

COVID-19 Emergency Response

Technical Assistance Packages for Vaccine Distribution

The project stands ready to support COVID-19 vaccine logistics, with capabilities in the following technical assistance areas:

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The **USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project** is a reliable supply chain partner to national governments, international organizations, medical commodity suppliers and freight and logistics providers across the globe. GHSC-PSM's range of expertise and geographic reach forms a web of support ready to assist countries in preparing for and distributing COVID-19 vaccines. The project can mobilize 27 on-staff experts and more than 50 consultants with vaccine expertise across 33 countries. Recently, USAID rated highly GHSC-PSM's quality of work for emergency response—specifically COVID-19. GHSC-PSM has health supply chain activities in **39 countries**, and its prime implementer, Chemonics International, supports public health supply chains in **over 50 countries**.

Policy, Planning and Coordination

GHSC-PSM works with countries to establish policies and plans and coordinate the flow and delivery of health commodities—including supply planning, facilitating importation, warehousing and distribution, and tracking commodities—to ensure a consistent, reliable supply of health products to those who need them. When combined, these activities form a robust enabling environment capable of supporting vaccine distribution.

Adapt training and protocols for emergency response tailored to vaccine rollout. In many countries across Africa, Latin America and the Caribbean, GHSC-PSM helped governments prepare for and respond to COVID-19 and other infectious diseases using the Emergency Supply Chain Playbook¹. The Playbook consists of an essential competencies framework with modules on implementing structures and protocols, defining triggers and declaring disease outbreaks, establishing financing, forecasting, procurement, stockpiling, transportation, data visibility and waste management.

¹ <https://www.ghsupplychain.org/ESC-Preparedness-Response>

Illustrative activities include:

- *Develop customized playbook* for a country. Conduct a simulation exercise to validate customized tools and systems. The design process emphasizes multisectoral collaboration within and among ministries, the private sector and international partners.
- *Conduct multi-country trainings on the different modules of emergency response*, including governance structures to involve, financing, forecasting, procurement and sourcing, warehousing and storage, waste management, data visibility and transition back to routine supply chain operations.
- *Create a supply chain emergency response team* and activate procedures under the Emergency Supply Chain Playbook process. Where a customized Playbook does not exist, GHSC-PSM can provide terms of reference and help rapidly establish a supply chain emergency response team, provide ad hoc technical assistance to the team and refine roles and responsibilities as needed.

Facilitate import approvals and waiver processes. GHSC-PSM manages the unique registration, import and waiver processes for pharmaceutical products in 58 countries. The project maintains profiles for these countries that are a valuable source of country-specific information and requirements related to labeling, shelf life, pre-shipment documentation, import waivers and customs clearance information. For some products, these processes require coordination across many partners and in-country stakeholders.

Illustrative activities include:

- *Support freight forwarders with rapid customs clearance for vaccines.* Despite a shifting landscape and requirements, GHSC-PSM is well prepared to adapt to any changes.
- *Support partners with technical assistance or information on clearing urgent shipments* of COVID-19 vaccines and related commodities.

Support forecasting and supply plan monitoring for routine commodities and incorporate new COVID-related commodities. The pandemic has caused exceptional challenges in maintaining a consistent supply of health-related commodities due to disruptions in manufacturing, transportation and other elements of the supply chain. Countries have experienced shifts in health seeking behavior, causing inconsistencies in consumption trends that do not represent actual need. Maintaining a reliable supply requires deeper and more regular analysis of available data to support updated forecasts and supply plans and minimize supply risks. GHSC-PSM provides technical support in data use for monitoring forecasting and supply planning² for products typically supported through the project and additional products to support COVID-19 response.



GHSC-PSM has conducted remote quantification, forecasting and supply planning exercises—like this one in Angola—to reduce the risk of COVID-19 transmission. Photo: GHSC-PSM

² <https://www.ghsupplychain.org/index.php/news/forecasting-and-supply-planning-despite-success-overcoming-many-challenges-countries-may>

Illustrative activities include:

- *Determine the scope of the quantification*, including determining vaccines and related commodities to quantify and identify potential sources of data. GHSC-PSM develops and provides templates for data collection and analysis, assists with qualifying the data available, identifies data gaps and develops forecasting assumptions.
- *Facilitate quantification workshops* in partnership with local ministries of health and international stakeholders to produce costed supply plans and proposed delivery schedules, including those required for COVID-19 vaccines and other related commodities. The project also provides training and support for personnel responsible for forecasting and supply planning.
- *Set reasonable delivery lead times* reflecting shifting global supply and freight challenges, monitor vaccine shipments and evaluate supply plan execution.

Enable verification of vaccines and other COVID-19 related health commodities. Due to the urgency of the COVID-19 pandemic, the global community has adopted a verification model powered by the Global Trust Repository (GTR). While the initial focus of the GTR will be COVID-19 vaccine verification and detection of falsified medical products, this model will provide valuable learnings that inform implementation of longer-term traceability initiatives, including primary healthcare commodities. GHSC-PSM's support will facilitate broader national traceability implementation while prioritizing traceability of vaccines and other COVID-19 related health commodities.

