USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM
Procurement and Supply Management

FISCAL YEAR 2023

QUARTERLY REPORT | QUARTER 3

APRIL 1, 2023, TO JUNE 30, 2023

USAID FROM THE AMERICAN PEOPLE

PEPFAR U.S. President's Emergency Plan for AIDS Relief

PMI U.S. PRESIDENT'S MALARIA INITIATIVE LED BY USAID FROM THE AMERICAN PEOPLE CDC

FISCAL YEAR 2023

QUARTERLY REPORT

April 1, 2023, to June 30, 2023

Contract No. AID-OAA-1-15-00004

The USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project is funded under USAID Contract No. AID-OAA-I-15-00004. GHSC-PSM connects technical solutions and proven commercial processes to promote efficient and cost-effective health supply chains worldwide. Our goal is to ensure uninterrupted supplies of health commodities to save lives and create a healthier future for all. The project purchases and delivers health commodities, offers comprehensive technical assistance to strengthen national supply chain systems and provides global supply chain leadership.

GHSC-PSM is implemented by Chemonics International, in collaboration with Arbola Inc., Axios International Inc., IDA Foundation, IBM, IntraHealth International, Kuehne + Nagel Inc., McKinsey & Company, Panagora Group, Population Services International, SGS Nederland B.V., and University Research Co., LLC. To learn more, visit ghsupplychain.org.

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ACRONYMS

3HP	isoniazid and rifapentine (combination treatment for tuberculosis)
3PL	third-party logistics
ABC	activity-based costing
ABC/3TC/DTG	abacavir/lamivudine/dolutegravir
ABM	activity-based management
ABREMA	Autorité Burundaise de Régulation des Médicaments à Usage Humain et des Aliments
ACT	artemisinin-based combination therapy
AHD	advanced HIV disease
AIDC	automatic identification and data capture
AL	artemether-lumefantrine
AMF	Against Malaria Foundation

API	active pharmaceutical ingredient
ARPA	American Rescue Plan Act
ART	antiretroviral therapy
ARTMIS	Automated Requisition Tracking Management Information System
ARV	antiretroviral
ASTMH	American Society of Tropical Medicine and Hygiene
bCPAP	bubble CPAP
BHA	Bureau of Humanitarian Assistance
BMGF	Bill & Melinda Gates Foundation
CAB-LA	cabotegravier
CAPA	corrective and preventive action
CAP/CTM	Cobas Ampliprep/Cobas TaqMan

CARISCA	Center for Applied Research and Innovation in Supply Chain-Africa
CDC	Centers for Disease Control and Prevention
CHAI	Clinton Health Access Initiative
CHW	community health worker
CMAM	Center for Medicine and Medical Articles
CMS	central medical store
COE	Center of Excellence
COVID-19	novel coronavirus
CPAP	continuous positive airway pressure
DAP	delivered at place
DCP	decentralized procurement
DDP	delivery duty paid

DHA	Department of HIV and AIDS
DHAPP	Department of Defense HIV/AIDS Prevention Program
DHIS2	district health information system 2
DNO	diagnostic network optimization
DRC	Democratic Republic of the Congo
DTC	Drug and Therapeutics Committee
DTG	dolutegravir
DUE	drug use evaluation
EID	early infant diagnosis
eLMIS	electronic logistics management information system
ENAP	Every Newborn Action Plan
EUV	end-use verification

FASP	forecasting and supply planning
FP/RH	family planning/reproductive health
FTO	Francophone Task Order
FY	fiscal year
GDSN	Global Data Synchronization Network
GHSC-PSM	USAID Global Health Supply Chain Program-Procurement and Supply Management project
GHSC-QA	USAID Global Health Supply Chain Program-Quality Assurance project
GHSC-RTK	USAID Global Health Supply Chain Program-Rapid Test Kit project
GHSC-TA	USAID Global Health Supply Chain Program-Technical Assistance project
GIS	geographic information system
GLN	Global Location Number
GMM	General Membership Meeting

GS1	Global Standards 1
GTIN	Global Trade Item Number
NFO PMU	Non-Field Office Program Management Unit
HQ	headquarters
IDIQ	indefinite delivery, indefinite quantity
IMNHC	International Maternal and Newborn Health Conference
ipt	isoniazid preventive therapy
ITN	insecticide-treated net
IUD	intrauterine device
KSM	key starting material
LLIN	long-lasting insecticide-treated net
LMIS	logistics management information system

LOX	liquid oxygen
LQAG	LLIN Quality Assurance Group
MATA	Myanmar Anti-TB Association
MCH	maternal and child health
MEDS	Mission for Essential Drugs and Supplies
MHPR	Malawi Master Health Product Registry
MIS	management information system
MMD	multi-month dispensing
MMV	Medicines for Malaria Venture
MNCH	maternal, newborn, and child health
MOH	Ministry of Health
MOHCC	MOH and Child Care

MOSAIC	Maximizing Options to Advance Informed Choice for HIV Prevention
mRDT	malaria rapid diagnostic test
MSF	Médecins Sans Frontières
MTaPS	Medicines, Technologies and Pharmaceutical Services
NICU	neonatal intensive care unit
NPC	National Product Catalog
NMCP	National Malaria Control Program
NSCA	National Supply Chain Assessment
NTP	National Tuberculosis Program
OC	oral contraceptive
OOS	out-of-specification
OTD	on-time delivery

OTIF	on-time, in-full delivery
P&L	profit and loss
PBO	piperonyl butoxide
PCMT	Product Catalog Management Tool
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PHU	peripheral health unit
PLHIV	people living with HIV
PMI	U.S. President's Malaria Initiative
PNSR	National Reproductive Health Program
PO	purchase order
POC	point of contact
PPE	personal protective equipment

PPH	postpartum hemorrhage
PPMRm	Procurement Planning and Monitoring Report for malaria
PQM+	Promoting the Quality of Medicines Plus
PrEP	pre-exposure prophylaxis
PSA	pressure swing adsorption
PRH	Population and Reproductive Health
Q	quarter
QA	quality assurance
QAT	Quantification Analytics Tool
QC	quality control
RDC	regional distribution center
RFI	request for information

RFP	request for proposal
RHD	Reproductive Health Department
RHSC	Reproductive Health Supplies Coalition
RMS	Rwanda Medical Supply Ltd.
RO	requisition order
RTK	rapid test kit
RUTF	ready-to-use therapeutic food
SAM	Sourcing Assistance Messenger
SC	subcutaneous
SDP	service delivery point
SMO	social marketing organization
SOP	standard operating procedure

SP	sulfadoxine-pyrimethamine
SPAQ	sulphadoxine-pyrimethamine + amodiaquine
SSA	semi-synthetic artemisinin
SSNC	small and sick newborn care
SUMEVE	Single System for Monitoring and Evaluation of HIV Epidemiological Surveillance
TA	technical assistance
TB	tuberculosis
TE	tenofovir/emtricitabine
TL	tenofovir/lamivudine
TLD	tenofovir/lamivudine/dolutegravir
TO	task order
TPT	TB preventive treatment

TWG	technical working group
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USG	U.S. Government
VAN	Global Family Planning Visibility and Analytics Network
VL/EID	viral load/early infant diagnosis
VMI	vendor-managed inventory
VMMC	voluntary medical male circumcision
VMS	vendor-managed solutions
VSI	vendor-stored inventory
WHO	World Health Organization

ZAMMSA	Zambian Medicines and Medical Supply Agency

EXECUTIVE SUMMARY

The USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project, funded by the U.S. Agency for International Development (USAID), is pleased to present this report summarizing our work and performance for quarter 3 (Q3) fiscal year 2023 (FY 2023). The project provides lifesaving medicines and other health commodities. GHSC-PSM builds efficient, reliable, and cost-effective supply chains to deliver these drugs and health supplies for the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the U.S. President's Malaria Initiative (PMI), USAID's programs in voluntary family planning and reproductive health (FP/RH), and the Agency's program in maternal, newborn, and child health (MNCH), which share the cost of the project. This report also describes USAID's response to the novel coronavirus (COVID-19).

GHSC-PSM Life of Project Fast Facts

- Delivered **17 million patient-years of tenofovir/lamivudine/dolutegravir (TLD) treatment**
- Delivered **509 million antimalarials to treat infections**
- Delivered enough contraceptives to provide an estimated **100 million couple-years** of protection, when combined with proper counseling and correct use
- Delivered a total of **$25.4 million in MNCH commodities**
- Supported **46 countries** with technical assistance

Q3 PERFORMANCE AND PROGRESS HIGHLIGHTS

GHSC-PSM maintains high performance in the global supply chain and makes progress in deploying transformative supply chain solutions while laying a strong foundation for a successful transition to USAID Next Generation Global Health Supply Chain (NextGen) projects.

In Q3, the project achieved its 20th consecutive quarter of on-time delivery (OTD) over the 80 percent target by leveraging the strength of its existing mechanism while introducing and expanding on approaches to logistics management. (See section C1.)

Beyond the global supply chain, GHSC-PSM strengthens the capacity of host countries and local institutions toward managing their supply chains and contributing to USAID's goal of fostering

sustainability. By promoting sound management and strong governance, the project assists organizations in fulfilling their missions. To that end, the project works to cultivate pools of skilled global and local personnel to oversee critical supply chain elements and to establish management frameworks to facilitate strategic oversight. For example, in Q3:

- GHSC-PSM delivered its annual Introduction to Supply Chain Management course and an additional Emerging Trends in Supply Chain Management course to 24 USAID headquarters (HQ) and Mission staff to prepare them for their roles in supporting in-country and international stakeholders to promote commodity security. (See section C2.)

- In Ghana, GHSC-PSM built the capacity of regional supply chain actors to lead performance monitoring and supervision and supported the regions in conducting their first supportive supervision of health facilities. (See section C2.)

In Q3, GHSC-PSM logistics continued to face challenges due to civil unrest, including security concerns and instability, particularly in West Africa and Haiti, and tensions persisted between the Democratic Republic of the Congo (DRC) and Rwanda. Extreme weather is increasingly a year-round issue in many countries. Severe flooding, winds, continuous cyclones, and tropical storms impacted deliveries to countries in all regions. Extreme drought conditions affected river routes in Europe. Labor shortages and strikes persisted, with all major European air hubs bracing for summer flight disruptions, and several ports experienced labor disputes. Global cargo demand dropped, and the ocean industry and shipping lines saw capacity constraints that led to disrupted schedules, suspended services, longer routes, occasional booking changes, and transshipment delays. Continued fuel shortages and emission regulations led to increased fuel surcharges. Air freight capacity continued to rise, helping to stabilize capacity and price. However, airlines continue to focus their routes on popular destinations, limiting capacity for already underserved locations and making shipping to Africa by air more expensive and less reliable than before the COVID-19 pandemic.

In Q3, GHSC-PSM held an Africa regionalization workshop, bringing together participants from across USAID, GHSC-PSM, USAID Global Health Supply Chain Program-Rapid Test Kit project (GHSC-RTK), USAID Global Health Supply Chain Program-Quality Assurance project (GHSC-QA), Promoting the Quality of Medicines Plus (PQM+), Medicines, Technologies and Pharmaceutical Systems program (MTaPS), and IQVIA to identify opportunities and challenges for a supply chain strategy supporting the U.S. Government's strategic goals on regionalization. For more information, see Section C3, Global Collaboration.

TRANSITION PLANNING FOR NEXTGEN

In Q3, GHSC-PSM continued its planning and preparation for the transition to the NextGen suite of projects and other follow-on mechanisms.

GHSC-PSM hosted a week-long meeting in May of the GHSC-PSM Country Directors in the Chemonics Washington office. A total of 35 GHSC-PSM and Francophone Task Order country representatives attended along with participants from GHSC-PSM HQ staff, Chemonics staff, and USAID. The meeting had the theme "*working together for our supply chain future,*" centering on GHSC-PSM's planning for transition to the NextGen suite of projects and other follow-on mechanisms. The meeting explored a variety of topics essential to securing the legacy and technical continuity of the project. Chemonics and GHSC-PSM leadership shared a vision for transition, Task Order (TOs) and other teams discussed preparations, including the project's approach to transitioning procurement activities, along with the project's legacy, learning, and change leadership. The meeting also included a Self-Reliance Poster Contest where 33 Country Directors demonstrated the greatest impact that GHSC-PSM has had in moving their country toward self-reliance in the function/management of their public health supply chains.

GHSC-PSM finalized its country transition plan templates for country offices to develop contractual transition deliverables and rolled them out to all country teams. The project participated in developing a data assets and intellectual property inventory, which elaborated on its previous work assembling an HQ-level inventory of information assets. The project continued hosting a procurement-focused transition technical working group (TWG) with USAID to develop procurement-specific transition strategies. GHSC-PSM also continued its projectwide transition-focused meetings with USAID to coordinate the transition planning and risk mitigation.

GLOBAL SUPPLY CHAIN PERFORMANCE

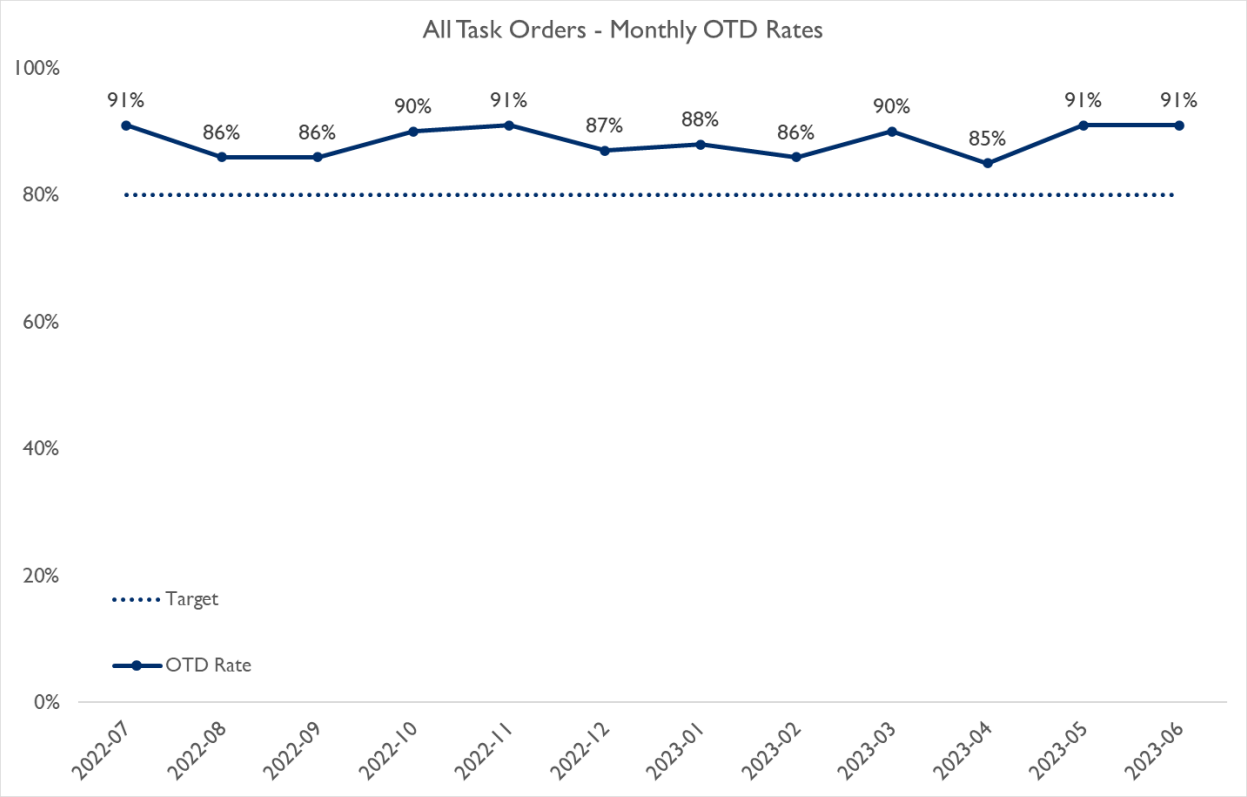
Section C1 describes GHSC-PSM's global supply chain procurement and logistics activities and achievements. Highlights of the project's global supply chain performance in Q3 are below.

Delivered over $146.9 million in drugs, diagnostics, and health commodities in Q3, and nearly **$4.9 billion** to date.

Achieved OTD[1] of 86 percent and OTIF of 89 percent.

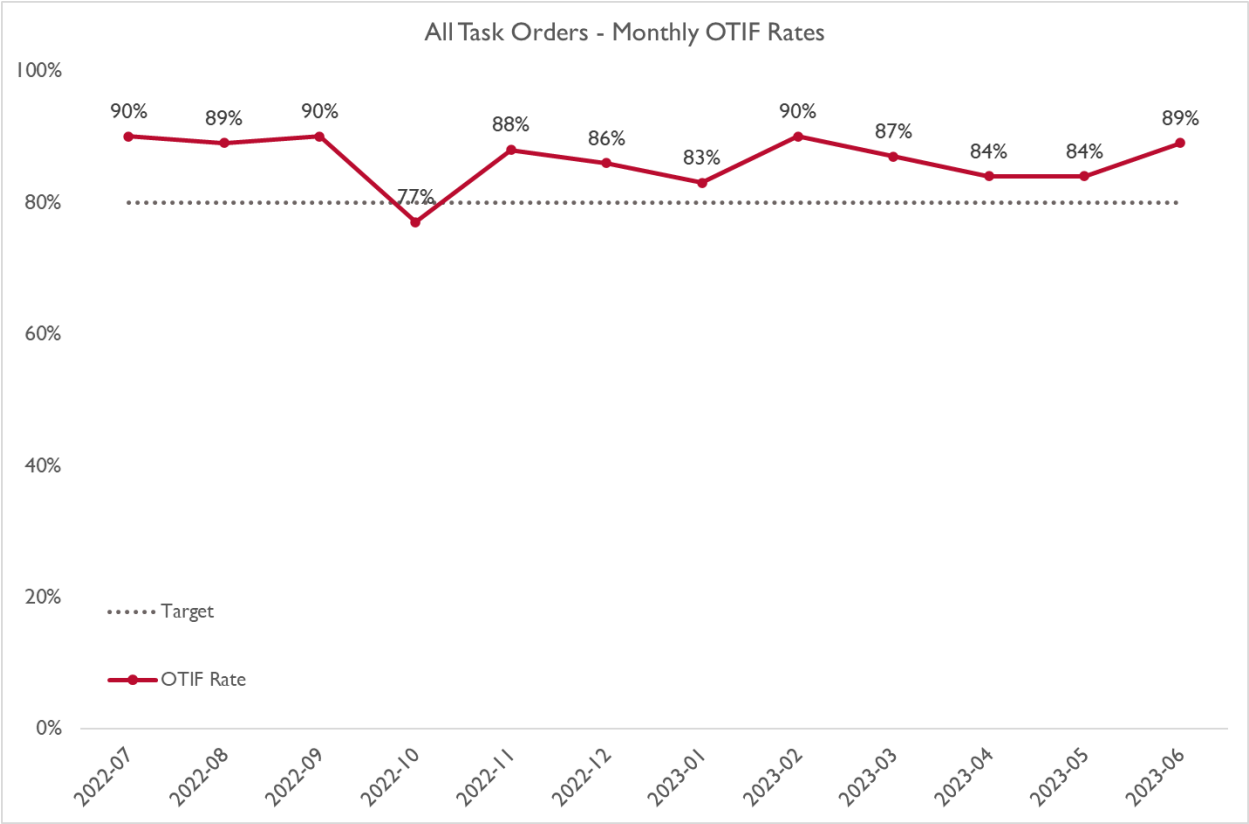
Additional delivery results, including OTIF, are discussed in each health area section.

Exhibit 1 Monthly Indefinite Delivery, Indefinite Quantity (IDIQ) OTD



[1] The project's delivery window is –14/+7 days. With this window, deliveries are considered on time if they are made within the period 14 days before or seven days after the agreed-to delivery date.

Exhibit 2. Monthly IDIQ OTIF



GHSC-PSM routinely conducts root-cause analyses of late deliveries to refine procurement and supply chain processes and continuously improve performance.

HEALTH AREAS

GHSC-PSM provides procurement services and technical assistance to strengthen supply chains and promote global collaboration for the U.S. Government (USG) programs for HIV/AIDS, malaria, FP/RH, MNCH, and emerging health threats. Highlights from Q3 are below.

HIV/AIDS

GHSC-PSM has **delivered enough antiretroviral therapy to provide nearly 22 million patient years of HIV treatment to date.**

This includes **17 million patient years of TLD treatment delivered to date.**

In Q3, the project used HIV/AIDS funds to support PEPFAR's goals to control the HIV/AIDS epidemic by ensuring an uninterrupted supply of HIV/AIDS prevention, treatment, and viral load testing commodities at all levels; implementing technical assistance and systems strengthening initiatives to promote country ownership of the HIV/AIDS response; participating in global policy dialogues; creating and disseminating global resources; supporting health supply chain research; and modifying supply chain data tools to improve procurement, management, availability, and quality of health commodities.

GHSC-PSM achieved OTD and OTIF. In Q3**,** the project continued to achieve OTD and OTIF above the target of 80 percent (90 percent OTD and 86 percent OTIF).

Delivering pre-exposure prophylaxis (PrEP). In Q3, GHSC-PSM delivered 1,065,515 bottles of PrEP products to 10 countries.[2] The project also issued PEPFAR's first-ever purchase order for 24,300 vials of the long-acting injectable PrEP product cabotegravir (CAB-LA), which will be pre-positioned in our Dubai regional distribution center (RDC) to fulfill orders from Malawi, Zambia, and Zimbabwe.

Delivering condoms. In Q3, GHSC-PSM delivered 130.7 million male condoms, 782 thousand female condoms, and 4.4 million lubricants to 14 countries.[3] The project also published the Annual Comprehensive Agency Report on Condoms and Lubricants for FY 2022.[4]

Delivering voluntary medical male circumcision (VMMC) kits. In Q3, GHSC-PSM delivered 157,092 VMMC kits to Malawi, Mozambique, Namibia, and Tanzania.

Providing tuberculosis preventative treatment. In Q3, GHSC-PSM delivered eight orders of rifapentine/isoniazid 300mg/300mg fixed-dose combination, or FDC, tablets, a total of 204,095 36-count packs to four countries. Also, in Q3, the project delivered 71,827 100-count packs of isoniazid tablets to Uganda and Zimbabwe.

Increasing private sector involvement in ARV delivery. In Q3, 85 percent of purchase order lines released to suppliers were under modified delivery duty paid (DDP) Incoterms. GHSC-PSM delivered thirty-eight D-Term orders to nine countries.[5] The project fulfilled all but two of these 38 orders on time (95 percent OTD). At the end of Q3, GHSC-PSM had issued 172 of 258 (67 percent) purchase order lines under modified delivered at place (DAP) or DDP Incoterms, above the FY 2023 target of 50 percent.

Advancing the vendor-managed solutions (VMS) program. The project achieved two significant milestones within its VMS program in Q3. Two of the three eligible VMS suppliers pre-positioned

[2] Botswana, DRC, Ghana, Kenya, Malawi, Mozambique, Nigeria, Tanzania, and Uganda.

[3] Benin, Burkina Faso, Cameroon, DRC, Ethiopia, Ghana, Haiti, Namibia, Nigeria, Senegal, Tanzania, Ukraine, Zambia, and Zimbabwe.

[4] The Annual Comprehensive Agency Report on Condoms and Lubricants for FY 2022

[5] DRC, , Haiti, Kenya, Mozambique, Nigeria, Tanzania, Uganda and Zambia.

90-count bottles of TLD within their quality-assured bonded warehouses in South Africa for the first time, before completing deliveries, which represented the first deliveries from the VMS program. Also, The Global Fund allowed one supplier from the GHSC-PSM VMS program to fulfill an urgent order of TLD for Mozambique from the supplier's VMS warehouse.

Providing TLD and multi-month dispensing. In Q3, GHSC-PSM delivered more than 3.3 million bottles of TLD to 16 countries.[6] Most deliveries were 90-count bottles of TLD except for 364,821 bottles of 180-count delivered to Haiti and Zambia.

Transitioning to dolutegravir (DTG) 10mg. Building on the transition to the optimal pediatric ARV, in Q3, the project delivered 205,816 90-count bottles of DTG 10mg to 10 countries.[7]

Implementing viral load/early infant diagnosis (VL/EID) awards. Delivered 1.48 million VL/EID tests in Q3, saving approximately $3.3 million compared to 2019 pre-global request for proposal (RFP) prices under the terms of the global service-level agreements. Total expenditure on these Q3 orders was approximately $15 million. Total savings for GHSC-PSM and other PEPFAR buyers since 2020 compared with pre-RFP prices are more than $127 million.

Procuring viral load and laboratory supplies. GHSC-QA added a critical product to the eligible list for procurement; the 192 test kit configuration for HIV-1 testing on diagnostic laboratory equipment is pivotal as it will expand the ability to use this instrument for multiple specimen types.

For more information, see section B1: HIV/AIDS.

MALARIA

To date, GHSC-PSM has **delivered over $1.1 billion in malaria medicines and commodities for 30 countries.**

In Q3, GHSC-PSM delivered **8 million treatments for malaria, 509 million over the life of the project**.

In Q3, GHSC-PSM **delivered 3.7 million long-lasting insecticide-treated nets (LLINs) to 7 countries.**

[6] Angola, Burundi, Cameroon, DRC, Côte d'Ivoire, , Haiti, Kenya, Mozambique, Nigeria, Panama, Swaziland, Tanzania, Togo, Uganda, and Zambia.

[7] Angola, Benin, Burundi, DRC, , Mozambique, Namibia, Swaziland, Zambia, and Zimbabwe received 90-count bottles.

In Q3, the project used malaria funds to engage suppliers and expand market capacity for LLINs, promoted activities to reduce or mitigate stock risks, fostered the quality of malaria commodities, and tested the modeling tool for inventory management in low-malaria-endemic settings, among other activities. Other goals GHSC-PSM met for the malaria program in Q3 included:

Achieving OTD and OTIF. Continued to achieve OTD and OTIF on or above the target of 80 percent (84 percent OTD and 80 percent OTIF).

Engaging suppliers Hosted in-person and virtual meetings with suppliers of artemisinin-based combination therapies (ACTs) and severe malaria products.

Expanding market capacity for LLINs. Reviewed the eligibility of a dual active ingredient net, conducted a trial test using a third-party testing laboratory, and found the product eligible.

Implementing quality assurance (QA) strategies and innovations. Provided QA input for the regionalization workshop. For more information, see Section C3, Global Collaboration.

Fostering quality in malaria products. Initiated the reporting process for malaria rapid diagnostic test (mRDT) complaints and quality issues to the World Health Organization (WHO) following a Q2 meeting with WHO Incidents and Substandard/Falsified Medical Products (ISF) Team. GHSC-PSM aims to enhance collaboration and streamline the reporting of customer complaints.

Supporting the distribution of LLINs. Supported LLIN distribution activities, including: in Sierra Leone, the project is conducting its first-ever school-based LLIN distribution; in Burundi, the project provided financial and technical assistance for routine distribution through antenatal care and immunization services; and in Zambia, the project provided warehousing and distribution services for mass campaigns.

Identifying successful supply chain workforce development (WFD) activities: The project has been conducting an assessment of workforce development activities in Malawi.

Testing the Modeling tool for inventory management for low-malaria-endemic settings. Provided an orientation on the Modeling tool to Cambodia, Laos, and Thailand country offices, which tested it and will provide feedback for refinement in Q4.

Producing technical resources. Submitted a final version of the malaria community health worker (CHW) supply chain advocacy paper to PMI; updated the draft Malaria Product Accountability Tool Guidebook with PMI's feedback and submitted it for approval; and identified countries to pilot using the guidebook and associated tools and established the pilot's timeline.

For more information, see section B2: Malaria.

FP/RH

GHSC-PSM has delivered enough contraceptives that, when combined with proper counseling and correct use, are estimated to **provide 100 million couple-years of protection** to date.

This includes **5 million couple years of protection** in Q3.

In Q3, the project used FP/RH funds to document and share project-supported research, expand contraceptive choice, participate in global dialogues, create and disseminate global resources, support initiatives to increase supply chain visibility, improve stakeholder collaboration, and expand access to data tools to improve visibility for supply chain management, among other activities. Other FP/RH goals GHSC-PSM reached in Q3 include:

Achieving OTD and OTIF. Delivered 88 percent of FP/RH commodities on time and 89 percent on time and in full in Q3.

Sharing best practices and lessons learned with the global community. Finalized 24 Family Planning and Reproductive Health Country Impact briefs and a global brief. Of that total, 11 were produced in French and the remainder in English. The project published the briefs on the GHSC-PSM website. GHSC-PSM submitted nine abstracts to the Reproductive Health Supplies Coalition (RHSC) annual meeting in Ghana in Q1 FY 2024.

Enhancing the visibility of FP/RH supply data. Continued to improve FP/RH supply data visibility through the Global Family Planning Visibility and Analytics Network (VAN) platform and processes and trained partners in Liberia to use the Quantification Analytics Tool (QAT) and VAN to forecast and manage supplies.

Updating the CSI survey for the 2023 rollout. The project worked with USAID to finalize the CSI survey updates, clarifying terms and updating the COVID-19 section, and planned for dissemination in Q4.

Updating the logistics landscape tracker for government and parastatal outsourcing. Continued to update the logistics landscape tracker. The tracker, which applies to other health areas, indicates which governments and parastatals are outsourcing supply chain services and where the project is outsourcing warehousing and distribution services.

For more information, see section B3: Family Planning and Reproductive Health.

MNCH

In Q3, the project **hosted two workshops** in **Guinea and Nigeria** with over **270 participants** to discuss national **postpartum hemorrhage (PPH) strategies.**

In Q3, the project used MNCH funds to document project-supported commodity financing successes, participate in global policy dialogues, share GHSC-PSM learnings at several global conferences, develop global supply chain resources, conduct MNCH supply chain and private sector research, and modify supply chain data tools to improve procurement, management, availability, and quality of commodities used to treat and prevent pregnancy-related disorders and address common child and newborn health issues. Other activities GHSC-PSM conducted in Q3 include the following:

Procuring MNCH commodities. Identified and negotiated contracts with two local suppliers of child nutrition commodities in Nigeria, setting up these suppliers to deliver the much-needed commodities to three states in Q4. Since its start, GHSC-PSM has procured over $285.41 million in MNCH drugs and commodities.

Achieving on-time delivery. In Q3, GHSC-PSM had just two deliveries of MNCH commodities, one of which arrived late (this late line was reported in a prior period). OTD for MNCH for this period was therefore 100 percent and OTIF was 50 percent.

Providing international MNCH supply chain leadership and guidance. Published a brief on the role of domestic wholesalers, particularly their role in providing MNCH commodities, and presented the resource at the regionalization workshop. For more information on the workshop, see Section C3, Global Collaboration.

The project engaged and shared expertise with global partners at several policy dialogues—on global financing of newborn care and Ethiopia's small and sick newborn care (SSNC) policies. The project had presentations at both the International Maternal and Newborn Health Conference (IMNHC) and the Center for Applied Research and Innovation in Supply Chain-Africa (CARISCA) Summit. Finally, GHSC-PSM shared its work that led to improved MNCH commodity financing in Ethiopia in many forums and began developing a resource to share these successful strategies externally.

Supporting systems for data-informed MNCH decision-making. In Liberia, operationalized the Data Extraction Tool and the Consumption Anomaly Tool for tracking and decision-making around MNCH commodities and presented them to the USAID Mission and Ministry of Health (MOH). In Burkina Faso, the project demoed refactored tools to the Burkinabe MOH, and began planning workshops to train local staff on their use. In Malawi, GHSC-PSM tested tools using historical data from the electronic logistics management information system (eLMIS) to demonstrate the feasibility of

implementation and will conduct trainings on their use in Q4. GHSC-PSM supported end-use verification (EUV) data collection and reporting in five countries in Q3.

Working with countries to improve adherence to commodity quality standards and enhance in-country coordination and collaboration. Provided MNCH-related technical assistance to 15 countries in Q3. This included, in Guinea and Nigeria, conducting two widely attended PPH commodity workshops that facilitated policy discussions to improve maternal health. In Ghana, GHSC-PSM supported a new assessment on medical devices and consumables for small and sick newborns (SSNBs) and will publish its findings in Q4.

For more information, see section B4: Maternal, Newborn and Child Health.

STRENGTHENING HEALTH SYSTEMS

GHSC-PSM's strategic goal is for every country to have a locally led health supply chain that is integrated, optimized, accountable, agile, lean, and able to sustainably supply quality products to all citizens. The project currently manages 33 country or regional offices, supplemented by headquarters-based experts; these offices provide wide-ranging technical assistance to strengthen national health supply chains.

Country highlights:

- In **Lesotho**, supported peer-to-peer training and mentoring, leading to significant improvements in health facility inventory management and the use of the logistics management information system (LMIS). (See section B1.)
- In **Burma, Guinea, Nigeria, Mali, Zambia** and **Zimbabwe,** developed tools to improve efficiencies in warehouse management. GHSC-PSM designs analytic tools within each country's context while ensuring that the tools are repeatable, reusable, and adaptable so countries can repurpose them in a way that encourages and improves self-reliance.
- In **Kenya**, Afya Ugavi conducted a warehouse assessment of Mission for Essential Drugs and Supplies (MEDS) capacity to identify opportunities to strengthen warehouse management and operations for distribution of USAID-funded commodities.
- In **Ghana**, worked with two regional warehouses to review their first profit and loss (P&L) statement as part of the activity-based costing/activity-based management (ABC/ABM) implementation. These P&L statements provide detailed visibility into warehouse operational expenses and insights for improving resource planning.

For more information, see section C2: Systems Strengthening and Technical Assistance.

Introduction

A1. Background

The U.S. Agency for International Development (USAID) Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project works to ensure uninterrupted supplies of quality medicines and commodities to save lives and to create a healthier future for all. The project directly supports the following global health areas of importance to the U.S. Government (USG):

- The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) to help reach its HIV/AIDS global 95-95-95 testing, treatment, and viral-load suppression targets.
- The U.S. President's Malaria Initiative (PMI) to reduce malaria deaths and substantially decrease malaria morbidity toward the long-term goal of elimination.
- USAID's Family Planning and Reproductive Health (FP/RH) program to ensure that key RH commodities are available for safe and reliable voluntary family planning.
- USAID's maternal and child health (MCH[8]) program to prevent child and maternal deaths.
- Other public health threats as they emerge, with support for Zika and novel coronavirus (COVID-19) at this time.

The project procures and delivers medicines and commodities, offers comprehensive technical assistance (TA) to strengthen national supply chain systems, and provides global supply chain leadership to ensure that lifesaving health supplies reach those most in need. GHSC-PSM procured commodities or provided TA to more than 70 countries over the life of the project (see Exhibit 3 below).

A2. About This Report

We are pleased to present our performance report for quarter 3 (Q3) fiscal year 2023 (FY 2023). (April 1, 2023, through June 30, 2023). GHSC-PSM is a matrixed project that integrates work across two axes: health areas and technical objectives. Accordingly, the report is organized as follows:

- Section B summarizes major activities in each of the **five health areas**, including HIV/AIDS; malaria; FP/RH; maternal, newborn and child health (MNCH); and other public health threats.

[8] To clarify, the program externally is referred to as the "Maternal and Child Health Program," which was the impetus to name the task order the "Maternal and Child Health" task order. However, we often refer to maternal, newborn, and child health when discussing the technical content because we have a particular emphasis on supporting newborns.

- Section C describes activities under **three main technical objectives** (global commodity procurement and logistics, systems strengthening, and global collaboration), including key indicator results for those objectives.

- Annex A describes the activities GHSC-PSM has undertaken with **COVID-19 funding** to respond to the pandemic.

- Annex B provides **performance indicators** for April 1, 2023, through June 30, 2023.

Given the size and complexity of GHSC-PSM, this report summarizes its primary efforts and achievements. It reflects only a fraction of the project's efforts each day to help people around the world live healthier lives.

Exhibit 3. Countries for Which GHSC-PSM Procured Commodities (proc.) or Provided TA Over the Life of the Project (does not include COVID-19 procurements)[9]

[9]Procurement and technical assistance country count criteria have been refined and clarified. Country counts may vary from previous reports. Procurement countries include all countries for which GHSC-PSM has released a purchase or distribution order during the life of the project. The table below includes these countries for all routine product groups, with COVID-19 procurements excluded. Technical assistance countries include all countries where GHSC-PSM has conducted long- or short-term technical assignments, for all health areas. Countries with limited in-country logistics support only are not counted.

