USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM
Procurement and Supply Management





FISCAL YEAR 2021

QUARTERLY REPORT | QUARTER 2

JANUARY 1, 2021 TO MARCH 31, 2021

USAID FROM THE AMERICAN PEOPLE

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

USAID FROM THE AMERICAN PEOPLE | CDC | U.S. President's Malaria Initiative

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January 1, 2021, to March 31, 2021

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.

Contents

ACRONYMS

3HP	isoniazid/rifapentine (combination treatment for tuberculosis)
3PL	third-party logistics
ABC	Activity Based Costing
ALu	artemether-lumefantrine
API	active pharmaceutical ingredient
APWG	ARV Procurement Working Group
ART	antiretroviral therapy
ARV	antiretroviral
CPG	Consensus Planning Group
COP20	Country Operational Plan 2020
DCP	decentralized procurement
DDD	Decentralized Drug Distribution
DMPA	depot-medroxyprogesterone acetate
DOOR	Drugs Out of Range
DRC	Democratic Republic of the Congo
DRF	Drug Revolving Fund
EID	early infant diagnosis

eLMIS	electronic logistics management information system
ESC	Emergency Supply Chain
FASP	forecasting and supply planning
FDA	Food and Drug Administration
FP/RH	family planning/reproductive health
FY	fiscal year
GAD	goods availability date
GDSN	Global Data Synchronization Network
GHSC-PSM	Global Health Supply Chain Program-Procurement and Supply Management project
GHSC-QA	Global Health Supply Chain Program-Quality Assurance project
GHSC-RTK	Global Health Supply Chain Program-Rapid Test Kit project
GHSC-TA	Global Health Supply Chain Program-Technical Assistance project
GLN	Global Location Number
GFPVAN	Global Family-Planning Visibility and Analytics Network
GTIN	global trade item number
IAR	inter-action review
IM	intramuscular

INH	isoniazid
IUD	intrauterine device
JMS	Joint Medical Stores (Uganda)
KPI	key performance indicator
KSM	key starting materials
LLIN	long-lasting insecticide-treated net
LMIS	logistics management information system
LZN	lamivudine/zidovudine/nevirapine
MCH	maternal and child health
MNCH	maternal, newborn, and child health
MOH	Ministry of Health
MOQ	Minimum Order Quantity
MTS	made to stock
NPC	National Product Catalog
NMCP	National Malaria Control Program
NQC	National Quantification Committee
OOS	out of specification
OTD	on-time delivery

OTIF	on-time, in-full delivery
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PLHIV	people living with HIV
PMI	U.S. President's Malaria Initiative
PPH	postpartum hemorrhage
PPMR	Procurement Planning and Monitoring Report
PPMRm	Procurement Planning and Monitoring Report-malaria
PrEP	pre-exposure prophylaxis
Q	quarter
QA	quality assurance
QAT	Quantification Analytics Tool
QC	quality control
RDC	regional distribution center
RDT	rapid diagnostic test
RFQ	request for quotation
RHSC	Reproductive Health Supplies Coalition
RTK	rapid test kit

SC	subcutaneous
SDP	service delivery point
SMC	seasonal malaria chemoprevention
SMO	social marketing organization
SOP	standard operating procedure
SPAQ	sulphadoxine-pyrimethamine + amodiaquine
TB	tuberculosis
TLD	tenofovir/lamivudine/dolutegravir
TO	task order
TPT	TB preventive treatment
TransIT	transportation information tool
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USG	U.S. Government
VMMC	voluntary medical male circumcision
Warehouse ADVISER	Warehouse AIDS Data Visibility, Evaluation and Reporting
WHO	World Health Organization

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 to summarize our work and performance for the second quarter (Q2) of the Fiscal Year 2021 (FY 2021). The project provides lifesaving medicines and other health commodities. It 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. We also describe activities related to the novel coronavirus (COVID-19) response.

A year after the COVID-19 pandemic began, the global health supply chain remains challenged to cope with the unparalleled conditions of the global health crisis. Amidst the ongoing pandemic, GHSC-PSM met its programmatic commitments to maintain the continuous flow of health commodities and deliver technical assistance. The project has met these commitments while simultaneously taking on new responsibilities to respond to COVID-19.

GHSC-PSM's performance under these circumstances is a testament to the strength and flexibility of the project's integrated global supply chain and staff's technical depth and adaptability. The following pages highlight many examples of the challenges the project faced and demonstrate its flexibility and innovation under the direst of circumstances.

GHSC-PSM Fast Facts

Over the life of the project, GHSC-PSM has:

- Delivered more than **$49.6 million bottles of TLD** to **27 countries**
- Delivered enough antimalarials to treat **320.3 million infections**
- Delivered contraceptives to provide **81 million couple-years** of protection
- Procured a total of **$22.3 million in MNCH commodities**
- Procured and delivered **468,779 lab commodity items valued at nearly $6 million to 16 countries** in response to COVID-19 testing needs
- Supported **49 countries** with technical assistance

In Q2, GHSC-PSM continued its efforts to improve supply chain efficiency through improvements to technology and increased data visibility and use. As more countries transition from paper-based logistics management information systems (LMISs) to electronic systems, it is possible to collect, access, and use significantly more data to improve decision-making. In Q2, GHSC-PSM continued rolling out the Quantification Analytics Tool (QAT), launched in Q1, that includes a supply planning module, enabling program managers to optimize commodity procurement and delivery schedules and monitor product stock status and share data (more information is included in section C2: Systems Strengthening Technical Assistance).

In addition to improvements to the supply chain through technology and data visibility, GHSC-PSM shared several technical resources documenting best practices, processes, and procedures for Ministries of Health, donors, activity managers, and other supply chain stakeholders. The activity-based costing (ABC) playbook takes a traditionally private-sector approach to understand warehousing cost drivers, identify inefficiencies, and evaluate and improve processes (more information is included in section C2: Systems Strengthening Technical Assistance). GHSC-PSM published the decentralized drug distribution

(DDD) handbook that analyzes different models for delivering ARVs outside of clinical settings to help decision-makers determine the best method for the local context and which critical supply chain elements should be considered (more information is included in section B1: HIV/AIDS). The project published Recovery Strategies for Public Health Supply Chains Post-Black Swan Event. This resource provides scenario planning and recommendations based on the project's expertise and experiences during COVID-19 and other recent black swan events (more information is included in Annex A: COVID-19 Response). GHSC-PSM also published the first Comprehensive Condoms and Lubricants Report for FY 2020, showing procurement trends by country over the life of the project (more information is included in section B1: HIV/AIDS).

Adopting global supply chain standards, GS1, in particular, is a central part of GHSC-PSM's undertaking to reduce costs, enhance efficiency, and improve health commodities' availability worldwide. GHSC-PSM elevates supply chain efficiency by implementing these standards for product and location identification, product master data, and data exchange. In Q2, the project supported GS1 goals by collaborating with GHSC-QA to create a new compliance validation/audit process; pilot activities to collect more standards-based data, labeling, and master data on the GHSC-PSM program to date (more information is included in section C1a. Global Supply Chain: Focused on Safe, Reliable, Continuous Supply).

MITIGATING RISK OF SUPPLY CHAIN INTERRUPTIONS DUE TO COVID-19

In Q2, the COVID-19 pandemic continued to have an impact across supply chains. GHSC-PSM focused on continuous, safe, reliable supply to countries to ensure program continuity and supported U.S. Government (USG) procurements directly responding to the pandemic. In Sierra Leone, GHSC-PSM sponsored a COVID-19 Response Inter-Action Review (IAR) facilitated by the Government of Sierra Leone and attended by 100+ stakeholders involved in the COVID-19 response. Topics included information technology, transportation, non-medical and medical logistics, and use of the Emergency Supply Chain (ESC) Playbook (more information is included in Annex A COVID-19 Response).

Despite some improvements to air, ground, and ocean transit, ongoing reductions in flights, restrictions at land borders, and bottlenecks at ports remain critical challenges. Q2 continued the trend of challenges to the logistics industry on the back of the annual peak season. Capacity constraints remained in effect for air freight, and pricing remained volatile with rates not being held for more than a week, particularly in China. More cargo moved from air to ocean, leaving ocean freight unspared as container shortages persisted and pricing rose— in some cases increasing five to eight times (more information is included in section C1a. Global Supply Chain: Focused on Safe, Reliable, Continuous Supply).

Restrictions continued to prevent project staff from traveling to or joining in-person workshops to support activity implementation. GHSC-PSM worked with activity leads and country offices through virtual workshops or other strategies to ensure program continuity. Also, the project collaborated with

numerous global organizations to consolidate shipments, expand the supplier base, and address materials and production shortages (more information is included in section 9: Global Collaboration).

MEETING OUR COMMITMENTS IN THE FACE OF COVID-19

Throughout Q2, the project examined the pandemic's impact on supply, transport, and demand. GHSC-PSM worked with suppliers to assess the availability of existing supplies and production capacity to prioritize country orders (more information is included in Annex A COVID-19 Response).

In Q2, Mozambique brought together stakeholders for emergency planning using the project's emergency supply chain (ESC) framework. The goal was to equip the country with the mechanisms to ensure the flow of health commodities during a public health crisis. Mozambique follows countries such as Burkina Faso and Kenya in using this framework for emergency preparedness (more information is included in Annex A COVID-19 Response).

Mitigation Efforts

Global

- Conducted a review of supply plan, order, and inventory data and undertook prioritization exercises across health areas and procurers to meet urgent needs.
- Categorized at-risk commodities and anticipated the supply and demand influences of the pandemic to avoid disruptions.
- Pre-ordered and stockpiled key commodities.
- Encouraged GHSC-PSM country office staff to move commodities as close to service delivery points as possible and assess opportunities for supplementary storage.

Country-Level

- Coordinated with third-party logistics (3PL) companies to arrange for containers to be stored in the 3PLs' warehouses to manage increased COVID-19–related demand.
- Established an emergency team to monitor and prevent potential interruptions to the cold chain for ARV and lab products.
- Worked with partners to secure alternative distribution options for contraceptives.