Illustrative activities include:

- *Develop contract language that can be adopted across entities procuring vaccines*—including governments—to enable product identification, labelling and exchange of data for the verification of COVID-19 vaccines and related products.
- *Work with suppliers of COVID-19 vaccines to implement foundational labelling* and data exchange elements to enable verification of products.
- *Develop governance structures* to oversee, guide and accelerate implementation of GTR verification processes into existing national traceability governance structures.
- *Operationalize national data strategies to define data requirements* to identify vaccines and other COVID-19 products using Global Standards³ (GS1) and integrate these into existing information systems and product reporting as appropriate and possible.
- *Operationalize GTR verification* in collaboration with national authorities.

Support coordination mechanisms. GHSC-PSM works with stakeholders at all government levels to collaborate, coordinate and achieve an effective health workforce and supply chain, including through the creation and facilitation of coordinating committees, national technical working groups (TWGs), and sub-committees. During the roll out of new guidelines, products and systems, the COVID-19 pandemic response will require extensive coordination and communication across the entire health system. GHSC-PSM's country-level experience and networks position the project to participate in and lead coordination efforts.

³ <https://www.ghsupplychain.org/globalstandards>

Illustrative activities include:

- *Create an integrated strategic plan* involving all partners—including service delivery providers and government agencies—to improve supply chain management for vaccines.
- *Develop monitoring and evaluation plans and performance management processes* to track the progress of COVID-19 vaccine rollout and other health interventions, including through monitoring frameworks, indicators and tools.
- *Facilitate decentralized distribution*⁴ with government and clinical partners to reduce congestion at health facilities or mitigate reduced access to clients who require health products (i.e., ARVs or prenatal vitamins) throughout the pandemic and beyond.



GHSC-PSM recently published a guidebook to support countries with decentralized distribution of pharmaceuticals and other commodities.

Pharmacovigilance and Monitoring Adverse Events

Strengthen pharmacovigilance efforts and adverse events reporting systems as countries adapt to the specific quality considerations for COVID-19 vaccines. With new COVID-19 vaccines entering countries, pharmacovigilance and functioning surveillance systems for adverse events are essential to instilling ownership and trust through the introduction process and administration of the vaccines. GHSC-PSM can support national regulatory authorities and other government agencies to assess existing systems, identify and address gaps for monitoring and report adverse reactions to vaccines.

Illustrative activities include:

- *Build cross-agency consensus and establish national pharmacovigilance centers* for adverse event detection and reporting.
- *Assess strengths and challenges of existing pharmacovigilance activities* and provide policy recommendations to promote vaccine safety.
- *Establish systems for pharmacovigilance governance, oversight and communication;* increase pharmacovigilance training for health workers; and make necessary budget allocations to sustain a robust and effective pharmacovigilance program.

Storage and Distribution—including Cold Chain

GHSC-PSM helps partners plan and operationalize reliable commodity distribution, including for products requiring cold chain handling and storage. The project also works with private-sector third-party logistics (3PL)

⁴ <https://www.ghsupplychain.org/supply-chain-considerations-implementing-decentralized-drug-distribution>

providers, leveraging their resources for efficient commodity distribution. The relationships, processes and learnings from this work can be leveraged for COVID-19 vaccine and related commodity distribution.

Provide supplemental storage and distribution capacity through 3PL providers. The pandemic has increased the number and quantity of products being managed through public health supply chains, straining already limited resources for storage and distribution. Technical support and supplemental resources can enable supply chains to manage this additional volume and variety related to COVID-19 while maintaining a reliable supply of other vital public health commodities.

Illustrative activities include:

- *Develop emergency warehousing and distribution strategies to strategically scale up COVID vaccine services*, enabling continued performance, transparency and availability of essential health commodities at all levels of the health system and supply chain.
- *Subcontract supplemental storage facilities and distribution services* to support safe handling of vaccines and related commodities from the central level to regional warehouses and service delivery points, according to the distribution plan. GHSC-PSM's private-sector engagement allows for competitive freight rates with a network of over 7,000 global freight lanes.

Map transportation networks for optimal last-mile delivery. Effective use of data supports the strategic design of warehousing and distribution systems to ensure reliable last-mile delivery of vaccines, especially systems already straining under resource constraints and additional demands related to COVID-19. Through advanced analytics tools and methods,⁵ GHSC-PSM supports countries to optimize logistics operations by analyzing volumes, transport networks, infrastructure and resources. These optimization exercises can assist countries plan warehousing, routing and scheduling to meet the demands of COVID vaccine distribution.

Illustrative activities include:

- *Develop and quickly implement customized advanced analytics tools*—including for stock redistribution, consumption anomaly detection, storage capacity analysis and planning, stockout and expiry detection, and more—leverage existing data, such as health facility locations and routes, commodity stock levels and consumption, and delivery volumes.
- *Train on the use of these tools*, adapt them as needed and help monitor performance.