	Proc.	TA		Proc.	TA
AFRICA:			ASIA:		
Republic of Angola	●	●	Islamic Republic of Afghanistan	●	
Republic of Benin	●		People's Republic of Bangladesh	●	
Republic of Botswana	●	●	Union of Burma	●	●
Burkina Faso	●	●	Kingdom of Cambodia	●	●
Republic of Burundi	●	●	Republic of Indonesia		●
Republic of Cameroon	●	●	Lao People's Democratic Republic	●	●
Democratic Republic of the Congo (DRC)	●	●	Nepal	●	●
Republic of Côte d'Ivoire	●	●	Islamic Republic of Pakistan	●	●
Kingdom of Eswatini	●	●	Independent State of Papua New Guinea	●	●
Federal Democratic Republic of Ethiopia	●	●	Republic of the Philippines	●	
Republic of Ghana	●	●	Kingdom of Thailand	●	●
Republic of Guinea	●	●	Socialist Republic of Vietnam	●	●
Republic of Kenya	●	●	LATIN AMERICA & CARIBBEAN:		
Kingdom of Lesotho	●	●	Antigua and Barbuda	●	
Republic of Liberia	●	●	Commonwealth of the Bahamas	●	
Republic of Madagascar	●	●	Barbados	●	●
Republic of Malawi	●	●	Federative Republic of Brazil	●	
Republic of Mali	●	●	Republic of Chile	●	
Islamic Republic of Mauritania	●		Republic of Colombia	●	
Republic of Mozambique	●	●	Dominican Republic	●	
Republic of Namibia	●	●	Republic of Ecuador	●	
Republic of Niger	●	●	Republic of El Salvador	●	●
Federal Republic of Nigeria	●	●	Republic of Guatemala	●	●
Republic of Rwanda	●	●	Co-operative Republic of Guyana	●	●
Republic of Senegal	●		Republic of Haiti	●	●
Republic of Sierra Leone	●	●	Republic of Honduras	●	●
Republic of South Africa	●		Jamaica	●	●
Republic of South Sudan	●	●	Republic of Panama	●	●
United Republic of Tanzania	●		Republic of Paraguay	●	
Togolese Republic	●		Republic of Peru	●	
Republic of Uganda	●	●	Federation of Saint Kitts and Nevis	●	
Republic of Zambia	●	●	Saint Lucia	●	
Republic of Zimbabwe	●	●	Saint Vincent and the Grenadines	●	
EUROPE & EURASIA:			Republic of Suriname	●	●
Republic of Kazakhstan	●		Republic of Trinidad and Tobago	●	
Kyrgyz Republic	●	●	MIDDLE EAST:		
Republic of Tajikistan	●	●	Hashemite Kingdom of Jordan	●	
Ukraine	●		Republic of Yemen	●	

PROGRESS BY HEALTH AREA

This section summarizes GHSC-PSM's support in Q3 FY 2023 for HIV/AIDS; malaria; FP/RH; maternal, MNCH; and other public health threats.

B1. HIV/AIDS

GHSC-PSM has delivered enough antiretrovirals (ARVs) to provide nearly **22 million patient-years of HIV treatment over the life of the project**, including over **926 thousand patient-years of treatment in Q3**.

To date, GHSC-PSM has delivered over **83 million bottles of tenofovir/lamivudine/dolutegravir (TLD)**[10] to 34 countries, which provided over **17 million patient years of treatment**.

Multi-month dispensing (MMD) of packages of TLD first-line treatment accounted for **100 percent of all quantities delivered** in Q3. Patients have saved **an estimated 7.7 million trips** to the pharmacy in Q3 and **more than 120 million trips over the life of the project.** MMD saves patients time and money and gives clinicians more time with other patients in need.

In Q3, **27 countries**[11] procured HIV/AIDS medicines and commodities through GHSC-PSM.

28 countries[12] **received health supply chain systems strengthening** from GHSC-PSM with HIV/AIDS funding in FY 2023.

[10] This total figure for TLD delivery includes 52.2 million 90-count bottles, 28.3 million 30-count bottles, and 3.3 million 180-count bottles. For more information, see Section B1. HIV/AIDS, TLD, and multi-month dispensing.

[11] GHSC-PSM procured HIV/AIDS commodities for the following countries: AFRICA: Botswana, Burkina Faso, Burundi, Cameroon, Congo DRC, Côte d'Ivoire, Eswatini, Ethiopia, , Kenya, Lesotho, Malawi, Mali, Mozambique, Namibia, Nigeria, Sierra Leone, South Africa, Tanzania, Togo, Uganda, Zambia and Zimbabwe; CARIBBEAN: Haiti; CENTRAL/SOUTH AMERICA: Guatemala and El Salvador; EUROPE & EURASIA: Ukraine.

[12] GHSC-PSM has provided HIV-funded TA support to the following countries in FY 2023: AFRICA: Angola, Botswana, Burkina Faso, Burundi, Cameroon, Eswatini, Ethiopia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mali, Mozambique, Namibia, Nigeria, Rwanda, Sierra Leone, Uganda, Zambia, Zimbabwe; ASIA: Myanmar, Indonesia; CARIBBEAN: Haiti, Honduras; CENTRAL/SOUTH AMERICA: El Salvador, Guatemala, Panama. Additional short-term assistance was provided in Jamaica.

GHSC-PSM supports PEPFAR's goal of controlling the HIV/AIDS epidemic by procuring and delivering medicines and commodities to prevent infection and treat people living with HIV (PLHIV), including viral load testing commodities to monitor treatment efficacy. This requires global collaboration with suppliers, other donors, The Global Fund, the USG, and supported country governments. GHSC-PSM implements data visibility initiatives to appropriately procure and distribute ARVs and diagnostics, linking patients with the health commodities they need. Project activities support USAID's efforts to achieve the 95-95-95 goals: 95 percent of PLHIV people know their status, 95 percent of these are on HIV treatment, and 95 percent of these have no detectable virus. In FY 2023, GHSC-PSM integrated key technical direction from USAID around viral load/early infant diagnosis (VL/EID) diagnostics, vendor-managed solutions (VMS), logistics, TA priorities, and advanced analytics and data visibility into its work plan. The project set up systems to internally track and coordinate these priorities and to support communicating progress back to USAID.

DELIVERIES

In Q3, GHSC-PSM delivered $99 million in HIV commodities to countries and over $3.4 billion in HIV commodities over the life of the project.

On-time delivery (OTD) and on-time, in-full (OTIF) delivery

Timeliness of GHSC-PSM deliveries remained consistently strong for standard OTD over the reporting period, as shown in Exhibit 4. In Q3, OTD was 90 percent for HIV. GHSC-PSM's OTIF rate measures the percentage of deliveries delivered on time and in full during a given period. Delivery of late orders in a subsequent month to the agreed-upon delivery date drives down the OTIF rate, as can delivery of split shipments, which helps explain the difference between OTD and OTIF rates. For OTIF, project performance continued to exceed the target of 80 percent, achieving 86 percent in Q3. See Annex A for further details.

Exhibit 4. HIV Commodities OTD

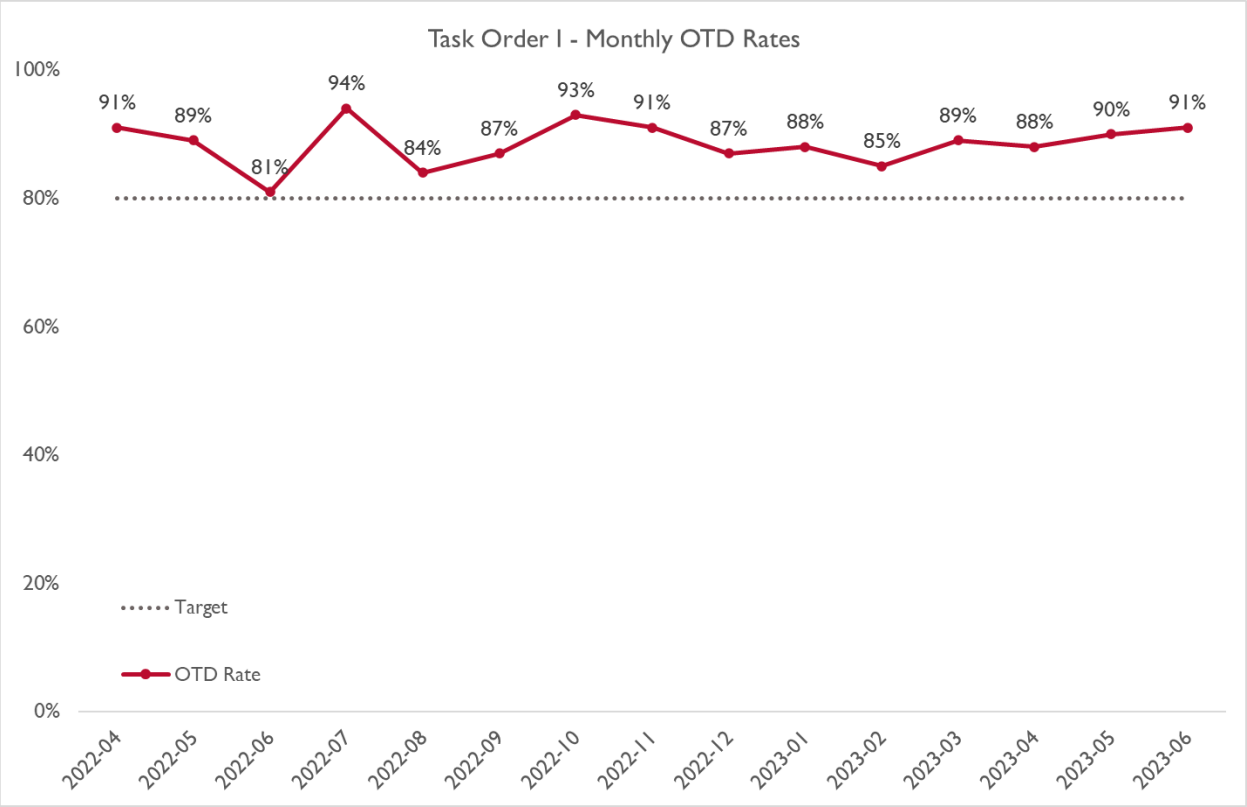
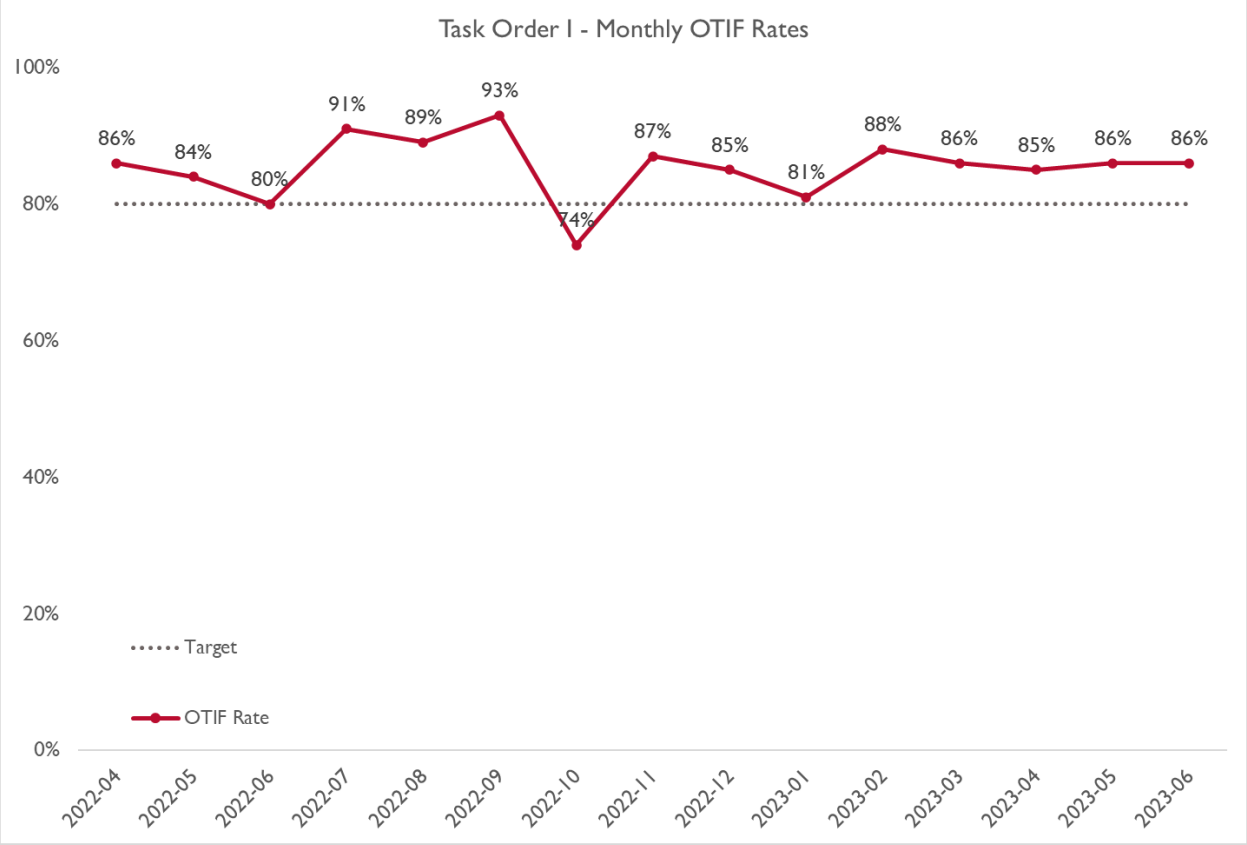


Exhibit 5. HIV Commodities, OTIF



SUPPORTING PEPFAR's HIV/AIDS AGENDA

Pre-exposure prophylaxis (PrEP)

Daily oral PrEP using the antiretroviral medicines tenofovir/emtricitabine (TE) or tenofovir/lamivudine (TL) dramatically reduces the risk of HIV infection in people who use it as directed. In Q3, GHSC-PSM delivered 1,066,515 bottles of PrEP products to 10 countries.[13]

GHSC-PSM monitors supply capacity and lead times for PrEP products listed in the catalog and tracks the delivery of PrEP commodities to 24 countries quarterly to determine the impact of the PrEP program. The project also actively tracks regulatory approval lead times for new PrEP commodities under development, such as the long-acting injectable PrEP product cabotegravir (CAB-LA). Monitoring and tracking enable the project to adapt to the dynamics of each country's PrEP scale-up program by advancing or delaying shipments when necessary.

[13] Botswana, DRC, , Ghana, Kenya, Malawi, Mozambique, Nigeria, Tanzania, and Uganda.

In Q3, GHSC-PSM issued PEPFAR's first-ever purchase order for 24,300 CAB-LA 200 mg/mL (3 mL) vials. This injectable PrEP product will be pre-positioned in our Dubai regional distribution center (RDC) to fulfill orders from Malawi, Zambia, and Zimbabwe.

GHSC-PSM continued to provide commodity procurement and logistics support to the USAID Maximizing Options to Advance Informed Choice for HIV Prevention (MOSAIC) program. During Q3, the project delivered 10,768 dapivirine vaginal rings to MOSAIC partners in Kenya (3,569), Lesotho (3,595), and Zimbabwe (3,604) from the Dubai RDC. GHSC-PSM delivered an additional 8,400 rings to South Africa for the MOSAIC (7,200) and DREAMS (1,200) programs. The project will complete this delivery in Q4 following post-importation testing.

Condoms

Correct and consistent use of condoms and lubricants significantly reduces the risk of HIV transmission. USAID's support for the condoms program targets regions with high demand and supply gaps. In Q3, GHSC-PSM delivered 130.7 million male condoms, 782 thousand female condoms, and 4.4 million lubricants to 14 countries.[14]

In Q3, GHSC-PSM converted a large order of 20.8 million male condoms to direct drop at 11 locations in DRC. The project initially planned to pre-position this order at the Dubai RDC but converting to direct drop met an urgent need.

GHSC-PSM worked with GHSC-QA to help obtain approval of a supplier to procure male condoms from its new manufacturing site in India, expanding the condom production capacity available to the project.

In Q3, in support of PEPFAR's private sector engagement objectives, GHSC-PSM initiated a request for information (RFI) to determine the level of experience suppliers have in managing delivery to the African continent and the maturity of their quality management systems to oversee deliveries while the product is in the care and custody of their logistics partners. The RFI sent a clear signal to condom manufacturers that GHSC-PSM is considering having them manage the delivery of male condoms and lubricants to Mozambique, Zambia, and Zimbabwe under modified DDP Incoterms in FY 2024. GHSC-PSM and GHSC-QA will analyze feedback in Q4 to determine the feasibility of this initiative.

In Q3, GHSC-PSM published the Annual Comprehensive Agency Report on Condoms and Lubricants for FY 2022. The report shows consistent funding support through USAID for the condoms program over the last four years. USAID's support for the condoms program targets regions with high demand and supply gaps. In FY 2022, USAID approved procurements of 486 million male condoms, 4.2 million

[14] Benin, Burkina Faso, Cameroon, DRC, Ethiopia, Ghana, Haiti, Namibia, Nigeria, Senegal, Tanzania, Ukraine, Zambia, and Zimbabwe.

female condoms, and 22.7 million lubricants for 30 countries in Africa (27), Asia (1), Europe (1), and Latin America and the Caribbean (1).

Voluntary medical male circumcision (VMMC) kits

Male circumcision is cost-effective and reduces female-to-male sexual transmission of HIV by 60 percent.[15] The World Health Organization and UNAIDS support VMMC scale-up in 14 priority countries in sub-Saharan Africa with a high burden of HIV and low male circumcision prevalence. In Q3, GHSC-PSM delivered 157,092 VMMC kits to Malawi, Mozambique, Namibia, and Tanzania. GHSC-PSM has delivered VMMC kits to 11 VMMC priority countries[16] since the start of the project.

Shang Ring devices offer an alternative method of male circumcision. The less invasive procedure led to a rise in demand for the Shang Ring in existing and new markets. GHSC-PSM seeks to reduce lead time and price for the Shang Ring device as demand continues to increase and is therefore sourcing from additional suppliers with products registered for the Shang Ring circumcision procedure.

In Q3, in order to prepare for the FY 2024 scale-up of VMMC activities in Tanzania, GHSC-PSM led an in-country VMMC commodity quantification meeting with implementing partners on behalf of the interagency team (USAID, Centers for Disease Control and Prevention (CDC), and Department of Defence (DOD)). Implementing partners discussed the introduction of the Shang Ring device as a circumcision option and also the complete transition to reusable instruments for male circumcision (except for circumcisions performed using the Shang Ring device). Following this meeting, the project developed an FY 2024 supply plan for VMMC kits, Shang Ring devices, and local anesthetic products in collaboration with USAID, DOD, CDC, and VMMC implementing partners.

In Q3, the project conducted a comprehensive analysis of its VMMC kit procurement strategy. GHSC-PSM and GHSC-QA collaborate to ensure the continuous supply of quality-approved products for VMMC programs. For Tanzania specifically, the project engaged with suppliers to determine production lead times for kits and injectables to ensure that orders are placed with sufficient time to meet future demand.

Essential medicines

Following the regionalization workshop, GHSC-PSM continued to evaluate its sourcing strategy for opportunities to increase procurement through African manufacturers. For more information, see Section C3, Global Collaboration.

In Q3, the project supported local suppliers in DRC through pre-sourcing procurement assistance, enabling them to participate in the upcoming RFI. The project shared historical product information for

[15] USAID 2022 Voluntary Medical Male Circumcision Fact Sheet

[16] Botswana, Eswatini, Ethiopia, Malawi, Mozambique, Namibia, Rwanda, South Africa, Tanzania, Uganda, and Zimbabwe.

their internal review processes, emphasizing the need for accurate provision of product details, including formulation, strength, pack size, and availability. Additionally, before releasing RFIs, GHSC-PSM encouraged local suppliers to assemble the required documents and communicate necessary information in alignment with the GHSC-QA product patient matrix.

Among people living with advanced HIV, cryptococcal meningitis is one of the most dangerous opportunistic infections and significantly contributes to illness, disability, and mortality. Recent guidelines from the World Health Organization (WHO) recommend amphotericin B (liposomal) in combination with flucytosine for treatment of cryptococcal disease. Most low- and middle-income countries have adopted these WHO guidelines. However, despite being critical to saving lives, access to these medications remains scarce in many countries due to limited product availability and a lack of funding.

In Q3, GHSC-PSM continued contract negotiations with the manufacturer of amphotericin B liposomal, a critical advanced HIV disease commodity. These negotiations aim to enable the project to procure the commodity at market access pricing, ensuring product availability at a reduced price for PEPFAR-supported countries.

The project collaborated with the manufacturer of flucytosine, an advanced HIV disease (AHD) commodity, to manage its active pharmaceutical ingredient (API) production challenges. This was to ensure the availability of flucytosine and maintain a consistent supply of the commodity for AHD programs in PEPFAR-supported countries.

Tuberculosis preventive treatment (TPT)

As the leading cause of morbidity among PLHIV, tuberculosis (TB) causes over a third of all AIDS-related deaths. The WHO recommends that PLHIV who are unlikely to have active TB should receive TPT as part of a comprehensive package of HIV care, including pregnant women and those who have previously been treated for TB, regardless of the degree of immunosuppression, even if latent TB infection testing is unavailable. Completion of TPT for all PLHIV (including eligible household contacts of PLHIV with TB disease) is a PEPFAR Minimum Program Requirement.

Since 2018, GHSC-PSM has delivered more than 7.4 million TPT courses to 19 countries on behalf of USAID, contributing to PEPFAR's goal of increasing TPT coverage for PLHIV.

Three months of weekly high-dose isoniazid and rifapentine (3HP). Three months of weekly high-dose 3HP is the preferred PEPFAR TPT regimen for adults and adolescents. In Q3, GHSC-PSM delivered eight orders of rifapentine/isoniazid 300mg/300mg fixed-dose combination tablets, a total of 204,095 36-count packs to four countries.[17]

[17] Orders include 14,300 36-count packs to Côte d'Ivoire, 30,000 36-count packs to DRC, 42,130 36-count packs to Uganda, and 117,665 36-count packs to Zambia.

GHSC-PSM continued to work with the two suppliers of rifapentine/isoniazid to ensure timely product availability. In Q3, Tanzania placed its first rifapentine/isoniazid 300mg/300mg fixed-dose combination order for delivery in Q4.

Isoniazid preventive therapy (IPT). Most GHSC-PSM countries transitioned from IPT to 3HP in FY 2022. However, the project continues to fulfill orders of isoniazid 100mg pediatric tablets for countries that still implement IPT. In Q3, GHSC-PSM delivered two orders of isoniazid tablets, a total of 71,827 100-count packs to Uganda and Zimbabwe.[18]

SUPPORTING THE FIRST 95: TESTING

To support rapid test kit (RTK) availability and reach the first 95 (HIV diagnosis), GHSC-PSM provides forecasting and supply planning as well as in-country logistics support to the USAID Global Health Supply Chain Program-Rapid Test Kit (GHSC-RTK) project (implemented by Remote Medical International), which undertakes the commodity procurement and international freight. GHSC-PSM promotes the management of HIV-RTK orders and deliveries through regional- and central-level stock data collection using the HIV/AIDS Data Visibility Dashboard. The project shares data monthly with GHSC-RTK to guide HIV-RTK procurement planning and data triangulation and reviews HIV testing targets against HIV-RTK stock in countries with PEPFAR-supported HIV testing programs. In Q3, the project reported 11 stockout risks and resolved them through emergency orders, expedited shipments, and stock transfers.

SUPPORTING THE SECOND 95: TREATMENT

Increased private-sector involvement in ARV delivery

GHSC-PSM increased private-sector engagement in the ARV supply chain by expanding its D-Term program. Incoterms (short for international commercial terms) represent how international shipments may be organized, indicating when the ownership and freight, insurance, and customs costs transfer from the seller to the buyer. Under Group D Incoterms, D-Term arrangements such as DAP and DDP, the seller pays most of the delivery charges to the destination country. Thus far, the project has qualified 10 high-volume ARV countries as D-Term priority countries.[19]

In Q3, 85 percent of purchase order lines released to suppliers were under modified DDP Incoterms. GHSC-PSM delivered 38 D-Term orders to nine countries.[20] The project fulfilled all but two of these 38 orders on time (95 percent OTD). GHSC-PSM issued 172 of 258 (67 percent) purchase order lines under modified DAP or DDP Incoterms, above the FY 2023 target of 50 percent. GHSC-PSM is on target to exceed its work plan objective of delivering 100 percent of eligible D-Term ARV orders to at least two countries in FY 2023. Thus far, the project has allocated 100 percent of eligible orders to

[18] Orders of isoniazid tablets included 69,000 100-count packs to Uganda; and 2,827 100-count 100mg packs to Zimbabwe.
[19] DRC, Eswatini, Haiti, Kenya, Mozambique, Nigeria, Tanzania, Uganda, Zambia, and Zimbabwe.
[20] DRC, , Haiti, Kenya, Mozambique, Nigeria, Tanzania, Uganda and Zambia.

Kenya, Nigeria, Tanzania, Uganda, and Zimbabwe.

Supplying TLD

Over the life of the project, GHSC-PSM has delivered more than **83 million bottles of TLD**[21] to **34 countries**.

This is enough to provide over **17 million patient years of TLD treatment**.

As of Q3, GHSC-PSM has delivered over **52 million 90-count bottles of TLD to** 31 countries.

TLD and multi-month dispensing

To achieve HIV treatment goals, GHSC-PSM supports PEPFAR-supported countries' transition to TLD, the preferred first-line ARV. MMD of TLD is a high priority in the global fight against HIV. TLD is provided in bottles of 30, 90, and 180 tablets. Over the life of the project, GHSC-PSM has delivered more than 83 million bottles of TLD to 34 countries, including more than 52 million 90-count bottles, 28 million 30-count bottles, and 3.2 million 180-count bottles.

In Q3, GHSC-PSM delivered more than 3.3 million bottles of TLD to 16 countries.[22] Most deliveries were 90-count bottles of TLD except for 364,821 bottles of 180-count delivered to Haiti and Zambia.

Previously, GHSC-PSM fulfilled TLD orders through an open-competition,spot-bidding process, or from GHSC-PSM RDCs. For FY 2023, as market conditions evolved, the project switched to an annual allocation strategy for TLD, concentrating on five pre-qualified suppliers to help them improve planning to ensure appropriate stock levels of active pharmaceutical ingredients (APIs). This strategy also simplified the GHSC-PSM ordering process and reduced order cycle time. Aligned with this annual allocation strategy, the project earmarked an equal portion of FY 2023 TLD demand to the GHSC-PSM VMS program.

In Q3, GHSC-PSM achieved two significant milestones within its VMS program. First, two of the three eligible VMS suppliers prepositioned more than 645,000 90-count bottles of TLD within their quality-assured bonded warehouses in South Africa. Second, these vendors completed the delivery of almost half of this stock to Mozambique, representing the first deliveries through the VMS program. The

[21] This total figure for TLD delivery includes 52 million 90-count bottles, 28 million 30-count bottles, and 3.2 million 180-count bottles.

[22] Angola, Burundi, Cameroon, DRC, Côte d'Ivoire, Eswatini, , Haiti, Kenya, Mozambique, Nigeria, Panama, Tanzania, Togo, Uganda, and Zambia.

bulk of the remaining prepositioned TLD was allocated against demand from Zambia and Zimbabwe and will be delivered by the project in Q4. Both VMS suppliers have additional TLD in transit to their respective VMS warehouses to replace the allocated stock.

The third eligible VMS supplier's warehousing partner renewed its bond license with the South African Health Products Regulatory Authority, SAPHRA. This allowed the final VMS partner to dispatch its first shipment of TLD from India, scheduled to arrive in South Africa in Q4.

Notably, in Q3, The Global Fund allowed one supplier from the GHSC-PSM VMS program to fulfill an urgent order of TLD for Mozambique from the supplier's VMS warehouse. This supported two key VMS program objectives; first, advocating for procurement service agencies to access stock from VMS warehouses to increase inventory turnover, and second, demonstrating to countries in Southern Africa the value of positioning stock closer to the client. GHSC-PSM initiated discussions with The Global Fund for collaboration on the VMS initiative. This collaboration could help higher-volume TLD countries improve stock rotation, minimize inventory and the associated holding costs at the central level, and pave the way for more routinized ordering patterns.

Supplying dolutegravir (DTG) 10mg

Over the life of the project, GHSC-PSM has delivered 3 million bottles of DTG 10mg to 25 countries.

In Q3, the project delivered 205,816 bottles of DTG 10mg valued at $910, 863 to 10 countries.

Pediatric ARVs

GHSC-PSM supports PEPFAR-supported countries to transition children living with HIV to DTG 10mg—the preferred integrase strand transfer inhibitor, or INSTI, pediatric ARV. GHSC-PSM analyzes orders and supply plan data monthly to increase USAID and stakeholder visibility into the pace and progress of country transitions. In Q3, the project delivered 205,816 90-count bottles of DTG 10mg to 10 countries.[23] These deliveries assist countries in initiating or expanding DTG 10mg transitions in line with their approved transition plans.

In Q3, GHSC-PSM continued working with USAID in DRC, Nigeria, Uganda, and Zimbabwe to analyze their readiness to transition to a triple fixed-dose combination of abacavir/lamivudine/dolutegravir (ABC/3TC/DTG) 60/30/5mg. The project created a forecasting tool to

[23] Angola, Benin, Burundi, DRC, Eswatini, Mozambique, Namibia, Zambia, and Zimbabwe received 90-count bottles.

estimate demand for each product to prevent wastage and ensure sufficient stock before the expected transition in FY 2024.

SUPPORTING THE THIRD 95: VIRAL LOAD TESTING

In FY 2022, GHSC-PSM implemented a new laboratory strategy to improve the availability and visibility of laboratory services and commodities. The strategy focuses on strengthening and integrating data systems and stakeholder collaboration through technical support and project coordination. As part of its effort to foster country government ownership of resilient and robust diagnostic laboratory networks, GHSC-PSM uses a network approach to strengthen and scale up laboratory services, as described in Beyond Diagnostic Network Optimization: A Network Approach to Strengthening and Scaling Up Laboratory Services. The multi-pronged approach focuses on diagnostic network optimization (DNO), performance management, improvement of sample transport referral networks, accurate forecasting and supply planning, and cost-effective procurement and service agreements that include key performance indicator monitoring.

Implementing viral load awards

In Q3, preliminary data analysis shows that GHSC-PSM delivered 1.48 million VL/EID tests, saving approximately $3.3 million compared to 2019 pre-global request for proposal (RFP) prices under the terms of the global service-level agreements. Total expenditure on these orders delivered in Q3 was approximately $15 million. Cumulative savings for GHSC-PSM and other PEPFAR buyers since 2020 compared with pre-RFP prices are more than $127 million.[24] This represents significant cost savings compared to 2019 pre-RFP prices, averaging $2–$3 per test across the PEPFAR portfolio.

GHSC-PSM continues to refine the functionality of the Global Viral Load Dashboard ahead of the introduction of Wave-2 countries,[25] which will begin in FY 2024. The project works with suppliers to grant all new in-country stakeholders access to the dashboard.

In Q3, GHSC-PSM concluded the vendor-managed inventory (VMI) pilot activity for VL commodities—launched by the project in Q4 FY 2022 in one Mozambican laboratory. The project did not complete implementation due to challenges related to pre-existing excess inventory, which hindered new order placement. However, the pilot highlighted the importance of communication and data visibility to facilitate stakeholder collaboration and seamlessly transition roles and responsibilities. The project

[24] Includes cost savings on VL/EID reagents globally plus savings on the service and maintenance of laboratory equipment in the six Wave-1 countries. It includes procurements by GHSC-PSM as well as other PEPFAR buyers who can benefit from the global agreements.

[25] Wave-2 countries are AFRICA: Angola, Benin, Botswana, Burundi, Burkina Faso, Cameroon, Côte d'Ivoire, DRC, Eswatini, Ethiopia, Ghana, Lesotho, Liberia, Malawi, Mali, Namibia, Rwanda, Senegal, Sierra Leone, South Sudan, Togo, Zimbabwe; ASIA & EUROPE: Cambodia, India, Indonesia, Kazakhstan, Nepal, Papua New Guinea, Philippines, Thailand, Ukraine, Vietnam; LATIN AMERICA & CARIBBEAN: Bahamas, Brazil, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Nicaragua, Panama.

collaborated with USAID/Washington on a VMI Orientation Guide that provides an in-depth understanding of the VMI transition process. This document will be shared with USAID Missions, implementing partners, and Ministries of Health (MOHs) interested in this VMI solution.

Extending the global RFP for viral load and EID

In Q3, GHSC-PSM concluded the Wave-2 RFP process by executing updated global service-level agreements (SLAs) with three global diagnostics manufacturers to contractually document new all-inclusive pricing and service terms for the Wave-2 PEPFAR-supported countries. The project conducted a communication campaign to disseminate the results of the RFP and the guidance on the implementation arrangements to the 42 Wave-2 countries through a comprehensive country information packet. Recipients included USAID Missions, CDC country teams, MOHs, and recipients of funding from the Global Fund to procure VL/EID commodities and related services.

Following a request from USAID, GHSC-PSM prepared a proposal to extend TA support to non-GHSC-PSM countries. The project shared a concept of the technical assistance workshop for discussion with the Global Fund. A comprehensive regional training workshop on all-inclusive SLAs for non-PSM actors in Wave-2 countries is proposed to take place in Q1 FY24.

Procuring viral load and laboratory supplies

In Q3, GHSC-PSM delivered VL/EID reagents and consumables to 17 countries.[26] GHSC-QA added a critical product to the eligible list for procurement; the 192 test kit configuration for HIV-1 testing on a specific diagnostic laboratory instrument. GHSC-QA approved this product in Q2 for use with ethylenediamine tetraacetic acid, or EDTA plasma and in Q3 for use with plasma separation card specimens.

This addition was pivotal as it will expand the ability to use this instrument for multiple specimen types and enable a faster transition from the previous generation of instruments. In addition, this standardizes the products for this instrument globally. The project anticipates efficiencies for the supply chain, allowing the option of consuming products with a shorter shelf life in the U.S. while supplying fresh products with a longer shelf life overseas.

GHSC-PSM supported the development of an 'invoice-to-pay' application reducing the level of effort and cycle time needed to pay supplier invoices, increasing visibility for payment status, and allowing suppliers and procurement specialists to upload necessary documents. The app will be piloted with key lab suppliers in Q4 following user acceptance testing before being launched to a wider audience.

[26] GHSC-PSM delivered VL/EID reagents and consumables to Angola, Benin, Burkina Faso, DRC, Côte d'Ivoire, Eswatini, Ethiopia, Guatemala, Haiti, Kenya, Mozambique, Nigeria, Senegal, Togo, Tanzania, Zambia, and Zimbabwe.

Forecasting and supply planning (FASP)

Accurate FASP is key to a successful supply chain. As of Q3, GHSC-PSM had trained 31 countries in using the Quantification Analytics Tool (QAT) to submit quarterly supply plans to the project. For general information on QAT and the project's work in FASP, see section C2: Systems Strengthening Technical Assistance.

Data-driven lab network optimization using OptiDx

In line with the strategy to improve laboratory services, GHSC-PSM supports quality service delivery through data-driven laboratory network optimization and geographic information system visualization of data.

GHSC-PSM leads DNO through a stakeholder-driven process, including USAID, CDC, MOHs, implementing partners, and other donors. Together with stakeholders, GHSC-PSM develops objective-aligned optimization scenarios that can be modeled using DNO. The scenarios improve visibility into network performance and create opportunities to optimize laboratory equipment placement and multi-disease integrated testing, which can increase coverage and reduce costs. Once all data are collected and cleaned, the project uses two tools—1) OptiDx™ and 2) supplemental interactive maps developed using the Python Library Folium™. The interactive maps visualize networks, including locations of health facilities, laboratories, and hubs, referral linkages, distances between facilities, testing volumes, instrument capacity and utilization, and testing demand by administrative area. These maps have two main uses: first, at the initial stages of the DNO, they enhance stakeholder ability to visualize the data collected and to validate data accuracy before loading the data into OptiDx. Second, maps can highlight elements of the testing scenarios and the impact of changes on the diagnostic network in the final stages of analysis. Once the analysis is complete, stakeholders review the scenarios and develop an operational plan that considers how the proposed changes to the lab network affect budget, operations, human resources, and logistics, and provides the implementation roadmap to realize the future state of the network. In Q3, GHSC-PSM improved diagnostic networks through detailed analysis using OptiDx in Burundi, Ghana, and Togo. See section C2: Systems Strengthening Technical Assistance.

Instrument Placement Process

GHSC-PSM is finalizing its review of the instrument procurement/placement questionnaire. This tool will be used to confirm that the selected instruments are appropriate, the labs are prepared for the instruments, and agreements are in place to maintain the instruments. The project will manage application and analysis of the questionnaire, with input from the MOH and laboratory TWG in each country.

The newly developed capacity and utilization analysis tool will help to standardize and aid in determining the appropriate conventional polymerase chain reaction, or PCR devices used for VL and EID testing

aligned to demand. The project is developing a standard operating procedure (SOP) outlining requirements and anticipates a Q4 rollout.

HIV/AIDS SUPPLY CHAIN DATA VISIBILITY AND COMMODITY SECURITY

GHSC-PSM improves data visibility and analysis of HIV commodity inventories at all levels of the supply chain. The project reviews national inventory data monthly for more than 142 HIV medicines and commodities at the central, regional, and facility levels in 21 PEPFAR-supported countries to identify global stock imbalances. These data assist in monitoring commodity stock risks and progress toward specific initiatives, such as the success of the TLD and MMD transition, the transition to optimal PrEP and TPT regimens, and the scale-up of VL/EID programs. The reports help mitigate stock imbalances and avoid rationing and waste by raising awareness, identifying opportunities to shift GHSC-PSM shipments, and supporting redistribution within a country.