PREVENTING COUNTRY- AND SITE-LEVEL SHORTAGES

The project mitigates potential shipping delays and shortage risks by prioritizing commodities based on the stockout risk and the depth of the programmatic impact in the event of shortages. GHSC-PSM's methodology to prevent shortages includes:

- Placing replenishment orders earlier than usual.
- Revising monthly forecasts while taking into account production capacity.
- Requesting goods availability dates (GADs) of existing orders sooner.
- Coordinating supply with other global partners to prioritize critical countries.
- Releasing orders from the regional distribution centers (RDCs) for commodities with longer lead times.
- Working with countries to move stock closer to facility level to liberate space higher in the supply chain.
- Reprioritizing order allocations.

For additional examples of the project's ongoing COVID-19 mitigation efforts, see the box at right.

COVID-19 RESPONSE ACTIVITIES

The USG allocated additional funds to GHSC-PSM for COVID-19 response activities. These include:

- Procuring medicines, medical equipment, and supplies for country offices.
- Procuring respiratory and cardiac supplies, ICU beds, and patient monitors valued at $9.8 million in USD for Italy.
- Providing ventilator support to 43 countries and North Atlantic Treaty Organization (NATO).
- Procuring oxygen-related equipment and providing technical assistance.

In Q2, GHSC-PSM made significant progress in procuring oxygen commodities for seven countries and developing clinical and non-clinical technical assistance work plans for oxygen work, ranging from local delivery of products to training facility staff to use specific oxygen commodities, in eight countries. This work assists the oxygen sector for COVID-19 response in 12 countries as part of USAID's greater response to the pandemic. This work is vital, as oxygen support has quickly become the primary clinical intervention for patients suffering from COVID-19 (more information is included in Annex A COVID-19 Response).

For more information, see Annex A. COVID-19 Response.

In Q2, GHSC-PSM delivered 460 patient vital sign monitors to a central warehouse in Italy, where they will be distributed to the regions hardest hit by COVID-19. The project also secured value-added tax (VAT) exemption for all of its Italy procurements resulting in $389,223 savings for the USG and removing a major roadblock for the program's 11 remaining procurements and deliveries.

GLOBAL SUPPLY-CHAIN PERFORMANCE

Section C1 describes GHSC-PSM's global supply-chain procurement and logistics activities and achievements. Highlights of our global supply-chain performance in Q2 FY 2021 are below.

Procured over $236.4 million in drugs, diagnostics, and health commodities in Q2, and over $3.7 billion to date.

Delivered almost $204 million in drugs, diagnostics, and health commodities in Q2, and over $3.1 billion to date.

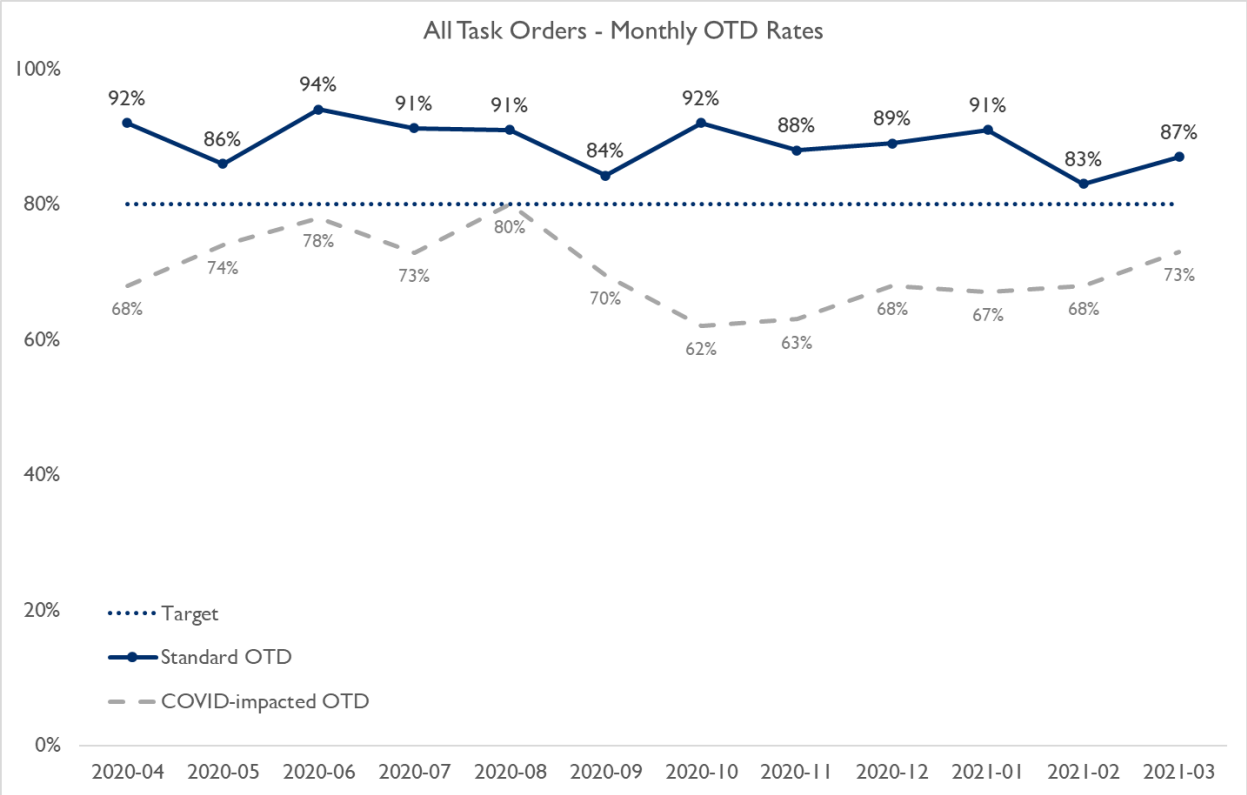
Achieved **on-time delivery[1] (OTD) of 87 percent (70 percent COVID-impacted) and on-time, in-full delivery (OTIF) of 86 percent (68 percent COVID-impacted).** The backlog of late orders was just over 3 percent (see Exhibit 1).

OTD and OTIF rates stayed consistently strong for all health areas during Q2 despite COVID-19. OTD was 87 percent (70 percent COVID-impacted) and OTIF was 86 percent (68 percent COVID-impacted) for the quarter, the eighth successive quarter that OTD has been above 85 percent. OTD was 86 percent (69 percent COVID-impacted) for HIV; 97 percent (71 percent COVID-impacted) for malaria; 97 percent (88 percent COVID-impacted) for FP/RH; and 96 percent (96 percent COVID-impacted) for maternal, newborn and child health (MNCH) medicines and commodities, each of which exceeded the contract's 80 percent quarterly target. Note beginning at the end of Q2 FY 2020, the number of COVID-impacted orders started to increase significantly and, as predicted in previous reports, continued to adversely impact on-time delivery performance through Q3 and Q4 FY 2020. Although the high degree of uncertainty and the extreme volatility in global supply chains caused by the pandemic has since reduced, COVID still continued to impact an extremely large number of orders, to a greater or lesser extent, in Q1 and Q2 FY 2021. This impact is expected to continue through Q3. GHSC-PSM continues to conduct root cause analysis of late deliveries to refine procurement and supply-chain processes and to continuously improve performance.[2]

[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 delivery date.

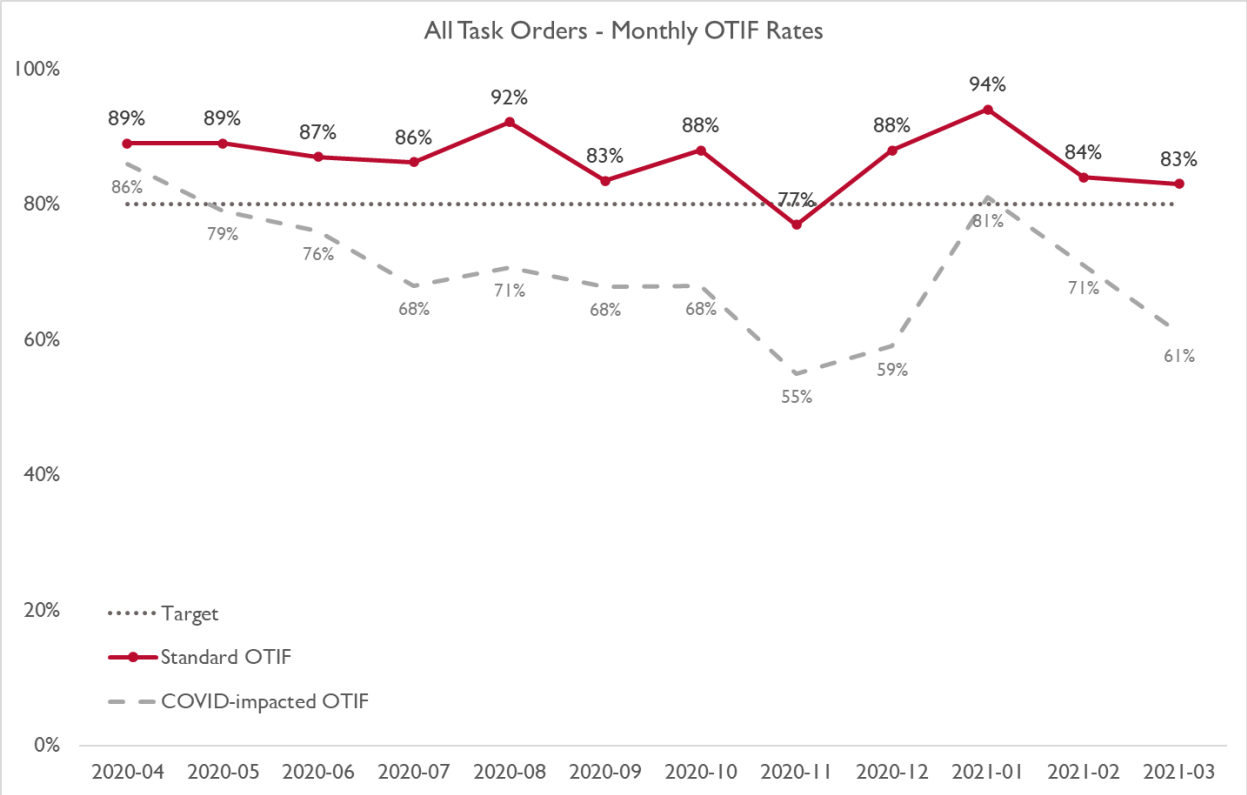
[2] During the COVID-19 pandemic, GHSC-PSM will present two versions of its usual OTD indicator. The first will be the "standard" version, calculated according to the indicator definition as laid out in the project's monitoring and evaluation plan and in accordance with all associated policies/standard operating procedures (SOPs). These policies and SOPs allow for USAID-approved adjustments to agreed delivery dates in the case of interruptions that are beyond the project's manageable control, including pandemic impacts. The "standard' version of OTD will therefore show the project's performance, controlling for impacts of COVID-19 and other external disruptions. The second calculation of OTD is the "COVID-19–impacted" version. This version follows the same rules and definitions as the standard indicator, but the "control" for pandemic impacts will not be used. All pandemic-impacted line items will be assessed as on-time or not, according to the agreed delivery date at the time the order was approved. This version of the indicator will show the full impact of supplier and logistics delays because of manufacturing shutdowns, port and border closures, and other pandemic control measures. The delays cannot be attributed to GHSC-PSM, but the project is committed to sharing these outcomes in the interest of full transparency and acknowledgement of the challenging and unprecedented circumstances presented by COVID-19.

