have coverage rates above 20%. Malawi and South Sudan are the latest countries to have passed this threshold.

Afghanistan  
 Burkina Faso  
 Burundi  
 Cameroon  
 CAR  
 Chad  
 Côte d'Ivoire  
 Djibouti  
 DRCongo  
 Ethiopia  
 Gabon  
 Gambia  
 Ghana  
 Guinea  
 Guinea-Bissau  
 Haiti  
 Kenya  
 Madagascar  
 Malawi  
 Mali  
 Niger  
 Nigeria  
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 Sudan  
 Syria  
 Tanzania  
 Uganda  
 Yemen  
 Zambia

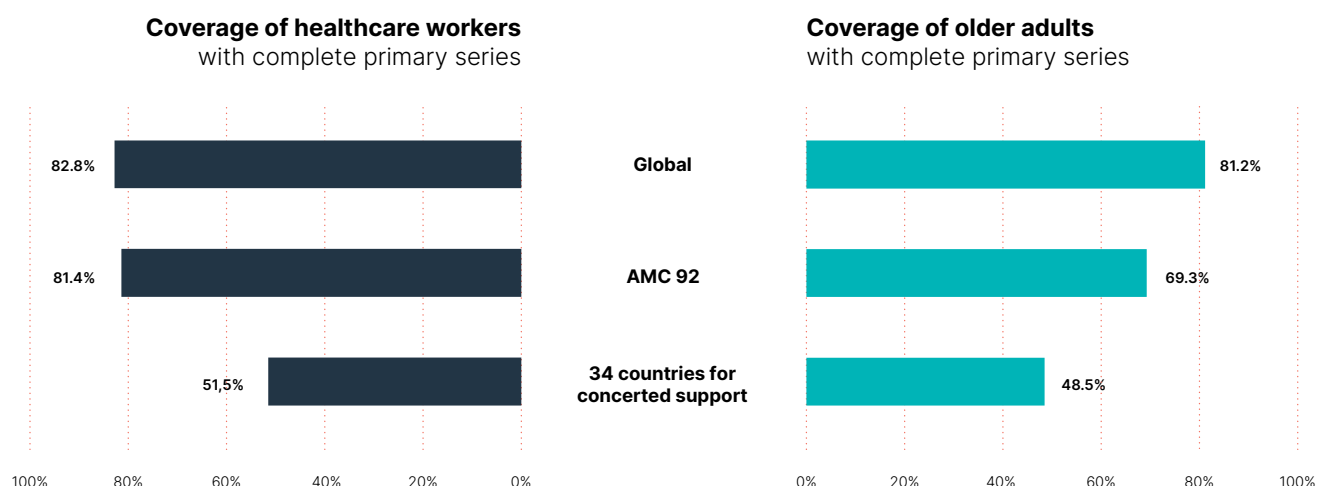
- Seven countries remain below 10% primary series coverage: Senegal, Democratic Republic of the Congo, Madagascar, Papua New Guinea, Yemen, Haiti, and Burundi. Five of these countries face ongoing humanitarian emergencies.
- Coverage among high-priority groups remains low relative to global and AMC92 averages: across the 34 CCS, only 51% of healthcare workers and 49% of older adults (60+) have completed their primary series.
- Among reporting countries, healthcare worker coverage is particularly low (<40%) in Afghanistan, Burundi, Côte d'Ivoire, Madagascar, Niger, Syria, and Yemen. Older adult coverage is low in Cameroon, Democratic Republic of the Congo, Ghana, Guinea, Kenya, Madagascar, Malawi, Mali, Niger, Papua New Guinea, Sierra Leone, Sudan, Syria, and Yemen.
- Although most of the 34 CCS have introduced booster policies, the uptake is sluggish: only 3% of the population in the 34 CCS have received at least one booster dose (based on reporting countries). Among healthcare workers, this figure stands at 7% and among the elderly at 4%, indicating strong remaining challenges in ensuring the long-term protection of these groups.