GHSC-PSM hosts monthly Proactive Stock Risk Management (ProStock) meetings. Building on the project's HIV/AIDS data analysis and reporting noted above, this meeting is a forum for GHSC-PSM, GHSC-RTK, and USAID to discuss actual and imminent gaps in HIV commodity access and implement action plans to address them. The project also presents potential HIV commodity stock risks in this forum, allowing for early action and mitigation on numerous longer-term stockout and expiry risks across all categories of HIV products, including adult and pediatric ARVs, PrEP, HIV-RTKs, and VL/EID tests.

In Q3, GHSC-PSM reported monthly on 57 HIV commodity stockout risks across 15 countries. The most common causes of stockout risks were: late deliveries (of host government–funded and The Global Fund funded orders), product expiry, and late order placement (of both The Global Fund-funded orders and USAID-funded orders). The products most commonly reported as at risk of stockout were VL/EID (20 risks), pediatric ARVs (15 risks), and HIV-RTKs (13 risks).

The project mitigated most stockout risks through donor and supplier coordination and bilateral data sharing. GHSC-PSM mitigated stockout risks by facilitating inter-country transfers and processing emergency orders. The project reported 17 commodity stockout risks resolved during the same period, with the most common resolution being deliveries by The Global Fund (eight), GHSC-PSM (four), or host governments (three).

COUNTRY SUPPORT

The HIV/AIDS task order is funding supply chain systems strengthening in 28 countries in FY 2023.

In **Botswana**, GHSC-PSM facilitated a workshop between the MOH and the Central Medical Store (CMS) on a comprehensive supply chain eLMIS. The MOH and CMS each planned to introduce and implement two separate eLMIS systems, a medical records system including a stock management module

and ePulse, a typical eLMIS. GHSC-PSM works with these stakeholders to analyze and consolidate the existing manual logistics management information system (LMIS) through a web-based district health information system 2 (DHIS2) supply chain dashboard and provides technical support for a real-time tracker for COVID-19 vaccines. The workshop raised stakeholder awareness of harmonization to avoid disjointed and duplicative supply chain systems. Workshop participants selected representatives to address this duplication of efforts and investigate developing a comprehensive plan for a robust eLMIS.

Also, in **Botswana**, GHSC-PSM facilitated the bi-annual FASP quantification exercise for ARVs, PrEP, and TPT. The CMS relies on this exercise to plan and execute procurement and distribution of ARVs in the correct quantities to health facilities. The MOH HIV Program chaired the activity, which involved the participation of CMS and 28 members of the National TWG for Integrated HIV/AIDS Products Costing and Forecasting. Notably, the MOH intends to transition most first-line adults to a new dual-therapy ARV containing lamivudine and dolutegravir within three years. GHSC-PSM assisted the MOH in modeling and costing this transition plan, for senior MOH management approval. Following the workshop, GHSC-PSM assisted the MOH in generating a five-year ARV forecast using QAT. The project shared two-year supply plans with CMS to facilitate procurement actions by indicating the quantities and timing of shipments.

In **Burma**, the National Tuberculosis Program faced unprecedented human resource challenges following the 2021 coup. In Q3, GHSC-PSM provided technical training to fill gaps in TB health care service delivery. A total of 35 participants from development partners and health agencies attended the training on "Drug Sensitive Tuberculosis Management for Clinic Medical Officers and Clinic Assistants." The Myanmar Anti-TB Association (MATA) organized the training covering a variety of TB laboratory service procedures and methodologies.

Also, in **Burma**, GHSC-PSM provided technical assistance at the 2024–2026 National Forecasting and Quantification Exercise for TB medicines and laboratory commodities. Accuracy in forecasting and supply planning is challenging given the many different regimens involved, the unpredictable nature of the disease, and the variety of diagnostic tools needed. GHSC-PSM supported the National Tuberculosis Program (NTP) using the QuanTB FASP tool to help partners visualize commodity requirements and how those requirements change under different scenarios. With GHSC-PSM support, the NTP can be more confident in providing an uninterrupted supply of TB commodities.

In **Malawi**, GHSC-PSM worked with the Department of HIV and AIDS (DHA) within the MOH to strengthen health supply chain management through supportive supervision visits to health facilities offering ART and TB services nationwide. The project provided technical support to ensure the accurate collection of supply chain data from facilities and ongoing mentorship to pharmacy managers to improve health commodity management. During these visits, project staff analyzed storage practices at each facility, checked product expiry dates, audited reporting habits, and mentored staff in facilities where they identified gaps.

In **Zimbabwe**, the MOH is implementing Internal Quality Assurance (IQA) visits to promote program integration and increase efficiency across HIV prevention programs, including HIV testing services, STIs/condoms, PrEP through DREAMS, and key populations. GHSC-PSM joined the MOH in visiting sites in five rural provinces, highlighting best practices, helping staff address challenges, noting concerns, and making recommendations.

Also, in **Zimbabwe**, in Q3, GHSC-PSM participated in multiple stakeholder platforms. These included the HIV Care Differentiated Service Delivery TWG, the PrEP TWG, the HIV Prevention Partnership Forum, the TB/HIV Treatment, and Care Partnership Forum, and the Midlands Province Review Meeting for the Accelerated and Comprehensive HIV Care and Treatment for Epidemic Control (ACCE) project implemented by Zimbabwe Health Interventions. These fora help the project keep a pulse on supply chain and service delivery for HIV programs and engage directly with supply chain decision makers.

B2. MALARIA

Delivered more than **509 million** artemisinin-based combination therapies (ACTs) to treat **malaria infections over the life of the project**, including **8 million** in Q3 FY 2023.

23 countries[27] are receiving health supply chain systems strengthening support with malaria funding in FY 2023.

A total of **26 countries procured malaria medicines and commodities in Q3, 31 over the life of the project.**

Delivered enough long-lasting insecticide-treated nets (LLINs) to provide **protection from malaria for more than 7.4 million people in Q3 and 554 million people over the life of the project**.

GHSC-PSM's activities are focused on supporting the achievement of the five goals outlined in PMI's 2021–2026 strategy: reaching the unreached, strengthening community health systems, keeping malaria services resilient, promoting innovation, leading malaria elimination, and supporting PMI stockout reduction initiatives in malaria task order (TO2) supported countries.

COMMODITY SOURCING, PROCUREMENT, AND DELIVERY

GHSC-PSM assesses market conditions and the sources of critical commodities—key starting materials (KSMs) and active pharmaceutical ingredients (APIs). The project uses these assessments to develop strategies that ensure product availability and accessibility.

Strategic Sourcing and Supplier Relationship Management

The project engages in bi-annual business review meetings with key suppliers to discuss supplier performance, current orders, and strategic topics related to each commodity category, such as KSM, semi-synthetic artemisinin (SSA) incorporation or component constraints, and regionalization initiatives within the supply chain. In Q3, GHSC-PSM hosted in-person and virtual meetings with suppliers of

[27] GHSC-PSM provides health supply chain system strengthening support with funding for malaria for the following countries: AFRICA: Angola, Burundi, Burkina Faso, Cameroon, Ethiopia, Ghana, Guinea, Kenya (TO5), Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Sierra Leone, Uganda, Zambia, Zimbabwe; ASIA: Burma (Myanmar), Cambodia, Laos, Thailand. Additional short-term assistance was provided in Madagascar.

pharmaceuticals, including artemisinin-based combination therapies (ACTs) and severe malaria products. The regionalization workshop hosted by GHSC-PSM resulted in a modified FY 2024 allocation strategy that placed a greater emphasis on African manufacturing as a weighted supplier evaluation criterion. For more information, see Section C3, Global Collaboration

The project secured Sourcing Governance Board approvals for FY 2024 allocation strategies for LLINs, ACTs, malaria rapid diagnostic tests (mRDTs), severe malaria medications, SP, and seasonal malaria chemoprevention.

In Q3, GHSC-PSM completed tender processes for LLINs and SP/sulfadoxine-pyrimethamine + amodiaquine (SPAQ). The project expects the tender processes for ACTs, mRDTs, and severe malaria products to be finalized in Q4.

Procurement and deliveries

In Q3, GHSC-PSM delivered malaria commodities for 23 countries[28] with a total value of $34 million.

On-time delivery (OTD) and on time in full (OTIF). The timeliness of GHSC-PSM deliveries remained consistent and robust for standard OTD and OTIF. In Q3, the OTD rate for malaria commodities was 84 percent (see Exhibit 6). The OTIF rate in Q3 was 80 percent. The decline in OTD and OTIF performance in April 2023 can primarily be attributed to two distinct issues. First, for lab products, challenges arose due to material shortages at the manufacturer. Additionally, there were issues with the 3PLs responsible for handling ACT orders. Furthermore, shipments of mRDTs with March ADDs experienced setbacks due to a combination of transshipment issues, supplier delays, and a minor delay resulting from a system error.

Exhibit 6. Monthly On-Time Delivery (OTD) Rates for Malaria Commodities

[28] GHSC-PSM delivered malaria commodities for the following countries: AFRICA: Angola, Benin, Burkina Faso, Burundi, Cameroon, DRC, Côte d'Ivoire, Ethiopia, Guinea, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zambia, Zimbabwe, ASIA: Cambodia.

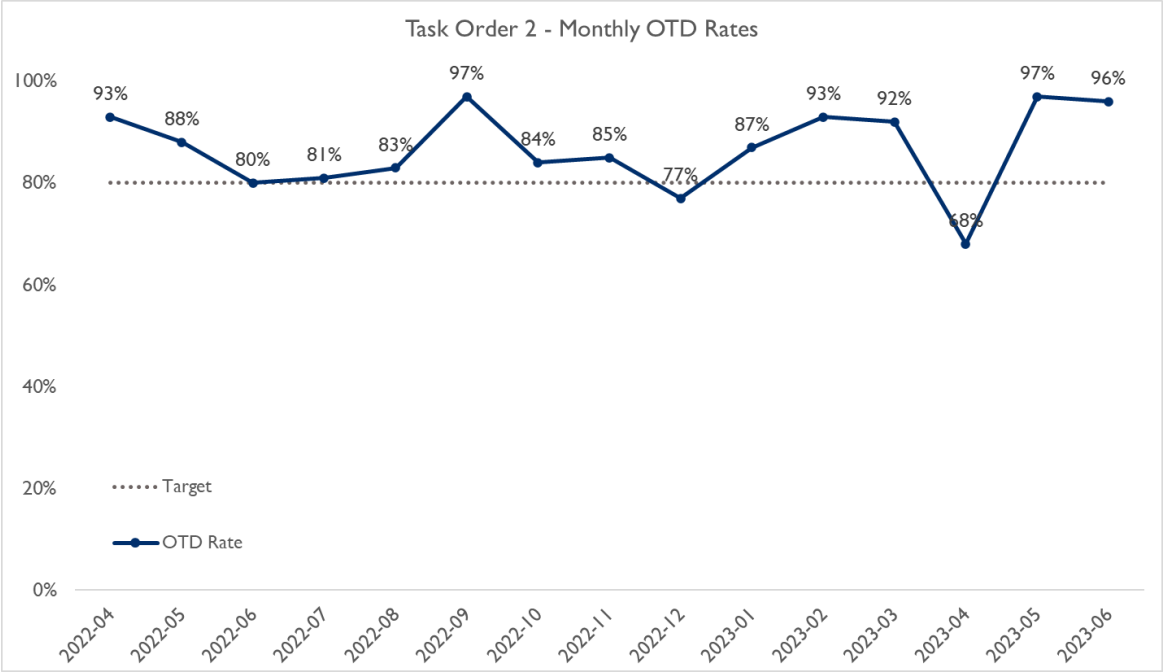
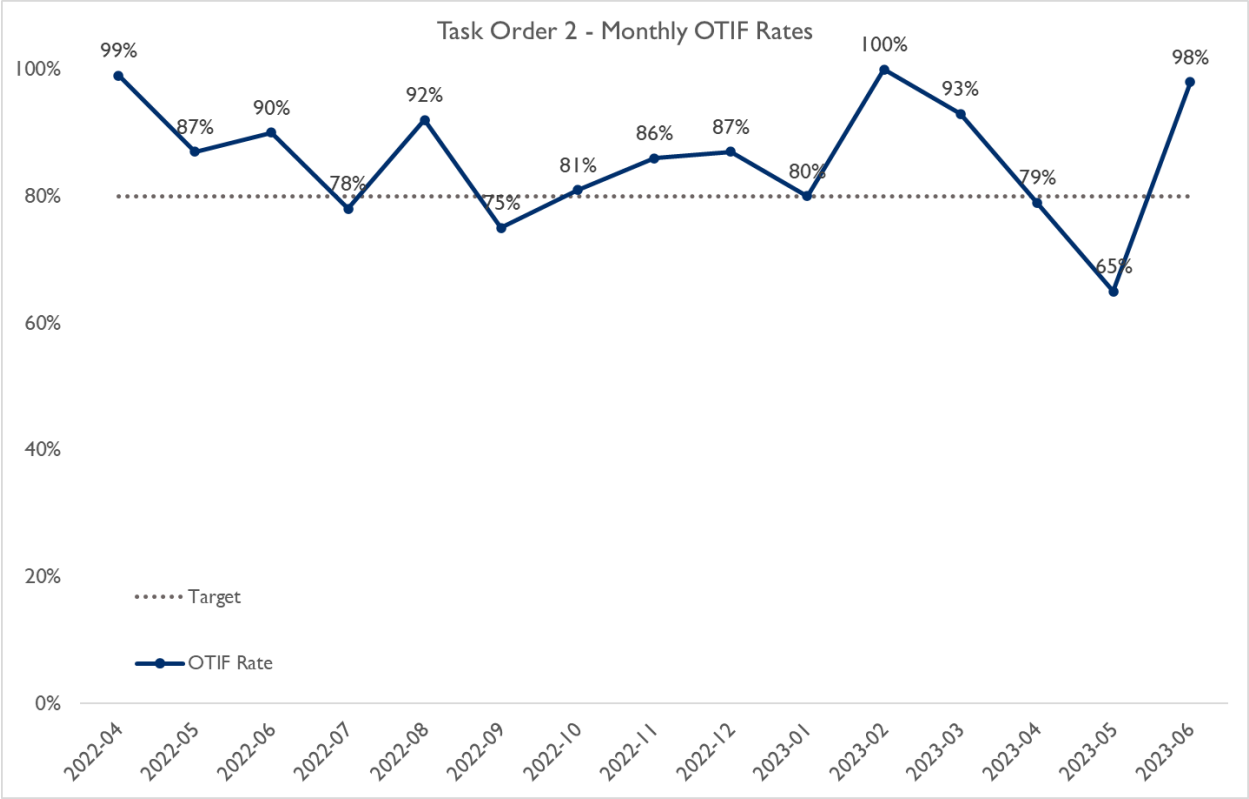


Exhibit 7. On Time In Full (OTIF) Rates for Malaria Commodities



Global Sourcing Collaboration

GHSC-PSM participates in the Malaria Pharmaceuticals (Pharma) Task Force,[29] mRDT Task Force,[30] Vector Control Access Task Force,[31] and LLIN Donor Collaboration call.[32] These groups provide a valuable forum for exchanging information on market risks and promoting improved collaboration across the global malaria community. They are supplemented by one-off working sessions and communications to discuss acute risks, issues, and opportunities.

GHSC-PSM plays a continuous role in the Malaria Pharma Task Force and the key starting material/active pharmaceutical ingredient (KSM/API) working group, which increases visibility and identifies and mitigates risks related to the upstream supply chains of finished malaria pharmaceutical products.

In Q3, GHSC-PSM, along with members of the Malaria Pharma Task Force, shared general order placement timelines to coordinate supplier production capacity. Group participants discussed the status of new product prequalification and market introductions and were made aware of updated short-term forecasts that incorporated the demand from the major malaria commodity procurers. The Bill & Melinda Gates Foundation (BMFG) conveyed that new funding mechanisms will become available in the next two years to increase the SSA supply base and reduce prices.

In Q3, while PATH finalized a cost of goods sold analysis at the manufacturing location of the main SSA supplier, KSM/API working group members reviewed and discussed a proposed draft mechanism to propagate the use of SSA in their procurement strategies. The group learned that a partner organization will collaborate with manufacturers interested in simplifying the chemistry of a critical API used in an ACT, of which there is currently only one prequalified option.

The mRDT Task Force meeting in Q3 focused on a presentation on the success of global mRDT scale-up and current challenges surrounding mRDT adherence and false-positive results, which have case management and surveillance implications. Over-reporting of false-positive mRDT results has implications for commodity quantification exercises and eventual procurements. Discussions highlighted the need for accurate reporting to remain a top priority of NMCPs and implementing partners.

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[29] Pharma Task Force members include Clinton Health Access Initiative (CHAI), BMGF, GHSC-PSM, The Global Fund, Impact Malaria, the Malaria Consortium, Medicines for Malaria Venture (MMV), Médecins Sans Frontières (MSF), Pan-American Health Organization, PATH, PMI, UNICEF, and World Health Organization (WHO).

[30] mRDT Task Force members include CHAI, Foundation for Innovative New Diagnostics, BMGF, The Global Fund, the Malaria Consortium, MSF, PATH, PMI, GHSC-PSM, UNICEF, United Nations Development Program, Unitaid, and WHO.

[31] Vector Control Access Task Force members include the Against Malaria Foundation (AMF), CHAI, BMGF, GHSC-PSM, the The Global Fund, Innovative Vector Control Consortium, International Federation Red Cross, MMV, MSF, PMI, Population Services International, Results In Health, UNICEF, Unitaid, and WHO.

[32] LLIN Donor Collaboration calls include members from AMF, GHSC-PSM, The Global Fund, and UNICEF.

Commodity risk profiles

Commodity risk profiles visualize volumes shipped from suppliers by geographic region. GHSC-PSM reviews each commodity category to identify challenges or risks in a given period and shares updates on the status of each active order. Risks and challenges shared with PMI and responded to in Q3 include the following:

- A supplier of artesunate injectables notified GHSC-PSM that its earliest goods available date is in Q4 due to production availability, which is past the desired goods available date. This impacts orders for Kenya and Uganda as well as a potential future order for Rwanda. GHSC-PSM is reallocating volume to secondary and tertiary suppliers to address this shortfall.
- Kenya placed an emergency order for artesunate injectables with a July 2023 requested delivery date (RDD). GHSC-PSM secured supplier capacity and is working to expedite the delivery for late August. Although Kenya experienced product stockouts in Q3, the country expects deliveries from The Global Fund and the host government to arrive by early Q4.
- The project identified sulphadoxine + pyrimethamine (SP) stockout risks in Malawi and Mali. To mitigate this, GHSC-PSM rescheduled the goods available date with the supplier for Malawi, advancing it by two weeks while maintaining sea freight as the mode of shipment. In the case of Mali, the project requested expedited delivery, but the supplier could not reschedule the goods available date. The project is working to expedite the ocean shipment and secure the earliest available sailing schedule to ensure the fastest delivery possible.
- Angola informed GHSC-PSM of an overstock of SP. The project negotiated with the supplier to divide the original order into two goods available dates to meet the country's new requested delivery dates of November 2023 and June 2024.
- One supplier of pyronaridine artesunate is undergoing factory renovations and halted production from mid-May to July. GHSC-PSM adjusted agreed delivery dates with the Burkina Faso Mission to accommodate the shutdown. Despite the production interruption, the project does not anticipate stockouts.
- Two laboratory reagent orders for Madagascar are delayed by 12 months from the original placement, as the shelf life did not meet country requirements. The supplier is awaiting the production of a fresh batch of the product, which will not be available in 2023. The project informed Madagascar about the delay, and officials there confirmed that they want to wait until it is available. This delay may postpone a planned National Malaria Control Program (NMCP) study.
- A stock of mRDTs in Cambodia expires in October. Ensuring available stock required a supplemental shipment of round-tipped lancets and inverted cups before the expiration date and loss of products. A shipment from the supplier arrived in Cambodia in Q3.

STOCKPILE STRATEGY

GHSC-PSM uses the Belgium regional distribution center (RDC) to fill essential or urgent malaria commodity orders for products such as SPAQ and artemether-lumefantrine (AL). The project rapidly moves commodities by leveraging a rotating emergency loan fund to secure large volumes of supplier production capacity in markets with limited supply. GHSC-PSM places orders based on data-driven demand signals to secure production capacity earlier in the ordering process—often before receiving country orders.

The project uses the stockpile in the RDC to access critical commodities when countries need them, to reduce fulfillment lead times and to hedge uncertainty and disruption in the markets. Demand data—derived from quarterly country supply plans and the monthly procurement planning and monitoring report for malaria (PPMRm)—partially inform these strategies, which the project translates into the country stock risk dashboards that illustrate the timing and scope of upcoming stock risks. The project designs these strategies to mitigate future stockout risks, ensure timely delivery in constrained markets, and avail favorable market conditions (favorable pricing, etc.).

GHSC-PSM began implementing a vendor-stored inventory (VSI) strategy at the end of Q1 for artemether-lumefantrine (AL). The use of the RDC stockpile and VSI are critical rapid fulfillment mechanisms that the project employs to take action in meeting emergency and urgent orders.[33] These strategies work in tandem. For emergency orders, the priority is to fulfill fully or partially from the RDC stockpile. If the RDC stockpile is not sufficient to meet the need, GHSC-PSM has the option of fulfilling emergency orders through VSI. The project uses VSI as a first option in fulfilling urgent orders; however, in the event of dwindling shelf life at the RDC, the stockpile may be used.

In Q3, GHSC-PSM used the RDC stock to fulfill two emergency orders of AL 20/120 mg hard tablets and dispersible tablets for Niger and Senegal and initiated the procurement of AL 20/120 mg hard tablets with the two suppliers with whom the project has VSI contracts. The project used VSI to fulfill urgent orders for four countries: Burkina Faso, Côte d'Ivoire, Niger, and Uganda. By the end of Q3, the project delivered VSI orders to Côte d'Ivoire and Uganda.

QUALITY ASSURANCE

Collaborating

In Q3, the project continued participating in a steering group initiated by Innovation to Impact (I2I). This group meets routinely to provide input to update the post-market module (Module 7) of the draft WHO

[33] TO2 Emergency orders: orders with less than four-month lead time from the requisition order entry date and the requested delivery date,
TO2 Urgent orders: orders with more than a four-month lead time but less than the standard lead time to be met through routine procurement.

Guideline for Prequalification of Insecticide Treated Nets (ITNs) until the new guidelines are finalized. The steering group and WHO-Prequalification (PQ) team discussed data requirements and data collection processes and integrated the group's feedback into the updated guidelines.

The project plays a leadership role among global stakeholders in the LLIN quality assurance (QA) space as chair of the LLINs Quality Assurance Group (LQAG). In Q3, the LQAG and I2I held further meetings on Module 7 to discuss how the LQAG can provide feedback on data collection for post-market information using its expertise in quality assurance.

Implementing strategies and innovations

In Q3, GHSC-PSM provided QA under TO2, offered design input, and participated in the regionalization workshop. As part of the Sourcing Governance Boards, the project provided a QA perspective on products and suppliers for the allocation strategy for all commodities. For more information, see Section C3, Global Collaboration.

Fostering quality in malaria products

In Q3, the project—as part of its quality monitoring system and under its protocol requirement for annual testing—performed annual testing for a stringent regulatory authority AL product, which is exempt from routine testing.

In Q2, GHSC-PSM met with the WHO Incidents and Substandard/Falsified Medical Products (ISF) Team regarding mRDTs to better understand the WHO process for handling product complaints and to align on how the project can support and facilitate the process. In Q3, with approval from PMI, the project initiated the process of reporting complaints and quality issues to WHO, aiming to enhance collaboration and streamline the reporting of customer complaints.

PRODUCT REVIEW FOR ELIGIBILITY

Quality reviews facilitate adding products to the Restricted Commodity Waiver list governed by USAID Automated Directives System 312, making the product eligible for procurement. In Q3, the project reviewed a dual active ingredient LLIN's product eligibility, conducted a trial test by a third-party testing laboratory, and found the product eligible (see Exhibit 8).

Exhibit 8. New Product Eligible for Procurement in Q3.

Product category	Product subcategory	Product detail

Long-lasting insecticide-treated nets	N/A	Dual active ingredient net with pyrethroid (deltamethrin) and chlorfenapyr

Key performance indicators

In Q3, GHSC-PSM:

- Completed a total of 96 percent of QA/quality control (QC) processes within the required lead times, above the target of 80 percent.
- Achieved out-of-specification (OOS) findings of 0 (zero) percent of batches tested, below the target of 1 percent.
- Generated cost savings of $18,516 as a result of using randomized testing instead of testing all batches.

ADOPTION OF STANDARD-BASED IDENTIFICATION, BARCODING, AND DATA SHARING

In Q3, GHSC-PSM continued implementing identification, barcoding, and data-sharing requirements for procured products, creating an enabling environment for data exchange and visibility. In total, for the 221 TO2 items in-scope (subject to requirements, actively procured in the past, and available for procurement in the future), total compliance scores by area were as follows:

- Identify Global Trade Item Number/Global Location Number (GTIN/GLN) collection: 98 percent
- Capture (Standards-compliant barcoding on labels): 94 percent
- Share (GDSN data synchronization): 90 percent

For additional highlights and milestones related to these standards in Q3, see Section C.

PRIORITY SETTING AND REDIRECTION OF ORDERS

GHSC-PSM works with USAID to address country needs and market constraints, prioritize orders based on needs, and conduct commodity order transfers to improve stock status.

In Q3, the project completed the following activities

- In **Rwanda**, Identified an overstock of 18,865 vials of artesunate injectable (60 mg) and determined that Ghana required this stock. The project estimates that stock will be delivered to Ghana in Q4.

- In **Madagascar**, responded to rising malaria incidences. The project split a rectal artesunate order. A portion of the order (20,258 packs manufactured in March 2023 and expiring in March 2025) will be filled using available stock from the supplier. The remaining order quantity of 1,742 packs will be filled from upcoming production.

- A total of 29 countries submitted data to the PPMRm. The PPMRm collects and reports information on stock status and host governments' and other donors' shipments. Visibility into this stock status and shipment information enables PMI, the project, and countries to make decisions on prioritizing, expediting, or delaying procurements or shipments, as well as facilitates the review of forecasts and supply plans to optimize procurements. Based on PPMRm data, GHSC-PSM completed the following activities::

    - In **Burkina Faso**, expedited AL 20 mg/120 mg 6x1 and AL 20 mg/120 mg 6x2 blisters to prevent stockouts.

    - In **Ghana,** advocated with the National Malaria Elimination Program to initiate orders of AL 20 mg/120 mg 6x2 blisters, AL 20 mg/120 mg 6x4 blisters, and artesunate injectable 30 mg to prevent stockouts.

    - In **Guinea**, advocated with the host government to defer incoming Global Fund shipments of AL 20 mg/120 mg 6x3, AL 20 mg/120 mg 6x4, and mRDTs to mitigate overstocks and prevent potential waste.

    - In **Madagascar**, expedited rectal artesunate 100 mg to prevent stockouts and deferred primaquine 7.5 mg tablet shipment to prevent overstock and potential waste.

    - In **Zimbabwe**, expedited AL 20 mg/120 mg 6x1 and AL 20 mg/120 mg 6x2 blisters to prevent stockouts and advocated with the NMCP to expedite an upcoming shipment of artesunate injectable 60 mg from The Global Fund to prevent a stockout.

MALARIA COMMUNITY HEALTH WORKER SUPPLY CHAIN ADVOCACY PAPER

In Q3, GHSC-PSM submitted a designed version of the CHW advocacy paper to PMI for final review prior to publication. The paper encourages the inclusion and strengthening of the community level in the supply chain and highlights some best practices for long-term investment, targeting community health facilities and CHWs. The paper will be published in Q4.

DEVELOPMENT OF A MODELING TOOL AND GUIDANCE FOR INVENTORY MANAGEMENT FOR LOW-MALARIA-ENDEMIC SETTINGS

Some countries with low malaria endemicity are concerned that low consumption of malaria products could result in product expiries and additional expenses incurred from product redistributions between facilities. To address this challenge, the project developed a Modeling Tool for optimizing stocks and distribution operations in low malaria endemicity settings in Q2. The tool tests different scenarios using case information as a surrogate for consumption data, which is relevant in tracking malaria cases—a key metric in malaria elimination surveillance activities. The tool allows users to plug in data to test stockpiling and distribution strategies and calculates the cost of these scenarios and their relative risk of leading to expiries or stockouts. The tool can be used in any country, and the formula calculation can work with any currency. GHSC-PSM tested the tool with sample data from Cambodia in Q2. In Q3, the project provided an orientation to Cambodia, Laos, and Thailand country offices. These offices subsequently tested the tool and will share their feedback in Q4, which will be used to refine the tool and prepare the necessary guidance material.

WORKFORCE DEVELOPMENT QUALITATIVE ASSESSMENT

In FY 2021, USAID funded country data collection to understand the scope of its financial investments in workforce development (WFD) between FY 2017 and FY 2020. USAID would like to use these data to identify WFD methods that achieved the most success and faced the most challenges and recommend which methods or activities to prioritize, expand, or adapt. GHSC-PSM used these data to assess WFD activities in Malawi in Q2 and Q3. Based on experiences in Malawi, the project is refining participant interview and survey materials, including a qualitative interview guide and an online survey questionnaire for recommendations for potential expansion of the assessment to other countries. Through the USAID-collected data in 2021, the project identified participants from the in-country WFD activity registration forms to select 15 interviewees and 200 online survey respondents. In Q3,GHSC-PSM continued to conduct one on one interviews and online surveys in Malawi. The project will complete the interviews and online survey in Q4.

MALARIA COMMODITIES ACCOUNTABILITY INITIATIVE

In Q3, GHSC-PSM drafted a malaria product accountability guidebook and associated tools to help country stakeholders identify discrepancies between the total number of malaria products consumed according to the logistics management information system (LMIS) and number of malaria services reported in DHIS2 during reporting periods. The tool provides stakeholders with the data needed to conduct root-cause analysis and determine interventions to improve accountability for malaria commodities.

In Q3, the project incorporated PMI feedback into the draft guidebook and submitted a second draft to PMI for approval. GHSC-PSM also identified several countries to pilot the use of the guidebook and associated tools and established a timeline for the pilot in selected countries.

LLIN DELIVERY AND DISTRIBUTION SUPPORT

In Q3, GHSC-PSM delivered 3.7 million LLINs to countries for distribution as a malaria prevention measure (Exhibit 9). Through this initiative, communities received nets before the rainy season through seasonal campaigns as well as year-round through continuous channels. In some countries, the project provided transportation support through third-party logistics (3PL) service providers to deliver LLINs from the central level to district or health facility-levels for continuous distribution or mass distribution. In Q3, seven countries[34] prepared for or launched LLIN distribution campaigns.

Exhibit 9. Quantity of LLINs Delivered to Countries in Q3 FY 2023

Country	Number of LLINs Delivered
Angola	734,050
Benin	600,000
Congo DRC	514,700
Côte d'Ivoire	172,304
Liberia	150,400
Tanzania	1,071,006
Zimbabwe	500,000
Total	3,742,460

In Q3, GHSC-PSM supported LLIN distribution activities:

- In **Sierra Leone**, to support the NMCP strategy, worked with the NMCP to conduct its first school-based distribution of LLINs. The pilot, conducted in Kono District, distributed 101,270 bed nets to selected classes in 529 schools across the district. Mass distribution of LLINs often occurs every three years, resulting in a waiting period until the next round of campaigns begins. This intervention aims to mitigate the risk to children associated with the deterioration of LLINs between mass campaigns and help reduce school absenteeism due to malaria infections.

[34] Angola, Benin, Congo DRC, Côte d'Ivoire, Liberia,Tanzania, Zimbabwe.

- In **Burundi**, provided financial and technical assistance to the National Integrated Malaria Control Program (*Programme National Intégré de Lutte contre le Paludisme*, PNILP) to distribute 189,869 nets to 36 out of 49 health districts for routine distribution through antenatal care and immunization services. At the end of Q3, the central warehouse had 154,183 LLINs on hand, including 93,612 standard LLINs (approximately 2.8 months of stock) and 60,571 piperonyl butoxide (PBO) LLINs (approximately 3.5 months of stock). As of May 2023, dual active ingredient LLINs had a stockout, and GHSC-PSM expects the next shipment by the end of Q4. While waiting for the next shipment, the NMCP and its partners decided to distribute single-pyrethroid LLINs in districts using dual active ingredient LLINs. The project monitors monthly LLIN distribution from health districts to health centers and district-level LLIN stock. According to the district-level data, in Q3, the project supported the health district in distributing 188,126 LLINs to health centers.

- In **Zambia**, worked with the National Malaria Elimination Centre (NMEC) and other partners[35] to prepare for the 2023 mass campaign. GHSC-PSM received a mandate to provide warehousing and distribution services for the mass campaign to six of the 10 provinces.[36] In Q3, the project identified a warehousing vendor and evaluated bids from 3PL vendors to provide the delivery services to service delivery points (SDP)s. Bid evaluation will be completed in early Q4. The project took part in a training of trainers (TOT) on the digitization process at the central level before the mass campaign. The training courses cover microplanning, household registrations, and supply chain management of the LLINs during and after the campaign. The technical and implementation committee approved the plan of action for the 2023 mass campaign. To prepare for the digitization of household registrations for the FY 2023 campaign, E4H, the implementing partner, conducted a pilot household registration to simulate the digitization process in selected districts in three provinces following a TOT on central-level supply chain management. The National Malaria Elimination Program applied its experiences from the TOT and pilot household registration digitization to inform the rollout to the rest of the provinces. Provincial TOTsessions will be completed in early Q4 and followed by household registration.

COUNTRY SUPPORT

In FY 2023, GHSC-PSM is supporting the strengthening of supply chain systems for malaria medicines and commodities in 23 countries.[37] Some highlights from Q3 include:

[35] Other partners include: Against Malaria Foundation (AMF), Evidence for Health (E4H), Program for the Advancement of Malaria Outcomes (PAMO) Plus, PMI Evolve, The Global Fund, and Churches Health Association of Zambia (CHAZ)
[36] Eastern, Luapula, Muchinga, Northern, Northwestern, and Western
[37] GHSC-PSM provided technical assistance to countries with malaria funding: AFRICA: Angola, Burkina Faso, Burundi, Cameroon, Ethiopia, Kenya (TO5), Ghana, Guinea, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Sierra Leone, Uganda, Zambia, and Zimbabwe; ASIA: Burma, Cambodia, Laos, and Thailand

In **Burkina Faso**, provided technical and financial support to the NMCP to train 100 health care professionals, including pharmacists, nurses, and logisticians at the regional and district levels, on the updated malaria treatment guidelines. The training covered such topics as the knowledge management of pyronaridine/artesunate (Pyramax)—being introduced as a first-line uncomplicated malaria treatment in the country—and pharmacovigilance. GHSC-PSM also facilitated cascading this training to 163 health workers from 27 facilities (SDPs). In Q3, this training effort introduced Pyramax for malaria treatment in the country, starting in facilities.

In **Ethiopia**, worked with the MOH-Pharmaceuticals Medical Equipment Directorate to conduct an orientation workshop on drug use evaluation (DUE) in Adama. A total of 17 hospitals participated in the orientation. Session topics included the role of the Drug and Therapeutics Committee (DTC) in DUE, basic concepts of DUE, how to plan for and conduct the evaluation, and a review and demonstration of DUE tools. Following the workshop, hospitals proposed three potential DUE topics and agreed to engage the MOH in discussions with their respective DTCs. In Q3, five hospitals presented their findings and intervention plans to their respective DTCs and submitted the DUE reports to the MOH. At the request of the MOH, GHSC-PSM provided follow-up guidance to the selected hospitals on the different stages of the DUE process. This particular intervention is a MOH-supported initiative with a group of hospitals and aligns with GHSC-PSM's objective of supporting health facilities to be independent in conducting DUEs.

In **Guinea**, collaborated with regional health authorities to conduct formative supervision visits to 38 health facilities across four regions[38]to enhance operational performance. These visits included representatives from the Regional Inspectorate of Pharmacies, Laboratories, and Medicines, district pharmacists, and GHSC-PSM. During the visits, technical representatives trained 117 supply chain managers on such tools as stock cards and expired prevention tables, compliance with storage practices, separation of expired and usable health commodities, performing physical inventory, and adjusting antimalarial commodity quantities through redistribution between SDPs. The training included practical tasks, such as analyzing existing stocks, making decisions on redistributions, and managing expiries. As a result, 387 expired SP tablets at an SDP warehouse in Mamou were relocated to special storage facilities (the project purchased these containers and officially delivered them to national health authorities) to ensure their separation from viable stock while MOH and other stakeholders prepared for disposal. The supervision team also identified 525 mRDTs with short expiry dates and ensured their redeployment to health facilities where they were needed.

The visits also identified discrepancies between the health management information system (HMIS) and the eLMIS, which revealed that 21.1 percent of SDPs overused ACTs and 8.7 percent overused mRDTs, meaning more commodities were dispensed (LMIS) than patients treated or tested (HMIS). Representatives identified the need for normative documents, including data sheets, stock cards, expired

[38] Boke, Labe, Mamou, and N'Zerekore

prevention tables, and inventory sheets, to address these discrepancies. Engaging district pharmacists in the collaborative effort provided valuable feedback on challenges such as incomplete consumption reports from CHWs and health posts and discrepancies between eLMIS data and data collection tools. These supervision activities help strengthen the capacity of supply chain managers at SDPs, which in turn improves the performance of the national supply chain system.