Exhibit 1. OTD April 2020-March 2021



The project continued to feel the brunt of pandemic-related disruptions in Q2 FY 2021. (See Exhibit 2.) China's initial impact primarily affected the supply of active pharmaceutical ingredients, key starting materials (KSMs), and other raw materials. This impact has been felt the longest on viral load/early infant diagnosis (VL/EID) commodities, with suppliers prioritizing manufacturing of COVID-19–related products. While the impact of COVID-19 on manufacturing operations and logistics has eased since the start of the pandemic, operations are still not close to pre-COVID conditions; on-time delivery performance is expected to be significantly disrupted over the next several months. The recent surges of COVID-19 in Europe and India that started in March threaten to impact future supply chain activities and need to be closely monitored.

Exhibit 2. OTIF April 2020-March 2021



Significant efforts were made in Q2 to stem the impacts of COVID-19 on freight and logistics as deliveries faced a shipping environment defined by unprecedented COVID-19 shutdowns. The project continues to adapt to unforeseen shifts in the marketplace.

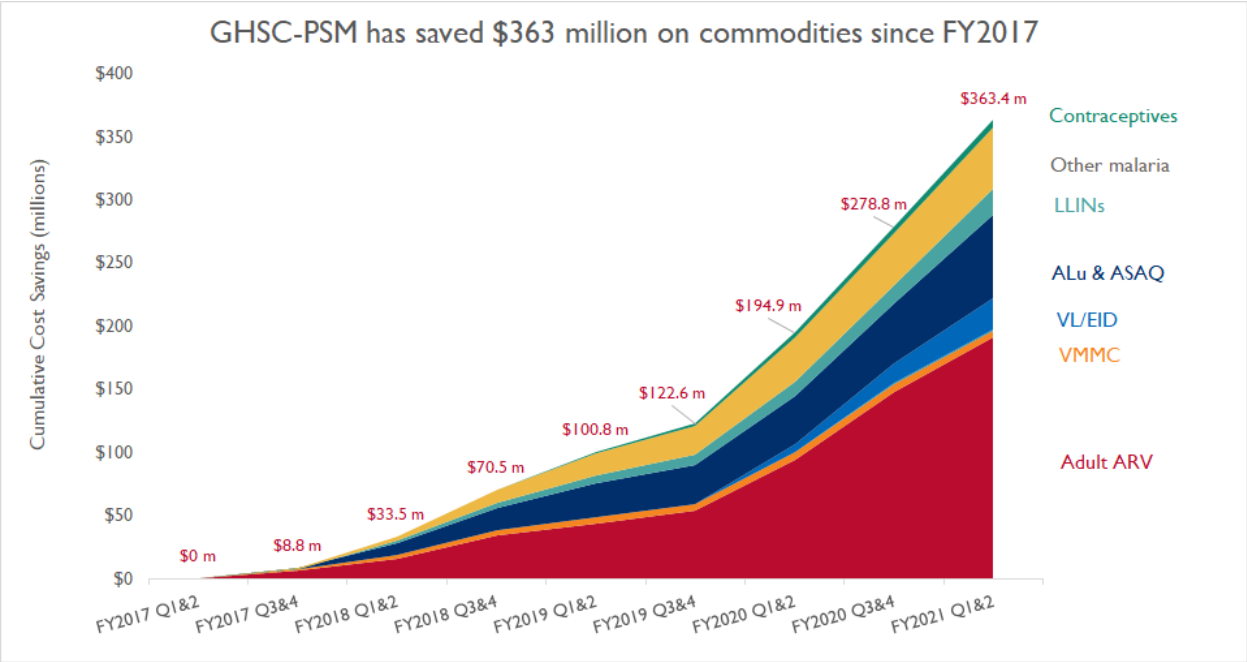
VALUE TO THE U.S. TAXPAYER AND THE U.S. GOVERNMENT'S INTERNATIONAL HEALTH PROGRAMS

GHSC-PSM works to achieve best value for the U.S. taxpayer by implementing approaches that result in lower costs for commodities and freight.

COST-SAVINGS ON MEDICINES AND HEALTH COMMODITIES

GHSC-PSM conducts regular and detailed analysis to understand the markets for the medicines and health commodities we procure and to bring this knowledge to negotiations with suppliers. By carefully negotiating long-term contracts with suppliers for major product groups, the project has saved $363 million on commodities over the life of the project, including $85 million in the first half of FY 2021, as shown in Exhibit 3.

Exhibit 3. Life-of-Project Savings on Medicines and Health Commodities



To produce long-term value and sustainability, GHSC-PSM achieved these cost savings by working to ensure that suppliers maintain their interest in the market and expanding the number of suppliers in many commodity categories such as condoms and mRDTs, so the USG can benefit from a competitive supplier base (more information on cost savings is included in the TO1, 2, and 3 sections).

COST SAVINGS ON LOGISTICS

GHSC-PSM saved $34.2 million on logistics over the life of the project. GHSC-PSM saves money on logistics by managing through a fourth-party logistics (4PL) model that competes lanes between shipping companies (known as 3PLs) to improve service and reduce costs. This leads to cost savings on shipping rates from an alternative approach with limited or no competition for shipping lanes (a simple 3PL approach) through scale and competition.

Task Order	Benefits of Competing Freight Lanes
Task Order 1	$14.37 million
Task Order 2	$6.04 million
Task Order 3	$0.46 million
Task Order 4	$0.02 million
Grand Total	**$20.89 million**

As of April 2019, logistics savings were calculated as the difference between the rates awarded to the selected 3PL and the average of the two most expensive 3PLs. This method provides a comparison for all shipping lanes and simulates the rates that would likely be obtained under a non-competitive, 3PL model.

In April 2020, GHSC-PSM recognized that the airfreight market rates were increasing rapidly because of the COVID-19 pandemic. As a result, the project, in consultation with USAID, decided to manage air shipment pricing under a spot bid model and review ocean shipments case by case with the expectation that there would be nominal impact on that pricing. During this time, the project placed a hold on the Annual 3PL Rate Refresh for air shipments and the ocean rates were extended until the end of November 2020. In December 2020 the ocean freight rates were refreshed. The airfreight refresh will be conducted in the summer of FY 2021 after the market settles. Because the benchmark for calculating the Benefit of Competing Freight Lanes relies on the Annual 3PL Rate Refresh, the project can report on the cost savings of these benefits for ocean shipments only for the GHSC-PSM FY 2021 IDIQ Semiannual Report[3]. However, many notable benefits were observed during this time and are documented throughout this report.

GHSC-PSM saved money on logistics through optimizing the project's network of regional distribution centers (RDCs). Savings are generated through:

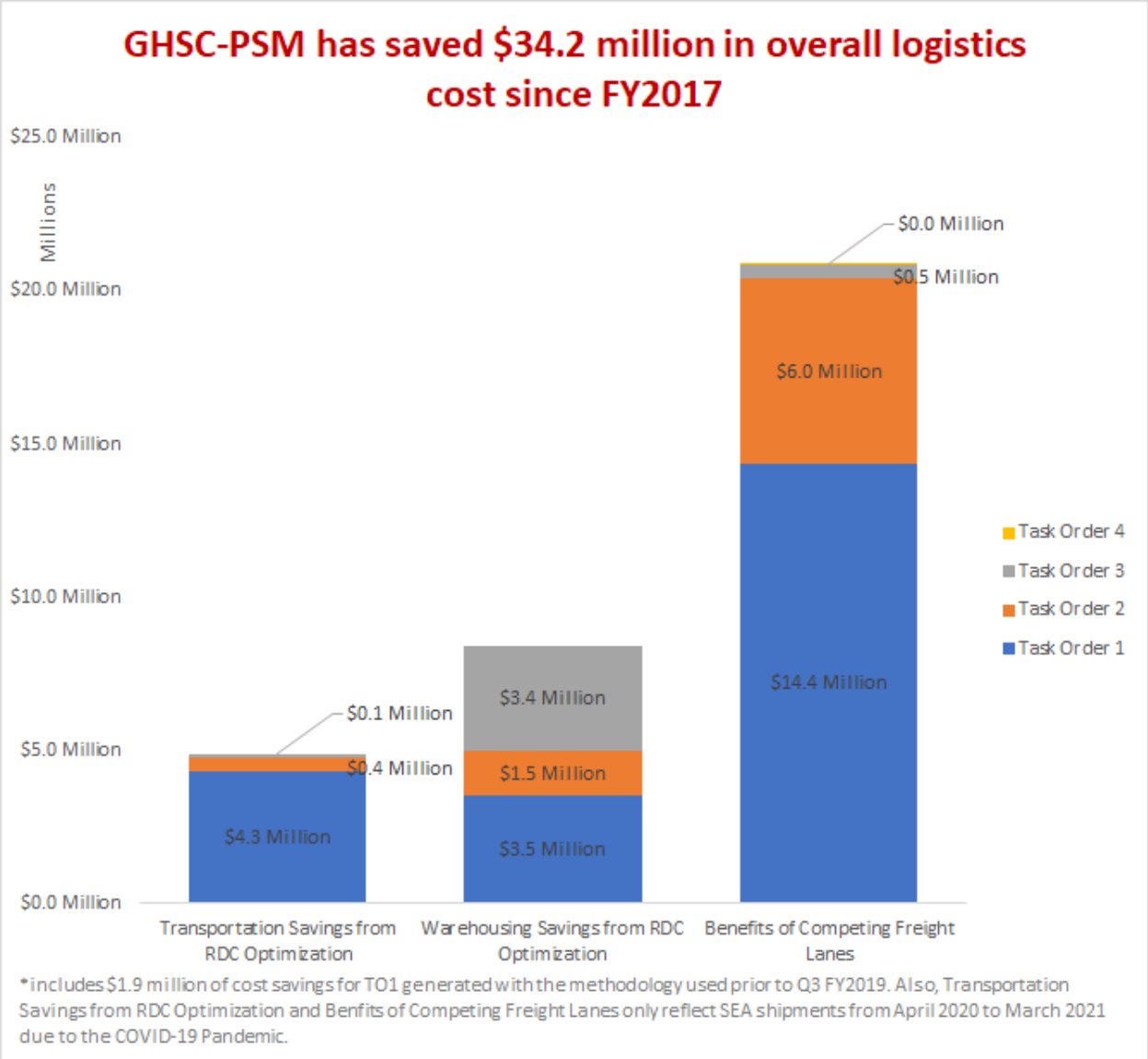
- Warehousing savings from lower costs at the project's three RDCs
- Transportation savings from shipping costs on actual commodities that moved through the three RDCs, compared to what shipping would have been for those commodities under the previous, five-warehouse model. These savings are in addition to cost-savings generated from negotiating lower shipping rates.