**TABLE 1:**  
**Vaccination coverage ranges among the 34 Countries for Concerted Support**

VACCINATION COVERAGE RANGES	Countries	
	<b>≥40%</b> (n=6)	Central African Republic, Côte d'Ivoire, Somalia, Sierra Leone, United Republic of Tanzania, Zambia
	<b>30-39%</b> (n=6)	Chad, Djibouti, Ethiopia, Ghana, Nigeria, Solomon Islands
	<b>20-29%</b> (n=8)	Afghanistan, Guinea, Guinea-Bissau, Kenya, Malawi, Niger, South Sudan, Uganda
	<b>10-19%</b> (n=7)	Burkina Faso, Cameroon, Gabon, Gambia, Mali, Sudan, Syrian Arab Republic
	<b>&lt;10%</b> (n=7)	Burundi, Democratic Republic of the Congo, Haiti, Madagascar, Papua New Guinea, Senegal, Yemen

**FIGURE 3**

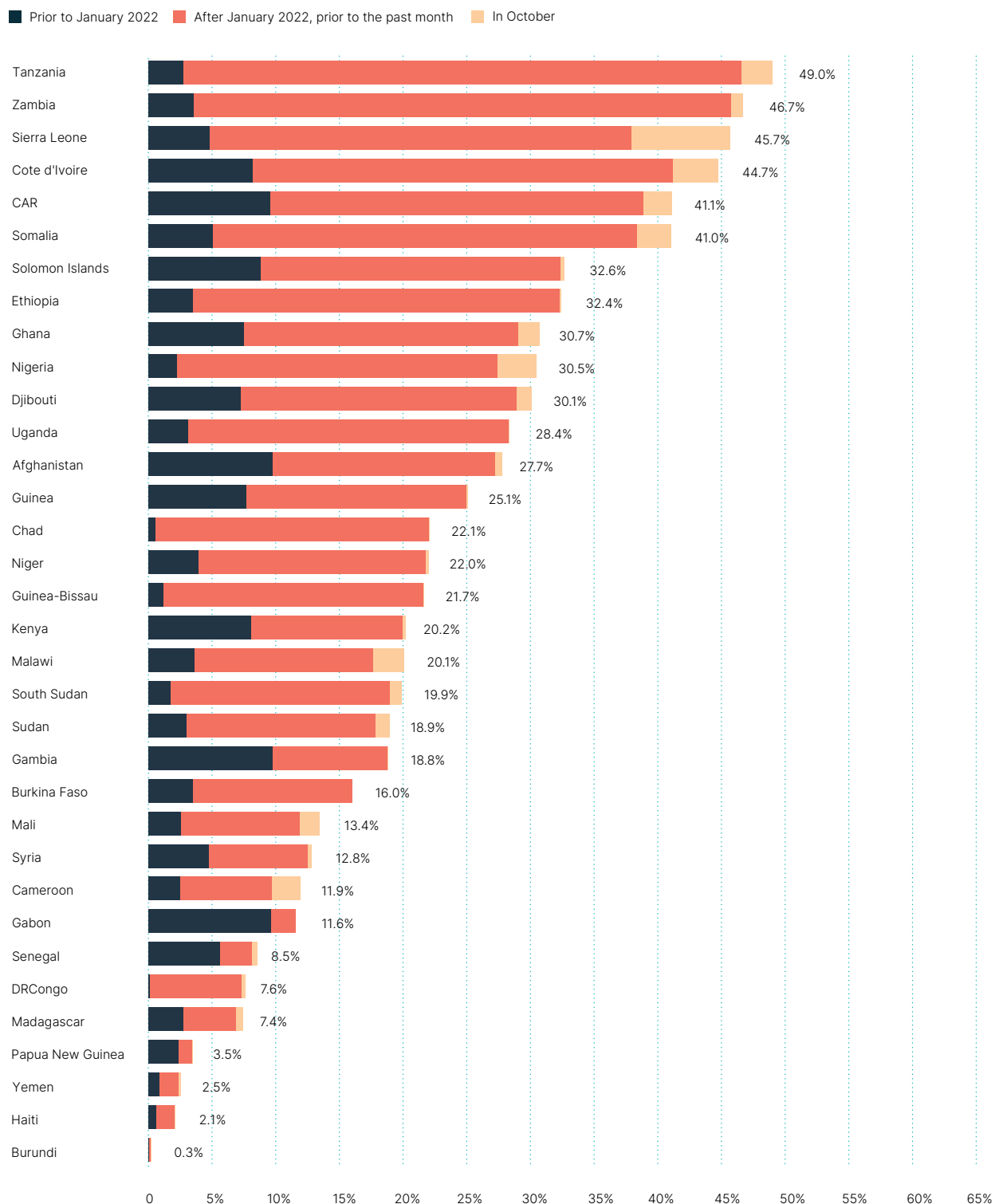
**Coverage with complete primary series in AMC participants**