In **Malawi**, in collaboration with the Health Technical Support Services of the MOH, launched a mobile app that shares harmonized product information following Global Standards 1 (GS1) standards. The app, known as National Product Catalog (NPC) mobile app, authenticates and verifies health commodities, including malaria products, allowing the MOH to filter out counterfeit pharmaceutical and medical products. Notably, the app allows interoperability with other health information systems in the supply chain.

In **Zimbabwe**, organized data validation meetings to address malaria commodity accountability issues in Chipinge, Muzarabani, Mutoko, Mudzi, and Mt Darwin districts. Participants included nurses, district managers, and provincial health executive teams. In the meetings, participants developed district-specific plans to reduce the malaria case/consumption discrepancy ratio to the stakeholder-agreed target of three by the end of 2023 and provided refresher training on stock management. The case consumption disparity ratio in 2022 was 8.7. GHSC-PSM is targeting a ratio of three by the end of 2023, which would be an approximately 65.5 percent reduction. These meetings assisted the national and provincial teams to understand the challenges facility staff face regarding data collection and helped to identify solutions. All participants agreed to improve data quality through specific activities tracked through a dashboard. In Q4, the district pharmacists and nursing officers will conduct follow-up visits with support from the provincial logistics officers. Additionally, in Q4, GHSC-PSM will evaluate the activities and lessons learned to inform the countrywide rollout of similar activities.

B3. FAMILY PLANNING AND REPRODUCTIVE HEALTH

To date, GHSC-PSM has delivered enough contraceptives to provide **100 million couple-years of protection**, including **5 million in Q3.**

Delivered FP/RH commodities[39] **to 18 countries**[40] in Q3, and provided **health supply chain systems-strengthening support** to **20 countries**[41] **in FY 2023** with FP/RH funding.

Continued to successfully fulfill USAID-supported countries' orders in a timely manner, **achieving 88 percent OTD** in Q3.

Published a landscape analysis of five mobile applications and supporting **technical brief** for supply chain management at the last mile in the Community Health Impact Coalition Research Roundup.

The FP/RH task order (TO3) serves as the primary vehicle through which USAID procures and provides FP/RH commodities for its voluntary FP/RH programs; offers technical assistance to improve supply systems and contraceptive security in partner countries; and provides technical leadership to strengthen the global supply, increase financing, and introduce new FP/RH commodities.

ADDRESSING FP/RH PRIORITIES

In line with USAID's FP/RH priorities, GHSC-PSM continued to strengthen its global supply operations and to collaborate with countries in building self-reliant supply chains.

Securing reliable supply and maintaining high on-time performance

[39] Per USAID guidance, all condom procurements are counted under the HIV/AIDS task order.
[40] GHSC-PSM deliveredFP/RH commodities to the following countries: Afghanistan, Bangladesh, Benin, Burkina Faso, DRC, Côte d'Ivoire, Ghana, Haiti, Jordan, Madagascar, Malawi, Mozambique, Niger, Rwanda, Senegal, Tanzania, Uganda and Yemen.
[41] GHSC-PSM provided technical assistance with FP/RH funding to the following countries in FY 2023: Angola, Burkina Faso, Burundi, Ethiopia, Ghana, Guatemala, Guinea, Haiti, Kenya (TO5), Liberia, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan, Rwanda, South Sudan, Uganda, and Zambia.

In light of the ongoing global supply shortage of one-rod implantable contraceptives, GHSC-PSM is working with the Consensus Planning Group, which helps to facilitate coordination of order timing for supply constrained products among multiple procurement agencies, to ensure fair and reliable access to supply.

In Q3, due to ongoing supply constraints associated with production backlogs accumulated during the pandemic, GHSC-PSM faced extended lead times for combined oral contraceptives and progestin-only pills. The project expects extended lead times to continue through Q1 FY 2024. GHSC-PSM mitigates this challenge by regularly analyzing the allocation of available stock and leveraged inventory at RDCs to avoid stockouts.

Achieving OTD and OTIF

Timeliness of GHSC-PSM deliveries remained strong in Q3 for FP/RH commodities at 88 percent OTD. OTIF numbers remained strong and consistent, at 89 percent.

Exhibit 10. FP/RH Commodities, OTD

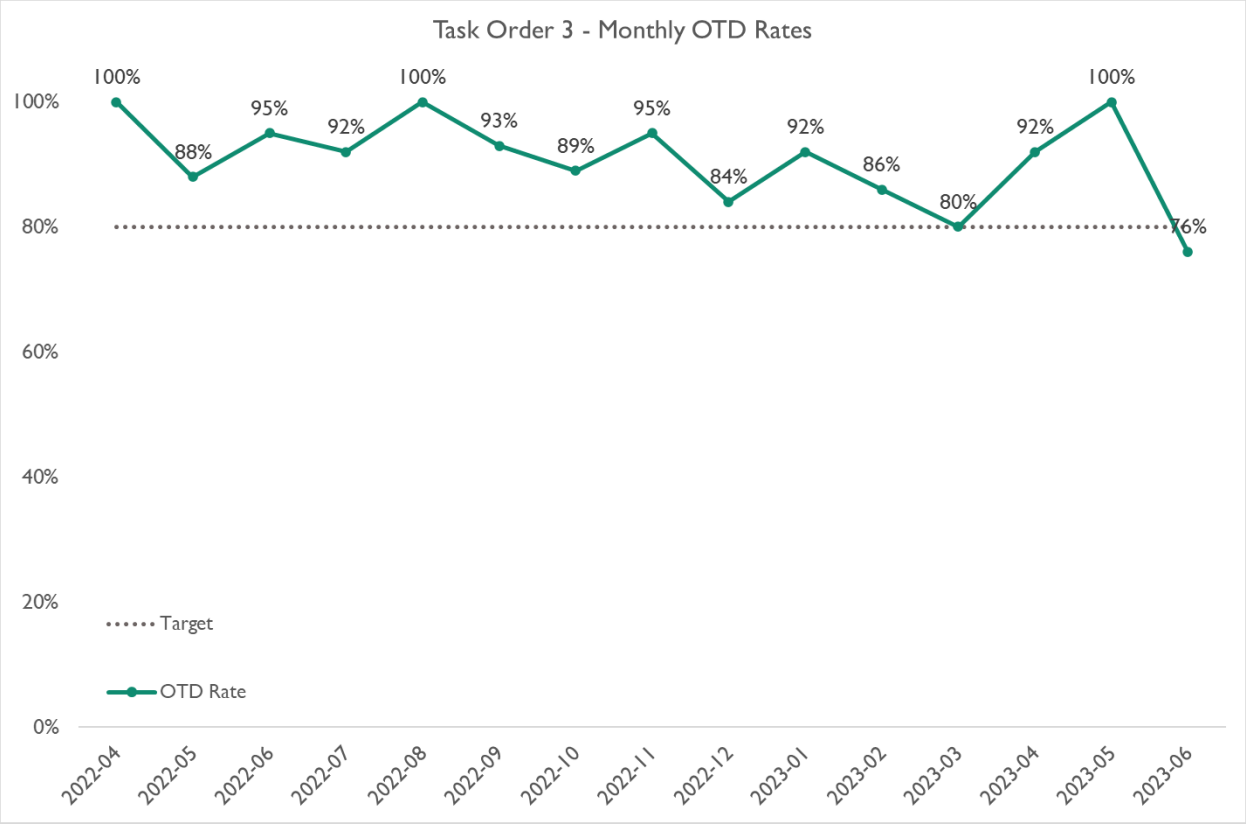
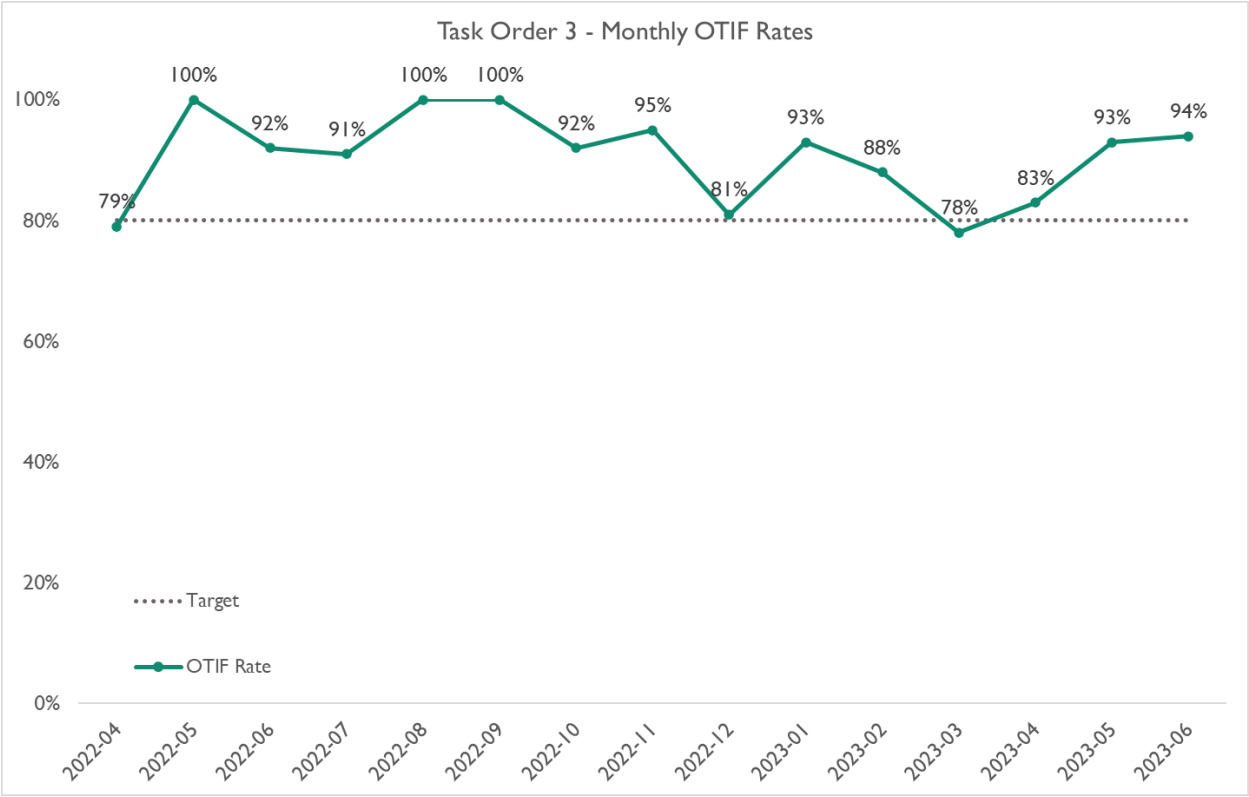


Exhibit 11. FP/RH Commodities, OTIF



Disseminating and refining the business case for regional manufacturing in sub-Saharan Africa

In Q3, GHSC-PSM updated the business case for regional manufacturing of hormonal contraceptives to account for depreciation and other feedback from the regionalization workshop. For more information, see Section C3, Global Collaboration.

Following the workshop, GHSC-PSM met with several stakeholders, such as manufacturers and a development finance institution to discuss the business case and gather feedback on assumptions and estimated financial returns. This feedback, along with inputs from stakeholders, will be used to develop an implementation roadmap in Q4 that will outline the critical steps for key actors to support the movement toward local manufacturing of injectable contraceptives.

Analyzing fertility awareness-based applications in low- and middle-income countries (LMICs)

With the explosion of smartphones globally and the increased interest in non-hormonal contraception options, the popularity of fertility awareness applications (apps) is expected to increase and may affect

the demand for FP commodities in LMICs. Thus, it is essential to monitor app user data to better understand this growing trend and how the effect on FP supply chains.

In Q3, GHSC-PSM finalized a report summarizing mobile data intelligence and market research companies covering fertility awareness apps. As part of the report, GHSC-PSM identified 15 companies with data on fertility awareness apps in USAID Population and Reproductive Health (PRH) and FP2020 priority countries. Of these 15 companies, the report detailed the process for selecting a company to purchase and analyze app data. GHSC-PSM based selection criteria on the number of USAID PRH and FP2020 priority countries covered, the amount of data on which apps, and features that women in LMICs used.

Following this final selection, GHSC-PSM purchased a 30-day subscription to access the fertility awareness app data that covered the previous 12 months and included information on app downloads per country, monthly active users, as well as other indicators that will provide insight into which apps are most popular in which countries and how women in LMICs are using apps for contraceptive decision making. GHSC-PSM plans to finalize a market landscape review as a result of this analysis in Q4.

Supporting social marketing engagement activities

In Q3, the project engaged social marketing organizations (SMOs) to discern their consumption trends and product needs for calendar years 2023–2024. GHSC-PSM conducted a mapping exercise with all project SMOs to understand their contract dates, confirm relevant points of contact (POCs), and define their future needs. This proactive approach will enable USAID and the project to more accurately appraise and tailor support during the transition to NextGen. These initiatives will enhance GHSC-PSM's strategic procurement planning and fortify delivery capabilities and support for SMOs.

Sharing insights on supply chain mobile applications for community health workers (CHWs)

In Q3, the project continued to disseminate the landscape analysis of five mobile applications and supporting technical brief for supply chain management at the last mile. This work was published in the Community Health Impact Coalition Research Roundup, which reaches a wide audience of stakeholders that focus primarily on supporting CHWs in rendering services at the last mile. In June, the findings were presented at the USAID Introduction to Supply Chain Management course and at the GHSC-PSM-PMI weekly malaria meeting.

Finalized and published procurement Impact Briefs on website

In Q3, GHSC-PSM finalized the 25 country Impact Briefs and one global brief. The briefs can be found on the GHSC-PSM website. The project promoted the Impact Briefs in a listicle on the USAID Impact Blog. In collaboration with USAID, GHSC-PSM will launch a utilization survey to understand how the

Impact Briefs are used as an advocacy tool in countries and inform future iterations of the briefs. Survey results will be analyzed and presented in Q1 FY 2024.

Preparing for the Reproductive Health Supplies Coalition (RHSC) General Membership Meeting (GMM)

RHSC is planning a GMM in Accra, Ghana, in Q1 FY 2024. The meeting's theme is resilience in the face of COVID-19's impact on access to RH supplies. Sub-themes include resilience to challenges in the RH supplies community, examining the financial landscape and future security, and celebrating Ghana's special resilience**.** In Q3, GHSC-PSM submitted nine abstracts for consideration. Of these, four abstracts were from headquarters (HQ) and five from country offices. Abstract topics included achieving innovations in contraceptive packaging, leveraging technology for supply chain resilience, investing in supervision to promote management accountability, and improving data utilization practices. RHSC plans to notify authors of abstract acceptances in Q4. In addition to the abstracts, GHSC-PSM plans to participate in the systems strengthening working group meeting at the conference and is in discussions with RHSC on the agenda for the meeting.

Tracking contraceptive security

In Q3, GHSC-PSM finalized the 2023 CSI survey updates in collaboration with USAID. Updates included clarifying certain FP/RH technical terms, updating language and definitions, and adapting the COVID-19 pandemic section to reflect the 2023 landscape. The project translated these updates into Spanish, French, and Portuguese. Once GHSC-PSM finalizes the survey template, it will pre-populate the surveys with procurement data for the question on the source of donated funds for contraceptives in the public sector using the Automated Requisition Tracking Management Information System (ARTMIS) and Global Family Planning Visibility and Analytics Network (VAN) databases. Simultaneously, the team updated the survey user manual to reflect the 2023 updates.

GHSC-PSM, in close collaboration with the USAID POC, completed another key activity for survey readiness, ensuring the contact lists for all surveyed countries are up to date. As in previous years, GHSC-PSM engaged country offices and, where necessary, identified and contracted consultants to collect the data. This year, the consultants met virtually with GHSC-PSM to review survey updates and the manual before beginning data collection in Q4. In Q4, GHSC-PSM will monitor survey completion from all surveyed countries and conduct rigorous validation of the results before analysis, reporting, and dissemination.

Identifying opportunities for increasing domestic wholesaler contributions to improve availability and quality of family planning commodities

In Q3, GHSC-PSM published a white paper, jointly funded by Task Order 3 and Task Order 4, to identify opportunities for increasing domestic wholesaler contributions to improve the availability and quality of family planning and MNCH commodities. The paper describes how domestic wholesalers operate in

public, private not-for-profit, and private for-profit sector markets and their added value to each. The paper also discusses wholesaler quality determinants and challenges and examines specific barriers faced and opportunities for strengthening the ability of domestic wholesalers to provide quality-assured health commodities. In Q4, GHSC-PSM will disseminate the paper to external stakeholders.

Tracking oral contraceptive order and demand trends

In May, GHSC-PSM was invited to participate in USAID/PRH's Topical Tuesday meeting. The project presented an analysis of oral contraceptive (OC) order and demand trends. The analysis was jointly undertaken by GHSC-PSM, Sustaining Health Outcomes through the Private Sector Plus, and USAID. It includes an analysis of supply and demand trends and a deep-dive analysis of key countries.[42]

Enhancing the visibility of FP/RH supply data

GHSC-PSM is a key contributor in supporting the strategic development and scale-up of the VAN platform and processes. The VAN is the RH community's pioneering initiative to increase supply chain visibility and improve stakeholder collaboration. In Q3, the project focused on supporting GHSC-PSM Premium Member VAN countries and those selected in FY 2022 as candidates to transition to Premium membership. Activities included:

- Managed the ARTMIS-VAN integration, conducting regular reviews and data quality process checks to ensure timely updates to the VAN while GHSC-PSM performed root-cause analysis of any issues that arose.
- Tracked cross-organizational and project use of the VAN and presented to USAID CSL Topical Tuesday on VAN use cases and usage trends across different VAN membership types and GHSC-PSM support levels. The usage trends show increased collaboration between funders, procurers, suppliers, and MOHs. This in turn is increasing data visibility for RHSC and MOH stakeholders.
- Coordinated with the GHSC-PSM Nigeria country office in beginning stakeholder engagement and planning sessions to support the integration of the Nigeria health LMIS and the VAN.
- Supported Liberia, and Rwanda in transitioning to Premium membership by working with RHSC to support these country offices as they hosted Premium member in-country training sessions.
- Participated in the VAN Steering Committee (GHSC-PSM is a non-voting member) and provided input to the manufacturing subcommittee on GHSC-PSM key supply chain data field definitions and opportunities for standardization across the FP community.

[42] Includes Bangladesh, Ghana, Madagascar, Mali, Nigeria, Pakistan and Zambia

- Participated in regular VAN working groups, including the following task forces: data management, technical management, data sharing, systems strengthening, and super user and analytics.

Updating the TO3 Product Catalog

GHSC-PSM is updating the 2022 TO3 Product Catalog to reflect any changes to the product portfolio and product pages, including supplier profiles, volumetrics, logistics, stock planning, and warehousing data as required. The TO3 Product Catalog aims to inform and aid stakeholders' decision making when planning for the procurement, supply, and distribution of contraceptives. In Q3, GHSC-PSM collected required updates to product pages from TO3 suppliers. In Q4, the project will incorporate these edits into the 2023 catalog, then translate the catalog into French and Portuguese and disseminate it to relevant stakeholders.

COUNTRY SUPPORT

The family planning task order provided health supply chain systems-strengthening support to 20 countries in FY 2023.

In Q3, GHSC-PSM supported **Burundi's** National Reproductive Health Program (PNSR) and "Autorité Burundaise de Régulation des Médicaments à Usage Humain et des Aliments" (ABREMA) to train staff on the QAT. This training is part of an effort to transfer skills and hand over responsibility to the MOH for FP/RH supply planning and management. In collaboration with the United Nations Population Fund (UNFPA), GHSC-PSM organized a training workshop on QAT. Participants included representatives from PNSR, ABREMA, Association Burundaise pour le Bien-Être Familial, UNFPA, Population Services International (PSI), and the national quantification subcommittee. Participants learned QAT-specific process flow for forecasting, forecasting methods, requirements for data, consumption data entry, adjustments to reporting and stockout rates, and how to select extrapolation methods and analyze forecast outputs. Monthly follow-up sessions are planned to ensure that the MOH takes over by the end of the GHSC-PSM project.

In **Ethiopia**, the evolving family planning commodity funding landscape has significantly impacted the accessibility and availability of contraceptive supplies. Since January 2022, when GHSC-PSM helped convene a high-level stakeholder workshop to begin developing a national strategic plan to address the need for reproductive health commodities, the project has continued to work to bring about stakeholder consensus and policy commitments. With GHSC-PSM's technical guidance, the newly formed RHCS task force undertook an extensive gap analysis and identified key challenges such as high unmet demand, inconsistent contraceptive funding, supply interruption, and inadequate coordination among stakeholders. With this knowledge, they embarked on devising a solution that would address these challenges and align with government commitments under FP2030.

In Q3, GHSC-PSM collaborated with the MOH to organize a stakeholder consultative workshop to launch the final version of the RHCS strategy (2022–2026), with the participation of more than 110 national and subnational FP/RH representatives across the country.

The launch of this strategic plan is a significant milestone toward addressing national commodity security challenges comprehensively, driven by sustained government leadership across the health system.

GHSC-PSM continues to provide training and technical support to **Liberia**'s National Quantification Technical Committee and the Family Health Division on use of the QAT. This robust data management system encompasses the entire supply chain and provides data visibility, data analysis, and reporting. QAT also provides data for the Global Family Planning VAN and allows the team in Liberia to accurately document the demand and use of reproductive health commodities, leading to improved forecasting of reproductive health commodities and supply plan review. The MOH and implementing partners now share stock status of RH commodities monthly, enabling better decision-making, resource allocation, and advocacy geared toward sustained RH commodity availability.

In **Mali,** to ensure an uninterrupted supply of contraceptives at the community level, GHSC-PSM collaborated with USAID family planning service delivery implementing partners, including the NPI Expand project, the Momentum Private Healthcare Delivery Project, JIGI (subcontractor for storage and distribution of contraceptive supplies), a 3PL, and the association of the community health centers to organize the fourth mass distribution of contraceptives to the community health centers. OSPSANTE eLMIS data was used to estimate the distribution needs for six regions[43] and partners distributed eight months of contraceptives (six months for routine activities and two months for the completion of the FP/RH campaign). In total, they distributed to 1,015 community health associations (CSComs) in 46 districts. The quantities distributed through this coordinated mechanism represented 198,548 couple-years-protection.

To track deliveries across different routes, GHSC-PSM used the Distribution Transportation Tool and the KoboToolBox[44].

In **Mozambique**, GHSH-PSM prepared a mandatory procurement planning and monitoring report (PPMR-RH) that captures monthly data for central- and provincial-level stock, average monthly consumption, and shipments for FP/RH commodities. This led to a deep-dive presentation and a discussion between GHSC-PSM and the USAID Mission on GHSC-PSM technical assistance activities and commodities procurement; including using FY 2023 funds to procure injectables and implants based on the quantification update. The project supported the Central de Medicamentos e Artigos Médicos

[43]Kayes, Koulikoro, Sikasso, Ségou, Mopti, and Bamako

[44]KoboToolbox (Kobo) is an open-source data collection tool. GHSC-PSM Cameroon uses Kobo to collect last mile distribution data including the linking of commodities to a registered vehicle/driver and detailed delivery confirmation by 3PL drivers.

(CMAM–the central medical store) to compile the commodities distribution data needed to update the Track 20 RH indicators for the 2023–2030 period, conducted a monthly TO3 commodities update with USAID and PEPFAR, and followed up with CMAM on the FP/RH commodities distribution and with UNFPA on orders. The project assisted the MOH in implementing the new strategy for medroxyprogesterone acetate subcutaneous, or MPA-SC, quantifying the needs, procuring the contraceptives, planning the distribution to all provinces of the country, based on the level of demand creation promoted in each province, and monitoring the management of existing stocks.

B4. MATERNAL, NEWBORN, AND CHILD HEALTH

15 countries[45] have received MNCH supply chain strengthening support in FY 2023.

Two countries received deliveries of MNCH medicines and commodities in Q3. Since its beginning, the project has delivered a total of **$25.4 million in MNCH commodities** over the life of the project, including **$34 thousand in Q3.**

In Q3, the project **hosted two postpartum hemorrhage (PPH) workshops in Guinea and Nigeria**, discussing **PPH supply chain considerations and strategies** with more than **271 local stakeholders** across both countries.

Presented on Ghana's use of oxygen and related devices for newborns at the 2023 International Maternal and Newborn Health Conference **(IMNHC)**, and on **two MNCH supply chain studies** in Ghana at the Center for Applied Research and Innovation in Supply Chain-Africa (**CARISCA) Summit 2023** in Q3. **Submitted three MNCH abstracts** to the **RHSC General Membership Meeting**.

GHSC-PSM supports USAID's efforts to prevent child and maternal deaths by increasing access to quality-assured medicines and supplies under the MNCH task order. The project provides global technical leadership on MNCH commodities and ensures that supply chain management considerations are included in global dialogue and initiatives.

This section of the GHSC-PSM report summarizes achievements under the MCH task order objectives in Q3 FY 2023, including those of the core work contributing to the global dialogue on priority MNCH issues, and the performance of the project's global supply chain and country offices. The MNCH task order objectives are as follows:

- **Objective 1. Provide international MNCH supply chain leadership and guidance**: GHSC-PSM contributes to the global MNCH commodity and supply chain knowledge base,

[45] GHSC-PSM provided MNCH technical assistance to 15 countries in FY 2023: AFRICA: Burkina Faso, Ethiopia, Ghana, Guinea, Kenya, Liberia, Malawi, Mali, Mozambique, Nigeria, Rwanda, and Zambia; CARIBBEAN: Haiti ASIA: Nepal, Pakistan.

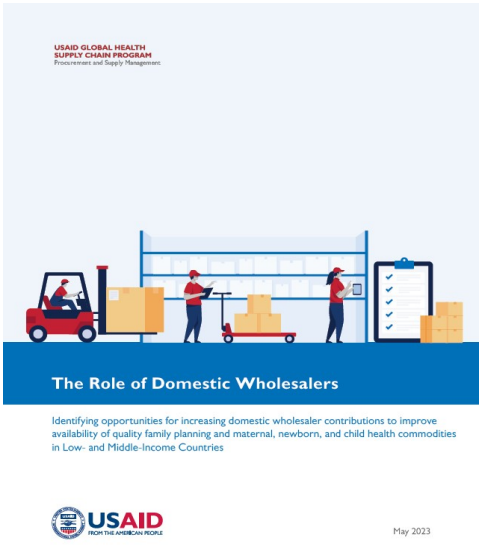
engages with technical coordination bodies, and promotes international MNCH and supply chain best practices.

- **Objective 2. Support data-informed health supply chain decision making for MNCH commodities**: The project implements and trains staff to use MNCH data collection and analysis tools; advocates for data system investments; and works with countries to demonstrate the value of timely and accurate data for commodity management.
- **Objective 3. Improve adherence to globally recognized best practices in MNCH commodity management**: The project develops procurement, storage, and distribution resources and partners with national governments to implement MNCH commodity management best practices.
- **Objective 4. Enhance in-country MNCH supply chain coordination and collaboration**: GHSC-PSM guides national governments as they lead and institutionalize coordination among sub-national partners, programs, and donors involved in MNCH service delivery and commodity selection and management.
- **Objective 5. Conduct ad hoc strategic procurement and delivery to increase the availability of quality-assured MNCH commodities** in project-supported countries.

INTERNATIONAL MNCH SUPPLY CHAIN LEADERSHIP AND GUIDANCE

Facilitating global MNCH knowledge sharing

GHSC-PSM provides global technical leadership on MNCH commodities and supply chain needs through events, TWGs, and facilitated technical conversation among experts based in GHSC-PSM country offices. In Q3, GHSC-PSM published a brief on the role of domestic wholesalers, which was shared at the regionalization workshop. For more information on the workshop, see Section C3, Global Collaboration.The brief contributes to USAID's goal to localize manufacturing and sourcing of products whenever possible, and to ensure sustainable supply of essential medicines.



Presenting at the 2023 International Maternal and Newborn Health Conference

In Q3, GHSC-PSM participated in theIMNHC in Cape Town, South Africa. IMNHC seeks to drive urgent action toward achieving the Sustainable Development Goals (SDGs) focused on reducing maternal and newborn deaths and preventing stillbirths. The global gathering offered an opportunity to present the experience and accomplishments of GHSC-PSM's MNCH portfolio. GHSC-PSM coordinated and presented on the panel "Innovations in the respiratory ecosystem to support safe oxygen use with continuous positive airway pressure (CPAP) for small and sick newborn care (SSNC) to achieve Every Newborn Action Plan (ENAP) Target 4." GHSC-PSM and fellow presenters from USAID, United Nations Children's Fund (UNICEF), Systems Approach for MNCH focusing on Vulnerable Geographies (SAMVEG), Diamedica UK, Kamuzu University of Health Sciences in Malawi, and Aga Khan Health Services in Tanzania discussed oxygen use and medical device innovations for SSNC. The presentation focused on the need for aligned policies, appropriate equipment at health sites, and innovations in medical devices to improve newborn care. GHSC-PSM presented preliminary results from a study of how level 2 facilities in Ghana are using improvised bubble CPAP (bCPAP), 100 percent oxygen, and pulse oximetry monitoring.

Presenting at the 2023 CCARISCA Summit

In Q3, the project presented on two recent MNCH studies (conducted by GHSC-PSM in Ghana) at the 2023 CARISCA Supply Chain Summit, sharing recommendations from both:

- Assessment of Commodities for the Management of Hypertensive Disorders in Pregnancy in Ghanaian Health Facilities
- Assessment of MNCH Commodities in Ghana's Private Sector Facilities, Wholesalers, and Retail Pharmacies

Participating in Small and Sick Newborn Model of Care: Deep-dive Finance Workshop

In Q3, GHSC-PSM participated in a workshop focused on financing strategies for SSNC. The objectives of the meeting were as follows:

1. Understand three costing tools for SSNC developed by the Global Financing Facility (GFF), UNICEF, and NEST360 and brainstorm on how these might be used to support ENAP country accelerations plans to scale up small and sick newborn care
2. Discuss and determine the feasibility for coordination and collaboration in supporting countries to integrate these costing tools in the context of the country acceleration plans

GHSC-PSM shared its experiences and advocated to the participants, including USAID, World Bank, UNICEF, WHO, and the MOMENTUM project, for increased attention to MNCH work in francophone

and lusophone countries in Africa given current trends of maternal, neonatal and child mortality rates as well as the need for translated guides, global guidance, technical briefs, research papers, etc., in multiple languages. The group will continue to meet and ultimately draft a resource guide sharing best practices around financing for MNCH projects.

Expanding the warehousing Center of Excellence

The Center of Excellence (COE) initiative is designed to accelerate change management across warehouses and warehouse systems through continuous operations improvement using "lean" methodology. This commercially accepted approach maximizes output while minimizing resources used. The COE prepares the supply chain and warehouse management systems for activity-based costing (ABC) and dynamic routing, aligned with private sector best practices. When warehouse management systems in countries become more efficient and cost-effective, country governments can use freed-up funds on other priority initiatives to improve the health of their citizens.

During Q3, GHSC-PSM produced a draft COE field guide, "How to Operate the Center of Excellence: Winning the Logistics Game." The methodology in the guide focuses on overcoming constraints and eliminating excess travel and labor to reduce warehouse order cycle times and complete all warehouse activities simultaneously. GHSC-PSM tested the methodology by implementing a daily planner at the Zambian Medicines and Medical Supply Agency (ZAMMSA) in Lusaka. The project then collected volumetric outbound data in Zambia to include in the field guide as real-life examples and to illustrate lean warehouse product slotting methodologies. GHSC-PSM will finalize the guide in Q4.

SUPPORT FOR DATA-INFORMED HEALTH SUPPLY CHAIN DECISION MAKING FOR MNCH COMMODITIES

Conducting end-use verification (EUV) surveys in project-supported countries

MNCH data and analytics within national LMISs are not always adequate to identify and resolve supply chain issues. GHSC-PSM uses the EUV survey to increase the availability of MNCH commodity data. The survey helps supply chain staff collect data on commodity availability, storage conditions, and factors that affect commodity availability at service delivery points. EUV data collection is also an opportunity for GHSC-PSM country teams to provide on-site capacity building for SDP staff and MOHs, gather supplemental qualitative data on stockout reasons, and cross-check LMIS data accuracy on stock availability trends.

Exhibit 12 depicts countries that collected EUV data and submitted EUV reports to USAID/Washington and in-country stakeholders in Q3.

Exhibit 12. Q3 MNCH EUV Countries

Countries that collected EUV data in Q3	Burkina Faso, Mali, Zambia
Countries that submitted EUV reports in Q3	Ghana, Mali, Nigeria

Results from the recent EUV in Mali. In Q3, the Mali EUV report demonstrated overall positive trends in stockout rates across the country. Some notable progress documented in this EUV includes:

- Maintained 100 percent availability of oxytocin (10 IU) at the district, regional, and central warehouse levels, and increased availability at the SDP level from 96 percent in May 2022 to 100 percent in the most recent reporting period.
- Increased the percentage of facilities with updated stock cards, with at least 80 percent of warehouses showing updated stock cards for six of the eight products surveyed.
- Ensured the availability of five out of eight products (63 percent) at the central warehouse level through GHSC-PSM advocacy.

GHSC-PSM in Mali aims to continue these positive trends by improving the monitoring of cold chain temperatures, continuing to provide supervision of regional warehouse managers to increase the quality of logistics data at the health facility level, and advocating for the uptake and appropriate use of amoxicillin dispersible tablets with the MOH, donors, and partners.

Improving data analytics and information systems for MNCH commodity decision-making

eLMIS platforms aggregate and help stakeholders analyze an array of national supply chain information. In FY 2021, GHSC-PSM developed a catalog of robust analytics tools that project-supported countries use alongside eLMIS to inform MNCH commodity management decisions. The catalog describes each tool, the platform it uses, and the data it requires to function. The catalog should benefit countries with nascent eLMISs, providing a blueprint of existing analytics tools to support critical supply chain decisions.

Refactoring[46] analytics tools for wider use. GHSC-PSM has been refactoring select tools from the data catalog, or making the tools' code more widely usable, and helping countries implement these refactored tools in their health and logistics systems. By the end of Q3, the project will have supported six countries; highlights include:

- In **Burkina Faso**, following the development of the Data Capture and Data Analytics tools and corresponding user guides in French and English, the project engaged the Burkinabe MOH and the central medical store (CAMEG) to improve stock monitoring and forecasting through the

[46] Refactoring is the process of changing a software system in such a way that it does not alter the function of the code yet improves its internal structure, and makes it more generic and easy to integrate with differing platforms and systems.

use of both tools. GHSC-PSM then demoed the tools to the MOH. The project will facilitate tool adoption, including organizing a workshop to train supply chain actors on their use. The country office is working to align refactored tools with ongoing efforts to set up an eLMIS in the country.

- In **Liberia**, following the integration of country-specific data into the Data Extraction Tool and Consumption Anomaly Tool and developing user guides for in-country staff, GHSC-PSM presented the refactored tools to the USAID Mission and MOH, who are discussing deploying both tools to increase visibility and ameliorate tracking of persistent stock challenges throughout the supply chain.

- In **Malawi**, the USAID Mission approved refactoring the Consumption Anomaly Tool (CAD). CAD develops a methodology that flags or detects anomalies in consumption that might warrant review or monitoring. The tool uses statistical process control (SPC) charts to detect and warn about stock issues. The project tested the tool using historical data from Malawi's eLMIS and demonstrated that deployment is feasible and beneficial to support the collection and tracking of MNCH commodities and to analyze consumption and detect anomalies for improved commodity management. The refactored tool will be implemented in alignment with the eLMIS and the current data ecosystem to address the country's needs. GHSC-PSM developed a scope of work with a detailed timeline and level of effort estimates to ensure that the first phase of the activity can be completed by the end of FY 2023. Phase I includes deploying the tool, training users, and developing user guides. Phase II will be implemented in FY 2024.

ENHANCED IN-COUNTRY MNCH SUPPLY CHAIN COORDINATION AND COLLABORATION

Postpartum hemorrhage workshops in Guinea and Nigeria. GHSC-PSM organized two workshops to increase participants' (local project staff, MOH staff, public and private supply chain actors, and additional stakeholders) PPH management capacity in Guinea and Nigeria, in coordination with Monash University in Q3.

Nigeria workshop. GHSC-PSM and Monash University led this virtual workshop to strengthen stakeholder capacity in managing PPH commodities. The workshop featured a guest speaker from the National Primary Health Care Development Agency (NPHCDA), a parastatal of Nigeria's federal MOH. Over 200 participants joined from a variety of organizations: the federal and state levels of the MOH, Nigerian regulatory agencies, pharmaceutical manufacturers, drug management agencies, focal persons at SDPs, and implementing partners. This workshop facilitated a dialogue on developing a PPH uterotonics strategy in Nigeria with key stakeholders who discussed a path forward, focusing on:

- Building awareness of good management practices impacting the availability of MNCH products

- Exploring solutions to improve oxytocin storage conditions including leveraging cold chain capacities of the National Program on Immunization (NPI) under NPHCDA
- Reviewing documentation to optimize the supply of MNCH products
- Sharing resources to inform health worker training
- Reviewing other countries' experiences
- Developing a roadmap for strengthening the MNCH commodities supply chain including the use of the NPI cold chain for oxytocin storage

Next steps: GHSC-PSM in Nigeria coordinates across stakeholders to move priority actions forward, including providing technical assistance to develop a national policy statement that facilitates the integration of oxytocin into the national cold chain infrastructure. This policy statement would incorporate many key messages from this workshop series.