[3] The project did not report on the cost savings for ocean shipments in the GHSC-PSM FY 2020 IDIQ Annual report, as we had decided to omit these savings due to the inability to report on air shipments as well. However, after further discussion with USAID, the project has incorporated the savings generated between April 2020 and October 2020 in the consolidated total.

- Freight savings obtained by implementing a 4PL model, competing all lanes and actively managing four 3PLs that service more than 7,760 lanes. The scale of the opportunity attracted many qualified freight-forwarders, and the competition drove down prices (more information on this analysis appears in section C1a: Global Supply Chain: Focused on Safe, Reliable, Continuous Supply).

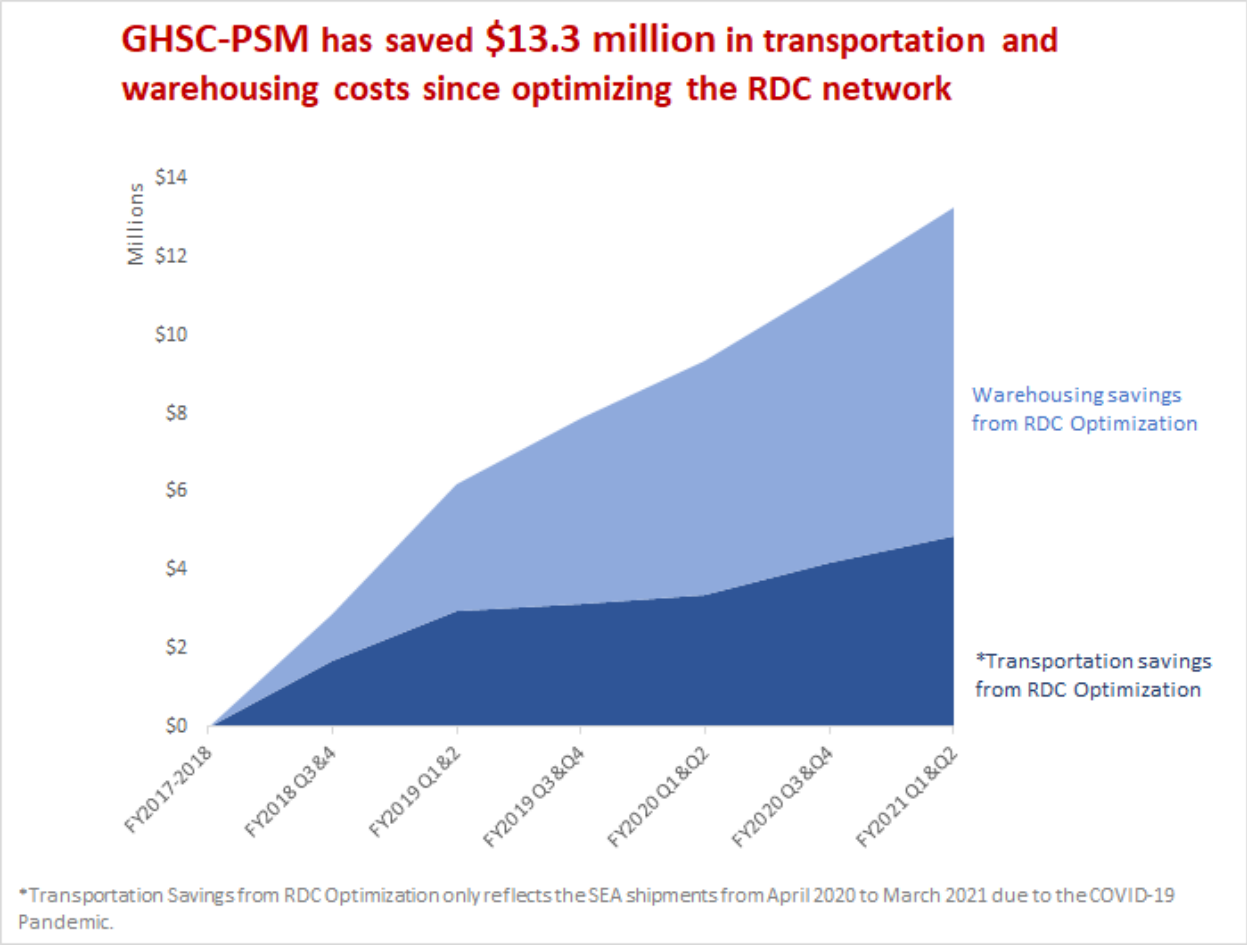
Total cost-savings on logistics to date were $34.2 million, which includes $13.3 million in transportation and warehousing costs from optimizing the RDC network, and $20.9 million from competing freight lanes. (See Exhibit 4.)

Exhibit 4. Logistics Cost-savings Breakdown



GHSC-PSM saved $13.3 million[4] in transportation and warehousing costs since optimizing the RDC network. In Exhibit 5, the light blue represents warehousing savings from RDC optimization, and the dark blue represents transportation savings from RDC optimization.

Exhibit 5. RDC Optimization Cost-savings



HEALTH AREAS

GHSC-PSM provides procurement services and technical assistance to strengthen supply chains and promote global collaboration for the USG programs for HIV/AIDS, malaria, FP/RH, MNCH, and emerging health threats. Highlights of project achievements are provided below.

HIV/AIDS

Transitioning to dolutegravir (DTG) 10 mg. GHSC-PSM placed the first order of 352,000 bottles of DTG 10 mg 90-tablet bottles and initiated new orders for Burundi, Eswatini, Namibia, Rwanda, and

[4] Due to a formula error in the calculations GHSC-PSM under reported cost savings in FY2019 Q3&Q4 by $2,102 and over reported cost savings in FY2020 Q3&Q4 by $348,630. These errors have been corrected in this report.

Uganda. Also the project made the first delivery of 33,038 bottles of DTG 5 mg to Haiti in Q2 and distributed them to 97 PEPFAR-supported sites. For more information, see section B1: HIV/AIDS.

Scaling up multi-month dispensing (MMD). In line with PEPFAR priorities, MMD packaging (90- or 180-count bottles) in Q2 accounted for 100 percent of tenofovir/lamivudine/dolutegravir (TLD) procurements. GHSC-PSM also delivered over 5 million bottles of TLD in Q2 alone. For more information, see section B1: HIV/AIDS.

Strengthening diagnostics. In working closely with USAID, GHSC-PSM continues to improve diagnostics supply chain transparency and analytics through the Data and Connectivity Initiative within the Global Viral Load Early Infant Diagnosis Project. As of Q2, 25 laboratories were equipped with Internet connectivity and web applications to monitor instrument throughput, testing errors, and other operational, non-personally identifiable data. For more information, see section B1: HIV/AIDS.

GHSC-PSM has delivered enough antiretroviral therapy to provide nearly **12.6 million patient-years of HIV treatment to date.**

This includes **7.8 million patient-years of TLD treatment delivered to date.**

Streamlining health facility data. In Q2, GHSC-PSM conducted an exercise to better align product names between the Procurement Planning and Monitoring Report (PPMR) and Supply Chain Facility-level AIDS Commodity Tracking (SC-FACT) datasets. In doing so, the project reduced the number of pairs from 601 to 483 and aligned an additional 46 pairs, increasing the total number of pairs present in both PPMR and SC-FACT datasets from 246 to 287. This enhancement indicates an 18 percent improvement in the alignment of country/product pairs across both datasets. Matching these data is critical to maintaining clear visibility into the number of PEPFAR-supported health facilities receiving and dispensing HIV/AIDS commodities. For more information, see section B1: HIV/AIDS.

In Q2, GHSC-PSM procured $102.6 million in malaria medicines and commodities **for 29 countries.**

This includes **treatment for 23.5 million infections.**

In Q2, GHSC-PSM facilitated the distribution of 1.4 million **LLINs** in 5 countries.

Malaria

GHSC-PSM supports USAID and PMI programs through the procurement, management, and delivery of high-quality, safe, and effective malaria commodities. The project partners with National Malaria Control Programs (NMCPs) to improve strategic planning, logistics, data analytics, and capacity building while providing global leadership in supply, demand, financing, and product development. (See box.)

Stockout Reduction Initiative. In support of PMI's new initiative to optimize its investments and significantly reduce stockout rates at SDPs across all supported countries over the next two to three years, in Q2, the project began stage 1 of the Stockout Reduction Initiative Playbook rollout to the remaining 19 PMI-supported countries. The objective of stage 1 was to provide justification for major activities to be included in MOP FY 2022. For more information, see section B2: Malaria.

On-time delivery. GHSC-PSM achieved consistently high OTD performance for malaria drugs and commodities in Q2—97 percent (71 percent COVID-impacted) for the quarter. For more information, see section B2: Malaria.