**FIGURE 4**

### Proportion of coverage achieved in October, since January 2022, prior to January 2022 across Concerted Support Countries (34)



# Update On The Work Of The COVID-19 Vaccine Delivery Partnership

## Country engagement

Countries continue to engage with CoVDP including through high-level political and technical missions, disbursement of urgent funding requests for national campaigns and the provision of Technical Assistance.

Through its Desk Officers, CoVDP focused consolidation and implementation of all actions and requests from high level advocacy and technical missions, country-specific deep dives, technical assistance and urgent funding. CoVDP has also worked with countries to devise individual country action plans for the next six months in an effort to ensure that continued concerted support is precision tailored to the needs of each country and its context.

### The Gambia

7-10 December 2022

The Gambia hosted a joint Africa CDC – CoVDP mission in early December 2022. By the end of January, the country had achieved a primary series coverage rate of 19% against 10% a year earlier. Although vaccine uptake has been relatively slow, the mission noted several aspects of the Gambia's vaccine deployment strategy to date that provide a strong basis for continued acceleration:

- There is high political commitment to COVID-19 vaccination. A high-level strategic group of senior government officials, formerly led by the Vice President, leads the coordination of immunization activities;
- There is solid cooperation and alignment between the government on the one hand and core partners such as Gavi, UNICEF and WHO on the other;
- Multiple state agencies have been roped in to support COVID-19 vaccination such as the police and other ministries;
- Multiple non-state bodies, such as national CSOs have been involved in the sensitization efforts of government.



Nonetheless, the current absorption rate remains low, despite multiple mass vaccination campaigns in the past months and concerted efforts by government and partners to implement the country's vaccination strategy.

The mission identified several critical bottlenecks to resolve as a pre-requisite for driving up vaccination rates. These include:

- Addressing the low public confidence and acceptance of COVID-19 vaccines, which has been exacerbated by an unrelated incident of acute kidney injury associated with the importation of tainted cough syrup resulting in the death of more than 70 children and a public loss of trust in health authorities;
- Revising the National Deployment and Vaccination Plan (NDVP) so it is fit-for-purpose relative to the changing realities on the ground;
- Increasing the involvement of the most senior levels of the ministry of health in the implementation of the country's vaccination strategy.

Following exchanges with the government and key partners on the ground, the mission recommended the following actions to improve vaccine delivery in the coming months:

- Reinvigorate the Inter-Agency Coordinating Committee (ICC), technical working groups and the National Immunization Technical Advisory Group (NITAG) to improve coordination among partners and increase ownership of vaccine delivery;
- Review and adapt the NDVP to include: broader stakeholder involvement, integration and health systems strengthening, a greater focus on capacity-building for healthcare workers and exploration of new delivery models;
- Have more frequent touchpoints between senior levels at the Ministry of Health and the EPI Programme implementing vaccine delivery;
- Revamp the RCCE strategy through a stronger focus on mobilizing youth and senior members of government as role models, and a greater integration of findings from existing anthropological studies;
- Optimize planning and organization of future campaigns by applying best practices, identifying potential technical assistance needs, and conducting the necessary inter-action reviews;
- Improve data management by leveraging the support from previous technical missions and funding.

## Burkina Faso

30 January-1 February 2023

CoVDP and USAID conducted a joint mission to Burkina Faso at the end of January 2023 to assess the progress made in the past 12 months and formulate recommendations for the upcoming vaccination campaign in February 2023.

Since January 2022, the country has managed to increase its primary series coverage five-fold, reaching 16% by the end of January 2023. Despite competing priorities - not least due to the deteriorating security situation in parts of the country's North and East - the country made efforts to increase vaccination coverage. Under the leadership of the ministry of health, the country has deployed several strategies to increase vaccination uptake:

- In August 2022, the country launched the "1000 women/ 1000 youth" campaign during which women and youth in different regions were trained to inform, sensitize and mobilize local communities to get vaccinated;
- The "Nayiri Bogbo" campaign consisted of mobilizing the traditional authorities in different districts to advocate with their communities in favour of vaccinations while offering vaccinations in the royal courts;
- The elderly and people with co-morbidities were reached by offering vaccinations in specialized care units or as part of a planned health screening for retirees of the civil service. Vaccinations were also offered in places of worship.