Guinea workshop. A total of 71 participants (national and global stakeholders) represented the Directorate of Family Health and Nutrition at Guinea's MOH, the national immunization program, National Order of Midwives, Association of Gynecologists and Obstetricians, Central Medical Store, USAID, UNICEF, UNFPA, and Gavi, the Vaccine Alliance. The workshop facilitated dialogue to inform the development of a PPH uterotonics strategy in Guinea. An outcome of the workshop was to ensure the alignment of government and MNCH stakeholders on the following messages:

1. Only quality-assured uterotonics that clearly reference appropriate quality standards and requirements should be procured.
2. Effective PPH treatment requires having access to more than one medicine at a care setting/facility.
3. Continuous, end-to-end cold chain (including during transport from manufacturer to facility) is necessary to ensure the quality of oxytocin.
4. Coordination among procurement managers, program managers, health policymakers, and clinical staff is critical to expanding access to the full suite of medicines. These stakeholders should be in regular conversation to understand each other's needs and challenges.

Before the workshop, GHSC-PSM conducted site visits in urban and rural areas of Guinea,[47] identifying significant challenges around adequate storage and management of uterotonics, oxytocin in particular. These findings informed the workshop discussions, helping reinforce key messages for the prevention of PPH.

Results: Participants praised the sessions for their pertinence and relevance to the Guinean context. GHSC-PSM and Guinea MOH will meet in Q4 to determine the next steps for expanding the cold chain for MNCH commodities as well as integrating oxytocin in the expanded program on immunization.

[47] Sites visited include: Conakry, Coyah, Dubreka, Fili, Forecariah, and Wonkifong.

IMPROVED ADHERENCE TO GLOBALLY RECOGNIZED BEST PRACTICES IN MNCH COMMODITY MANAGEMENT

Providing systems strengthening technical assistance

GHSC-PSM is providing MNCH systems strengthening support to increase access to quality-assured MNCH commodities to 15 countries[48] in FY 2023. Specific country achievements are described below.

Assessing medical devices and consumables for SSNBs in Ghana. In Q3, GHSC-PSM assessed newborn medical devices and commodities, and providers' capacity to use these supplies in Ghana. The assessment included a situational analysis of 1) the prevalence of improvised bCPAP, 2) 100 percent oxygen use, and 3) pulse oximetry monitoring in district health centers. The analysis was designed to:

- Determine data gaps regarding the availability of resuscitation devices for the care of SSNBs.
- Investigate health worker capacity to manage and maintain devices critical to ensuring adequate care for SSNBs.
- Evaluate maintenance protocols for medical devices used for newborn care.
- Assess the respiratory ecosystem for SSNBs at health facilities.

GHSC-PSM coordinated with stakeholders including Ghana Health Service (GHS), JHPIEGO's Reaching Impact, Saturation, and Epidemic Control, or RISE, project in Ghana, and the USAID/Ghana Mission to develop a harmonized assessment tool for use in targeted geographic regions (Upper West, Upper East, Northern, Eastern, and Savannah regions). In Q3, the project collected data, including conducting interviews with the Biomedical Engineering Division and the Family Health Division at GHS – both groups also helped with data analysis. The project created key recommendations based on the assessment results, including:

- ***Establish effective maintenance practices to ensure the longevity of the medical devices***. Staff should be adequately trained to regularly maintain the equipment used at the facilities.
- ***Expand infrastructure for maternal and newborn care*** (neonatal intensive care unit [NICU], postnatal unit, maternal theater, kangaroo mother care unit and special baby care unit) in health facilities to ensure equitable access to all levels of services critical for protecting the health of SSNBs as well as individuals seeking maternal health services.
- ***Support health facilities to acquire and ensure effective use of newborn care devices and equipment*** including CPAP, pulse oximeter, and safe oxygen sources (such as oxygen concentrators, bulk liquid oxygen, oxygen generators, and pressure swing adsorption (PSA) plants that are recommended for use in the NICU. This effort should include advocacy with

[48] GHSC-PSM provided MNCH technical assistance to 15 countries in FY 2023: AFRICA: Burkina Faso, Ethiopia, Ghana, Guinea, Kenya, Liberia, Malawi, Mali, Mozambique, Nigeria, Rwanda, and Zambia; CARIBBEAN: Haiti; ASIA: Nepal, Pakistan.

development partners and stakeholders to support the provision of critical equipment for the optimized treatment and management of newborns.

The project will publish a full assessment report in Q4.

Participating in Ethiopian SSNC policy workshop

GHSC-PSM participated in the NEST360 SSNC Policy Dialogue in Addis Ababa, Ethiopia. This workshop, organized by USAID and the Ethiopian MOH, focused on strengthening and scaling up SSNC in Ethiopia. The workshop's objectives were:

- Summarize Ethiopia's targets and health sector policy related to SSNC Level-2+, including continuous positive airway pressure.
- Review the current status of SSNC scale-up in Ethiopia using health facility assessment results.
- Share SSNC tools and learnings from the ENAP global guidance.
- Determine immediate priorities for SSNC in Ethiopia and identify strategies to close the implementation gap.
- Map stakeholders to streamline current and future investments in SSNC, including how to best support the national SSNC agenda.

GHSC-PSM contributed to the stakeholder discussions on strategies to improve SSNC in Ethiopia, particularly in financing, forecasting and procurement, and warehousing and distribution. The project also contributed to discussions on developing national maintenance protocols for SSNC medical devices as well as data management systems for adequate performance monitoring at health sites. The workshop concluded with commitments from participants to increase efforts to improve SSNC.

Improving Financing for Maternal Health Commodities in Ethiopia

Insufficient sustained funding for MNCH medicines is a complex challenge and a primary barrier to reliable product availability. Over many years, GHSC-PSM in Ethiopia has supported the government to elucidate further and address its commodity financing challenges, including:

- Available finances not prioritized for securing high-impact lifesaving MNCH commodities
- Inconsistent and inefficient flow and use of funds
- Uncoordinated donor financing and procurement
- Limited capacity in tracking funding, spending, gap analysis and advocacy to fill any financial gaps

To address these challenges, GHSC-PSM in Ethiopia helped strengthen the government's capacity to manage its available domestic resources efficiently and transparently. The project developed tools, such

as commodity and funding gap impact analyses, to engage, advocate, and monitor allocated funding for MNCH commodities. The project employed innovative strategies to advocate for increased funding, such as focusing on women in political leadership as champions for the cause.

GHSC-PSM is documenting the Ethiopia experience and the project's impact on MNCH commodity financing. In Q3, the project solidified plans to publish a paper to increase knowledge around and visibility of the importance of MNCH commodity financing for improved health commodity availability globally. In the coming quarter, GHSC-PSM will develop a scope of work and clarify deliverables for this activity. The next steps include engaging MOH and other stakeholders to obtain buy-in and support before the paper is underway.

AD HOC STRATEGIC PROCUREMENT TO INCREASE AVAILABILITY OF QUALITY-ASSURED MNCH COMMODITIES

In Q3, GHSC-PSM supported four countries[49] in procuring essential medicines and consumables. This included select essential medicines that were in critically short supply on behalf of USAID/DRC, medicines for cholera patients in Haiti, and oral rehydration salts and zinc copacks for community health workers in Mozambique.

Procurement of ready-to-use-therapeutic-food (RUTF) for Nigeria

To address severe acute malnutrition in children under the age of five in Nigeria, GHSC-PSM worked in close collaboration with the USAID/Nigeria Mission to source quality-assured RUTF for three northern states: Bauchi, Sokoto, and Kebbi. GHSC-PSM collaborated with GHSC-QA to prequalify local manufacturers and launched a sourcing event for procurement and delivery of RUTF to the states. GHSC-PSM's evaluation of offers resulted in awards to two Nigerian manufacturers. In Q3, GHSC-PSM completed contract negotiations.

In Q4, contracts will be executed, and the first manufacturer will make initial deliveries according to the contract schedule. The supply plan and contract schedule calls for the second manufacturer to deliver the product in FY 2024.

[49] GHSC-PSM supported procurement of MNCH commodities for four countries in Q3 FY 2023: DRC, Haiti, Mozambique, and Nigeria.

SECTION C

PROGRESS BY OBJECTIVE

C1. GLOBAL COMMODITY PROCUREMENT AND LOGISTICS

Procured $163.5 million in health commodities in Q3. Total values over the life of the project are over **$5.1 billion**.

Delivered 1,111 line-item orders in Q3, with a value of **$146.9 million**.

Delivered 86 percent of line items on time, based on the defined on-time window (within the period 14 days before or seven days after the agreed delivery date). **Delivered 89 percent on-time and in-full.**

C1a. GLOBAL SUPPLY CHAIN: FOCUSED ON SAFE, RELIABLE, CONTINUOUS SUPPLY

GHSC-PSM's procurement strategy focuses on three primary objectives:

1. Maintain on-time deliveries, despite the war in Ukraine.
2. Balance price, delivery, and quality to achieve the best value.
3. Reduce response/cycle times, lead times, and transaction costs.

In Q3, the project achieved another strong performance, with OTD above the contractual target of 80 percent for the 20th consecutive quarter. The project achieved this by focusing on performance and managing overall commodity and supply chain costs through the following initiatives:

MORE HEALTH COMMODITIES THROUGH MARKET DYNAMICS, STRATEGIC SOURCING, AND SUPPLIER MANAGEMENT

GHSC-PSM works across project teams and external stakeholders to understand markets for the medicines and health commodities it procures. The project develops sourcing strategies, builds strategic relationships with suppliers that shape markets, enhances project performance, and achieves greater value for USAID within each product category. GHSC-PSM conducts market analyses, leads strategy development, employs sourcing best practices, contributes to process improvements, and negotiates and proactively manages contracts with suppliers and 3PLs. The project executes sourcing activities for products under each health area in line with the strategic sourcing calendar and undertakes additional sourcing for products to support USAID's COVID-19 response. See sections B1, B2, B3, B4, and Annex A for details.

Notable highlights this quarter include:

- Placed an order for 24,300 vials of CAB-LA based on the anticipated needs for Malawi, Zambia, and Zimbabwe as directed in the PEPFAR FY 2024 (Country Operational Plan 23) Technical Consideration for HIV Prevention Programming.

- Collaborated with GHSC-QA to issue an RFP to the four USAID-eligible RUTF suppliers to obtain QA technical information to establish subcontracts in light of FY 2024 procurement needs. GHSC-PSM aims to establish these subcontracts before the end of Q4.

Supplier relationship management

In Q3, GHSC-PSM conducted business reviews with key suppliers as part of a multi-tier approach to supplier relationship management. In addition to scheduled calls for ongoing order management and meetings as required on particular issues, the project periodically meets with suppliers to discuss performance, products, production capacities, quality, and global supply chain trends. This information, along with commodity and supplier risk profiles, contributes to supplier performance assessment and order allocation strategies. In Q3, GHSC-PSM held in-person and virtual business reviews with seven suppliers for TO1, twelve suppliers for TO2, and seven suppliers for TO3.

Operational excellence

In Q3, GHSC-PSM developed, rolled out, and enhanced several operational cost reduction initiatives:

- Enhanced the features of the Sourcing Assistance Messenger (SAM) tool based on user feedback. SAM is a virtual assistant to help procurement teams perform simple tasks, such as following up on approvals or resolving funding issues, in a timely manner to avoid having delays or exceeding service-level agreements.

- Developed a minimally viable product version of the invoice-to-pay tool to significantly reduce operational costs and lead time in processing invoices. In Q4, the project will conduct user acceptance testing, pilot the tool with suppliers, and develop a Power BI™ reporting portal for the tool.
- Continued developing the e-packing list to increase efficiency by streamlining 3PL booking, enhance RDC receiving by providing a foundation for electronic proof-of-delivery, automate invoice reconciliation, and optimize warehouse receiving and batch-level visibility. Rollout is scheduled for Q4.
- Completed a comprehensive review and update of Ship-To, Consignee and Client addresses in ARTMIS. This review identified and deactivated the Ship-To, Consignee and Client addresses that were no longer in use or outdated, resulting in a 15 percent reduction in active addresses in ARTMIS.
- Maintained and enhanced the order allocation tools for multiple commodities: essential medicines, lab (including TO1 and TO2), condoms, and ARV. In Q3, these automation tools collectively sent over 135 requests for information to suppliers, evaluated nearly 80 responses from suppliers based on business logic, and recommended allocations for over 40 orders with more than 50 lines.

Regional distribution center operations

In Q3, GHSC-PSM leveraged the three RDCs to deliver more than $10.2 million worth of commodities to 23 destination countries. The project also used RDCs to deliver 7.8 percent of all TLD by value. As in Q1 and Q2, all RDCs achieved 100 percent on inbound and outbound performance.

In Q3, GHSC-PSM completed the destruction of two tranches of expired or damaged products at the Belgium and South Africa RDCs.

DECENTRALIZED PROCUREMENT (DCP)

In Q3, GHSC-PSM achieved 89 percent OTD for orders managed through the DCP channel. To proactively manage the impact of COVID-19–related logistics constraints on the global supply of VL/EID reagents and consumables, the project holds bi-weekly order management meetings with manufacturers and distributed VL/EID demand across all available testing platforms.

The project procured the HIV-1 192 test kit configuration for use on VL and EID testing equipment for Kenya and Tanzania and supported the transition to a new viral load testing platform in Kenya.

In line with the project's strategy to maintain decentralized procurement capability in Africa, in Q3, the GHSC-PSM DCP team in Kenya continued to procure laboratory commodities for Kenya and Tanzania.

This strategy allows more orders to be managed in a similar time zone as the destination countries and avoid delays due to time differences.

GLOBAL STANDARDS

GHSC-PSM operationalizes its procurement requirements for pharmaceuticals, medical devices, sterile kits, laboratory reagents, and LLIN suppliers to adopt standardized product identification and labeling and exchange product master data leveraging GS1. These supplier requirements include:

- *Identification:* Assigning Global Trade Item Numbers (GTINs) that identify trade items and Global Location Numbers that identify business entities and locations.
- *Capture:* Labeling specified packaging levels with barcodes encoded with GTIN, batch/lot, expiration date, serial shipping container code, and (for pharmaceuticals and LLINs) serial number.
- *Share:* Exchanging standards-based, descriptive product master data through the Global Data Synchronization Network (GDSN).

In Q3, the project continued to engage with suppliers and the global health community to advance adoption of these standards across the GHSC-PSM portfolio, thus laying the groundwork to use these data in global and national supply chain processes and systems. Advancing compliance requires regular engagement with suppliers for existing and new items. In Q3, through this ongoing engagement, the project:

- Collected, validated, and added GTINs for 96 items to the GHSC-PSM catalog.
- Collected master data for 53 items through the GDSN and maintained data on existing items. The project also sent and received more than 600 messages in the GDSN.

As of Q3, the GHSC-PSM catalog had a total of 1,157 in-scope items (subject to requirements, actively procured in the past, and available for procurement in the future).

Quality Assurance

GHSC-PSM streamlines and optimizes quality assurance (QA) and quality control (QC) business processes and procedures to rapidly address product incidents and failures as they occur, ensuring quality products reach the consumer. Highlights in Q3 include:

- Facilitated collaboration of QA activities between GHSC-PSM and stakeholders (suppliers, clients) to manage quality incidents by expediting activities, such as product quarantines to ensure patient safety and facilitate product replacement to avoid stockouts.

- Received 19 new incidents across HIV/AIDS, FP/RH, and MNCH health areas and completed QA tasks for 27 cumulative incidents, leaving about 21 open incidents as of the end of Q3.
- Engaged with country offices to enforce on-time reporting of quality incidents and adherence to SOPs. This process ensures that only quality products are delivered to the end user.
- Continued to optimize QA SOPs by creating a product complaint and adverse reaction/medical event SOP, to manage incident reporting and facilitate communication of such incidents with GHSC-QA, suppliers, and the complainant to expedite resolution and patient safety.
- Started working with GHSC-PSM and the USAID Transition Working Group (TWG) in collaboration with GHSC-QA on how to best prepare and support a smooth transfer of GSHC-QA/FHI 360 and GHSC-PSM collaboration documents, processes and activities to the applicable NextGen QuTI and NextGen PSAs.
- Worked with GHSC-QA to strategize and begin implementing CAPAs with suppliers. This procedure is intended to hold suppliers responsible for compliance with good storage and good distribution practices during product shipment and storage at pick-up locations while the product is in the supplier's custody. Activities included modifying supplier contracts and optimizing internal processes.

QA for malaria commodities

For QA for malaria commodities, see section B2: Malaria.

IMPACTS OF GLOBAL CHALLENGES ON FREIGHT AND LOGISTICS

Global challenges

In Q3, persistent civil unrest, extremist attacks, and climate change remained the biggest challenges to logistics in the areas where GHSC-PSM operates.

In Q3, the market-wide drop in global cargo demand continued to impact shipping lines. The consequent blank sailings and disruptions in shipping schedules led to ocean carriers suspending services. The ocean industry also continued to experience fuel shortages, increased fuel surcharges, and capacity constraints due to International Maritime Organization regulations on emissions.

Air freight

Air freight capacity continues to rise. In Q3, international widebody capacity was up by 13–14 percent compared to last year. The current outlook for air freight capacity is stable in capacity and price.

In Q3, labor shortages and strikes persisted, with all major European air hubs bracing for summer flight disruptions.

While global capacity has leveled off, airlines continue to focus their routes on popular destinations and switch to using various (often smaller) aircraft types to adjust to demand. Although overall airline scheduling is rebounding, the limited capacity for already underserved locations remains a concern, as fewer freighter aircraft serve these routes.

The post-COVID-19 landscape in the airline industry has made shipping to Africa by air more expensive and less reliable.

Ocean freight

In Q3, severe winds and cyclones affected ocean freight into all areas of Africa. Shipping lines continued to manipulate capacity, cancel sailings, and bypass ports to raise prices, leading to bookings with longer routes, occasional booking changes, and transshipment delays. Several ports experienced labor disputes, which may lead to new congestion issues over the summer. Extreme drought conditions affected European river routes and may affect Panama Canal transits. These issues led to carriers adding surcharges for affected routes.

Destination challenges

Extreme weather is becoming a year-round issue in many countries. In Q3, severe flooding caused by continuous cyclones and tropical storms impacted deliveries to countries in all regions.

Security and instability remain a concern, particularly in Africa and Haiti. In Q3, tensions continued in DRC and Rwanda, and extremist activity continued to cause security concerns in West Africa.

EMERGENCY ARV PROCUREMENTS

Kenya

At the end of Q2, GHSC-PSM received an emergency order for 914,570 TLD 90-count bottles to prevent an imminent stockout in Kenya. In Q3, the project successfully delivered the full quantity.

See section B1: HIV/AIDS for more information.

C1b. PROJECT PERFORMANCE

This section summarizes findings on key indicators of GHSC-PSM global supply chain performance. More detail on these and other indicators is provided in Annex B.

DELIVERY TIMELINESS

GHSC-PSM measures OTD in two ways:

- OTD, the number of on-time deliveries as a percentage of expected deliveries in the period
- OTIF, the number of on-time deliveries as a percentage of all actual deliveries in the period

OTD is a more accurate reflection of recent performance, while OTIF is a lagging indicator as late orders due in prior periods get delivered.

In Q3, GHSC-PSM OTD was 86 percent and OTIF 89 percent, the 20th successive quarter that OTD has been above 80 percent (see Exhibits 13 and 14).

Exhibit 13. July 2022 through June 2023 Monthly Indefinite Delivery, Indefinite Quantity (IDIQ) OTD

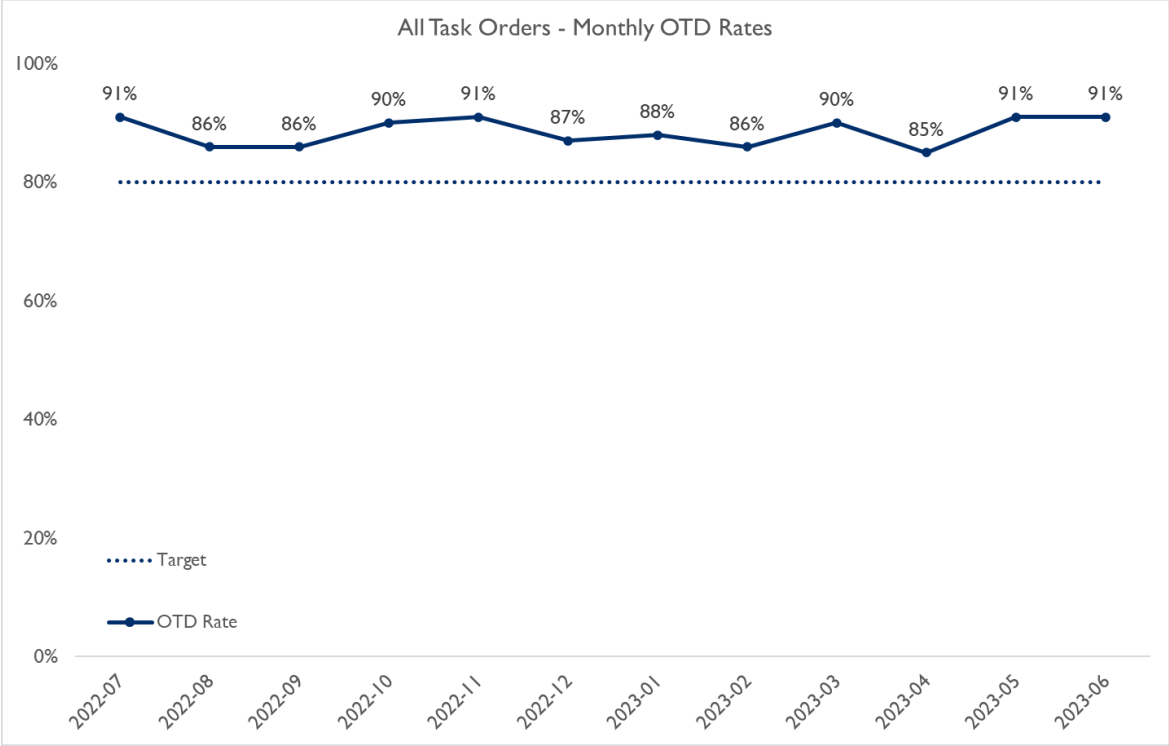
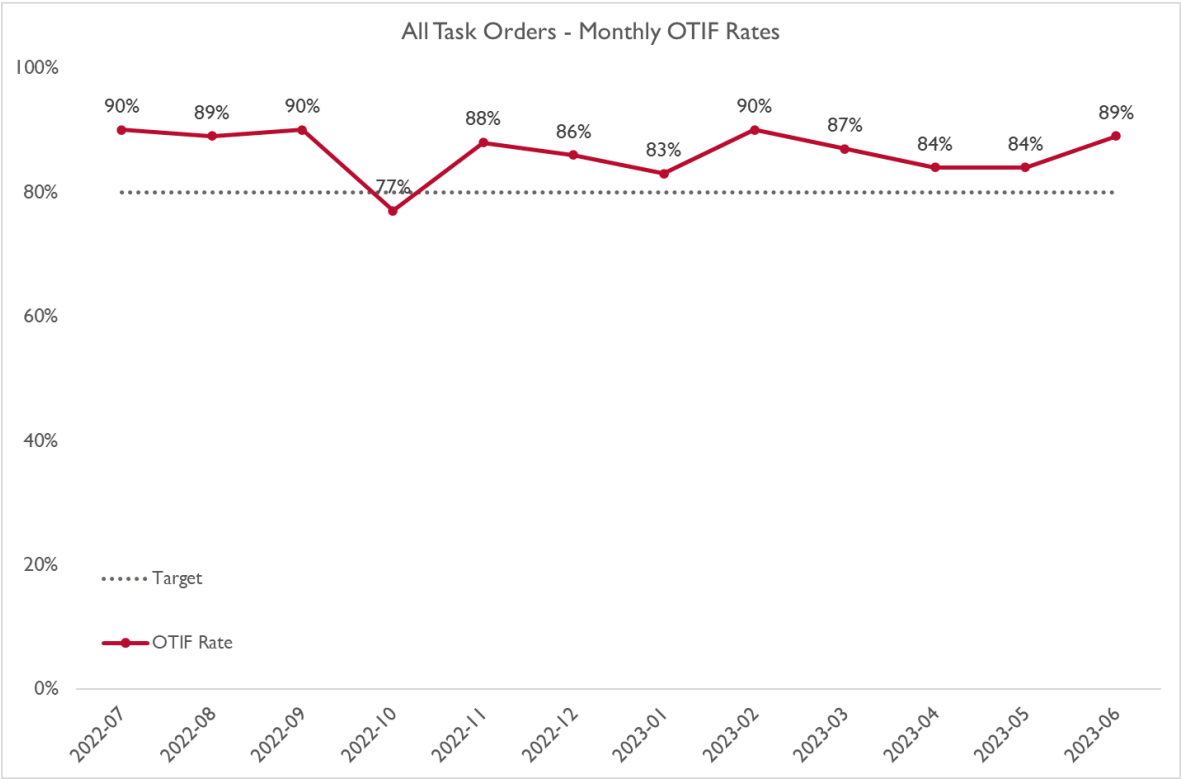


Exhibit 14. July 2022 through June 2023 Monthly IDIQ OTIF



C2. SYSTEMS STRENGTHENING TECHNICAL ASSISTANCE

Assisted 46 countries with health supply chain systems strengthening over the life of the project.

Provided **technical feedback on 172 supply plans this quarter** to strengthen national supply planning capabilities.

Facilitated the **adoption of QAT** for management of forecasting and supply planning **in 31 countries** over the life of the project.

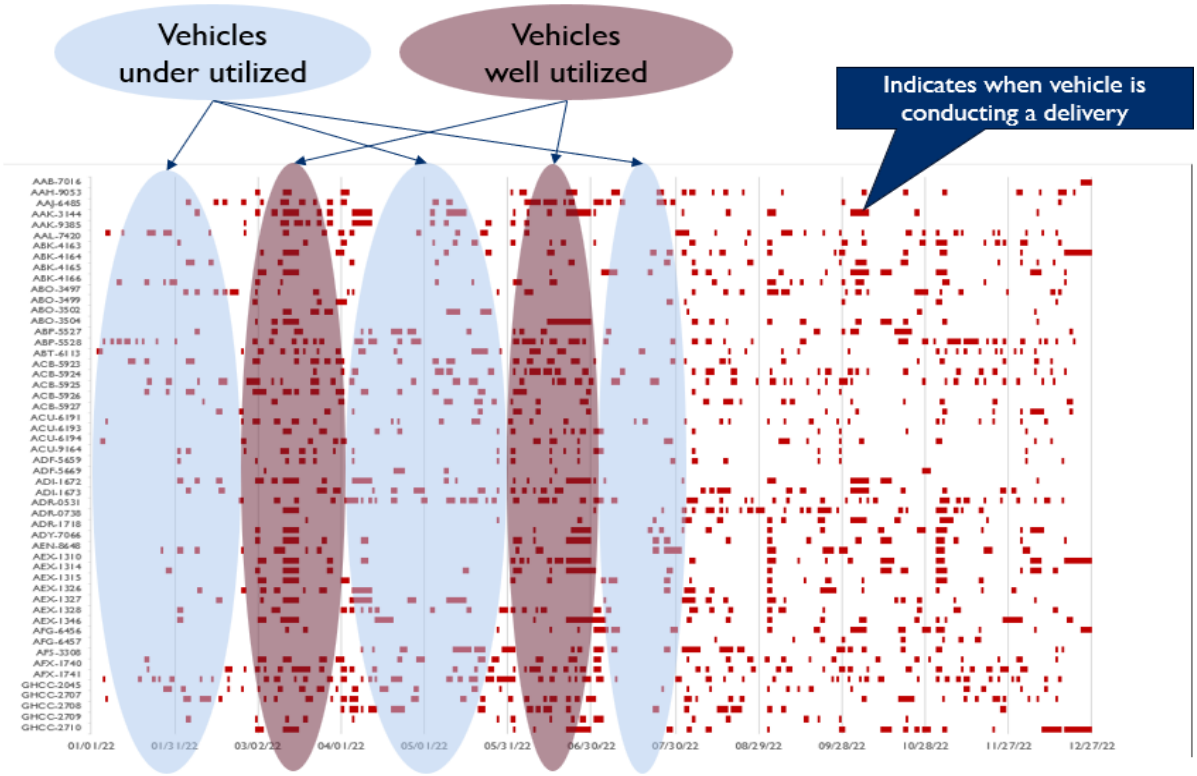
GHSC-PSM's strategic goal is for every country to have a locally led health supply chain that is integrated, optimized, accountable, agile, and lean and can sustainably supply quality products to all citizens. To support this goal, headquarters and country-based technical specialists work to define systems strengthening strategies that are appropriate to the local context and can be realistically achieved. The project emphasizes automated data capture and real-time end-to-end data visibility (most notably through advanced analytics, global standards and traceability, forecasting and supply planning, and MISs), private-sector engagement, pharmaceutical-grade infrastructure, and efficient distribution across countries (through laboratory networks, warehousing, and distribution systems strengthening). Through workforce development, leadership, and governance activities, the project works with country stakeholders to ensure their supply chains are managed by supply chain professionals dedicated to quality improvement. Where possible, GHSC-PSM collaborates on strategies to outsource functions to accountable private sector providers.

ADVANCED ANALYTICS

Advanced analytics continues to expand countries' use of data for supply chain decision-making, from day-to-day operations to high-level strategy. All three examples below highlight how GHSC-PSM designs analytic tools that leverage existing management information system investments to make data available and meet countries' needs. These tools are repeatable, reusable, and adaptable in a range of contexts, enabling countries to reuse them in a way that encourages and improves self-reliance. In Q3, the project worked in Burma, Guinea, Nigeria, Mali, Zambia, and Zimbabwe to either incorporate data analytic tools within the country's context or refine existing data flow processes.

- In **Zimbabwe,** GHSC-PSM supported NatPharm in conducting an in-depth assessment of the warehouse transportation system to identify inefficiencies and recommend improvements. The project analyzed historical data from 2022 to answer the following questions: 1) Was the available fleet sufficient to meet the needs of NatPharm to complete all deliveries? 2) Could the fleet support increased delivery frequency? and 3) Could the fleet handle a change in the volume of commodities being distributed? Using a digital simulation approach, the project determined what would happen if deliveries occurred twice as often and if the cubic volume of deliveries increased by 50 percent. The analysis showed that NatPharm's fleet size was sufficient to manage a significant increase in the volume and frequency of deliveries. One of the outcomes of conducting this exercise with NatPharm was distinguishing the inefficiencies in vehicle use patterns during peak and non-peak periods. The graphic below shows large periods where most of the vehicles were not in use (light blue bars) and others where they were well utilized (dark red bars). This pattern is based on upstream activities leading to periods of apparent shortage of vehicles and other periods when there is a surplus. GHSC-PSM's recommendations to NatPharm included working with relevant upstream supply chain actors to coordinate demand for vehicles and improving tactical resource planning to manage peak and non-peak periods.

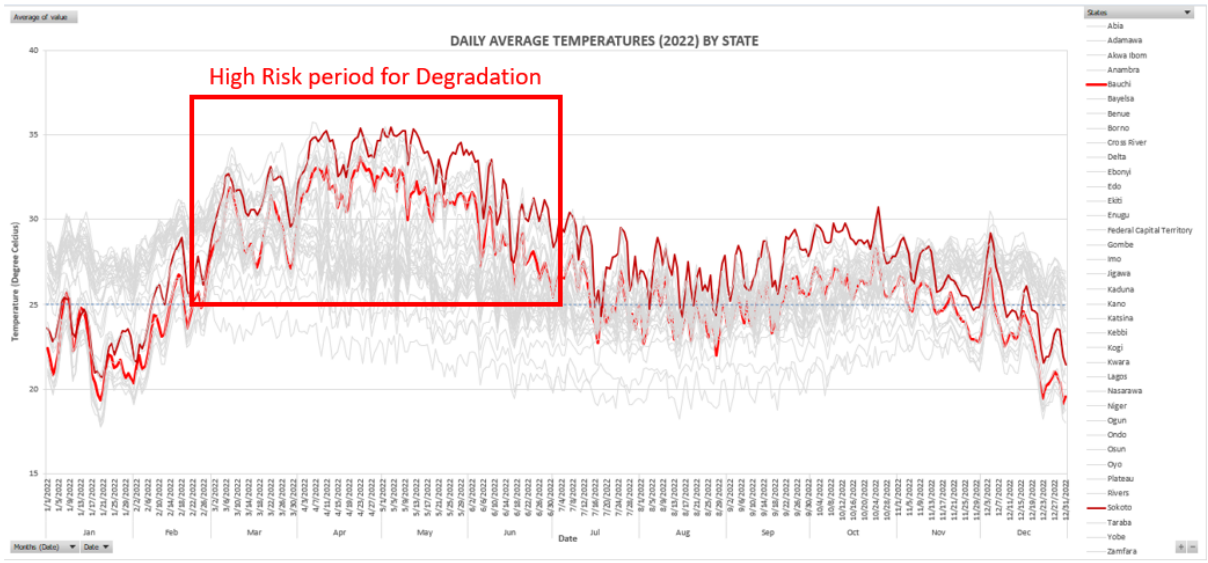
Exhibit 15: Pattern of Vehicle Usage from January to December 2022



- In **Guinea and Nigeria**, GHSC-PSM conducted an analysis of storage conditions to generate insights to improve oxytocin commodity security. Using the same analytic tool that was

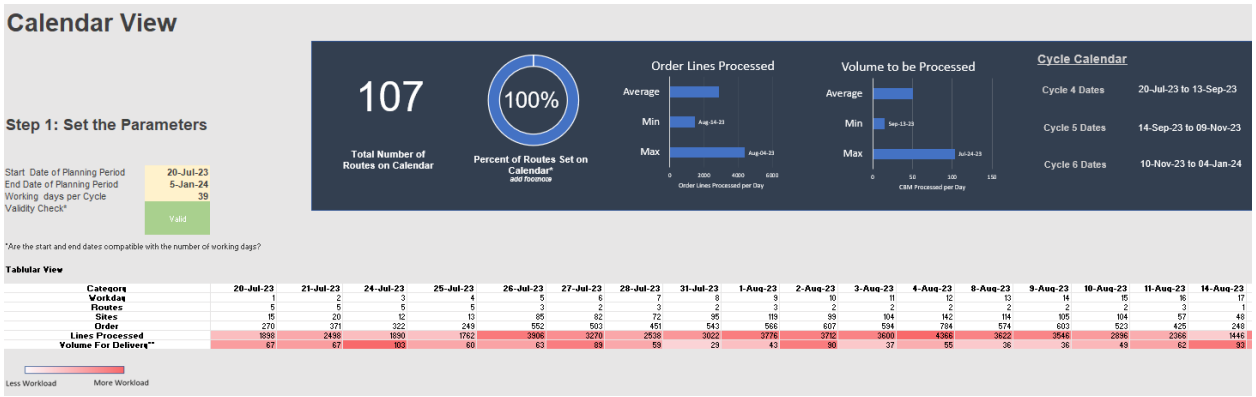
developed for Malawi and Mozambique in FY 2021, the project mapped out the storage conditions for oxytocin across locations to identify states or regions where the average daily temperature was above 25 Celsius. In Nigeria (see diagram below), several states' storage temperatures ranged from 30 to 35 Celsius between March and June, indicating a high risk of oxytocin degradation, especially if the commodity sits for long periods of time at those temperatures. This exercise provided Guinea and Nigeria with the necessary information to determine the next steps to improve oxytocin storage conditions across each country. For more information, see Section B4. Maternal, Newborn, and Child Health.

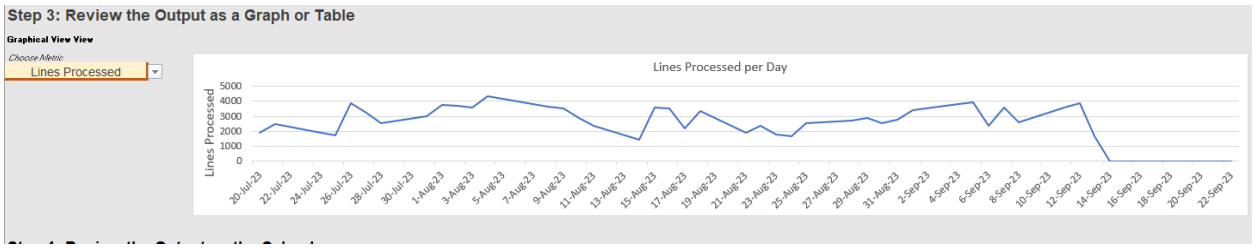
Exhibit 16: Daily Average Temperatures (2022) by State



- In **Zambia,** GHSC-PSM developed a distribution scheduler to improve the process of generating stock distribution schedules at ZAMMSA. The new tool automates several steps in the process of generating a schedule, provides direct insight into ZAMMSA's data, and has a flexible interface that allows the user to make changes to the schedule and adjust workloads when necessary. Exhibit 17 provides a snapshot of the tool's calendar view, showing all the planned routes and projected statistics of order lines to be processed, and cubic volumes of stock to be delivered. The daily workload is shown on the interface, with red highlights indicating the weight of the workload. The darker the highlight, the heavier the workload. The tool also generates a graphical representation of the same data allowing a more holistic quick view.