Sourcing and procurement strategies. The impact of COVID-19 on upstream malaria commodity supply chains continued during Q2. In mitigating these impacts, the project issued tenders to determine allocations of expected FY 2022 demand for artemisinin-based combination therapies (ACTs) and certain severe malaria treatments among existing and potential new vendors, finalized a strategic approach and the corresponding tender for FY 2022 long-lasting insecticide-treated nets (LLINs), and conducted a solicitation to add third-party lab services to expand LLIN testing capacity. The project also continued global collaboration efforts on sourcing strategies and invested in proactive procurement of key malaria commodities. For more information, see section B2: Malaria.

Quality assurance (QA). In Q2, GHSC-PSM continued to modify QA/QC protocols in response to COVID-19 and initiated the development of a standard QA strategy that builds upon the modifications made to the QA/QC protocols.

The project kicked off the discussion on the quality of LLINs and suppliers' quality management system (QMS) with the Global Fund and UNICEF with the goal of improving quality and QMS for LLINs. The project completed an OOS investigation of a pharmaceutical product and responded to quality concerns at an LLIN supplier.

At the request of PMI, GHSC-PSM delivered a presentation to PMI with chronological detail of activities on a supplier's OOS investigation, including corrective and preventative actions, and provided a comparison of GHSC-PSM versus Global Fund approaches to QC processes for LLINs.For more information, see section B2: Malaria.

Global standards. GHSC-PSM coordinates with the Global Fund to support suppliers' ability to meet the GS1 standards deadlines for compliance. In Q2, GHSC-PSM continued to see a positive trend in compliance of in-scope malaria suppliers with identification, barcoding, and data-sharing requirements of products procured (For more information, see section C1a: Global Supply Chain: Focused on Safe, Reliable, Continuous Supply)

Prioritization of orders and redirection of orders. In Q2, to address country demand and market constraints, GHSC-PSM, working closely with USAID, prioritized orders based on need and conducted commodity order transfers to improve stock status. A total of 29 countries submitted data to the Procurement Planning and Monitoring Report for malaria (PPMRm). The project brought forward a delivery of artemether-lumefantrine (ALu) for Malawi and redirected an order of malaria rapid diagnostic tests (mRDTs) from Kenya to Senegal. For additional details, see section B2: Malaria.

Distribution of LLINs. In Q2, many countries continued to deliver LLINs for routine distribution. Other countries planned, launched, or continued large-scale LLIN distribution campaigns as a critical malaria prevention strategy. Over 1.4 million LLINs were distributed to protect more than 2.9 million people in five countries—Angola, Burundi, Ethiopia, Guinea, and Zimbabwe. For more information, see section B2: Malaria

Family Planning and Reproductive Health

In Q2, GHSC-PSM worked with activity leads and country offices through virtual workshops or other strategies to ensure program continuity despite COVID-19 restrictions. For more information, see section B3: Family Planning and Reproductive Health.

On-time delivery. GHSC-PSM delivered 97 percent (88 percent COVID-impacted) of FP/RH commodities on time in Q2. For more information, see section B3: Family Planning and Reproductive Health.

Collaboration with global stakeholders. In Q2, the project continued supporting and raising global partners' awareness of the U.S. Government's FP/RH priorities and programs. It supported USAID's leadership in contraceptive security through various activities. GHSC-PSM:

- Launched the first in a two-part video series that explains the newly developed Active Site business rule for measuring stockouts and how to apply it.
- Continued to serve as a key contributor to the strategic development and scale-up of the GFPVAN platform and processes.
- Continued to collaborate with the ForoLAC group of the RHSC to report 2019 Contraceptive Security Indicators (CSI) data from seven additional countries: Argentina, Bolivia, Chile, Ecuador, Mexico, Nicaragua, and Paraguay.

GHSC-PSM has delivered enough contraceptives that, when combined with proper counseling and correct use, are estimated to **provide 81 million couple-years of protection to date.**

This includes **6.7 million couple-years of protection** in Q2.

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

Contraceptive security tracking. GHSC-PSM continued to disseminate results of the 2019 CSI survey online, including through blog posts to the virtual Not Without FP Forum in February. For more information, see section B3: Family Planning and Reproductive Health.

In Q2, the project compiled **15 countries' data analytics tools** into an easily navigable catalog for use across country programs to improve MNCH supply chain decision-making and **availability of quality-assured MNCH commodities** for women and children.

Maternal, Newborn and Child Health

GHSC-PSM works to prevent child and maternal deaths by increasing access to quality assured MNCH medicines and commodities, and by providing global technical leadership on such commodities.

Delivering commodities. Since the start of the project, GHSC-PSM has delivered over $173.1 million in MNCH drugs and commodities. In Q2 this included on-boarding a new local supplier of MNCH commodities in DRC and, through the supplier, delivering an emergency shipment of essential medicines. For more information, see section B4: Maternal, Newborn, and Child Health.

Providing international MNCH supply chain leadership and guidance. After working with partners to update existing RH and MNCH forecasting guidance, in Q2 the project began to validate the guidance in Ethiopia, Ghana, Nepal, Nigeria and Pakistan. The project also began studies on commodities used during pregnancy and delivery in Malawi and Ghana. For more information, see section B4: Maternal, Newborn, and Child Health.

GHSC-PSM continued to collaborate with the Maternal Health Supplies Caucus and provide COVID-19–related support and guidance to GHSC-PSM countries. This included translating into French and disseminating the project-developed resource "Ensuring Maternal, Newborn and Child Health Commodity Availability During COVID-19" in Q2. GHSC-PSM also provided input during a session on the WHO-led Every Newborn Action Plan commodities work plan. For more information, see section B4: Maternal, Newborn, and Child Health.

The project launched its partnership with the International Federation of Pharmaceutical Wholesalers, Inc. Foundation and the Zambian Pharmaceutical Business Forum in Q2. GHSC-PSM will work with both organizations as they help local pharmaceutical wholesalers, manufacturers, and retailers effectively supply quality-assured MNCH commodities. For more information, see section B4: Maternal, Newborn, and Child Health.

Supporting data-informed decision-making for MNCH commodities. In Q2, the project submitted EUV reports for Benin, Burkina Faso, Mali, and Liberia and restarted data collection in Ethiopia, Ghana, and Nigeria. The project also compiled insights from 15 MNCH-supported countries in an easily navigable catalog of currently used MNCH data tools. For more information, see section B4: Maternal, Newborn, and Child Health.

Working with countries to improve adherence to commodity quality standards and enhance in-country coordination and collaboration. The project facilitated MNCH supply chain successes in Ghana, Nigeria, and Malawi in Q2. GHSC-PSM designed a quantitative tool to assess private sector supply chain conditions in Ghana, which will be used to survey private sector health facilities next quarter. In Nigeria, the project began delivering MNCH seedstock from the country's Drug Revolving Funds (DRF), helped install and operationalize a warehouse management system for tracking DRF commodities, and trained 22 master trainers on DRF monitoring and evaluation tools. In Malawi, oxytocin donated from Madagascar was delivered through a cold chain to 381 health facilities, reducing stockouts significantly. For more information, see section B4: Maternal, Newborn, and Child Health.

STRENGTHENING HEALTH INSTITUTIONS

GHSC-PSM manages 33 country or regional offices. Supplemented by headquarters-based experts, these offices provide wide-ranging technical assistance to strengthen national health supply chains.

Meanwhile, several years of investment in strengthening supply-chain systems are yielding important innovations and positive results on many fronts. Examples include:

- In **Angola**, after the receipt of first TLD shipment by the Instituto Nacional de Luta contra a SIDA (INLS), GHSC-PSM supported distribution planning and delivery to 29 health facilities—including PEPFAR-supported sites—as part of Phase 1 TLD transition.

- In **Liberia**, GHSC-PSM supported development of the country's first national TB supply plan.

- In **Mozambique**, with the expansion to Manica Province of SIGLUS -- Mozambique's electronic logistics management information system (eLMIS) at health facilities -- coverage has reached all 11 provinces in the country.

- In **Nepal**'s provinces 3 and 6, after successful advocacy by GHSC-PSM with the Province Health Directorate and Province Health Logistic Management Center and other stakeholders, the two provinces formed Supply Chain Management Working Groups (SCMWGs).

- In Ebonyi State in **Nigeria**, GHSC-PSM helped the government to source Drug Revolving Fund commodities directly from manufacturers. Until now, Ebonyi State procured commodities from distributors at high cost, without options to ascertain product quality, and with long lead times between the placement of orders and delivery.

- In **Zambia**'s Copperbelt Province, GHSC-PSM helped the Zambia Medicines and Medical Supplies Agency (ZAMMSA) pilot a private-sector last-mile delivery program for health commodities that provides a model for national implementation.

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

INTRODUCTION

A1. BACKGROUND

GHSC-PSM 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:

- The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) to help reach their 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 reproductive-health commodities are available for safe and reliable voluntary family-planning.
- USAID's maternal and child health (MCH[5]) program to prevent child and maternal deaths.
- Other public health threats as they emerge, with support for Zika and 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. The project procured commodities or provided TA to 62 countries over the life of the project (see Exhibit 6 below).

A2. ABOUT THIS REPORT

We are pleased to present our performance report for Q2 FY 2021 (January 1, 2021 through March 31, 2021). 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, and other public health threats.
- Section C describes activities under each of the **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 January 1 through March 31, 2021 (quarterly and semi-annual indicators).

Given the size and complexity of GHSC-PSM, this report summarizes our primary efforts and achievements in Q1 FY 2021 and reflects only a fraction of the project's efforts each day to help people around the world live healthier lives.

[5] 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 (MNCH) when discussing the technical content because we have a particular emphasis on supporting newborns.

Exhibit 6. Countries for which GHSC-PSM procured commodities (proc.) or provided technical assistance (TA) over the life of the project (does not include ventilator procurements).