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Despite these efforts, the past campaigns have not been able to reach as many people as intended. Seven mass vaccination campaigns have taken place to date with each reaching about 650,000 people (against a target of 1 million). The country face additional challenges in accelerating uptake, including:

- strong regional disparities in vaccination uptake due to the security situation, which has resulted in health facility closure and difficulties mobilizing health personnel, vaccinators and volunteers to be deployed to these regions;
- a significant data backlog – with 50% of data from recent campaigns not yet formally logged into the system – and data systems issues that have prevented the reporting of data on the elderly and that do not yet adequately capture vaccination levels among IDPs;
- the high cost of past vaccination campaigns at over US\$3.50 per person vaccinated, a result of the relatively low volume of people vaccinated in each campaign;
- a strong gender imbalance in vaccination coverage, with women much more likely than men to get vaccinated.

The mission appreciated the strengths of the current vaccination strategy in a context of competing priorities and political instability. The mission noted in particular the very strong political commitment by the Minister of Health and local authorities at the decentralized levels.

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Traditional, religious and community leaders showed a strong interest in the topic, recognizing its importance and playing a proactive role in mobilizing their communities to get vaccinated. The community health worker system was also actively mobilized in the response, educating and sensitizing local communities to the importance of COVID-19 vaccinations.

Crucially, for the remainder of the campaigns for 2023 and for the country's pandemic preparedness and response capacities, there was strong alignment on the need to invest in community health systems with clear commitments. These are demonstrated by an existing community health strategy, a consistent allocation of between 11 and 13% of the state budget for health, and a readiness by the Ministry of Health to progressively continue to support CHW payments from domestic sources (currently a quarter is covered from the Health Ministry's budget) and to have an increasing number of CHWs formally trained.

The delegation formulated a number of recommendations, including:

- Setting much more ambitious targets for upcoming campaigns while taking steps to reduce the cost through better microplanning and synchronized RCCE activities;
- Adapting the current RCCE activities to more deliberately target population that are not yet fully reached, in particular the elderly, people with comorbidities and adult men;
- Clearing the existing backlog of data through creative solutions such as the mobilization of students, researchers and volunteers across the country;
- Identifying and mobilizing humanitarian agencies, including local NGOs and CSOs, with the capacities and skills to support the vaccination roll-out in regions affected by insecurity;
- Setting up an integration working group, led by MoH, to start planning the upcoming integration of COVID-19 vaccines with routine health services.

CoVDP will support the above efforts by coordinating with partners and the MoH to understand the financial needs of the upcoming campaigns and supporting the rapid disbursements of additional funds where needed, as well as following up with WHO Afro to implement priority activities meant to address the current data backlog.



## Political engagement and advocacy

In December and January, CoVDP senior leadership focused its advocacy efforts on the immediate priorities for the first half of 2023, namely the gradual transition of CoVDP's core functions and resources back to partner agencies and the need to link up the lessons from the past year of implementation with the emerging global architecture for pandemic preparedness and response (PPR).

The December **Gavi Board** and the **WHO Global Management Meeting** provided important opportunities to consult partners on the timing and process for CoVDP transition. There was general agreement on the need to gradually bring back core functions to partner agencies

while integrating the good practices of the past months to optimize existing platforms for coordination on vaccine delivery. Several partners have also expressed support for a greater focus on advocacy related to PPR, in particular the need for CoVDP to use upcoming global health events/ platforms to underscore the importance of stronger community health systems and the role of community health workers (especially their payment and training) as a key legacy of the global COVID-19 response. Several partners also expressed support for exploring how remaining vaccine delivery funding can be repurposed to invest in integration, recovery efforts on routine immunization and health systems strengthening.