Exhibit 17: ZAMMSA's Distribution Scheduler: Calendar View and Graphical Output





GLOBAL STANDARDS AND TRACEABILITY

GHSC-PSM aims to implement GS1 standards to give trading partners—including manufacturers and suppliers, logistics providers, regulatory agencies, medical stores, and health facilities—the means to operate using the same high-quality master data.

In Q3, GHSC-PSM supported nine countries[50] in adopting GS1 standards for product identification, location identification, and data exchange. More information on standards implementation within the project can be found in Section C1. Global Supply Chain and in the Management Information Systems section below.

Adopting global standards can enable countries to reduce costs, enhance efficiency, and improve the availability of health commodities in their public health supply chains. This work also advances the adoption of GS1 labeling and data standards in-country regulatory guidelines and implementation roadmaps.

Country highlights for the project in Q3 include:

- **In Malawi,** conducted a systematic review and harmonization of the Malawi Master Health Product Registry (MHPR), which provides concise information about health products (including

[50] Burundi, Ghana, Malawi, Namibia, Nigeria, Rwanda, Uganda, Zambia, and Zimbabwe

pharmaceuticals, medical devices, and medical supplies) that are distributed through the Malawi health supply chain. The information in the MHPR is a combination of item identifiers maintained by the Central Medical Stores Trust and the NAVISION[51] system for commercial and donor-procured goods, as well as program-specific identifiers maintained in the LMIS or program-specific lists, and organized according to the same coding system. Through this exercise, GHSC-PSM:

- Aligned the registry with the WHO classification, GS1 standards, and best practices for master data management.
- Harmonized the product list with product masters in the country, including the Malawi essential medicines list
- Updated product descriptions to ensure consistency in nomenclature, and, where needed, included clear generic names, strengths, units of measure, and therapeutic categories.

The standardized registry will be finalized in Q4.

- In **Nigeria,** continued piloting an activity to capture serialized LLIN campaign distribution data at 66 distribution points in Cross River State (Calabar Local Municipal Government Area) to verify net authenticity using manufacturer-provided serialized data applied on individual nets. In Q3, GHSC-PSM trained local government coordinators on verification and supported the final configuration of the LLIN platform. Following this exercise, over 110,000 nets were scanned and verified for serial number validity and uniqueness before distribution.

- **In Uganda,** continued implementing an automatic identification and data capture (AIDC) solution to support barcode scanning for warehouse operations management of all pharmaceutical products at Joint Medical Stores (JMS)—including using GTIN as a secondary product identifier and supporting barcode label printing upon receipt for non-GTIN products. Phase 1 of the project went live in Q1 and has been operating smoothly. In Q3, the project continued with the end-to-end design for phase 2 transactions (shipping transactions, pick and pack, stock taking) using an industrial and financial systems application (IFS). Phase 2 is expected to start after JMS decides whether it wants to replace or upgrade its enterprise resource planning (ERP) system, from IFS 9.0 to IFS 10.0 or the IFS Cloud version.

- In **Zambia**, worked with the MOH to support progress toward national traceability objectives by implementing an NPC hosted in a Product Catalog Management Tool (PCMT) . This activity involves the integration of PCMT with the GDSN through a -phased approach. In Q3, the project completed phases 1 and 2, which included manual integration between the PCMTand the

[51] Microsoft Navision is an enterprise resource planning system that provides businesses with an end-to-end solution for connecting and managing all processes (such as sales, purchasing, and accounting, plus general reporting).

GDSN and PCMT with the WMS Expert system. Phase 3 involves continuous monitoring and maintenance of the technology. In Q3, the project continued to support data cleaning and harmonization, the development of SOPs for product master data management, and GDSN and WMS integrations. The project introduced GS1-based barcode scanning, where they exist, to replace printing proprietary barcode labels.

- In **Zimbabwe,** worked with the MOH and Child Care (MOHCC) and the National Pharmaceutical Company (NatPharm) to assess the feasibility and readiness to deploy an AIDC technology solution in the country. In Q3, GHSC-PSM developed and shared a technical report containing a proposed roadmap and schedule for acquiring, configuring, developing, and deploying an AIDC technology solution with the MOHCC. The project monitors NatPharm's progress in updating its ERP system and harmonizing the Product Master Data by anchoring GTIN to existing NatPharm identifiers.

FORECASTING AND SUPPLY PLANNING

GHSC-PSM provided FASP technical assistance to 36 countries[52] to integrate FASP capabilities, develop country-led solutions, and improve program managers' ability to maintain enough inventory to meet disease prevention and treatment targets and address client demand. This included quantification assistance, training, and supply plan monitoring.

Promoting wide adoption of QAT

To date, GHSC-PSM has facilitated the adoption of QAT in 31 countries for the management of forecasting and supply planning.

Key to ensuring the sustainability of QAT is the wide-user adoption of the tool. For any product or service to survive, there needs to be a significant demand for it. Having a large pool of users for QAT signals to other global players that the tool improves current processes. This may influence their buy-in and potentially reduce the tool's dependency on USAID funding. To this end, GHSC-PSM engages health supply chain partners and stakeholders to build a broader global user base for QAT.

For example, in Q3, GHSC-PSM:

- Made a presentation about QAT to the headquarters staff of The Global Fund to build upon earlier expressions of interest from their country offices.

[52] Angola, Benin, Botswana, Burkina Faso, Burma/Myanmar, Burundi, Cambodia, Cameroon, Côte d'Ivoire, Democratic Republic of Congo, eSwatini, Ethiopia, Ghana, Guinea, Haiti, Kenya, Laos, Lesotho, Liberia, Madagascar Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Sudan, Tanzania, Thailand, Togo, Uganda, Zambia, and Zimbabwe.

- Participated in the live session of the USAID Introduction to Supply Chain Management course to create awareness about FASP principles and QAT among USAID activity managers.
- Continued working with UNICEF—using funding from USAID's Bureau of Humanitarian Assistance (BHA)—to pilot the use of QAT for supply planning of nutrition products.

In Q3, GHSC-PSM provided remote and in-person technical assistance to strengthen capacity for QAT[53] use:

- In **Burundi**, conducted a QAT training for staff of the National Reproductive Health Program. GHSC-PSM subsequently provided remote mentoring to the in-country staff to conduct a quantification exercise for contraceptives using QAT and to prepare for a maternal and child health quantification scheduled in Q4.

- In **Ghana**, trained 29 participants from various organizations and health programs, including government officials (from HIV/AIDS, TB, family planning, malaria, and lab programs), and partner organizations such as Marie Stopes International, Health Keepers Network, Planned Parenthood, Total Family Health Organization, and USAID.

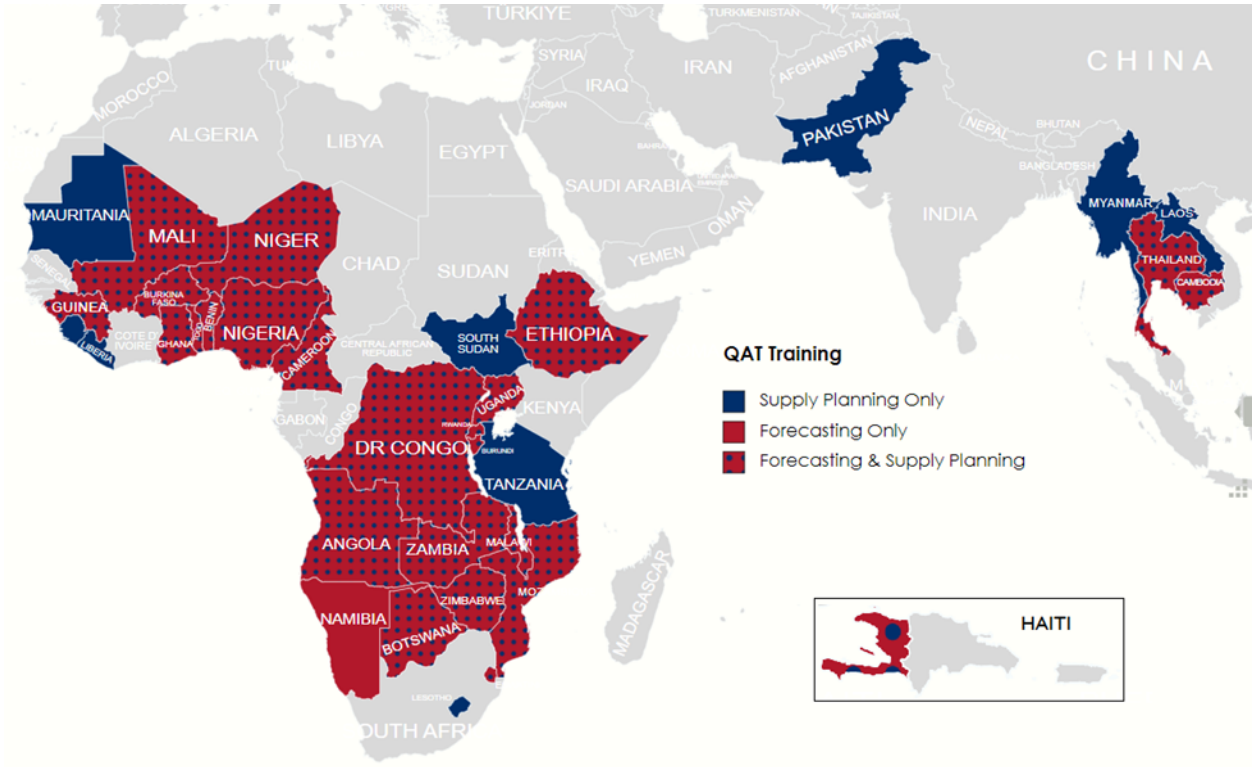
- In **Uganda**, trained 16 participants from the MOH Department of Pharmacy, the National AIDS Control Program, the USAID Uganda Strengthening Supply Chain Systems Activity, and in-country staff.

- In **Mauritania**, trained 22 participants from the MOH Nutrition Division, the Central Medical Store, and UNICEF on QAT's supply planning module. After the training, the project facilitated the trainees' onboarding on QAT and provided remote support to finalize the country's supply plans using the tool.

- In **South Sudan**, facilitated a quantification workshop to develop a three-year national forecast for family planning/reproductive health commodities and maternal health medicines. GHSC-PSM trained 10 supply plan viewers on QAT's supply planning module. Participants included staff from the MOH, UNFPA, and the MOMENTUM Integrated Health Resilience project. After the training, GHSC-PSM developed SOPs for forecasting, supply planning, and quarterly supply plan reviews to support the handover of forecasting and supply planning activities to the government as part of the project closeout.

Exhibit 18: Countries Trained on QAT Forecasting and Supply Planning

[53] QAT is a cloud-based software for in-country stakeholders to optimize commodity procurement and delivery schedules, monitor product stock status, and share data with external platforms and stakeholders. With an enhanced user interface, greater analytical capabilities, and automated data exchange, this tool enables program managers to easily build multiple forecasts for comparison and selection, optimize commodity procurement and delivery schedules, monitor product stock status, and share data with external platforms and key stakeholders.



Improvements to the tool

To enhance user experience and ensure that QAT meets country requirements, GHSC-PSM continues to refine the tool's features and functionality based on user feedback.

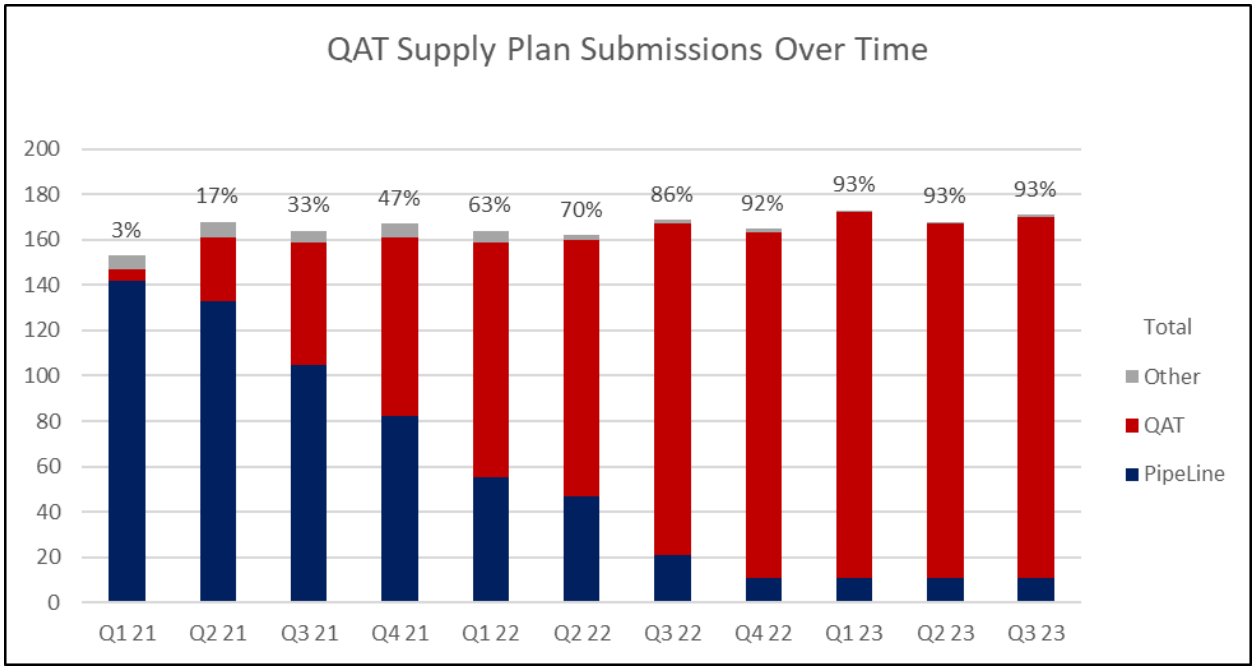
In Q3, the project:

- Finalized the review of 100+ change requests for new and improved features to enhance the tool's logic and user interface and better align it with in-country FASP processes.
- Continued discussions with USAID around the transition of QAT's source code and main application to another implementing partner. This is critical to ensuring the long-term sustainability of QAT and its smooth transition to NextGen.

QAT use for supply planning

GHSC-PSM supports countries' use of QAT for supply planning. In Q3, the project reviewed 171 supply plans to verify that they complied with data quality, supply planning, and procurement scheduling standards. This included 154 USAID high-priority supply plans from 30 countries.

Exhibit 19. QAT Supply Plan Submissions Over Time



MANAGEMENT INFORMATION SYSTEMS

Improving data accuracy and quality for MIS implementation, including GS1-compliant standardized product data to build master data sets—an important step toward end-to-end data visibility. The project works with countries to evaluate the data captured in information systems (e.g., eLMISs and warehouse management systems) for standardization and to establish methods and plans for managing master data sets across information systems to avoid redundancy, validate accuracy, and ensure quality data.

Promoting the USAID Digital Strategy Initiative for public health. In Q3, GHSC-PSM updated information and data mapping process flows and MIS landscape diagrams for all supported countries. The information and data mapping process flow document provides summarized information on health commodities, including details such as funding source and associated programs, FASP and procurement processes of each donor, and the distribution flow in the country. The MIS landscape document depicts the information systems implemented and the interoperability structure in the country. The project shared both documents with USAID in Q3 for review.

One key observation from the MIS landscape was that several countries had several standalone information systems. GHSC-PSM emphasizes the importance of establishing a digital supply chain strategy and architecture in all supported countries. In Q3, the project supported Angola's development of a national digital strategy, and Botswana's development of an RFP to procure a supplier performance system. In Mozambique, GHSC-PSM supported the procurement of mobile devices for information systems operation.

LABORATORY NETWORKS

GHSC-PSM promotes efficient and well-planned laboratory networks and supports quality service delivery through data-driven laboratory diagnostic network optimization, GIS visualization of data, and forecasting and supply planning for laboratory commodities. The project manages the compilation and submission of the instrument placement questionnaire (IPQ) to ensure that all elements of procurement or leasing of equipment required for diagnostic testing, such as servicing, maintenance, capacity, utilization, and installation requirements, are addressed.

GHSC-PSM leads DNO to improve diagnostic networks through a stakeholder-driven process. Together with the stakeholders, including USAID, CDC, MOHs, implementing partners, and other donors, the project develops optimization scenarios that align with each country's objectives and can be modeled using DNO. Once all input data are collected and cleaned, the project uses two tools—OptiDx™ and supplemental interactive maps developed using the Python Library Folium™. The maps visualize networks, including locations of health facilities, laboratories and hubs, referral linkages, distances between facilities, testing volumes, machine capacity and utilization, and testing demand by administrative area. These maps have two main uses: first, at the initial stages of the DNO, they enhance stakeholders' ability to visualize the data collected and validate data accuracy before uploading it into OptiDx, identifying opportunities for further analysis and optimization. Second, maps can highlight elements of the testing scenarios and the impact of changes on the diagnostic network in the final stages of analysis. Once the analysis is complete, stakeholders review the scenarios and develop an operational plan that considers how the proposed changes to the lab network affect the budget, operations, human resources, and logistics.

Project DNO activities conducted in Q3 included:

- In **Burundi,** led stakeholders through the iterative DNO process to identify and resolve data gaps. Stakeholders developed the final analysis plan in alignment with the DNO objectives, with each scenario building on the previous one. To finetune the analysis before the final DNO workshop scheduled for Q4, the project met with key stakeholders weekly to review each scenario.

Supporting quantification for laboratory commodities. The QAT forecasting module includes functionality to forecast laboratory reagents and consumables. In Q3, GHSC-PSM:

- Reviewed and updated usage templates aligned to supplier reagent calculators to standardize forecasts for VL, EID, and CD4 testing.
- Held a supplemental remote training session to update users on new features added to QAT and review best practices for using QAT to forecast laboratory commodities.

- In **Angola,** facilitated the annual national laboratory quantification workshop and worked with stakeholders to compile assumptions and record them in QAT to produce a forecast and supplemental supply plan for products required to perform VL, EID, and CD4 testing.

WAREHOUSING AND DISTRIBUTION

GHSC-PSM improves warehousing and distribution systems in more than 25 countries. The project aims to move countries' warehousing from a mid-/long-term storage facility strategy to a distribution center model with a focus on reducing order process cycle times. This requires infrastructure and process changes to ensure warehouses can keep up with the increased speed needed for frequent inventory turns and shorter order cycle times. Activities include improving data-driven decision-making across the supply chain, optimizing distribution networks, and increasing efficiencies in warehousing and distribution operations.

The project is rolling out a policy to establish an acceptable level of warehouse inventory variance and cycle count methodology for all GHSC-PSM stakeholders. The policy applies to all activities where the project directly oversees warehouse operations, has contractual agreements with a 3PL provider for warehousing services, or supports warehouse operations with other implementing partners or their MOH counterparts (e.g., through a central medical store or a parastatal).

Warehouse Assessment

In Q3, Afya Ugavi supported the Kenyan Mission for Essential Drugs and Supplies (MEDS) in conducting a warehouse assessment. The project developed an assessment tool, visited the MEDS warehouse, and conducted in-depth interviews with essential staff to collect information on the following warehousing functions: warehousing operations and management, logistics and inventory management, human resources, occupational safety, and information technology (IT). Based on its findings, the project provided a list of recommendations for improving warehousing operations and processes as well as for future capital investments for more efficient warehouse management.

Activity-based costing (ABC)/activity-based management (ABM)

GHSC-PSM implements private sector approaches, such as ABC/ABM. The project recognizes that warehousing and distribution are part of a larger strategy requiring integrated procurement, transportation, storage, picking and packing, delivery, and other activities to increase velocity, improve orchestration and performance, and lower the risk of expiry and warehouse operational costs.

In Q3, GHSC-PSM provided virtual technical assistance to Ghana, Kenya, Uganda, Lesotho, and Zambia—all of which are in various stages of ABC/ABM implementation:

- In **Ghana**, provided virtual technical assistance at the Ashanti and Eastern regional medical stores (RMS). GHSC-PSM holds weekly meetings with the RMS finance team and their

warehouse and supply managers to discuss their daily planner, monthly labor report, and customization and use of profit and loss (P&L) statements. In Q3, the project conducted their first quarterly P&L statement reviews with Ashanti and Eastern Region RMSs. The project's goal is to train each finance and operations team to conduct these quarterly reviews on their own. GHSC-PSM developed an outbound audit tracking template that provides insight into pickers' order accuracy and the time/labor used.

- In **Kenya** and **Uganda**, conduct quarterly reviews of P&L results with the Mission for Essential Drugs and Supplies (MEDS) and JMS, respectively. The P&L statements provide MEDS and JMS with detailed visibility into their own expenses to better manage operating costs and improve performance. The project has supported JMS and MEDS ABC/ABM implementation since FY 2018 and 2021, respectively. Both MEDS and JMS use the P&L analysis to modify practices and discontinue non-value-added activities. This has resulted in decreased operating costs and improved performance.

WORKFORCE DEVELOPMENT

GHSC-PSM strengthens public health supply chain workforces through the project's country offices. These activities build sustainable workforces through professionalization and systematic assessments and approaches to workforce development.

Strengthening capacity for supply chain management

GHSC-PSM annually offers USAID personnel the opportunity to partake in an Introduction to Supply Chain Management course. In Q3, the project delivered the five-day introductory course in-person for the first time in four years to 22 members of the USAID workforce. This was immediately followed by a five-day course on emerging trends in supply chain management, which had not been offered in the last four years. The course was also attended by 24 participants. Feedback from participants—many of whom had participated in previous GHSC-PSM course offerings—indicated a preference for in-person rather than online learning, with particular reference to the introductory course.

Country-specific workforce development activities:

- In **Ghana,** collaborated with the Stores, Supplies and Drug Management Division of GHS to strengthen the capacity of regional supply chain actors on the use of standardized approaches for supply chain performance monitoring and supervision. Participants received an orientation on the principles of effective supportive supervision, use of electronic-based supervision tools, data analytics and visualization, development of facility-based action plans, and providing technical support for the effective implementation of recommendations. GHSC-PSM also supported the first region-led supportive supervision of health facilities that had reported challenges with ordering, inventory management, and product availability.

- In **Sierra Leone**, conducted a TOT on the national integrated health commodities logistics system SOP for selected central and district level staff who will cascade the training to peripheral health units (PHUs) and hospital staff. Of the 44 potential trainers trained, 37 passed the competency test on PHU data capture and reporting tools and were assigned to facilitate training sessions. Of the 37 trainers, 36 successfully facilitated training sessions using the adult learning technique. All 44 participants conducted a mock supportive supervision exercise at Masuba Community Health Post, including a debriefing session with the management of the health post.

Debriefing session after supportive supervision at Masuba Community Health Post.

STRATEGY AND DESIGN (FORMERLY LEADERSHIP AND GOVERNANCE)

As FY 2023 continues, more countries are reviewing or developing long-term strategic plans that focus on the future of the health supply chain in their countries. In Q3, GHSC-PSM drafted high-level mission/vision/values and a list of strategies to be added to the 2023–2028 national supply chain strategy for Angola. The project shared the draft with the leadership at the central medical stores for review and initiated discussions on developing an implementation plan in Q4.

END-USE VERIFICATION SURVEY

GHSC-PSM assesses the availability of malaria, FP/RH, and MNCH commodities at health facilities using the EUV survey to collect data on attributes that contribute to commodity availability, including storage conditions, staff capacity, and stock management. The project presents findings to Missions and MOHs and helps facilitate conversations and activities to improve commodity availability. The survey gathers qualitative data, which provides insights into the reasons for stockouts. EUV data can be used to triangulate LMIS results and identify stock availability trends. EUV data collection is an important opportunity for GHSC-PSM country teams to provide on-site capacity building for health facility staff without increasing the burden on staff. For more information on the EUV survey see MNCH, Section B4.

In Q3, GHSC-PSM implemented the EUV survey in Burkina Faso, Ethiopia, Guinea, Mali, Niger, Zambia, and Zimbabwe project country offices in collaboration with MOH and NMCP staff. The project submitted COVID-19 continuity of care reports for Burkina Faso, Ethiopia, and Ghana before the report

was discontinued in May. Given the official end of the pandemic, this module will be removed from future EUV surveys.

At the request of USAID and PMI-Washington, GHSC-PSM also made significant progress on the development of a Community Health Worker (CHW) module for the EUV survey in Q3, with completion scheduled by the end of FY 2023. The CHW module will gather data to inform activities designed to strengthen supply chain functionality at the community/CHW level.

NATIONAL SUPPLY CHAIN ASSESSMENT

The National Supply Chain Assessment (NSCA) is a comprehensive capability and performance review at all levels of a health supply chain. Assessment results help supply chain stakeholders develop their strategic, operational, and investment plans and monitor activities to their desired outcomes.

In Q3, GHSC-PSM supported implementation of the NSCA in Burundi and completed the report for the assessment conducted in Guatemala:

- In **Burundi**, conducted a supply chain mapping workshop and in-country data collection to comprehensively assess the capacity, maturity and performance of the public health supply chain. The project completed all implementation-related activities and will submit a draft report to in-country stakeholders and USAID in Q4.

- In **Guatemala,** submitted a final report for the assessment conducted after incorporating feedback received from in-country stakeholders and USAID on the draft report shared in Q2. Subsequently, the project conducted a dissemination workshop to present the findings and recommendations of the NSCA to the MOH and stakeholders. The results of the assessment are expected to feed into planning and investment prioritization by the MOH and its partners.

GHSC-PSM engages in discussions with countries to scope potential FY 2024 NSCAs with ongoing plans for field assessments in Burma, Peru, and Zambia.

LEARNING AGENDA: SUPPLY CHAIN TECHNICAL INDEPENDENCE INDICATOR

GHSC-PSM continues to work on the FY 2023 technical independence indicator learning activity. This year's activity seeks to understand the relationship between technical independence and technical quality, such as whether or not a host-country entity increases its performance on a particular supply chain activity through the process of reaching technical independence. In Q3, the project developed and disseminated data collection tools to GHSC-PSM country teams and provided training on their use. Data review and validation will commence in Q4 in preparation for analysis.

C2a. PROJECT PERFORMANCE

GHSC-PSM collects and analyzes data on several indicators of national supply chain system health to understand the environments in which the project operates and to help calibrate our work. These indicators establish priorities for the project's health systems strengthening support and, over time, will enable the project to assess the outcomes of technical assistance. Dashboards with these country-specific indicators are available for GHSC-PSM country offices to explore with in-country stakeholders.

CAPACITY BUILDING

The number of people trained is an indicator on which the project focuses its capacity-building resources and identifies areas for improvement related to supply chain outcomes. GHSC-PSM trained 2,313 individuals in Q3 (993 women and 1,320 men).

Most trainings were cross-cutting and addressed topics relevant to multiple health areas. By funding source, 38 percent were trained with HIV/AIDS funding; 32 percent with malaria funding; 20 percent with FP/RH funding; and 10 percent with MCH funding. Trainings focused on warehousing and inventory management, MIS, quality assurance and human resource capacity development.

ENVIRONMENTAL COMPLIANCE

In accordance with USAID's Environmental Procedures (22 CFR 216), the project implements the GHSC-PSM Initial Environmental Examination and the Environmental Mitigation and Monitoring Plan. Implementation includes multi-faceted services to all global staff, such as a review of technical documents pertaining to 22 CFR 216, technical guidance and advisory support, training and capacity building, and direct technical assistance.

In Q3, GHSC-PSM submitted the final draft of the FY 2022 Environmental Mitigation and Monitoring Report to USAID for review. The project also worked with the country program and risk management teams to close out AssureX incidents and provided guidance to countries on the disposal of expired commodities and unusable items from warehouses.

C3. GLOBAL COLLABORATION

Submitted 12 abstracts to the 2023 RHSC Member Meeting, four abstracts for the **International AIDS Society conference**, and **three late-breaking abstracts** for the **American Society of Tropical Medicine and Hygiene (ASTMH) 2023** conference.

Presented on one panel at IMNHC and **delivered two Ghana MNCH presentations at CARISCA 2023.**

Hosted a workshop on regionalization that brought USAID supply chain partners together for the first time to discuss support for the U.S. Government's strategic goals on regionalization.

The scale, scope, and complexity of managing a global supply chain require collaboration with international and local partners to ensure the availability of medicines and health commodities. By integrating work across health sectors and sharing information, resources, activities, and capabilities, the project can achieve what it could never accomplish alone. GHSC-PSM's global collaboration efforts focus on coordinating with global donors and stakeholders to develop innovative means for responding to supply chain interruptions.

STRATEGIC ENGAGEMENT

As described throughout this report, GHSC-PSM engages with global players to promote the availability of medicines and commodities. The project does this by providing supply chain expertise and working with partners—locally and globally—to reach more communities, allocate scarce supplies, promote harmonization of standards and practices, and manage commodity stock information as a global good. GHSC-PSM participates in several groups:

- Hosts monthly **Proactive Stock Risk Management (ProStock)** meetings with USAID as a forum for building on the project's HIV/AIDS data collection and analysis, discussing gaps in HIV commodity access, and implementing action plans to address them. (See section B1.)
- Initiated discussions with The Global Fund to collaborate on the VMS initiative. This collaboration could help higher-volume TLD countries improve stock rotation, minimize inventory and the associated holding costs at the central level, and pave the way for more routinized ordering patterns. (See section B1.)

- Participates in the **Newborn TWG** alongside USAID, UNICEF, and WHO experts. This group oversees the ENAP. (See section B4.)

- Participates in the **Maternal Health Supplies Caucus** and the USAID and BMGF-funded **Child Health Task Force** and shares and creates resources with and for this group. (See section B4.)

- Participates in the **Verification and Traceability Initiative**, a multi-stakeholder partnership composed of UNICEF, Gavi, BMGF, The Global Fund, USAID, national regulatory authorities in Nigeria and Rwanda, Vital Wave, and the World Bank. (See section C2.)

- Participate in the **I2I** steering group that is providing post-market information to update the draft WHO Guideline for Prequalification of ITNs. (See section B2.)

- Participates in the Malaria Pharmaceuticals, mRDT, and Vector Control Access Task Forces; the LLIN Donor Collaboration call; and the KSM/API working group; and is the Chair of the LLINs Quality Assurance Group. (See section B2.)

KNOWLEDGE SHARING

To ensure that MOHs, supply chain managers, donors, and other stakeholders can repurpose program activities and develop locally-led solutions, GHSC-PSM documents and shares project activities, technical research, and success stories. Details can be found in sections throughout the report, but below are some highlights from Q3:

- Submitted four abstracts to the **International AIDS Society conference**, three malaria-focused abstracts to the **ASTMH 2023** conference, and 12 FP/RH and MNCH abstracts to the **RHSC General Membership Meeting 2023**.

- Delivered one newborn health supplies presentation at **IMNHC 2023** two Ghana MNCH presentations at **CARISCA** 2023. (See section B4.)

- Collaborated with USAID/Washington on a **VMI Orientation Guide** that provides an in-depth understanding of the VMI transition process. This document will be shared with USAID Missions, implementing partners, and MOHs interested in this VMI solution in Q4. (See section B1.)

- Presented key considerations for hormonal IUD procurement at the "**Hormonal IUD 101: Method Basics & Early Lessons Learned, Quality-Assured Products, Procurement Considerations"** webinar. (See section B3.)

- Participated in the **GS1 Global Forum** in Brussels, Belgium, where the project presented strategic engagement approaches to advance national adoption of GS1 Standards for pharmaceutical traceability and engagement opportunities with GS1 Member Organizations in support of national traceability strategies. (See section C2.)

- Participated in and shared a supply chain perspective the **Small and Sick Newborn Care Global Financing Workshop** alongside USAID, World Bank, UNICEF, WHO, and the MOMENTUM project. (See section B4.)

- Presented the business case for local manufacturing activity results in collaboration with the **RHSC Market Development Approaches Working Group** and on the project's work to reduce contraceptive packaging at the **RHSC Systems Strengthening Working Group meeting**. (See section B3.)

- Published the technical report, "**Using a Data Science Approach to Build Timely, Sustainable, Repeatable and User-centered Analysis to Drive Actions**," which explores strengthening monitoring and evaluation processes through a data science approach to analytics.

- Published a technical brief, **The Role of Domestic Wholesalers,** which spotlights how health systems can engage domestic wholesalers for supplying quality FP/RH and MNCH commodities. This new resource reflects USAID's goal to localize manufacturing and sourcing of products whenever possible, and to ensure sustainable supply of essential medicines.

COUNTRY COLLABORATION

- In **Botswana**, hosted a one-day workshop, bringing together key MOH and CMS stakeholders to streamline efforts toward a cohesive eLMIS. (See section B1.)

- In **Burma**, trained 35 participants from development partners and health agencies on behalf of MATA to fill gaps in TB health care service delivery. (See section B1.)

- In **Ethiopia**, joined NEST360, USAID and the Ethiopian MOH at an SSNC policy workshop, contributing expertise on financing, forecasting, procurement, and warehousing and distribution to improve and scale-up SSNC. (See section B4.)

- In **Guinea**, worked with stakeholders to develop an operational plan for procuring and managing eight incinerators to be donated to Guinea by The Global Fund as part of its COVID-19 response. The project will implement the plan. (See Annex A.)

- In **Malawi**, held a remote training on QAT's supply planning module for UNICEF staff to support the UNICEF/BHA pilot using QAT for nutrition programs. (See section C2.)

- In **Mauritania**, trained 22 participants from the MOH Nutrition Division, the Central Medical Store, and UNICEF on QAT's supply planning module.

- In **Mozambique**, engaged with GHSC-PSM's VMS program to fulfill an urgent order of TLD from a supplier's VMS warehouse in South Africa. The project has since initiated discussions with The Global Fund for further collaboration on the VMS initiative. (See section B1.)

- In **Mozambique**, conducted an in-person QAT training for more than 30 prospective users, including stakeholders from CMAM, National Directorate of Medical Services, MOH, The Global Fund, and UNICEF. (See section C2.)

- In **Rwanda**, used the People that Deliver process mapping tool to gather and analyze data from health facilities across the country. Following this, the project developed a document titled, "Supply Chain Management Professionalization in Rwanda," which was reviewed by People that Deliver, the Rwanda country office, and USAID. (See section C3.)

- In **South Sudan**, facilitated a QAT workshop to develop a three-year national forecast for family planning/reproductive health commodities and maternal health medicines. GHSC-PSM trained 10 supply plan viewers on QAT's supply planning module. Participants included staff from the MOH, UNFPA, and the MOMENTUM Integrated Health Resilience project. (See section C3.)

- In **Tanzania**, led an in-country VMMC commodity quantification meeting in Q3 with implementing partners on behalf of the interagency team (USAID, CDC, and Department of Defence (DOD)), and developed an FY 2024 supply plan for VMMC kits, Shang Ring devices, and local anesthetic products. (See section B1.)

- In **Zambia**, continued to work with the National Malaria Elimination Centre (NMEC) and other key partners such as AMF, Evidence for Health (E4H), Program for the Advancement of Malaria Outcomes (PAMO) Plus, PMI Evolve, The Global Fund, and Churches Health Association of Zambia (CHAZ) to prepare for the 2023 LLIN mass distribution campaign. (See section B2.)

- In **Zimbabwe**, participate in multiple stakeholder platforms including the HIV Care Differentiated Service Delivery TWG, the PrEP TWG, the HIV Prevention Partnership Forum, and the TB/HIV Treatment and Care Partnership Forum, helping the project keep a pulse on supply chain and service delivery for HIV programs and engage directly with supply chain decision makers. (See section B1.)

COLLABORATION WITH OTHER USAID GHSC PROJECTS

GHSC-PSM is a member of the GHSC program family and interacts regularly with the other GHSC projects.

In particular, GHSC-PSM collaborates with GHSC-QA to share information, identify mutual challenges and solutions, and ensure QA requirements are incorporated into GHSC-PSM systems. Furthermore, GHSC-PSM collaborates with GHSC-QA to streamline and optimize QA and QC business processes and procedures to rapidly address any incidents and product failures as they occur, ensuring quality products reach the end consumer. In Q3, GHSC-PSM:

- GHSC-QA added a critical product to the eligible list for procurement; the 192 test kit configuration for HIV-1 testing on a diagnostic laboratory instrument is pivotal as it will expand the ability to use the COBAS 5800 for multiple specimen types, enable a faster transition from CAP/CTM to COBAS 5800. (See section B1.)

- Worked with GHSC-QA to streamline and optimize lab commodity procurement from local eligible suppliers. (See section B1.)

- Worked with GHSC-QA to obtain approval to procure male condoms from the new manufacturing site of an existing condom supplier, expanding condom production capacity available to the project. (See section B1.)

- Pursued negotiations with three suppliers to begin procuring WHO-PQ COVID-19 therapeutics in support of the Test-to-Treat program. (See Annex A.)