	Proc.	TA		Proc.	TA
AFRICA:			**ASIA:**		
Republic of Angola	●	●	Islamic Republic of Afghanistan	●	
Republic of Benin	●		People's Democratic Republic of Bangladesh	●	
Republic of Botswana	●	●	Kingdom of Cambodia	●	●
Burkina Faso	●	●	Republic of Indonesia		●
Republic of Burundi	●	●	Republic of Kazakhstan	●	●
Republic of Cameroon	●	●	Kyrgyz Republic	●	●
Republic of Chad		●	Lao People's Democratic Republic	●	●
Republic of Côte d'Ivoire	●		Burma	●	●
Democratic Republic of the Congo (DRC)	●	●	Federal Democratic Republic of Nepal	●	●
Federal Democratic Republic of Ethiopia	●	●	Islamic Republic of Pakistan	●	●
Republic of Ghana	●	●	Independent State of Papua New Guinea	●	
Republic of Guinea	●	●	Republic of Tajikistan	●	●
Republic of Kenya	●	●	Kingdom of Thailand	●	●
Kingdom of Lesotho	●	●	Socialist Republic of Viet Nam	●	●
Republic of Liberia	●	●	**LATIN AMERICA & CARIBBEAN:**		
Republic of Madagascar	●	●	Barbados		●
Republic of Malawi	●	●	Republic of Colombia	●	
Republic of Mali	●	●	Dominican Republic	●	●
Republic of Mozambique	●	●	Republic of Ecuador	●	
Republic of Namibia	●	●	Republic of El Salvador	●	●
Republic of the Niger	●	●	Republic of Guatemala	●	●
Federal Republic of Nigeria	●	●	Republic of Haiti	●	●
Republic of Rwanda	●	●	Republic of Honduras	●	●
Republic of Senegal	●	●	Jamaica	●	●
Republic of Sierra Leone	●	●	Republic of Panama	●	●
Republic of South Africa	●		Republic of Paraguay	●	
Republic of South Sudan	●	●	Republic of Peru	●	
Kingdom of Swaziland (Eswatini)	●	●	Republic of Suriname	●	●
United Republic of Tanzania	●	●	**OTHER:**		
Republic of Togo	●		Ukraine	●	
Republic of Uganda	●	●	Republic of Yemen	●	
Republic of Zambia	●	●			
Republic of Zimbabwe	●	●			

PROGRESS BY HEALTH AREA

This section summarizes GHSC-PSM's support over the last quarter for HIV/AIDS, malaria, FP/RH, maternal, newborn, and child health (MNCH), and other public health threats.

B1. HIV/AIDS

GHSC-PSM has delivered enough antiretrovirals (ARVs) to provide nearly **12.6 million patient-years of HIV treatment over the life of the project**, including nearly **1.2 million patient-years of treatment in Q2**.

To date, GHSC-PSM has delivered almost **49.6 million bottles of tenofovir/lamivudine/dolutegravir (TLD)** to 26 countries, which would provide more than **7.8 million patient years of treatment**.

Multi-month dispensing packages of TLD first-line treatment accounted for **100 percent of all quantities delivered** in Q2.

A total of 56 countries procured HIV/AIDS medicines and commodities and received health supply-chain systems strengthening with HIV/AIDS funding.

Thanks to multi-month dispensing (MMD), patients likely saved **nearly 9.8 million trips** to the pharmacy in Q2 and **more than 44.4 million over the life of the project, saving patients time and money**.

GHSC-PSM brought **improved product visibility** into HIV commodities in **104 central and regional warehouses in 22 PEPFAR countries and 13,340 health facilities** in **11 PEPFAR countries**.

As of Q2, GHSC-PSM delivered **27.9 million viral load tests to 20 countries** to support testing scale-up. These global viral load contracts have generated almost **$24 million in savings in calendar year 2020**.

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 those used to support viral load testing to monitor treatment efficacy for PLHIV. GHSC-PSM is also implementing data visibility initiatives that support appropriate procurement and distribution of ARVs and diagnostics to link patients with the necessary commodities.

COVID-19 Impacts

In late Q2, a second wave of COVID-19 hit India. There has been little to no impact on manufacturing for India-based ARV suppliers to-date, but concerns around bottling, labeling, and other secondary services remain. GHSC-PSM encouraged suppliers to register more than one bottling source and

continues to monitor the situation to alleviate the impact. The project also regularly participates in the ARV Procurement Working Group (APWG) to monitor the supply and demand landscape for a low volume of ARVs to quickly mitigate any issues.

Also, the low availability of containers globally caused pickup delays for many HIV/AIDS commodities, particularly ARVs and condoms. GHSC-PSM actively notified suppliers when containers were a challenge and on many occasions, the suppliers were able to assist 3PL partners.

Lastly, in Q2, the border crossing to Zimbabwe from South Africa remained heavily congested due to holiday traffic delays and government COVID-19 policies at the border post. To avoid HIV/AIDS commodity delays, GHSC-PSM rerouted through different border posts such as Botswana.

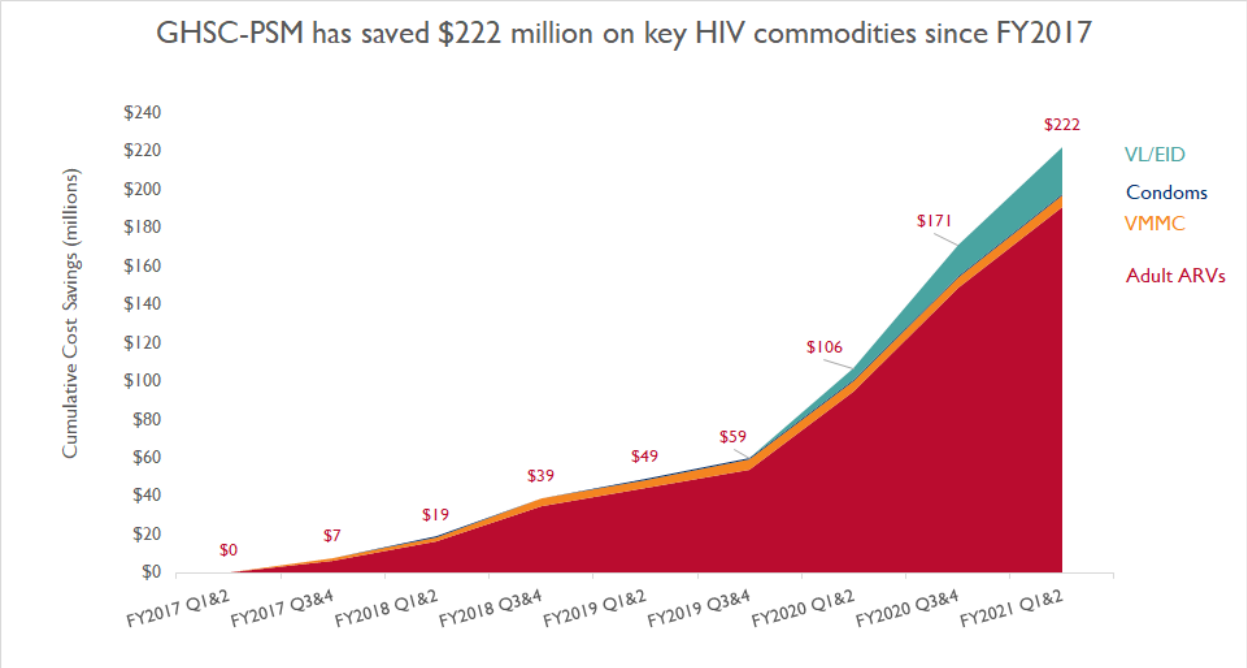
HIV/AIDS SUPPLY CHAIN ON-TIME DELIVERY AND COST SAVINGS

Procurement

GHSC-PSM has procured nearly $2.5 billion in HIV commodities over the life of the project. Savings from strategic sourcing of HIV commodities GHSC-PSM's strategic sourcing activities generated significant cost-savings for PEPFAR and the countries and people served by its HIV programs. As shown in Exhibit 7, the project has achieved $222 million in savings on key HIV commodities over the life of the project, including over $51 million in savings so far in FY2021. The largest source of that savings continues to be TLD, which has seen a nearly 20 percent reduction in weighted average cost compared to the baseline price at the start of procurement in FY2018. Savings have also continued to grow for viral load and early infant diagnosis (VL/EID) products under GHSC-PSM's global contracts, with total savings for those items now rising to more than $24 million.[6]

[6] VL/EID cost savings shown here are calculated by comparing current prices per SKU compared to baseline prices prior to the implementation of the global contracts in early 2020. It is not a calculation of cost savings per test, and it does not include savings that have accrued to other procurement agencies, namely KEMSA and Uganda MAUL. The savings figure reported here may therefore differ from lab cost savings presented in other reports.

Exhibit 7: HIV Commodities Cost Savings, LOP



Deliveries

Over the life of the project, GHSC-PSM has delivered nearly $2.1 billion in HIV commodities to countries. Timeliness of GHSC-PSM HIV deliveries remained consistently strong for standard OTD and OTIF over Q2, as shown in Exhibit 8 and 9. Although the high degree of uncertainty and the extreme volatility in global supply chains caused by the pandemic has since been reduced from the FY 2020 highs, COVID continued to impact a large number of orders in Q2 FY 2021. The project expects this impact will continue through Q3.