## Funding

By the end of January, CoVDP had facilitated the disbursement of **US\$152 million** of funding from Gavi, UNICEF and WHO to respond to urgent funding needs. In December and January, **an additional US\$12.2 million** was released:

- **US\$5.4 million for Nigeria** to pay the performance-based allowance for vaccinators, recorders, validators and social mobilizers of 12,928 teams in 26 states, and to cover the cost of vaccine transportation, waste management and cold chain (warehousing) activities for SCALES 3.0.
- **US\$3.8 million for Chad** to cover the operational costs of the next mass vaccination campaigns covering 13 provinces, including costs associated with coordination, the collection and transmission of data, vaccine distribution logistics, the investigation and management of AEFI cases, communication and the payment and training of vaccinators and supervisors.
- **US\$1.5 million for Burkina Faso** to cover the cost of upcoming campaign activities, including funding for regional orientation and planning meetings, vaccine supply at decentralized levels, mobile vaccination teams, AEFI management systems and investigations, advocacy and social mobilization initiatives and supervision of vaccination teams.
- **US\$0.9 million for Gabon** to finance coordination, planning and monitoring activities, micro-planning at national and decentralized levels, demand generation targeted at high-priority groups, vaccine service delivery through fixed and mobile sites, training and supervision, immunization safety (AEFI activities), and data management, monitoring and evaluation.
- **US\$0.6 million for Solomon Islands** to support the delivery of programme services through an integrated microplanning and training in six provinces, conduct outreach activities for integrated COVID-19 and routine immunization for 2 provinces, support the documentation of challenges, lessons learnt and best practices on demand generation and community engagement, and provide technical assistance to the Provincial Health Services.



## COVDP Transition



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CoVDP was put in place as a temporary mechanism to support COVID-19 vaccine delivery in those countries with the lowest coverage rates during a time when the significant supply constraints that countries experienced in the early days of the global vaccine roll-out had eased. The core levers of the Partnership (high-level political advocacy, quick-impact funding, specialized

technical assistance and demand planning) as well as its coordinating function between partner agencies have contributed to driving up vaccine uptake, especially in the 34 countries for concerted support. However, as vaccination rates increase, risk perception further diminishes and countries are looking to integrate COVID-19 vaccination into primary health care, there are diminishing returns to a vertical approach to COVID-19 vaccination. The dominant strategy for many countries going forward will be in the delivery of vaccines through the primary health care systems leveraging the routine immunization infrastructure and linking with programmes that address non-communicable diseases.

As a result, CoVDP will gradually transfer its core functions to partner agencies that will continue to support the next phase of the response. Discussions are currently ongoing with national governments and partner agencies to ensure that this transition is synchronized with the transition plan of the COVAX mechanism, that countries are fully informed of the timeline and process for transition with a full view on the available support from partners and that critical lessons from the partnership inform the development and enhancement of existing partner platforms which will continue to provide support at the global, regional and country level.

## IN-DEPTH: Delivering vaccines to the last mile

**One of the biggest challenges in vaccine delivery is how to get vaccines from the point of entry into the country to the most remote locations within each country.** This is especially true in the last mile which, in supply chain and transportation terms, refers to the final leg of the journey to the end customer, in this case the person to be vaccinated.

**A key factor that influences whether a person is likely to get vaccinated is proximity**, ie. the ability to get a vaccine easily, within an acceptable radius of where the person lives or works, and in a convenient setting. This aspect is critical in COVID-19 delivery where, in some

cases, risk perception and perceived benefits are low, especially when contrasted with the opportunity cost of spending time and money on receiving the vaccine (eg. cost of transport, lost hours of work).

**Most countries supported by CoVDP in their vaccine roll-out have therefore opted for delivery strategies that combine fixed and mobile sites.** The most successful vaccination campaigns were those that were able to decentralize different aspects of delivery such as micro-planning, community engagement, transport and logistics. Mobile vaccination units – whether by car, motorcycle, boats or pack animal – were critical in reaching people

close to their home, their workplace or their places of worship, leveraging the convenience factor in getting people vaccinated.

**However, these efforts are often hampered by logistical challenges.** Poor road and aerial infrastructure, complex geographical terrain, conflict and insecurity, as well as uncertainty regarding where to find specific high-priority groups – especially migrants, refugees, internally displaced persons and other populations groups that are on the move – are key challenges in the last mile. Unaddressed, these challenges can result in strong inequities in access to vaccines and hence to a geographic and demographic imbalance in terms of who is or is not vaccinated.