Assess cold chain (including ultra-cold chain) capacity. GHSC-PSM has supported several countries to conduct cold chain capacity assessments for storage and transportation commodities for both viral load machines and in preparation for COVID-19 vaccines.

Illustrative activities include:

- *Assess cold chain capacity at all levels of the supply chain*, including storage and distribution capacity to identify how commodities requiring cold chain can be allocated and managed throughout the country.
- *Conduct landscape analysis on private-sector capacity* to provide supplemental cold chain and ultra-cold chain storage and distribution.

⁵ <https://www.ghsupplychain.org/index.php/news/advanced-analytics-covid-19-revealed-weaknesses-existing-systems-thereby-accelerating-trends>

- *Develop procurement plans based on cold chain needs* and advocate to governments and donors for resources to procure essential equipment.

Monitor temperature exposure for cold chain commodities. GHSC-PSM works with governments to monitor and manage temperature exposure of products requiring temperature regulation and can help ensure vaccine quality during storage and distribution.

Illustrative activities include:

- *Procure and install temperature and humidity sensors* in warehouses, delivery vehicles, pharmacies and health facility storerooms.
- *Analyze aggregated temperature data* and provide recommendations to support decision-making to avoid temperature excursions, mitigate financial losses and keep health commodities safe for the end-user.



GHSC-PSM can provide a wide range of services to support cold and ultra-cold chain for COVID-19 vaccines.
Photo: GHSC-PSM

Support reverse logistics and waste management. GHSC-PSM helps countries dispose of health care waste and offers a range of technical assistance capabilities. GHSC-PSM can support governments to properly handle medical waste resulting from COVID-19 vaccine campaigns.

Illustrative activities include:

- *Conduct quantification surveys and assessments* to design national health care waste management strategies and guidelines for vaccines and related commodities.
- *Develop reverse logistics strategies* and provide training, process maps, collection procedures, protective equipment and reverse logistics services to collect and properly dispose of vaccine-related waste.

Logistics Data and Management Information Systems

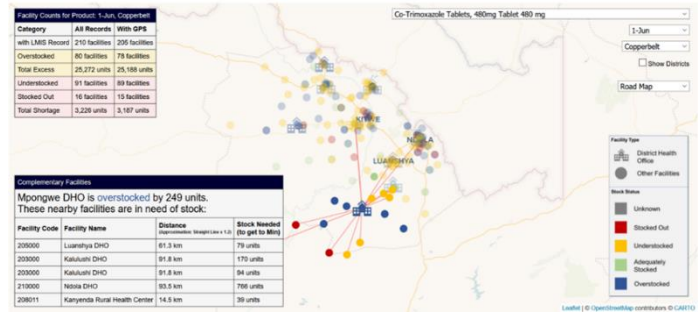
As mentioned previously in this document, GHSC-PSM provides technical support for robust data systems and data use for advocacy and decision-making. **Management Information Systems (MIS)** are essential for stock management and accessing information on location, quantity, batch and expiry dates. Data visibility and use are even more essential to help manage and track the influx of commodities supporting emergency response. GHSC-PSM works with emergency response teams to leverage MIS and support COVID-19 supply chain response.

Ensure transparency, decision-making and monitoring through data collection systems and analytics tools. GHSC-PSM establishes, maintains and trains users on data systems to manage health commodity logistics. The project prioritizes data systems that are compatible with existing systems, such as health information systems, and has supported several countries to develop customized data analytics tools to support for decision making. GHSC-PSM’s advanced analytics tools—and effective supply chain management in general—depend on accurate data being available through logistics management information systems (LMIS).

Illustrative activities include:

- *Identify existing tools and systems* that can be used to manage vaccines and related commodities.
- *Integrate COVID-19 vaccines and related commodities into the existing LMIS* and conduct training to staff managing these commodities. In **Malawi**, GHSC-PSM updated the OpenLMIS reporting system to ensure that health facilities can account for COVID-19 related commodities. Health facilities send weekly reports for essential COVID-19 commodities and monthly reports for all others. These reports include stock on hand and quantities received, used and transferred to other facilities.

- *Develop and/or adapt existing analytics tools* to support more proactive management of vaccines and related commodities at facilities. The project developed a stock redistribution tool to identify and move commodities from well-stocked sites to locations with supply risks, reducing stockouts through a collaborative approach among health facilities. In **Zambia**, this tool averted ARV stockouts in two provinces and continues to avert stockouts for malaria commodities.



Zambia's stock redistribution tool is one of several advanced analytics tools that can be adapted for use in other countries to support COVID-19 vaccine rollout.

- *Procure associated hardware* (tablets, smartphones, etc.) needed to ensure timely entry of logistics data for frequent updates of stock availability of vaccines and other related commodities.
- *Support procurement of COVID-19 vaccines and related commodities* by tracking stock on hand, facilitating electronic purchase orders, tracking shipment information, and comparing stock received to purchase orders.