Exhibit 8. HIV Commodities, OTD

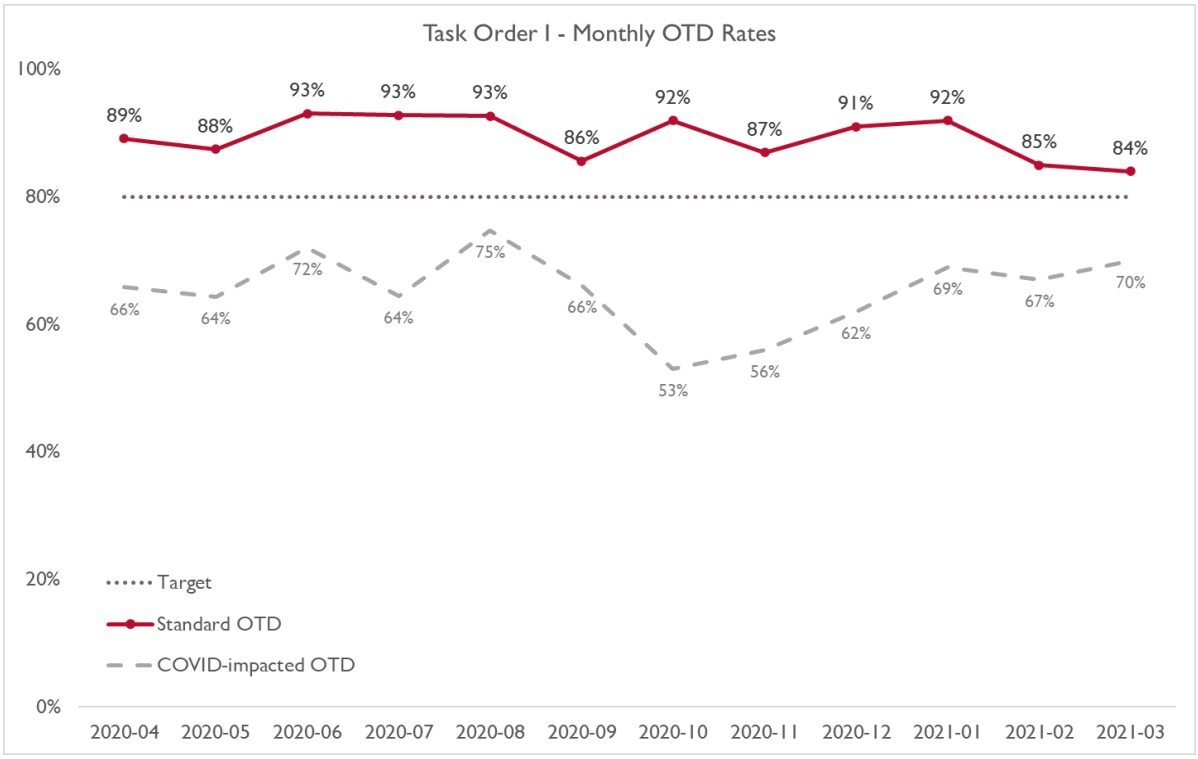
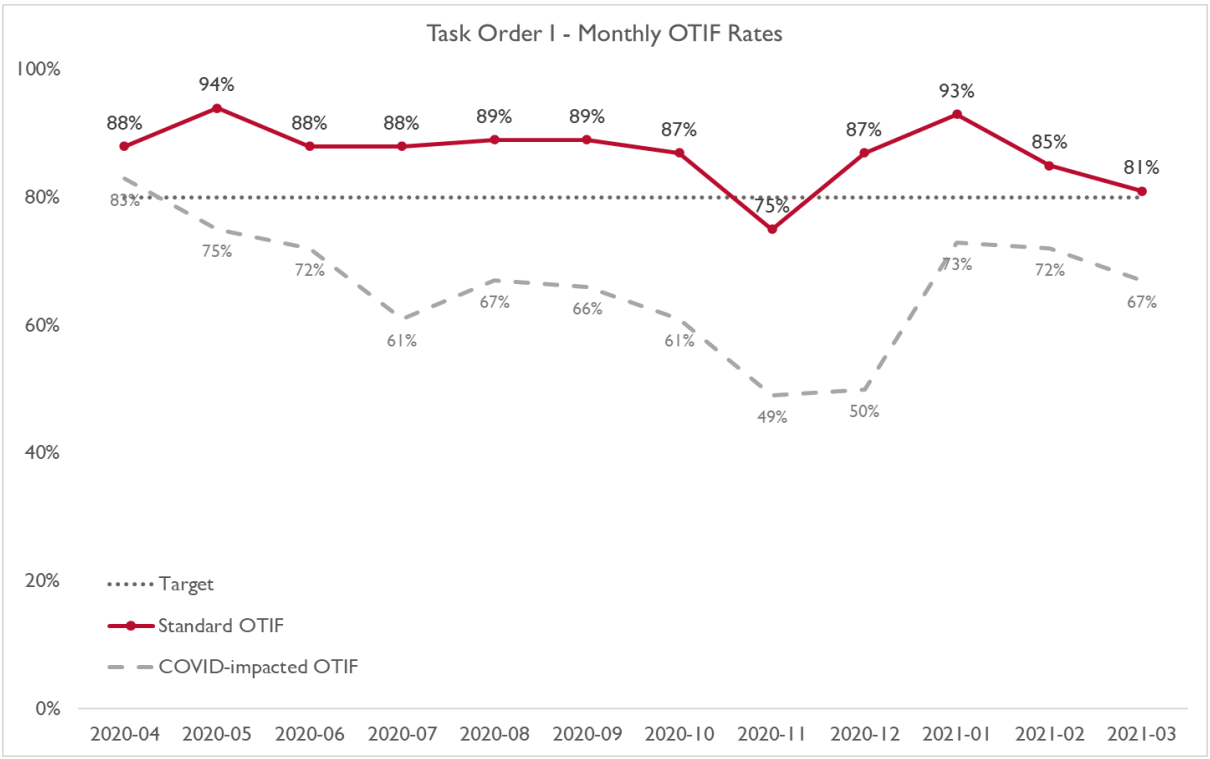


Exhibit 9. HIV Commodities, OTIF



SUPPORTING PEPFAR'S HIV PREVENTION AGENDA

Commodities Procured for HIV/AIDS Programs

- ARVs
- Diagnostics
- Essential medicines
- Injectable anesthetics
- Laboratory reagents
- Male and female condoms
- Personal lubricants
- VMMC kits

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 take it as directed. In Q2, GHSC-PSM delivered $7.05 million worth—more than 1.8 million PrEP bottles, which is double the amount in Q1—to Cameroon, Congo DRC, Ethiopia, Ghana, Haiti, Lesotho, Mozambique, Namibia, Nepal, Nigeria, Panama, Rwanda, Tanzania, Uganda, Ukraine, Zambia, and Zimbabwe.

The project conducts a monthly analysis of PEPFAR-funded PrEP commodity deliveries and the impact of in-country scale-up for the PrEP program. The analysis generates qualitative and quantitative data from 23 countries to monitor stock levels and the scale-up. Also, GHSC-PSM's regular communication with countries assisted them in adapting to the dynamics of their PrEP scaleup environments by advancing or delaying shipments when necessary. For example, GHSC-PSM identified a need to delay TE deliveries to Tanzania, where the PrEP program starts later in 2021. The project diverted 232,000 packs of TE to Zambia and Namibia to support their PrEP programs.

Condoms

In Q2, GHSC-PSM formalized a made to stock (MTS) service agreement with a major manufacturer for the supply of male condoms, followed by the initiation of the first 5 million piece production. An MTS service agreement leads to a reduction in overall product costs by saving on storage costs at the RDC and freight shipping, including only one leg with an MTS instead of two (i.e., from the manufacturer to the RDC and then to the country). GHSC-PSM is exploring an MTS arrangement for the supply of female condoms. Also, GHSC-PSM worked with a female condom supplier to ensure improved visibility into overall production plans and buffer stock-level data. The project intends to use these data to reduce RDC stock levels and minimize costs.

GHSC-PSM published the 2021 Condoms and Lubricant Catalog in Q2 to inform USAID personnel and project staff of the different condom and lubricant brands for GHSC-PSM procurement. The catalog also provides information on how to request adding a new brand. In collaboration with USAID, GHSC-PSM also developed a condoms and lubricant two-pager with pricing and lead time information to assist USAID field offices and country teams during COP21 planning and budgeting.

During Q2, GHSC-PSM also published the first Comprehensive Condoms and Lubricant Report for FY 2020, which shows procurement trends by country over the life of the project.

Voluntary medical male circumcision (VMMC) kits

In Q2, GHSC-PSM revised the VMMC Reference Guide to include recent changes made to the VMMC kits and updated pricing and lead times. These updates help implementing partners, USAID personnel, and other PEPFAR-funded stakeholders to plan effectively for procurements.

The project began implementing the new VMMC kit fixed-price agreements and processing VMMC kit orders for Rwanda, Tanzania, Uganda, and Zimbabwe.

Essential medicines
GHSC-PSM awarded fixed-price schedules for 145 essential medicine products for all eligible wholesalers in support of treatment of opportunistic infections like tuberculosis (TB) among HIV positive patients. The project began processing awards for several countries including DRC, Mali, and Mozambique and held coordination meetings with USAID to discuss minimum order quantity (MOQ) challenges and plans to follow up in Q3.

Local procurement initiatives continue to be a priority. GHSC-QA informed GHSC-PSM that an evaluation of local wholesalers in the priority countries of DRC, Haiti, Kenya, Malawi, and Mozambique is underway. In DRC, GHSC-PSM placed the first orders with a local wholesaler and continues to incentivize the use of local supply options (wholesalers or manufacturers) through new fixed-price schedules.

Tuberculosis Preventive Treatment (TPT)
Tuberculosis (TB) is the leading cause of death among PLHIV, causing more than one-third of all AIDS-related deaths. The World Health Organization (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, irrespective of the degree of immunosuppression, even if latent TB infection testing is unavailable.

Isoniazid rifapentine (3HP)
With quality assurance approval of rifapentine/isoniazid 300mg/300mg fixed-dose combination (FDC) tablets received in Q1, GHSC-PSM delivered the first FDC orders to Eswatini, Zambia, and Zimbabwe in Q2. However, due to both quality and regulatory delays, the manufacturer reduced its production output between February and July 2021. Most countries have adequate Isoniazid or Cotrimoxazole/Isoniazid/Pyridoxine (QTIB) in stock, which enabled TPT continuation without interruption.

Together with USAID, GHSC-PSM coordinates with the APWG to negotiate the best possible delivery time for countries transitioning to 3HP. The project works with USAID to ensure proactive information sharing with countries and Missions on supply-side challenges.

In Q2, GHSC-PSM collaborated with internal and external stakeholders to publish a TPT factsheet for World TB Day. This highlighted some of the achievements and challenges related to current TPT procurement activities.

Isoniazid Preventive Therapy (IPT)
Although most GHSC-PSM-supported TPT countries continue to plan transition to 3HP in FY 2021 and FY 2022, the project procured and delivered IPT commodities (Isoniazid, cotrimoxazole/isoniazid/pyridoxine [QTIB], Vitamin B6) to 10 countries (Cameroon, DRC, Côte d'Ivoire, Eswatini, Haiti, Lesotho, Nigeria, Rwanda, Zambia, and Zimbabwe) in the previous quarter.

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 procurement and international freight. The project promotes better management of RTK orders and deliveries through the regional- and central-level stock data collection through the Warehouse AIDS Data Visibility, Evaluation and Reporting, or ADVISER, initiative. GHSC-PSM shares these data monthly with GHSC-RTK to guide RTK procurement planning and triangulate data, reviewing HIV testing targets against RTK stock in countries with PEPFAR-supported HIV testing programs.

SUPPORTING THE SECOND 95: TREATMENT

TLD and multi-month dispensing

To help achieve HIV treatment goals, GHSC-PSM continued to support PEPFAR countries' transition to TLD,[7] the preferred first-line ARV.