**The COVID-19 vaccine roll-out has seen many countries innovate on their physical delivery infrastructure for vaccines** in order to overcome some of the geographical and infrastructure challenges:

- Many countries have deployed mobile vaccination sites to get people vaccinated. This involved not just mobile teams that went from community-to-community or even door-to-door (eg. Malawi's "Vaccine Express"), but also temporary vaccination sites that were set up for specific events (eg. Saba Saba in Tanzania or during the "Tour du Faso" in Burkina Faso) or that were set up in key locations where people converge (eg. at bus stations in Kinshasa or at places of worship in Zimbabwe).
- In Sierra Leone, motorbikes have proven an essential transportation mode to get vaccines out to rural areas through door-to-door campaigns. Mobile vaccination units combining vaccine administration with community sensitization and engagement activities have shown strong results in uptake with a 27% increase in vaccinations within a 48-to-72-hour window during which these teams were deployed. In January 2023, funding mobilized through CoVDP (from the Gavi emergency funding window) enabled the country to acquire an additional 250 motorbikes among other equipment provided for outreach activities.<sup>1</sup>
- Insecurity and difficult terrain have resulted in the use of other transportation modes such as pack animals and boats, for instance in Mali and South Sudan. In Mali, donkeys were used to transport vaccines to remote areas where motorized vehicles could not reach or were not available. During the rainy season in South Sudan, boats became a necessity to transport vaccines, with vaccinators often spending hours on waterways to reach communities which would otherwise have been deprived of vaccine supplies.
- In Rwanda and Ghana, government agencies have collaborated with commercial drone company "Zipline" to deliver vaccines to remote locations. This has not only cut down on the time it takes to deliver vaccines but also on the cost. In Malawi, with the support of UNICEF, vaccine doses were flown via drone to several districts in Southern Malawi that otherwise risked being cut off from supplies following extensive flooding. The technology is adaptable: in India, collaboration with local drone companies have allowed the transportation of different medical essentials beyond COVID-19 vaccines such as syringes, multi-vitamins, and personal protective equipment.

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**The expansion of cold chain equipment, including use of solar fridges, is another critical element in last mile delivery which can significantly reduce the hours and kilometres spent on transportation of vaccines.** Before the pandemic, many low- and middle-income countries had limited cold chain equipment especially at the decentralized levels and in rural areas.

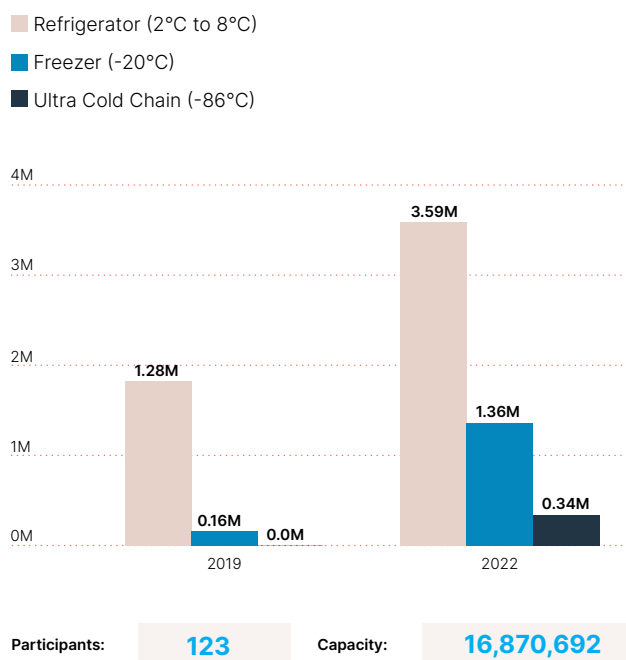
<sup>1</sup> Maarten Voors, "Sierra Leone: A randomized controlled trial of last-mile delivery of vaccines in remote areas", August 2022. Retrieved from [TechNet-21, Compendium of Best Practices](#)