- Made a presentation about QAT to the headquarters staff of The Global Fund to build upon earlier expressions of interest from their country offices. (See section C2)
- Participated in the live session of the USAID Introduction to Supply Chain Management course to create awareness about FASP principles and QAT among USAID activity managers. (See section C2)
- Continued working with UNICEF—using funding from USAID's BHA—to pilot the use of QAT for supply planning of nutrition products. (See section C2)

GHSC-PSM also provides forecasting and supply planning as well as in-country logistics support to the GHSC-RTK project, which undertakes HIV/AIDS RTK procurement and international freight. GHSC-PSM shares data monthly with GHSC-RTK to guide HIV-RTK procurement planning and data triangulation and reviews HIV testing targets against HIV-RTK stock in countries with PEPFAR-supported HIV testing programs. (See section B1.)

The role of the non-field office program management unit (NFO PMU) is to collaborate with in-country stakeholders to support the successful procurement and delivery of health commodities. In countries

that have USAID programming for supply chain activities, the NFO team works with those programs, as well as the USAID Mission and counterpart health personnel. For the specific Francophone Task Order (FTO) countries, this collaboration happens on an almost daily basis between the NFO PMU, FTO country offices, and Francophone Task Order HQ staff. This collaboration is also facilitated by having the Managing Director of the NFO PMU also serve in the role of Managing Director for the GHSC-Technical Assistance (GHSC-TA) IDIQ and FTO. For example, in Q3 GHSC-PSM worked closely with GHSC-TA FTO in Togo and GHSC-PSM viral load laboratory suppliers to refine and revise requisition orders to meet the country's limited demand and avoid expiries.

GHSC-PSM held a two-day regionalization workshop in May, bringing together for the first time approximately 60 participants from across USAID, GHSC-PSM, USAID Global Health Supply Chain Program-Rapid Test Kit project (GHSC-RTK), USAID Global Health Supply Chain Program-Quality Assurance project (GHSC-QA), Promoting the Quality of Medicines Plus (PQM+), and Medicines, Technologies and Pharmaceutical Systems program (MTaPS), as well as all the four GHSC-PSM health task orders. The objective was to identify critical elements, opportunities, and challenges to consider when developing a supply chain strategy to support the U.S. Government's strategic goals on regionalization. For the workshop, "regionalization" was defined as all-value-added supply chain activities that might occur on the African continent, including manufacturing, packaging, wholesaling, warehousing, and distribution. The workshop focused on three themes: 1) enabling environment (led by GHSC-PSM); 2) regulatory/Quality Assurance (QA) landscape (led by MTaPS, PQM+, and GHSC-QA); and 3) strategic sourcing (led by GHSC-PSM and IQVIA). GHSC-PSM presented a brief on the role of domestic wholesalers, particularly their role in providing MNCH commodities.

Workshop discussions provided a shared understanding across participating organizations on current experiences, challenges, and opportunities for collectively advancing USAID's Africa regionalization agenda. The workshop highlighted tremendous synergies across projects and USAID partners, as well as an interest in using the workshop as a catalyst to ensure continued, closer collaboration moving forward. Following the workshop, GHSC-PSM continued to evaluate its sourcing strategy for opportunities to increase procurement through African manufacturers. This included modified FY 2024 allocation strategies for TO2 to emphasize African manufacturing as a weighted criterion for supplier evaluation. For TO3, it included an updated business case for regional manufacturing based on feedback from the workshop.

Following the workshop, GHSC-PSM met with several stakeholders, such as manufacturers and financial investors, to discuss the business case and gather feedback on assumptions and estimated financial returns. In Q4, GHSC-PSM will capture takeaways in a meeting report and kick off a regionalization working group to improve coordination and inform considerations for future work plans across USAID global health supply chain implementing partners. For TO3, this feedback, along with inputs from

stakeholders, will be used to develop an implementation roadmap in Q4 that will outline the critical steps for key actors to support the movement toward local manufacturing of injectable contraceptives.

OTHER GLOBAL COLLABORATION

- Continued providing the **USAID MOSAIC** program with commodity procurement and logistics support in Q3. (See section B1.)

- Delivered dapivirine vaginal rings to South Africa for PEPFAR's DREAMS programs. (See section B1.)

- **GS1 International Procurement Agent (IPA) Engagement:** Following the 2019 adoption of a joint technical implementation guide by donors and procurement agents, in FY 2022, convened a virtual forum among donors, procurement agents, and other strategic partners to share updates and lessons from global standards adoption across the IPA community. As a part of this forum, the community determined that an update to the Global Standards Technical Implementation Guide for Global Health Commodities was needed to reflect routine updates to standards, lessons learned from implementation to date, and the endorsement of new partners. In Q3, GHSC-PSM published version two of the Global Standards Technical Implementation Guideline for Global Health Commodities is a resource developed for IPA trading partners to inform the implementation of global standards for product and location identification, labeling, and data exchange. The new publication includes updated language on event data sharing and a new requirement for a standardized logistics label, expected to enhance efficiencies in recipient country warehouses where GS1 barcode scanning is being implemented. The document is available on our website and has been endorsed by USAID, UNFPA, UNDP, and Stop TB, with new endorsements from UNICEF, Gavi and BMGF.

ANNEX A. COVID-19 RESPONSE

In Q3 the project **delivered 100 COVID-19 commodities** to **one country**[54] approved for American Rescue Plan Act (ARPA) funding, including infant scales.

In Q3, the project **delivered more than 132,622 oxygen consumables and durables** to **two countries**.

GLOBAL PROCUREMENT AND LOGISTICS

COVID-19 Test-to-Treat Program

In FY 2022, GHSC-PSM received funding to support the COVID-19 Test-to-Treat Program for Bangladesh, Botswana, Côte d'Ivoire, El Salvador, Ghana, Lesotho, Malawi, Mozambique, Rwanda, and Senegal. Under this program, GHSC-PSM:

- Executed an inventory order for 6,272 treatment courses of generic nirmatrelvir + ritonavir for five countries in Q3. GHSC-PSM will preposition the product at the RDC in Dubai in Q4. Upon confirmation of product registration and receipt of import duty waivers, the project will ship the treatment courses to the recipient countries.
- Delivered an inventory order in Q3 for 20,208 treatment courses of generic Molnupiravir to the RDC in Dubai. The Molnupiravir is pre-positioned at the RDC for eventual delivery to eight countries. Upon confirmation of product registration and receipt of import duty waivers, the project will ship the treatment courses to the recipient countries in Q4.

COVID-19 and the Global Supply Chain

In Q3, GHSC-PSM worked on the following **global supply chain** activities to manage and respond to COVID-19:

Procurements under COVID-19 ARPA. Under ARPA funding, GHSC-PSM is procuring cold chain supplies, cold chain equipment, bulk liquid oxygen, diagnostic tests, general patient care commodities,

[54] Colombia

laboratory consumables, essential medicines, and personal protective equipment, along with a limited range of critical COVID-19 commodities for countries requiring emergency supplies, establishing a virtual stockpile of COVID-19 commodities, and providing related technical assistance.

In Q3, GHSC-PSM delivered critical medical supplies and equipment to:

- **Colombia:** 100 infant scales

Procurement and installation of oxygen-related commodities.

Supplemental oxygen is an essential, lifesaving treatment for people infected with COVID-19. As part of its global response to the pandemic, USAID tasked the project with procuring and delivering oxygen commodities, including pressure swing adsorption plants, vacuum swing adsorption plants, oxygen concentrators and cylinders, oxygen disaster manifolds, as well as consumable and durable items. Activities in Q3 included:

- In **Botswana**, GHSC-PSM supported bulk liquid oxygen (LOX) projects and is establishing a project charter with the Mission and MOH for three hospitals in Francistown and Masunga. The SOW includes installing vacuum-insulated evaporators with tank telemetry systems for level and pressure monitoring and cylinder manifold systems to ensure oxygen needs are met during each hospital's normal and peak consumption periods. In Q3, GHSC-PSM continued contract negotiations with the GHSC-QA–qualified supplier selected for award and will execute the agreement in Q4. Installation of equipment and bulk orders of LOX will occur after the MOH and Wellness complete the infrastructure readiness work.

- In **Kenya**, two PSA plants were delivered to Mwingi and Marsabit hospitals. The PSAs were accompanied by spare parts kits and 10 cylinders each.

- Delivered 132,622 oxygen consumables and durables.

Procuring consumables and durables for ventilator support. In Q3 in **Mongolia**, GHSC-PSM continued to monitor the progress of an order placed in Q4 FY 2022 for 14 line items of ventilator consumables and preventative maintenance training for biomedical engineers.

COVID-19 IN-COUNTRY TECHNICAL ASSISTANCE

Below are examples of COVID technical assistance activities the project conducted in Q3.

In **Botswana,** supported the disposal of expired COVID-19 vaccines and HIV rapid test kits. In Q3, the project in Botswana worked with 17 district health management teams (DHMTs) and the Central Medical Store (CMS) and used LMIS reporting data to assess waste disposal needs and their capacity to dispose of vaccine waste in an environmentally compliant manner. Once GHSC-PSM collected the quantity and estimated the weight of vaccine waste using facility LMIS reports and volumetric data obtained from CMS disaggregated by vaccine type, the project subcontracted the collection and disposal

to a qualified local 3PL to sort, weigh, containerize, load, transport, and incinerate the vaccine waste. The project worked with USAID and the Government of Botswana to ensure that general commercial, pollution, and automobile liability insurance policies and processes were followed, confirming that GHSC-PSM was environmentally compliant in waste disposal. In Q3, a total of 2,163,120 expired vaccine doses as well as expired Asante HIV-1 Rapid Recency Assay test kits, were destroyed in the presence of CMS waste destruction officers. All the DHMTs and CMS were issued biohazardous waste destruction certificates as proof of completion of the destruction process.

In **El Salvador,** GHSC-PSM added the warehouses of the Western Region, Central Region, and Paracentral Region to the cold chain monitoring platform. As a result, over 70 percent of the refrigerated warehouses in El Salvador are now monitored 24/7. In addition, GHSC-PSM is working with the MOH to establish a cold chain from vaccine arrival at the airport until the patient receives it. The project will extend cold chain coverage to hospitals, health units, and transportation. Progress has been made in reviewing quality processes and the contingency plan proposal for the conservation of vaccines, which MOH authorities have already reviewed. The project also conducted visits to identify the necessary computer equipment to operate in the central and regional warehouses, which contain vaccines, reagents, medicines, and medical supplies, under GS1 standards using barcodes.

In **Guatemala,** GHSC-PSM strengthened the logistics processes of the MOH through creating "Logistics Guidelines for the Handling of Vaccines and Related Supplies in Emergencies and Disasters." The guidelines address essential issues such as planning the procurement of supplies, emergency decision making, and legal policies related to vaccine procurement, importation, storage, distribution, and cold chain. The final document is under Ministerial review for a Ministerial agreement to take effect.

During Q3, the MOH formally accepted GHSC-PSM's technical support to update three main documents for the Ministry of Public Health and Social Welfare's (MSPAS) logistics operations; GHSC-PSM held a workshop for nurses in charge of the immunization program and biological inventory personnel on lessons learned from the 29 health areas, setting the next steps to continue the updating process. The update is expected to be completed in November 2023, with the delivery of the three updated drafts for the respective ministerial agreement and officializing the new version throughout Guatemala.

GHSC-PSM also worked to strengthen the cold chain and ensure the quality of COVID-19 vaccines. In Q3, the project began training staff in charge of temperature monitoring along the cold chain, starting with the first training in Coban Alta Verapaz.

In **Nigeria,** GHSC-PSM continues to lead distribution of COVID-19 vaccines and begins work on waste disposal. In Q3, the project distributed 3,076,230 doses of COVID-19 vaccines to 553 local government areas (LGAs) from their respective state-level cold storage facilities. In Edo State, GHSC-PSM assisted in planning for COVID-19 vaccine distribution of 143,800 doses of routine immunization vaccines. The project also received a request from USAID to provide cost estimates to ship 10,000 vials of Jynneos-Mpox vaccines donated by the Government of Denmark to several last-mile locations. Following a request from USAID, the project began developing a reverse logistics and environmentally compliant waste disposal strategy to support the National Primary Healthcare Development Agency (NPHCDA) in planning a nationwide collection and transport of unused COVID-19 vaccine vials from LGAs for disposal.

In **Ghana**, GHSC PSM supported GHS, Expanded Programme on Immunization (EPI), in improving availability of COVID-19 vaccines in support of health service delivery. In Q3, the project continued to leverage the Ghana Integrated Logistics Management Information System (GhiLMIS) to plan vaccine distribution. Key activities included:

- Distributed 600,000 doses of J&J vaccines to all 16 regional cold rooms.
- Distributed 166,000 0.3ml syringes and needles for Pfizer vaccines to eight regions (Ahafo, Bono, Bono East, Central,, Savannah, Upper East, and Upper West Regions) to be used for COVID-19 regional and district vaccination campaigns.
- Assisted implementing partners with logistics planning for a COVID-19 vaccination campaign in remote areas of the country focused on target populations, including youth and elderly populations.
- Conducted GhiLMIS utilization supportive supervision for 368 personnel who manage regional health facilities in 155 districts to address challenges impeding optimum GhiLMIS use for vaccine management. Supplied computer hardware (31 laptops and four desktops) to support central-level MOH, GHS, and all regional cold rooms to close existing gaps and enhance GhiLMIS utilization.

In **Haiti,** GHSC-PSM supported the distribution and strengthening of COVID-19 reporting systems. The project coordinated with the MOH and other partners to resupply more than 33 health institutions and ensure close coordination of resupply. This coordination occurred with representatives at the departmental level of the Ministry of Public Health and Population, in regions supported by USAID, and with implementing partner projects, Meeting Targets and Maintaining Epidemic Control (EPIC) and MOMENTUM Routine Immunization Transformation and Equity (MRITE). To further improve the visibility and tracking of vaccines, GHSC-PSM is collaborating with the MOH in its COVID-19 vaccine distribution and in building logistics data reporting capacity. The project also supported routine vaccine waste collection activities, such as establishing quarantine areas for used or expired vaccines at

USAID-supported health centers for immunization activities. This support ensured that vaccine waste is disposed of in an environmentally compliant manner by contracting waste management providers using approved destruction sites.

In **Lesotho,** GHSC-PSM worked with the Government of Lesotho to support COVID-19 logistics management. As the exclusive supply chain implementing partner for COVID-19 TA to the Government of Lesotho, GHSC-PSM supported the Supply Chain Management Division of the MOH by updating the informed push, which calculates the quantity of new COVID-19 supplies needed at the facility level and includes these products in routine reporting to the government and USAID. At the district level, GHSC-PSM regional LMIS coordinators supported all 207 sites in the 10 PEPFAR districts with their monthly supportive supervision exercise. The coordinators collected and entered the supply data during the monthly visits to inform national forecasting, quantification, and supply planning efforts. They also input COVID-19 supplies into the informed push system that ensured continuous supply and minimized waste of unused commodities.

In **Rwanda,** GHSC-PSM provided on-site technical assistance to enhance eLMIS integration of COVID-19 commodities**.** During the quarter, the following key technical assistance activities continued to be supported, including the project's continued assistance with COVID-19 vaccine distribution through local 3PL transportation providers. Rwanda COVID-19 activities key achievement in Q3 FY 2023 included:

- Seconded two warehouse managers to the Rwanda Biomedical Centre's Maternal Child and Community Health Division to manage inventory and distribute COVID-19 vaccines. As a result, 1,299,730 doses of pediatric vaccines and 3,365 adult doses were distributed during the reporting period.
- Trained regional MIS warehouse staff on improving the accuracy of supply chain data for decision-making. Recent countrywide quality management improvement approach site visits showed that as a result of this direct training and technical support provided, the average eLMIS inventory accuracy rate has increased by 11 percent from 68 percent during FY 2022 to 79 percent as of Q3 of the current fiscal year.
- Continued to enhance eLMIS to strengthen warehouse management capability, such as introducing barcode scanning of commodities to increase commodity traceability.

Current Reporting Period

2023-Q3

GLOBAL HEALTH SUPPLY CHAIN PROGRAM

Procurement and Supply Management

Delivery Impact to Date

Number of ACT treatments delivered

509,025,944

Number of Couple Years Protection delivered

99,764,635

Person-years of ARV treatment delivered

21,919,600

Global Supply Chain M&E Indicator Performance

FY2023 Quarter 3, April - June 2023

Delivery (OTIF, OTD and Backlog)	Cycle Time	Quality Assurance (TO2 only)	Procurement	Registration
Supply Plan Error	Forecast Error	Supply Plan Submissions	Warehousing	Vendor Performance

HIV Complete Quarterly Results (TO1)	Malaria Complete Quarterly Results (TO2)	FP/RH Complete Quarterly Results (TO3)	MNCH & Zika Complete Quarterly Results (TO4)

USAID FROM THE AMERICAN PEOPLE

PEPFAR U.S. President's Emergency Plan for AIDS Relief

PMI U.S. PRESIDENT'S MALARIA INITIATIVE LED BY USAID FROM THE AMERICAN PEOPLE CDC

Delivery Performance

Current Reporting Period

2023-Q3

TO	Analysis
Crosscutting	Overall delivery performance remained somewhat consistent from last quarter. OTIF results stood at 86 percent and OTD increased slightly to 89 percent. The backlog decreased slightly to 4.4 percent, from last quarter. Overall delivery volume decreased further in the present quarter to 1065 line items. There was a decline in the performance of Malaria and MNCH products but since the majority of the volume consisted of HIV/AIDS, the overall indicators were not impacted to a great degree. OTIF and OTD scores for HIV/AIDS products improved slightly this quarter. Family Planning products also improved in this quarter which also had a limited impact on the overall figures.
TO1 - HIV	Overall delivery performance improved for HIV/AIDS commodities. OTIF and OTD results were at 86 and 90 percent respectively, well above the 80 percent target. The backlog increased to 5.2 percent. Delivery volume also increase to 872 items from 850 items from last quarter. Delays were observed in Adult ARVs, Laboratory and Condom product groups. For the condom orders, there were some custom and clearance related delays.
TO2 - Malaria	Overall delivery performance for Malaria commodities declined this quarter. OTIF and OTD results stood at 80 and 84 percent respectively, still meeting the target of 80 percent. The backlog reduced to 1.4 percent from 4.6 percent of last quarter. Most delays were found in ACT and laboratory orders. The ACT orders were delayed due to a 3PL issue, which was a result of delay in communication. The Lab orders were impacted due to a supplier-related delay. The delivery volume also decreased this quarter from 157 line to 134 lines items.
TO3 - FP/RH	Overall delivery performance for family planning products improved this quarter. OTIF and OTD results were at 89 and 88 percent respectively, well above the 80 percent target. The backlog increased slightly to 4.3 percent from 3.6 percent of last quarter. Delays were observed in CoCs, Levonorgestrel-Releasing Intrauterine Devices, Implantable contraceptives and laboratory products. Levonorgestrel-Releasing Intrauterine Devices were procured for the first time by the project and there was a supplier related delay. For CoC orders, there were some shipment delays with 3PL. Delivery volume decreased to 57 items from the 75 items of last quarter.
TO4 - MNCH	Overall delivery performance for maternal and child health products somewhat declined this quarter, the OTIF and OTD stood at 50 and 100 percent respectively. Overall delivery volume increased this quarter to 2 line items, for Laboratory and Other Non-Pharma products. For the Other-Non Pharma product, there was a delay in the vendor processing certifications which had an impact on the pick-up.

A1a. On-time, In-Full Delivery

Task Order	Total # of Line Items Delivered	OTIF	OTIF Target
TO1 - COVID19	46	100%	80%
TO1 - HIV	872	86%	80%
TO2 - Malaria	134	80%	80%
TO3 - FP/RH	57	89%	80%
TO4 - MNCH	2	50%	80%
Total	**1,111**	**86%**	**80%**

A1b. On-time Delivery

Task Order	Total # of Line Items with ADDs in the quarter	OTD	OTD Target
TO1 - COVID19	46	100%	80%
TO1 - HIV	872	90%	80%
TO2 - Malaria	135	84%	80%
TO3 - FP/RH	58	88%	80%
TO4 - MNCH	1	100%	80%
Total	**1,112**	**89%**	**80%**

A16. Backlog Percentage

Task Order	Total # of line items with ADDs in the last 12 months	Backlog	Backlog target
TO1 - COVID19	255	0.0%	5%
TO1 - HIV	3,736	5.2%	5%
TO2 - Malaria	664	1.4%	5%
TO3 - FP/RH	278	4.3%	5%
TO4 - MNCH	18	0.0%	5%
Total	**4,951**	**4.4%**	**5%**

Delivery Performance

Current Reporting Period

2023-Q3

Task Order	A1a. OTIF rate		A1b. OTD rate		A16. Backlog percentage	
	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months
TO1 - COVID19	**100%**	**46**	**100%**	**46**	**0.0%**	**255**
COVID19	100%	46	100%	46	0.0%	255
TO1 - HIV	**86%**	**872**	**90%**	**872**	**5.2%**	**3,736**
Adult ARV	88%	73	90%	71	5.3%	265
Condoms	78%	37	90%	31	4.4%	160
Food and WASH					100.0%	1
Laboratory	85%	582	89%	591	6.1%	2,587
Other Non-Pharma	80%	59	89%	55	3.5%	201
Other Pharma	93%	60	97%	60	2.3%	175
Other RTK	100%	6	86%	7	5.7%	35
Pediatric ARV	90%	31	90%	31	1.4%	143
TB HIV	100%	10	100%	12	0.0%	57
VMMC	100%	14	100%	14	0.9%	112
TO2 - Malaria	**80%**	**134**	**84%**	**135**	**1.4%**	**664**
ACTs	68%	50	70%	60	1.0%	200
Laboratory	60%	10	100%	6	2.4%	124
LLINs	92%	13	92%	13	1.0%	100
mRDTs	80%	15	100%	12	0.0%	58
Other Non-Pharma	100%	1	100%	1	0.0%	17
Other Pharma	100%	1	100%	1	0.0%	6
Severe Malaria Meds	95%	20	100%	19	1.0%	99
SMC	93%	14	100%	12	0.0%	32
SP	90%	10	82%	11	7.1%	28

Task Order	A1a. OTIF rate		A1b. OTD rate		A16. Backlog percentage	
	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months
TO3 - FP/RH	**89%**	**57**	**88%**	**58**	**4.3%**	**278**
Combined Oral Contraceptives	67%	6	67%	6	5.3%	38
Copper-Bearing Intrauterine Devices	100%	3	100%	3	0.0%	16
Emergency Oral Contraceptives	100%	1	100%	1	0.0%	10
Implantable Contraceptives	94%	16	94%	16	7.1%	84
Injectable Contraceptives	100%	12	92%	13	3.1%	65
Laboratory	100%	2	100%	2	0.0%	2
Levonorgestrel-Releasing Intrauterine Devices	0%	3			0.0%	4
Other Non-Pharma	100%	6	67%	9	0.0%	11
Progestin Only Pills	100%	5	100%	5	0.0%	37
Standard Days Method	100%	3	100%	3	18.2%	11
TO4 - MNCH	**50%**	**2**	**100%**	**1**	**0.0%**	**18**
Laboratory	100%	1	100%	1	0.0%	1
Other Non-Pharma	0%	1			0.0%	15
Other Pharma					0.0%	2

Data notes

See "Indicator Details" pages in this report for more information.

Quarterly indicator targets are effective beginning FY2018 Q4.

Line items are considered on time if they are delivered between 14 calendar days before and up to 7 calendar days after the agreed delivery date.

All male and female condom and lubricant deliveries are reported under TO1.

Cycle Time Performance

Current Reporting Period

2023-Q3

A3. Average overall and dwell-adjusted cycle time

Task Order	# of line items delivered	Average Cycle Time	Cycle time target	Average dwell-adjusted cycle time	Dwell-adjusted cycle time target
TO1 - COVID19	46	712	250	712	250
TO1 - HIV	872	241	250	236	250
TO2 - Malaria	134	359	340	323	300
TO3 - FP/RH	57	312		307	
TO4 - MNCH	2	459	350	459	350
Total	**1111**	**279**		**270**	

A3. Average overall and dwell-adjusted cycle time (TO3 detail)

Task Order	# of line items delivered	Average Cycle Time	Cycle time target	Average dwell-adjusted cycle time	Dwell-adjusted cycle time target
TO3 - FP/RH	**57**	**312**		**307**	
Direct drop fulfillment	33	310	300	305	300
Warehouse fulfillment	24	315	250	309	250

See next page for break downs by process segment, product category, fulfillment channel, and transportation mode

TO	Analysis
TO1 - HIV	End-to-end cycle time for HIV/AIDS commodities increased this quarter to 241 days, below the target of 250 days. Dwell-adjusted cycle time also increased to 236 days, falling below the target. Purchase orders, which accounted for 96 percent of all orders, had an average cycle time of 242 days (237 dwell-adjusted). Laboratory items, which account for more than two-thirds of HIV/AIDs deliveries, had an average cycle time of 220 days, with 36 line items having holds applied to them. Other Pharma, another significant product group this quarter, had a cycle time of 406 days, with 20 line items having holds applied to the. Out of 872 line items for HIV/AIDS products, 115 had holds applied to them.
TO2 - Malaria	End-to-end cycle time for malaria commodities increased this quarter to 359 days. Dwell-adjusted cycle time also increased this quarter to 323 days. There was an increased in the Deliver segment to 98 days from the 68 days of last quarter. There were six particularly long country cycle times this quarter (over 450 days for both standard and dwell-adjusted) for Rwanda and Tanzania. Rwanda had 2 line items for ACTs which were held up due to postponement of delivery dates by the Mission. A similar case occurred with LLIN orders for Tanzania, the Mission postponed delivery for about a year. Out of 134 items for malaria products this quarter, 66 had holds applied to them.
TO3 - FP/RH	End-to-end cycle times for family planning products performed differently across fulfilment channels. For warehouse fulfillments, it increased to 315 days and 309 days for standard and dwell-adjusted cycle times respectively. Cycle time for direct drop fulfillments decreased to an average of 310 days, with the dwell-adjusted cycle time also decreasing to 305. Injectable contraceptives, which accounted for the highest number of line items this quarter for both fulfilment channels, had a cycle time of 375 days (365 days with dwell-adjusted). DRC accounted for the highest number of lines under implantable contraceptives. The DRC order was for a supply-constrained product, the original order had to be split into two allocations, the lines with longer cycle times were in the second tranche of allocation. Other countries which had long cycle times were Ghana and Tanzania. For Ghana, the product was only developed for USAID and the supplier ran into COVID production bottlenecks, the size of the order had to be changed a number of times due to budget constraints. The orders faced supplier QA issues for Tanzania which led to a longer cycle time.
TO4 - MNCH	Cycle time for maternal and child health commodities increased to 459 days, both standard and dwell-adjusted. There were two line items this quarter, for Nigeria and Mozambique. The Manufacture segment increased to more than twice the number of days to 198.

Data notes

Data on overall cycle start and end dates are complete for all line items delivered this quarter. However, internal milestone data may not be complete for some line items. In these cases, line items with incomplete data are excluded from the segment averages. For this reason, the sum of all segments may not be equal to the overall average per task order and fulfillment channel, especially in earlier reporting periods.

Overall cycle time is defined as the number of days between when a customer order is submitted to when the shipment is actually delivered to the customer, inclusive of the start/end days and all holds or other dwell times. Dwell-adjusted cycle time is defined as the overall cycle time with all days of measurable dwell time deducted. Dwell is measured using system timestamps for the start and end for a set of acceptable holds, as defined by the GHSC-PSM hold status policy.

Quarterly indicator targets are set for overall and dwell-adjusted cycle times. For all task orders except TO2, the overall and dwell-adjusted targets are the same. Targets are not set for individual segments for any task order.

Cycle Time Performance

Current Reporting Period

2023-Q3

A3. Average overall cycle time by product group, fulfillment channel, and transportation mode (TO1, TO2, and TO3)

Fulfillment Channel	Direct Drop Fulfillment				Warehouse Fulfillment			Total
Task Order	Air	Land	Multiple	Sea	Air	Land	Sea	
TO1 - COVID19	**672**			**742**				**712**
COVID19	672			742				**712**
TO1 - HIV	**226**	**224**	**438**	**336**	**189**	**51**	**257**	**241**
Adult ARV	290			214	178	51	280	**243**
Condoms	260			346	233		277	**329**
Laboratory	217	224	580	296				**220**
Other Non-Pharma	233	221		234				**229**
Other Pharma	318	247		460				**406**
Other RTK	236							**236**
Pediatric ARV	243		295	345	188		147	**251**
TB HIV	257			221				**232**
VMMC	243	209		234				**235**
TO2 - Malaria	**347**	**498**		**356**				**359**
ACTs	369	217		333				**336**
Laboratory	465			517				**475**
LLINs		686		475				**524**
mRDTs	137			297				**276**
Other Non-Pharma				374				**374**
Other Pharma	311							**311**
Severe Malaria Meds	318			402				**398**
SMC	54			291				**257**
SP	246			355				**344**
TO3 - FP/RH	**279**			**325**	**218**		**430**	**312**
Combined Oral Contraceptives				442	264		661	**449**
Copper-Bearing Intrauterine Devices	229				219			**226**
Emergency Oral Contraceptives	210							**210**
Implantable Contraceptives	325			465	237		448	**375**
Injectable Contraceptives	243			286	161		406	**268**
Laboratory				224				**224**
Levonorgestrel-Releasing Intrauterine Devices					238			**238**
Other Non-Pharma				255				**255**
Progestin Only Pills					181		326	**268**
Standard Days Method	315							**315**

A3. Average overall cycle time by product group, fulfillment channel, and transportation mode (TO4)

Fulfillment Channel	Direct Drop Fulfillment		Total
Product Category	Air	Land	
Laboratory		248	**248**
Other Non-Pharma	669		**669**
Total	**669**	**248**	**459**

Data notes

Data on overall cycle start and end dates are complete for all line items delivered this quarter. However, internal milestone data may not be complete for some line items. In these cases, line items with incomplete data are excluded from the segment averages. For this reason, the sum of all segments may not be equal to the overall average per task order and fulfillment channel, especially in earlier reporting periods.

Overall cycle time is defined as the number of days between when a customer order is submitted to when the shipment is actually delivered to the customer, inclusive of the start/end days and all holds or other dwell times. Dwell-adjusted cycle time is defined as the overall cycle time with all days of measurable dwell time deducted. Dwell is measured using system timestamps for the start and end for a set of acceptable holds, as defined by the GHSC-PSM hold status policy.

Quarterly indicator targets are set for overall and dwell-adjusted cycle times. For all task orders except TO2, the overall and dwell-adjusted targets are the same. Targets are not set for individual segments for any task order.

Average cycle times by process segment

Fulfillment channel	Clarify and Source	USAID Approval	Process PO/DO	Manufacture/Prepare and Pick Up Order	Manufacture	Pick Up	Deliver
Direct drop fulfillment	**73**	**4**	**65**		**70**	**69**	**51**
TO1 - COVID19	20	0	46		73	548	51
TO1 - HIV	68	4	75		67	34	38
TO2 - Malaria		1	19		79	46	98
TO3 - FP/RH		5	36		90	34	50
TO4 - MNCH	68	24	69		198		17
Warehouse fulfillment	**70**	**11**	**72**	**48**	**11**	**38**	**51**
TO1 - HIV	60	9	52	42	8	35	44
TO3 - FP/RH		12	102	57	15	41	61
Total	**73**	**4**	**66**	**131**			**51**

Quality Assurance Performance (TO2 only)

Current Reporting Period

2023-Q3

A2. QA processes completed within required lead times

Task Order	Total # of QA processes completed	% QA Processes On Time	A2 Target
TO2 - Malaria	**104**	**96%**	**85%**
ACTs	39	95%	85%
LLINs	32	100%	85%
mRDTs	11	100%	85%
Other Pharma	1	100%	85%
Severe Malaria Meds	13	100%	85%
SMC	4	100%	85%
SP	4	50%	85%

A13. Out-of-specification percentage

Task Order	Total # of batches tested	Out-of-specification percentage	A13 Target
TO2 - Malaria	**207**	**0.0%**	**1%**
ACTs	72	0.0%	1%
LLINs	26	0.0%	1%
mRDTs	20	0.0%	1%
Other Pharma	8	0.0%	1%
Severe Malaria Meds	52	0.0%	1%
SMC	18	0.0%	1%
SP	11	0.0%	1%

Data notes

All QA activities for TO2 are conducted by GHSC-PSM. All QA activities for TO1, TO3, and TO4 are managed by the USAID GHSC-QA contract. GHSC-QA may be contacted for data related to these TOs.

Exceptional procedures outside of routine QA testing and clearance are excluded from indicator A2. This includes consignments requiring QA investigations, method transfers, non-PMI procurements, post-shipment quality control, and LLIN shipments requiring witnessing of loading and/or sealing of goods.

Quarterly indicator targets are effective beginning FY2018 Q4.

A15. QA investigation report submission (Q2 & Q4 only)

Task Order	# of reports due	Report submissions	A15 Target
TO2 - Malaria			
ACTs			
LLINs			
mRDTs			
Other Non-Pharma			
Other Pharma			
Severe Malaria Meds			
SMC			
SP			

Ref	Analysis
A02	A total of 96 percent of QA/QC processes were completed within required lead times. This was an increase from the 85 percent of last quarter. There was only one product group, SP which performed below the target. Some public holidays in May and lab overload impacted the number of SP shipments were able to comply with the pre-established lead time..
A13	Out of specification findings fell this quarter to 0 percent of batches tested, recovering from last quarter.
A14b	The vendor scorecard rating for lab services increased this quarter to 93 percent from last quarter's 88 percent. The increase was most noticeable in the reliability score, which increased from 81 percent to 92 percent, recovering from last quarter's decline. All other component scores were similar to last quarter, with responsiveness, completeness, and invoice accuracy scoring 96 percent, and service scoring 84 percent. There were marginal decreases recorded in invoice accuracy and service this quarter.

Warehouse Performance and Product Losses

Current Reporting Period

2023-Q3

C7a and C7b. Product loss due to expiry, theft, damage and other causes while in GHSC-PSM control

Task Order	Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
TO1 - HIV	Nigeria	Damage	ARVs	$1,642	$34,538,461	0.00%
TO1 - HIV	Nigeria	Damage	Essential medicines	$55,756	$19,340,290	0.29%
TO3 - FP/RH	DRC	Damage	Injectable Contraceptives	$1,029	$1,244,662	0.08%
TO1 - HIV	Kenya	Damage	Laboratory Consumables	$3,126	$12,456,526	0.03%
TO2 - Malaria	Liberia	Damage	LLINs	$1,043	$670,172	0.16%
TO2 - Malaria	Nigeria	Damage	RDTs	$22,399	$2,569,911	0.87%
TO2 - Malaria	RDC	Expiry	SMC	$403	$93,397	0.43%

A8. Shelf life remaining

Task Order	Inventory Balance	% Shelf Life Remaining	Shelf life target
TO1 - HIV	$3,949,113	81%	70%
TO2 - Malaria	$500,570	85%	70%
TO3 - FP/RH	$7,261,171	88%	80%
Total	**$11,710,854**	**85%**	

Data notes

- Average inventory balance (A4 and C7a denominator) is calculated using the ending balance at the close of each month.
- Expired inventory is excluded from shelf life calculations (A8). It is reported under product loss.
- Quarterly indicator targets are effective beginning FY2018 Q4. Per the project M&E plan, no targets are required for product loss indicators (C7a and C7b).
- Task Order 1 inventory includes all condoms. GHSC-PSM does not hold any inventory for Task Order 4.

Ref	Task Order	Analysis
A08	TO1 - HIV	Average shelf life remaining for HIV products was 81 percent in FY23 Q3, relatively consistent with the 83 percent shelf life remaining in the last quarter. These results were driven by an unusally large quantity of TE originally destined for Zambia, making up about half of the inventory value at the end of the quarter. Zambia has since adjusted their order to accept about half of the total quantity, with the remainer now allocated to other countries. GHSC-PSM is not expecting to stock TE at this level going forward. The project made a significant shift this fiscal year regarding shipment and stocking strategies for TLD, shifting most procurement to VMS and direct drop shipments, with a reduced TLD inventory at the regional distribution centers, primarily in case of emergency rapid response. TLD now only accounts for about 8 percent of the total value held at RDCs, which had an average shelf life remaining of 72 percent, above the 70 percent target. The project's other core HIV inventory item, male condoms, had a shelf life of 89 percent. Only one product, dapivirine ring, had a below-target shelf life of 63 percent. This item was procured for a special research project and cannot be allocated to countries at this time. Its impact on the results is minimal, however, due to its small quantity and relatively lower value.
A08	TO2 - Malaria	Average shelf life remaining for the AL stockpile was at 85 percent in FY23 Q3, an increase from last quarter. All products exceeded a shelf life above the 70 percent target, with no products having a shelf life remaining of lower than 83 percent. The stockpile received new shipments of all four presentations in the last month of the quarter, which contributed to the favorable results.
A08	TO3 - FP/RH	The average weighted shelf life remaining for family planning products increased to 88 percent in FY23 Q3, with all products exceeding the 80 percent target. MPA-IM in particular contributed to this result, with an average shelf life of 92 percent and nearly half of the inventory value. The RDCs recevied fresh shipments of both injectables, COCs with non-iron placebo, one- and two-rod implants, progestin-only pills, and copper-bearing IUDs, contributing to high shelf life across product categories.
C07a	TO2 - Malaria	There was one account of expiries of malaria products this quarter. A total of $403 worth of SMC products expired due to being a small quantity that was left over from old orders. GHSC-PSM is monitoring the product frequently to prevent expiries in the future.
C07a	TO3 - FP/RH	There were no expiries of family planning products in GHSC-PSM's RDC inventory this quarter.
C07a	TO1 - HIV	There were no expiries of HIV/AIDS products in GHSC-PSM's RDC inventory this quarter.
C07b	Crosscutting	Confirmed loss incidents within the global supply chain typically include product damage that occurred in transit to the destination. Most of these losses are typical for a supply chain of this size and represented a minimal proportion of the total value of product delivered in the quarters the losses took place. There was one loss in transit within the DRC this quarter: $1,028.50 worth of injectable contraceptives were damaged during transport, due to being wet.