The delivery of vaccines would often involve provisioning from central warehouses with sufficient cold chain capacity but few vaccines would be stored at provincial or district levels. The storage and temperature requirements of several of the COVID-19 vaccines, especially Pfizer-BioNTech, resulted in a rapid increase in cold chain capacity in many countries through the support of key partners such as Gavi, UNICEF and the World Bank, reducing the time spent in provisioning from locations further up the supply chain. Between 2019 and 2022, the capacity of the cold chain across 123 reporting countries (mainly LICs, LMICs and MICs) increased massively: refrigerator (2°C to 8°C) capacity doubled from 1.8 million to 3.6 million litres. Freezer (-20°C) capacity increased almost ten-fold from 0.16 million to 1.36 million litres. The ultra cold chain (-86°C), which was virtually non-existent in 2019 has since expanded to a capacity of 0.34 million litres. Across the 70 countries that report walk-in cold storage facility data, walk-in cold room (2°C to 8°C) capacity increased capacity from just 0.15 million to 1.76 million litres, whereas walk-in freezer (-20°C) capacity ballooned from 0.02 million to 0.24 million litres between 2019 and 2022. Combined with better data capacities to track and monitor vial usage, this increased cold chain capacity has also contributed to more efficient management of vaccine supplies, reducing wastage in the process as each individual vaccination site can get provisioned with smaller batches from a nearby cold-storage facility.

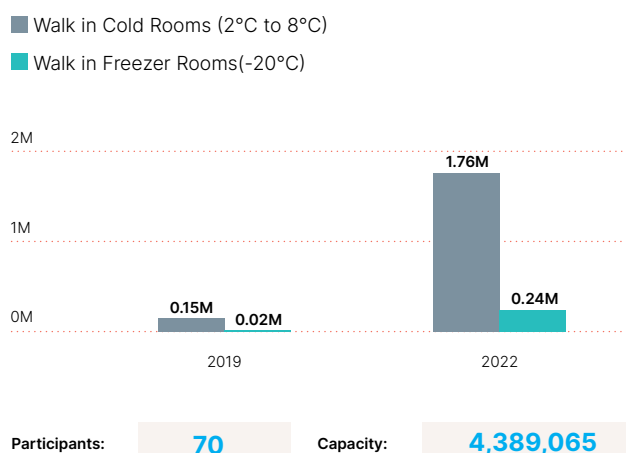
**Many of the logistical improvements made to delivery C19 vaccines need to be maintained and improved to strengthen delivery of essential immunization and pandemic preparedness and response.** Improved cold chains will have a long-lasting impact on the delivery of essential immunization by enabling a greater decentralization of vaccine stocks thus reducing the cost and time spent in transporting vaccines on a daily basis. New, cost-effective transportation modes are likely to revolutionize supply chains – in Rwanda, Zipline has become the national drone service provider, delivering not just vaccines but other essential goods such as insulin, anti-retroviral and cancer treatments, and blood pouches.

**FIGURE 5**  
**Evolution of cold chain capacity between 2019 and 2022**

#### Equipment usage capacity (in Liters)



#### Cold/Freezer Rooms usage capacity (in Liters)







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**Another critical element in last mile delivery are community health workers (CHWs) and other service providers at decentralized level.** As many low- and middle-income countries struggle to deploy COVID-19 vaccines on top of maintaining essential health services, including routine immunization, in contexts of stretched health systems, the role of CHWs and local pharmacies has moved into focus. CHWs have played a pivotal role in educating local communities on disease prevention, identifying suspect cases and referring them to health facilities, mobilizing local populations to get vaccinated, collecting data on immunization status, and identifying and referring those who missed vaccination appointments, including zero-dose children. But trained, sensitized and paid CHWs can play an important role beyond outreach activities to either directly or indirectly administer vaccines. In Malawi and Ethiopia, for instance, CHWs are trained to directly administer injectable vaccines whereas in other countries CHWs that are not trained to inject vaccines are still actively referring and even transporting people to the nearest vaccination sites.

**Crucially, the COVID-19 pandemic has shown that community health workers are a key pillar of last mile delivery.** Investments in the training of community health workers and a formalization of their role in the healthcare system are likely to induce a massive expansion of the available health workforce that could be deployed to fulfil critical tasks such as the administration of vaccines but also disease surveillance, community mobilization and education, and the provision of consultative and preventative health services, among others. The payment of community health workers and the development of a clear career path will be a critical bottleneck to resolve in order to ensure that this workforce in the last mile is able to continue to deliver life-saving vaccines and other medical countermeasures.

## Country snapshots

### Chad

Chad continues to build momentum towards achieving its national vaccination target of 48%. Three mass vaccination campaigns have been organized in the country, two conducted in the Southern part and one in the North.