Procurement Performance

Current Reporting Period

2023-Q3

A10. Framework contract percentage

Task Order	Procurement total	Framework contract percentage	Framework contract target
TO1 - COVID19	$587,651	100%	90%
TO1 - HIV	$73,904,117	96%	90%
TO2 - Malaria	$78,251,986	100%	95%
TO3 - FP/RH	$10,521,974	100%	95%
TO4 - MNCH	$292,866	100%	85%
Total	**$163,558,594**	**98%**	**NA**

A10. Product-level detail

Task Order	Framework contract percentage	Procurement total
TO1 - COVID19	**100%**	**$587,651**
COVID19	100%	$587,651
TO1 - HIV	**96%**	**$73,904,117**
Adult ARV	100%	$38,776,552
Condoms	100%	$3,692,825
Laboratory	91%	$17,680,213
Other Non-Pharma	52%	$1,299,996
Other Pharma	100%	$5,259,219
Other RTK	0%	$1,022,816
Pediatric ARV	100%	$2,987,768
TB HIV	100%	$2,493,602
VMMC	100%	$691,126
TO2 - Malaria	**100%**	**$78,251,986**
ACTs	100%	$10,722,167
Laboratory	100%	$45,320
LLINs	100%	$58,417,707
mRDTs	100%	$4,131,627
Other Non-Pharma	100%	$44,637
Severe Malaria Meds	100%	$4,324,953
SMC	100%	$407,198
SP	100%	$158,377

A10. Product-level detail

Task Order	Framework contract percentage	Procurement total
TO3 - FP/RH	**100%**	**$10,521,974**
Combined Oral Contraceptives	100%	$27,821
Emergency Oral Contraceptives	100%	$105,408
Implantable Contraceptives	100%	$2,129,352
Injectable Contraceptives	100%	$8,139,974
Other Non-Pharma	100%	$114,800
Standard Days Method	100%	$4,620
TO4 - MNCH	**100%**	**$292,866**
Other Pharma	100%	$292,866

Task Order	Analysis
TO1 - HIV	Use of framework contracts for HIV/AIDS procurements rose to 96 percent this quarter. This result is due to a higher overall proportion of ARV procurements (all framework) compared to the last quarter (56 percent compared to 31 percent) and the continued growth in the use of framework contracts for lab items. Framwork contracting for lab items reached 91 percent this quarter, the highest quarterly result for this category so far.
TO2 - Malaria	Malaria procurements remained above the target, at 100 percent utilization of framework contracts this quarter. The overall procurement value increased by about 31 pecent this quarter compared to last, due to a high volume of LLINs procurements reaching the PO release stage this quarter.
TO3 - FP/RH	Family planning continues to procure all items under framework contracts, per the sourcing strategy for these commodities.
TO4 - MNCH	All MNCH procurements this quarter were executed under framework contracts. This included orders of oral rehydration salts with zinc sulfate for Haiti and Mozambique, as well as Ringers lactate and additional essential medicines for Haiti.

Data notes

Procurement totals are equal to the total value of all line items procured from vendors each period. This includes Purchase Orders and warehouse Replenishment Orders. Distribution Orders released from the RDCs to countries are not counted, as these quantities are already included when the items are first purchased as Replenishment Orders.

Framework contracts include indefinite delivery, indefinite quantity contracts (IDIQs), blanket purchase agreements (BPAs), and basic ordering agreements (BOAs). Non-framework contracts include firm fixed price and fixed unit price subcontracts, simplified purchase agreements, and other types of one-off purchase orders.

Commodities are considered "purchased" if the "PO Released for Fulfillment Date" in ARTMIS falls within the reporting period.

Registration Waivers

A7. Temporary registration waiver percentage

Task Order	Temporary registration waiver percentage	Total # of line items delivered
TO2 - Malaria	**11.2%**	**134**
ACTs	4.0%	50
Severe Malaria Meds	15.0%	20
mRDTs	26.7%	15
SMC	42.9%	14
LLINs	0.0%	13
Laboratory	0.0%	10
SP	0.0%	10
Other Non-Pharma	0.0%	1
Other Pharma	0.0%	1
TO3 - FP/RH	**9.3%**	**43**
Implantable Contraceptives	0.0%	16
Injectable Contraceptives	16.7%	12
Combined Oral Contraceptives	0.0%	6
Progestin Only Pills	0.0%	5
Copper-Bearing Intrauterine Devices	66.7%	3
Emergency Oral Contraceptives	0.0%	1
Total	**10.7%**	**177**

Task Order	Analysis
TO3 - FP/RH	The project used registration waivers for 9 percent of line items delivered this quarter, representing 4 line items. This was an increase from the 4 percent of last quarter. Two orders were for Copper-Bearing Intrauterine devices for Uganda. The country does not have a registration process for medical devices yet. The other two orders were for MPA Injection in Haiti and Afghanistan. In the latter country, there is no regulatory body which has been set up for registration. In Haiti, the registration is in process but it has been delayed.
TO2 - Malaria	The project utilized registration waivers for approximately the same percentage of line items as last quarter, 11 percent. The orders were spread across commodity groups of mRDTS, SMCs and severe malaria medicines. Due to change in some guidelines, registration in Cameroon became compulsory for SMCs, the supplier is in the process of getting registered.

Supply Plan Submissions

Current Reporting Period

2023-Q3

B6. Quarterly supply plan submission rate to GHSC-PSM HQ

Product Group	# of supply plans required	Supply plan submission rate	Submission target
ARVs	21	90%	95%
Condoms	21	100%	90%
FP commodities	21	100%	95%
Lab (HIV diagnostics)	15	100%	93%
Malaria commodities	27	96%	93%
RTKs	20	95%	95%
TPT	15	93%	93%
VMMC	5	100%	80%
Total	**145**		

Task Order	Analysis
TO1 - HIV	Submission rates for HIV supply plans was strong this quarter with 100 percent submission in Condoms, VMMC and Lab . TPTs, RTKs and ARVs had a submission rate of less than 100 percent with Botswana, Mozambique not submitting the plans.
TO2 - Malaria	Malaria supply plans submissions remained the same at 96 percent this quarter. Supply plan for Rwanda was not sent.
TO3 - FP/RH	Supply plan submissions for family planning commodities and condoms was strong this quarter, with 100 percent of supply plans submitted for family planning commodities and condoms.

Supply Plan and Forecast Performance

Current Reporting Period

2023-Q3

A6a. Supply plan error - HIV Products

Product Category	Supply plan/ forecast error	Supply plan/ forecast bias	4-quarter error	Annual APE Target	4-quarter bias
Adult ARV	1%	-1%	9%	22%	-9%
Condoms	28%	-28%	14%	30%	-14%
Laboratory	41%	41%	33%	25%	33%
Pediatric ARV	5%	5%	16%	25%	16%

A6a. Supply plan error - Malaria products

Product Category	Supply plan/ forecast error	Supply plan/ forecast bias	4-quarter error	Annual APE Target	4-quarter bias
ACTs	16%	-16%	36%	35%	36%
mRDTs	2%	2%	29%	25%	29%

A6b. Forecast error - Family Planning products

Product Category	Supply plan/ forecast error	Supply plan/ forecast bias	4-quarter error	Annual APE Target	4-quarter bias
Combined Oral Contraceptives	4%	4%	5%	25%	-5%
Copper-bearing Intrauterine Devices	32%	32%	11%	30%	-11%
Implantable Contraceptives	1%	1%	5%	25%	5%
Injectable Contraceptives	3%	-3%	4%	22%	-4%
Progestin Only Pills	29%	29%	7%	25%	7%

Task Order	Analysis
TO1 - HIV	Forecast error for condoms increased to 28 percent this quarter from 12 percent of last quarter. An order of 8 million units of No Logo condoms was planned for Namibia. This order was later reduced and split across two different types of condoms, consisting of both No Logo and a specialty male condom. This splitting resulted in a reduction of the ordered amount by 1.5 million units as compared to was what originally planned. The rolling four-quarter supply plan error increased to 14 percent, still below the 30 percent target. This is due to a consistent trend of under-ordering in three successive quarters.
TO1 - HIV	Quarterly supply plan error for lab commodities widened, from 29 percent in Q2 to 41 percent in Q3. Keeping in line with the trend over the past few quarters, the orders for lab commodities were higher than expected in supply plans. The highest discrepancy came from VL and molecular lab products. For VL, Nigeria and Tanzania had no planned orders but ordered 5,216 and 4,976 units respectively. It was a similar case with molecular products—Nigeria and Tanzania planned for 0 units but ordered 15,862 and 6,043 units respectively. For other lab products, there were no units planned but there were 11,047 units ordered from Tanzania. The rolling four-quarter metric reduced to 33 percent this quarter, still higher than the goal of 25 percent.
TO1 - HIV	Supply plan error for adult ARVs decreased to 1 percent this quarter, reducing from 39 percent of last quarter. The four-quarter metric for adult ARVs narrowed to 9 percent, a reduction from 13 percent of last quarter. A total of 1.3 million units of TLD90 was planned in April and ordered in May which helped bridge the gap. For pediatric ARVs, the supply plan error increased to 5 percent, with a consequent increase in the four-quarter metric to 16 percent. In May and June, Zambia, Zimbabwe and Uganda ordered approximately 70,000 units while forecasting none in their supply plans.
TO2 - Malaria	Supply plan error for ACTs decreased to 16 percent this quarter, with a rolling four quarter metric of 36 percent, a decrease from the 51 percent of last quarter. Both AL and ASAQ witnessed a decrease in the supply plan errors. Similar to last quarter, the reduction in ACT error was brought about by a decreases supply plan error for AL, which was at 17 percent this quarter, a reduction of 15 percentage points from last quarter. For AL, there were three planned orders from Mali, adding up to 1.8 million units which did not materialize. There was another consignment planned for Liberia which did not translate into any orders. The ASAQ error reduced to 13 percent this quarter, after the considerable 98 percent error of last quarter. The error for ASAQ was principally due to Angola's planned order of approximately 900 units not materializing into ordered quantities. The supply plan error for mRDTs further reduced to 2 percent this quarter. A total of 6 million unplanned units were ordered from Angola and Zambia.
TO3 - FP/RH	Forecast error for implants remained approximately the same as last quarter at around 1 percent in the present quarter. The forecast error for injectables decreased from 15 percent to 3 percent, and the four-quarter rolling metric decreased to 4 percent, well below the target of 22 percent. Both copper-bearing IUDs and progestin-only pills witnessed a noticeable increase in forecast error this quarter. For progestin-only pills, the forecast error increased to 29 percent from 14 percent. This was mainly due to an order from Tanzania, which was split across two lines due to a delay from the supplier. The Tanzania order was planned for January, but it got delayed to April. For copper-bearing IUDs, the forecast error increased from 0 to 32 percent. An order for Malawi comprising of 22,000 units was not included in the forecast plans. The forecast error for combined oral contraceptives reduced from 75 percent to 4 percent in this quarter, with the four-quarter rolling metric of 5 percent, well below the 25 percent target for this quarter. For CoCs, in Q2 there were two orders planned from Angola and Burkina Faso (1M cycles) which were included in the forecast but they were cancelled or delayed with short lead time. Both the Angola and Burkina Faso orders were large in volume which contributes to the forecast error in Q2 (75%). The Q3 the error reduced to 4 % due to the lack of these orders.

Vendor Performance

Current Reporting Period

2023-Q3

A14a-c. Average vendor rating score

Vendor Type	Average vendor rating
Commodity Supplier	60%
Freight Forwarder	86%
QA Lab	93%

14b. QA Lab Vendor Scorecard Components, Weighting, and Scores

Component Name	Indicator Name	Indicator Score	Indicator Weight (Overall)	Overall Weighted Score
1 - Reliability (Timeliness of Service)	Does the lab provide on-time provision of completed test reports?	92%	48%	44%
2 - Responsiveness	Does the lab provide prompt response after receipt of GHSC-PSM request for testing	96%	15%	14%
3 - Completeness of Documentation	Frequency of modification to Certificates of Analysis (CoA)	96%	18%	17%
4 - Invoice Accuracy	Submitted invoices for routing testing adhere to set IDIQ pricing	96%	10%	10%
5 - Service	Adherence to other terms and conditions, not related to reliability, responsiveness, completeness, and cost (Qualitative)	84%	10%	8%
Total			**100%**	**93%**

Analysis

This quarter's average freight forwarder vendor rating shows a result of 86 percent for average 3PL performance, remaining consistent with last quarter's score. Performance within the EDI status performance, ETA delivery accuracy/reliability, rate of deliveries without NCRs, and booking timeliness all saw an increase in scores this quarter. The component with the most notable increase this quarter is invoicing accuracy, which, while still lower than other categories at 55 percent, saw a 7 point increase. The timeliness sub-indicator within the invoicing accuracy component nearly doubled last quarter's score of 19 percent, reaching 36 percent, beginning to recover from last quarter's lower rates that were due to delays caused by the rate refresh process. Customer service saw a slight decrease this quarter, from 69 percent to 64 percent. All other categories remained consistent in their scores, including on-time performance, which is the most heavily weighted category.

The vendor scorecard rating for lab services increased this quarter to 93 percent from last quarter's 88 percent. The increase was most noticeable in the reliability score, which increased from 81 percent to 92 percent, recovering from last quarter's decline. All other component scores were similar to last quarter, with responsiveness, completeness, and invoice accuracy scoring 96 percent, and service scoring 84 percent. There were marginal decreases recorded in invoice accuracy and service this quarter.

On-time performance (OTP) for high-risk, high-value suppliers saw a decrease this quarter to 53 percent. Performance either declined or remained below the target level for nearly all commodities and task orders. Due to the large number of orders placed, the poor performance of lab suppliers resulted in the overall score remaining low; however, other commodities, such as for malaria, TB, and HIV, performed below their usual level. Essential medicine suppliers did improve from last quarter, although still below target levels. A range of complications have contributed to the poor performance, including shortages of inputs, insufficient shelf life on products, and in-country delivery difficulties. Project teams have scheduled additional recurring calls with high-value suppliers that have demonstrated poor performance and are collaborating to identify and address potential issues as they arise, before a large number of lines are affected. Teams are also looking further into the risk factors in shipping to certain areas and are strategically evaluating the best ways to prevent these factors from negatively impacting service delivery.

Data notes

Components and indicators for the 3PL scorecard have changed over time. Version 1 of the scorecard was in effect up to FY2018 Q2. Version 2 was in effect from FY2018 Q3 until FY2022 Q4. Version 3 took effect in FY2023 Q1. See the M&E plan for full details of scorecarde changes over time.

Per the GHSC-PSM M&E plan, targets are not required for vendor performance indicators.

Complete Quarterly Results (TO1)

Reporting Period

2023-Q3

A1a. OTIF rate / A1b. OTD rate / A16. Backlog percentage / A10. Framework contracting

Task Order	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months	Framework contract percentage	Procurement total
TO1 - COVID19	**100%**	**46**	**100%**	**46**	**0.0%**	**255**	**100%**	**$587,651**
COVID19	100%	46	100%	46	0.0%	255	100%	$587,651
TO1 - HIV	**86%**	**872**	**90%**	**872**	**5.2%**	**3,736**	**96%**	**$73,904,117**
Adult ARV	88%	73	90%	71	5.3%	265	100%	$38,776,552
Condoms	78%	37	90%	31	4.4%	160	100%	$3,692,825
Food and WASH					100.0%	1		
Laboratory	85%	582	89%	591	6.1%	2,587	91%	$17,680,213
Other Non-Pharma	80%	59	89%	55	3.5%	201	52%	$1,299,996
Other Pharma	93%	60	97%	60	2.3%	175	100%	$5,259,219
Other RTK	100%	6	86%	7	5.7%	35	0%	$1,022,816
Pediatric ARV	90%	31	90%	31	1.4%	143	100%	$2,987,768
TB HIV	100%	10	100%	12	0.0%	57	100%	$2,493,602
VMMC	100%	14	100%	14	0.9%	112	100%	$691,126
Total	**87%**	**918**	**90%**	**918**	**4.9%**	**3,991**	**96%**	**$74,491,768**

A6a and A6b. Absolute percent supply plan or forecast ...

A6 Indicator	Supply plan/ forecast error	Supply plan/ forecast bias	4-quarter error	4-quarter bias
A6a - Supply plan error				
Adult ARV	1%	-1%	9%	-9%
Laboratory	41%	41%	33%	33%
Pediatric ARV	5%	5%	16%	16%
A6b - Forecast Error				
Condoms	28%	-28%	14%	-14%

C7a and C7b. Product loss due to expiry, theft, damage, and other causes

Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
Nigeria	Damage	ARVs	$1,642	$34,538,461	0.00%
Nigeria	Damage	Essential medicines	$55,756	$19,340,290	0.29%
Kenya	Damage	Laboratory Consumables	$3,126	$12,456,526	0.03%

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment				Warehouse Fulfillment			**Total**
Task Order	Air	Land	Multiple	Sea	Air	Land	Sea	
TO1 - COVID19	**672**			**742**				**712**
COVID19	672			742				**712**
TO1 - HIV	**226**	**224**	**438**	**336**	**189**	**51**	**257**	**241**
Adult ARV	290			214	178	51	280	**243**
Condoms	260			346	233		277	**329**
Laboratory	217	224	580	296				**220**
Other Non-Pharma	233	221		234				**229**
Other Pharma	318	247		460				**406**
Other RTK	236							**236**
Pediatric ARV	243		295	345	188		147	**251**
TB HIV	257			221				**232**
VMMC	243	209		234				**235**
Total	**241**	**224**	**438**	**406**	**189**	**51**	**257**	**265**

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
81%	$3,949,113

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
ARVs	90%	21
Condoms	100%	21
Lab (HIV diagnostics)	100%	15
RTKs	95%	20
VMMC	100%	5

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	60%
Freight Forwarder	86%

Complete Quarterly Results (TO2)

Reporting Period

2023-Q3

	A1a. OTIF rate		A1b. OTD rate		A16. Backlog		A7. Waiver percentage	A10. Framework contracting			A2. QA processes on time		A13 Out-of-spec		A15. QA reports	
Task Order	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months	Temporary registration waiver percentage	Total # of line items delivered	Framework contract percentage	Procurement total	% QA Processes On Time	Total # of QA processes completed	Out-of-specification percentage	Total # of batches tested	Report submissions	# of reports due
TO2 - Malaria	**80%**	**134**	**84%**	**135**	**1.4%**	**664**	**11.2%**	**134**	**100%**	**$78,251,986**	**96%**	**104**	**0.0%**	**207**		
ACTs	68%	50	70%	60	1.0%	200	4.0%	50	100%	$10,722,167	95%	39	0.0%	72		
Laboratory	60%	10	100%	6	2.4%	124	0.0%	10	100%	$45,320						
LLINs	92%	13	92%	13	1.0%	100	0.0%	13	100%	$58,417,707	100%	32	0.0%	26		
mRDTs	80%	15	100%	12	0.0%	58	26.7%	15	100%	$4,131,627	100%	11	0.0%	20		
Other Non-Pharma	100%	1	100%	1	0.0%	17	0.0%	1	100%	$44,637						
Other Pharma	100%	1	100%	1	0.0%	6	0.0%	1			100%	1	0.0%	8		
Severe Malaria Meds	95%	20	100%	19	1.0%	99	15.0%	20	100%	$4,324,953	100%	13	0.0%	52		
SMC	93%	14	100%	12	0.0%	32	42.9%	14	100%	$407,198	100%	4	0.0%	18		
SP	90%	10	82%	11	7.1%	28	0.0%	10	100%	$158,377	50%	4	0.0%	11		
Total	**80%**	**134**	**84%**	**135**	**1.4%**	**664**	**11.2%**	**134**	**100%**	**$78,251,986**	**96%**	**104**	**0.0%**	**207**		

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment			**Total**
Task Order	Air	Land	Sea	
TO2 - Malaria	**347**	**498**	**356**	**359**
ACTs	369	217	333	**336**
Laboratory	465		517	**475**
LLINs		686	475	**524**
mRDTs	137		297	**276**
Other Non-Pharma			374	**374**
Other Pharma	311			**311**
Severe Malaria Meds	318		402	**398**
SMC	54		291	**257**
SP	246		355	**344**
Total	**347**	**498**	**356**	**359**

C7a and C7b. Product loss due to expiry, theft, damage, and other causes

Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
Liberia	Damage	LLINs	$1,043	$670,172	0.16%
Nigeria	Damage	RDTs	$22,399	$2,569,911	0.87%
RDC	Expiry	SMC	$403	$93,397	0.43%

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
Malaria commodities	96%	27

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
85%	$500,570

A6a. Absolute percent supply plan error

A6 Indicator	Supply plan/ forecast error	Supply plan/ forecast bias	4-quarter error	4-quarter bias
A6a - Supply plan error				
ACTs	16%	-16%	36%	36%
mRDTs	2%	2%	29%	29%

A14. Average vendor rating - QA labs

Average vendor rating
93%

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	60%
Freight Forwarder	86%

Complete Quarterly Results (TO3)

Reporting Period

2023-Q3

A1a. OTIF rate A1b. OTD rate A16. Backlog percentage A10. Framework contracting

Task Order	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months	Framework contract percentage	Procurement total
TO3 - FP/RH	**89%**	**57**	**88%**	**58**	**4.3%**	**278**	**100%**	**$10,521,974**
Combined Oral Contraceptives	67%	6	67%	6	5.3%	38	100%	$27,821
Copper-Bearing Intrauterine Devices	100%	3	100%	3	0.0%	16		
Emergency Oral Contraceptives	100%	1	100%	1	0.0%	10	100%	$105,408
Implantable Contraceptives	94%	16	94%	16	7.1%	84	100%	$2,129,352
Injectable Contraceptives	100%	12	92%	13	3.1%	65	100%	$8,139,974
Laboratory	100%	2	100%	2	0.0%	2		
Levonorgestrel-Releasing Intrauterine Devices	0%	3			0.0%	4		
Other Non-Pharma	100%	6	67%	9	0.0%	11	100%	$114,800
Progestin Only Pills	100%	5	100%	5	0.0%	37		
Standard Days Method	100%	3	100%	3	18.2%	11	100%	$4,620
Total	**89%**	**57**	**88%**	**58**	**4.3%**	**278**	**100%**	**$10,521,974**

A7. Temporary Waiver Percentage

Task Order	Temporary registration waiver percentage	Total # of line items delivered
TO3 - FP/RH	**9.3%**	**43**
Copper-Bearing Intrauterine Devices	66.7%	3
Injectable Contraceptives	16.7%	12
Combined Oral Contraceptives	0.0%	6
Emergency Oral Contraceptives	0.0%	1
Implantable Contraceptives	0.0%	16
Progestin Only Pills	0.0%	5
Total	**9.3%**	**43**

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment		Warehouse Fulfillment		**Total**
Task Order	Air	Sea	Air	Sea	
TO3 - FP/RH	**279**	**325**	**218**	**430**	**312**
Combined Oral Contraceptives		442	264	661	**449**
Copper-Bearing Intrauterine Devices	229		219		**226**
Emergency Oral Contraceptives	210				**210**
Implantable Contraceptives	325	465	237	448	**375**
Injectable Contraceptives	243	286	161	406	**268**
Laboratory		224			**224**
Levonorgestrel-Releasing Intrauterine Devices			238		**238**
Other Non-Pharma		255			**255**
Progestin Only Pills			181	326	**268**
Standard Days Method	315				**315**
Total	**279**	**325**	**218**	**430**	**312**

C7a and C7b. Product loss due to expiry, theft, damage, and other causes

Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
DRC	Damage	Injectable Contraceptives	$1,029	$1,244,662	0.08%

A6b. Absolute percent forecast error

A6 Indicator	Supply plan/ forecast error	Supply plan/ forecast bias	4-quarter error	4-quarter bias
A6b - Forecast Error				
Combined Oral Contraceptives	4%	4%	5%	-5%
Condoms	28%	-28%	14%	-14%
Copper-bearing Intrauterine Devices	32%	32%	11%	-11%
Implantable Contraceptives	1%	1%	5%	5%
Injectable Contraceptives	3%	-3%	4%	-4%
Progestin Only Pills	29%	29%	7%	7%

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
Condoms	100%	21
FP commodities	100%	21

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
88%	$7,261,171

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	60%
Freight Forwarder	86%

Complete Quarterly Results (TO4)

Reporting Period

2023-Q3

	A1a. OTIF rate		A1b. OTD rate		A16. Backlog perentage		A10. Framework contracting
Task Order	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months	Framework contract percentage	Procurement total
TO4 - MNCH	**50%**	**2**	**100%**	**1**	**0.0%**	**18**	**100%**	**$292,866**
Laboratory	100%	1	100%	1	0.0%	1		
Other Non-Pharma	0%	1			0.0%	15		
Other Pharma					0.0%	2	100%	$292,866
Total	**50%**	**2**	**100%**	**1**	**0.0%**	**18**	**100%**	**$292,866**

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	60%
Freight Forwarder	86%

A3. Cycle time (average)

Task Order	Direct Drop Fulfillment	Total
TO4 - MNCH	**459**	**459**
Laboratory	248	**248**
Other Non-Pharma	669	**669**
Total	**459**	**459**

Indicator Details

Check out the GHSC-PSM IDIQ M&E Plan for complete details on all our indicators.

Delivery Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
A01a	On Time, In Full Delivery (OTIF) - Percentage of line items delivered on time and in full, within the minimum delivery window (within -14/+7 calendar days of the agreed delivery date (ADD))	Number of line items delivered to the recipient on time and in full during the quarter	Total number of line items delivered to the recipient during the quarter	ARTMIS	Quarterly	Lines items are considered on-time and in-full if the full ordered quantity of the line item is delivered to the recipient within the -14/+7 day delivery window. If the line item is partially delivered within the window, it may be considered on-time but not in-full.
A01b	On Time Delivery (OTD) — Percentage of line items delivered on time, within the minimum delivery window (within -14/+7 calendar days of the agreed delivery date (ADD))	Number of line items with an ADD during the quarter that were delivered to the recipient on time	Total number of line items with an ADD during the quarter	ARTMIS	Quarterly	
A16	Percentage of backlogged line items	Number of line items with an ADD on or before the reporting period end date, within a rolling 12-month period, that have not been cancelled or put on hold and that are currently undelivered and late	Total number of line items with an ADD on or before the reporting period end date, within a rolling 12-month period, that have not been cancelled or put on hold	ARTMIS	Quarterly	

Cycle time Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
A03a	Cycle time (average)	Sum of cycle time for all line items delivered during the quarter	Count of all line items delivered during the quarter	ARTMIS	Quarterly	Overall cycle time is defined as the number of days between when a customer order is submitted to when the shipment is actually delivered to the customer, inclusive of the start/end days and all holds or other dwell times.
A03b	Dwell-adjusted cycle time (average)	Sum of cycle time for all line items delivered during the quarter, excluding all defined inactive dwell periods from the overall cycle time	The count of all line items delivered during the quarter	ARTMIS	Quarterly	Dwell-adjusted cycle time is defined as the overall cycle time minus the sum of all dwell durations for all holds placed on the line item during its fulfillment.

Indicator Details

Check out the GHSC-PSM IDIQ M&E Plan for complete details on all our indicators.

Quality Assurance Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
A02	Percentage of QA processes completed within the total estimated QA lead times (on-time completion rate for QA processes)	Number of consignments complying with the pre-established QA lead times during the quarter	Total number of consignments requiring QA processes that were cleared for shipment during the quarter	QA Database	Quarterly	Consignment is defined as a shipment of commodities, including one or more line items. QA process transactions are managed at the consignment level, regardless of the number of line items in the consignment.
A13	Percentage of batches of product for which the final result is showing nonconformity (out of specification percentage)	Total number of batches of product showing nonconformity during the quarter	Total number of batches tested during the quarter	QA Database	Quarterly	
A14b	Average vendor rating score - QA lab services	Sum of all key vendor ratings.	Number of key vendors from whom GHSC-PSM procured lab testing services during the quarter	QA scorecard	Quarterly	All vendors are equally weighted in the overall score, regardless of procurement volume from each vendor.
A15	Percentage of quality assurance Investigation reports submitted within 30 calendar days of outcome determination (QA investigation report submission)	Number of QA investigation reports submitted to PMI within 30 days of outcome determination	Total number of QA investigation reports due during the reporting period	QA Database, email submissions	Semiannual	

Procurement Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
A07	Percentage of line items imported using a temporary registration waiver (temporary waiver percentage)	Number of line items that were imported using a temporary registration waiver	Total number of line items delivered to the recipient during the quarter	Supplier registration bidding documentation	Quarterly	
A10	Percentage of product procured using a framework contract (framework contract percentage)	Value of product purchased through framework contracts during the quarter	Total value of commodities purchased during the quarter	ARTMIS	Quarterly	

Indicator Details

Check out the GHSC-PSM IDIQ M&E Plan for complete details on all our indicators.

Forecast and Supply Planning Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
A06a	Absolute percent supply plan error, with variants annual absolute percent error and supply plan bias	Absolute value of the differences between the actual quantities with requested delivery dates during the quarter minus the quantities planned for delivery according to country supply plans	Sum of the actual quantities with requested delivery dates during the quarter	ARTMIS, Country Supply Plans	Quarterly	Supply plan error is currently calculated for adult and pediatric ARVs, HIV lab products, ACTs, and malaria rapid diagnostic tests. Planned quantities are drawn from an aggregation of country supply plans submitted in the prior quarter, including only the quantities that are forecasted to be procured through GHSC-PSM. Actual quantities are derived based on the requested delivery dates for products included in customer ROs submitted to ARTMIS.
A06b	Absolute percent forecast error, with variants annual absolute percent error and forecast bias	Absolute value of the differences between the actual quantities with requested delivery dates during the quarter minus the quantities planned for delivery according to the global demand forecast	Sum of the actual quantities with requested delivery dates during the quarter	ARTMIS, Country Supply Plans, PPMR, other sources	Quarterly	Forecast error is currently calculated for condoms and contraceptives. Forecasted or planned quantities are drawn from the GHSC-PSM global demand forecasts for each product, which are based on an aggregation of country supply plans submitted in the prior quarter and additional inputs, such as country order history, data from coordinated planning groups, and global market dynamics indicators. Actual quantities are derived based on the requested delivery dates for products included in customer ROs submitted to ARTMIS.

Warehouse Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
A04	Inventory turns (average number of times inventory cycles through GHSC-PSM controlled global facilities)	Total ex-works cost of goods distributed from GHSC-PSM-controlled global inventory stocks (in USD) within the fiscal year	Average monthly inventory balance (in USD)	Inventory extract	Annual	
A08	Average percentage of shelf life remaining for warehoused commodities, weighted by the value of each commodity's stock (product at risk percentage)	Percentage of shelf life remaining at the end of the quarter, weighted by value of commodities, summed across all products	Total value of commodities, summed across all products, at the end of the quarter	Inventory extract	Quarterly	Shelf life requirements vary by country and by product.

Indicator Details

Check out the GHSC-PSM IDIQ M&E Plan for complete details on all our indicators.

3PL and Commodity Vendor Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
A14a	Average vendor rating score - Commodity suppliers	Sum of all key vendor ratings	Number of key vendors from whom GHSC-PSM procured products/commodities during the quarter	ARTMIS	Quarterly	Scorecards are compiled on one-month lag, i.e. Q1 data represents vendor performance from Sept-Nov. Supplier OTIF is currently reported for high value and/or high risk suppliers. Only suppliers for which one or more order line items were fulfilled in this reporting period were included. All vendors are equally weighted in the overall score, regardless of procurement volume from each vendor.
A14c	Average vendor rating score - Freight forwarders	Sum of all key vendor ratings	Number of key vendors from whom GHSC-PSM procured freight forwarding services during the quarter	3PL scorecard	Quarterly	To allow complete data collection, freight forwarder scorecards are conducted on a one-month lag (i.e. Q1 data represents performance from Sept-Nov, rather than Oct-Dec). Overall score is weighted by delivery volume, such that vendors who deliver a greater number of shipments will have a relatively greater impact on the result.

Product Loss Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
C07a	Percentage of product lost due to expiry while under GHSC-PSM control (product loss percentage)	Total value of product lost due to expiry during the quarter	Average inventory balance (in USD) during the quarter	Inventory reports	Quarterly	Expiries from the Regional Distribution Centers (RDCS) are presented in the GSC section of this report. Expiries that occur in warehouses that GHSC-PSM manages in countries are reported in the country-specific sections of this report.
C07b	Percentage of product lost due to theft, damage, or other causes, while under GHSC-PSM control (product loss percentage)	Total value of product lost due to theft, damage, or other causes during the quarter	For losses in transit: Total value (in USD) of product delivered during the quarter For losses in storage: Average inventory balance (in USD) during the quarter	GHSC-PSM Continual Improvement system reports	Quarterly	Product losses due to incidents are reported only after the actual value of the loss has been determined, which may be later than the quarter in which the incident took place or was first reported to GHSC-PSM Continual Improvement.

Indicator Details

Check out the GHSC-PSM IDIQ M&E Plan for complete details on all our indicators.

GHSC-BI&A Data Sharing Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
C04	Percentage of required files submitted to GHSC-BI&A in the reporting period	Number of required files submitted to BI&A during the quarter	Total number of files required for submission to BI&A during the quarter	GHSC-BI&A File Submission dashboard	Quarterly	Data requirements, including file types, data elements, submission formats, and frequency, are governed by the BI&A Information Specification for Implementing Partners (the "Infospec"). Exceptions may be specified by USAID.
C05	Percentage of required files timely submitted to GHSC-BI&A in the reporting period.	Number of required files timely submitted to BI&A during the quarter	Total number of files required for submission to BI&A during the quarter	GHSC-BI&A File Submission dashboard	Quarterly	Data requirements, including file types, data elements, submission formats, and frequency, are governed by the BI&A Information Specification for Implementing Partners (the "Infospec"). Exceptions may be specified by USAID.
C06	Average percent variance between GHSC-PSM ARTMIS and GHSC-BI&A calculations of key supply chain indicators for Task Order 1	Absolute value of GHSC-BI&A Order Performance indicator value minus GHSC-PSM ARTMIS dashboard indicator value	GHSC-PSM ARTMIS indicator value	ARTMIS, GHSC-BI&A Order Performance dashboard	Quarterly	The two indicators used to asses this variance are: 1) on-time delivery, 2) count of order lines with ADDs in the current period

Indicator Details

Check out the GHSC-PSM IDIQ M&E Plan for complete details on all our indicators.

Delivery Impact Indicators

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
NA	Number of ACT treatments delivered	Sum of ACT treatments delivered to countries, where a treatment is equal to one blister strip		ARTMIS	Quarterly	Includes malaria treatments delivered over the life of the project, with "full dose" based on WHO-recommended treatment guidelines. Specific medicines counted are limited to those used only for treatments, and not primarily as prophylaxis. Specifically, it includes Artemether/Lumefantrine, Artesunate/Amodiaquine, and Artenimol/Piperaquine formulas.
NA	Number of Couple Years Protection delivered	Total of contraceptive method units delivered to countries, multiplied by the couple-years protection conversion factors per method, summed across all contraceptive methods delivered.		ARTMIS and USAID/MEASURE CYP conversion factors	Quarterly	CYP is a standard indicator calculated by multiplying the quantity of each contraceptive method distributed by a conversion factor to yield an estimate of the duration of contraceptive protection provided per unit of that method. The CYP for each method is then summed for all methods to obtain a total CYP figure. CYP conversion factors are based on how a method is used, failure rates, wastage, and how many units of the method are typically needed to provide one year of contraceptive protection for a couple. The calculation takes into account that some methods, e.g., condoms and oral contraceptives, may be used incorrectly and then discarded, or that intrauterine devices (IUDs) and implants may be removed before their life span is realized. This GHSC-PSM measure includes all condoms, IUDs, and hormone (oral, injectable, and implantable) contraceptives delivered over the life of the project, with the conversion factor provided by USAID/MEASURE (see https://www.usaid.gov/what- we-do/global-health/family-planning/couple-years-protection-cyp for details).
NA	Person-years of ARV treatment delivered	Sum of the monthly treatment units of adult first-line ARV treatments delivered to countries , divided by 12		ARTMIS	Quarterly	This report only includes Adult Efavirenz/Lamivudine/Tenofovir (TLE, Nevirapine/Lamivudine/Zidovudine (NLZ), and Dolutegravir/Lamivudine/Tenofovir (TLD). Doses for calculating treatments are based on World Health Organization (WHO)-recommended guidelines. The calculation of patient-years allows GHSC-PSM to monitor effectiveness and efficiency by a standard unit.