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The third wave of the vaccination campaign organized in the southern country in December 2022 saw coverage improve from 20 to 24% completed primary series with more than 90,000 refugees and 27,000 nomadic persons vaccinated. These gains have been primarily due to the continuous political and administrative support from the Chadian authorities, the technical and financial support provided by partners and CoVDP, as well as the weekly coordination meetings held at the central and peripheral levels. It is worth noting that civil society supported community activities, including football tournaments and the use of sketches and plays in mobile caravans to facilitate adhesion and build trust in largely underserved areas and populations.

A fourth campaign is underway in the Northern territory targeting 13 provinces and 66 districts. Chad has secured the necessary funds to organize this 4<sup>th</sup> campaign, with Gavi Emergency funds being leveraged for support. Although 2/3 of vaccine doses for this campaign are available at the national level, partners are providing support in mobilizing vaccines from districts down south to be used in the north. Furthermore, the military is expected to ensure safe vaccination sites in medium-risk areas whereas, in districts where the level of security is critical, communities will be mobilized to safe areas where the level of threat is manageable, and vaccination activities can occur safely. New to this upcoming campaign is the involvement of refugees and nomadic persons as vaccination team supervisors and community mobilisers to enhance social inclusion and build trust amongst specific groups and communities.



## RESOURCES

- [Global COVID-19 Vaccination Strategy in a Changing World: July 2022 update](#)
- [Updated WHO SAGE Roadmap for prioritizing uses of COVID-19 vaccines](#)
- [COVID-19 Vaccine Delivery Partnership Information Hub](#)
- [COVID-19 Vaccine Implementation Analysis & Insights Report archives](#)
- [COVID-19 Vaccine introduction toolkit](#)
- Considerations for choosing COVID-19 vaccine products [English](#) | [French](#)
- [Microplanning guide](#)
- [Considerations to inform country COVID-19 vaccine decision-making](#)
- [Good practice statement on the use of variant-containing vaccines](#)
- [Management and safe disposal of COVID-19 vaccination waste at health facility level](#)
- [WHO/UNICEF guidance document on programmatic considerations for C-19 integration into PHC](#)
- For all countries, various tools and guidance and vaccine confidence and uptake are [available here](#), including:
  - [Demand planning guide](#)
  - [Behavioural and social drivers: tools and guidance to assess and address low uptake](#)
  - [Conducting community engagement guide](#)
  - [Misinformation management guide](#)
  - [Vaccine safety surveillance manual, communications chapter](#)
  - [Health worker conversation guide](#)
  - [Communicating on Covid 19 Vaccines in a Changing Environment](#)
  - [Explainers](#)
- For all countries monitoring tools and guidance [available here](#) including:
  - [Monitoring COVID-19 vaccination: Considerations for the collection and use of vaccination data](#)
  - [DHIS2 COVID-19 module developed and rolled out to interested countries](#)
  - [Monitoring Metrics Related to the Global Covid-19 Vaccination Strategy in a Changing World: July 2022 update](#)

## COMING UP

### 14-15 February 2023

CoVDP Joint Convening on COVID-19 Vaccinations in Humanitarian Settings, Nairobi, Kenya

### 17-21 February 2023

Letter from COVAX Managing Director on COVAX Transition and 2024-25 COVID-19 Programme

### 23 February 2023

4-5 PM CET

WHO/UNICEF/PAHO Country-Facing Staff Partner Briefing on COVAX Transition & COVID-19 Integration [LINK](#)

### 28 February 2023

9 AM and 4 PM CET

COVAX Participant Briefing – Special Session on COVAX Transition

### 13-15 March 2023

CoVDP Global Convening on COVID-19 vaccination monitoring and related system strengthening, Geneva, Switzerland

### 14-16 March 2023

WHO Regional Working Group meeting on routine immunization recovery, Addis Abeba, Ethiopia

### 20-24 March 2023

3rd International Community Health Worker Symposium, Monrovia, Liberia

### 30-31 March 2023

Gavi Board Retreat

### 04 April 2023

Gavi Temporary Steering Committee

### 10-16 April 2023

IMF and World Bank Spring Meetings, Washington DC, United States of America

### 24-30 April 2023

World Immunization Week

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**COVID-19 Vaccine**  
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