In Q2, 100 percent of TLD delivered (by value) was in MMD packaging in 90- or 180-count bottles. The project delivered these commodities to Burkina Faso, Cameroon, DRC, Haiti, Eswatini, Honduras, Kenya, Mozambique, Nigeria, Panama, South Africa, Tanzania, Togo, Uganda, Ukraine, Zambia, and Zimbabwe.

Supplying TLD

To date, the project has delivered **49.6 million bottles of TLD** to **27 countries**.

This is enough to provide more than **7.8 million patient-years of TLD treatment**.

In Q2, GHSC-PSM delivered **5.5 million bottles of TLD 90 and 180** ($93.6 million) to **17 countries**.

To ensure close coordination with key stakeholders on TLD uptake, the project regularly shares data and facilitates technical coordination meetings. In Q2, GHSC-PSM completed a round of Country Progress Towards Key PEPFAR Initiatives—A Supply Chain Perspective Meetings (i.e., Country First meetings) for HIV/AIDS Task Order-supported countries. These meetings included reviews of supply chain–related support and progress toward key PEPFAR initiatives, including adult and pediatric DTG transitions, MMD, decentralized drug distribution (DDD), and PrEP.

As part of a new technical series to support sustainable health supply chains, GHSC-PSM published the DDD handbook for PEPFAR-supported countries focused on private- and public-sector models for delivering ARVs to patients outside clinical settings. It includes case studies from five countries and is intended to help decision-makers determine which method of delivery works best for the local context and critical supply chain elements that should be considered for each model.

Pediatric ARVs

Following the U.S. FDA tentative approval of the new dolutegravir (DTG) 10 mg in Q1, GHSC-PSM provided a tool to simulate the start dates and pace of the transition for PEPFAR-supported countries. As part of the project's transition analysis, GHSC-PSM frequently shares simulations of clinical and financial outcomes resulting from different strategic approaches to transition with USAID. Of particular concern are the legacy products' costs and destruction. In the coming months, the project will begin

[7] The 27 countries for life of project through FY 2021 Q2 are: Botswana, Burkina Faso, Burundi, Cameroon, DRC, Côte D'Ivoire, El Salvador, Ethiopia, Kenya, Haiti, Honduras, Mozambique, Namibia, Nigeria, Panama, Papua New Guinea, Peru, Rwanda, Eswatini (Swaziland), South Africa, Tanzania, Togo, Uganda, Ukraine, Vietnam, Zambia, and Zimbabwe.

monitoring stocks of these pediatric legacy products based on drawdown guidance from USAID and PEPFAR.

In Q2, Haiti received a shipment of 33,038 bottles of DTG 5 mg ($1.07 million) and distributed them to 97 PEPFAR-supported ARV sites. This shipment will provide over 900 new children and those on treatment failure with the new medicine.

In Q2, GHSC-PSM placed the first orders for 352,000 bottles of DTG 10 mg 90-tablet bottles. Two-thirds of this order is en route to one of the project's RDCs and the other third was converted to direct drop order to ensure that Côte d'Ivoire, DRC, Haiti, Nigeria, Zambia, and Zimbabwe receive product in line with their requested delivery dates. The project also initiated new orders of DTG 10 mg for Burundi, Eswatini, Namibia, Rwanda, and Uganda. These deliveries will ensure that each country can initiate their DTG 10 mg transition plan in line with their approved plans.

With DTG 10 mg headed to several countries, legacy pediatric medicines are being drawn down. However, due to shortages and lack of manufacturing of APIs in China, some pediatric medicines—lamivudine/zidovudine 30/60 mg dispersible tablets and nevirapine 10 mg/ml suspension with syringe 100 ml—were difficult to procure. In Q2, GHSC-PSM processed shipments as manufacturing of APIs restarted, which are due to arrive in Q3. The project worked with another ARV supplier that began offering lamivudine/zidovudine in Q2 to diversify the supply base and ensure pediatric medicines.

DTG 10 mg

A dispersible tablet, DTG 10 mg – a more effective pediatric ARV – will help further reduce the pill burden for children living with HIV while maintaining dosage flexibility. GHSC-PSM placed orders for 12 countries and will be monitoring drawdown of legacy products to support the transition.

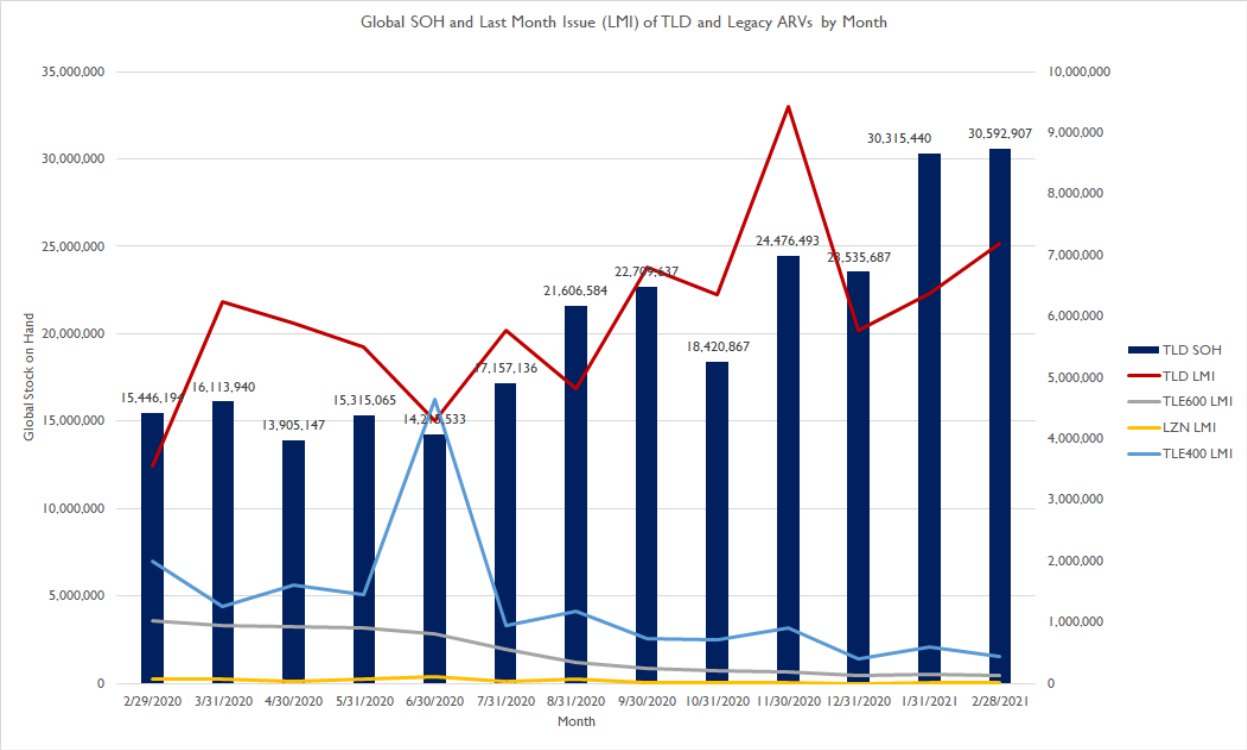
Legacy ARV drawdown

To support efficient transition to more effective treatment regimens (TLD), and minimize remnants of less effective, older first-line ARV regimens (legacy ARVs), GHSC-PSM collects, reviews and compiles monthly ARV inventory data from 31 central and 73 regional warehouses in 22 countries through First-Line ARV Reporting and Evaluation (FLARE) reports.

Per PEPFAR guidance, GHSC-PSM halted procurement of legacy ARVs containing nevirapine, such as lamivudine/zidovudine/nevirapine (LZN), and actively supported the transition of patients to new regimens. GHSC-PSM aligned ARVs in the project's product catalog with the PEPFAR formulary to promote optimal ARV regimen ordering. The project submits weekly reports to USAID outlining any second-line or suboptimal products ordered by partner countries so that both parties can engage country counterparts to determine if a better product is available.

According to the data collected in the FLARE reports, global issues of LZN, TLE600, and TLE 400 decreased by 95 percent, 88 percent, and 78 percent, respectively, since February 2020. (See Exhibit 10.)

Exhibit 10. Drawdown of stock-on-hand and reduced consumption of LZN from February 2020 to February 2021[8]



The analysis above shows successful drawdown of efavirenz- and nevirapine-based regimens and an overall increase in TLD stock-on-hand each month from February 2020 to February 2021.

SUPPORTING THE THIRD 95: VIRAL LOAD TESTING

Implementing viral load awards

In calendar year 2020, GHSC-PSM procured and delivered 10,874,866 viral load (VL) and early infant diagnosis (EID) patient tests and generated almost $24 million in savings from lower prices negotiated with the three suppliers under the global request for proposals (RFP). GHSC-PSM also successfully met its annual volume commitments to the VL manufacturers in calendar year 2020.

Minimum annual volume commitments (VC) to the VL manufacturers is a cornerstone and an innovative concept of the global RFP. VCs are made at the global as well as at the country level and are defined in terms of "tiers" (expressed in millions of tests). They determine what a price per test will be in a given year. The global VC determines the reagent and consumables prices offered by a manufacturer, whereas country-specific VC define the all-inclusive prices that a country will pay.

[8] Countries included in this analysis were Botswana, Burundi, Cameroon, Côte d'Ivoire, DRC, Eswatini, Ethiopia, Ghana, Haiti, Lesotho, Mozambique, Namibia, Nigeria, Rwanda, Uganda, Vietnam (until 09/30/2020), Zambia, and Zimbabwe.

In Q2, GHSC-PSM placed orders with the VL manufacturers for almost 6 million VL and EID tests. In Q2 the project saved an estimated $16 million of PEPFAR funds on these orders (compared to the pre-global RFP pricing) thanks to even lower VL/EID all-inclusive prices for calendar year 2021.

USAID and GHSC-PSM steadily improved diagnostics supply chain transparency and analytics through the Data and Connectivity Initiative within the Global VL EID Project. At the end of Q2, 25 laboratories received Internet connectivity and web applications to monitor instrument throughput, testing errors, and other operational, non-personally identifiable data. Also, the project created 170 global and in-country new accounts to leverage these applications, representing over 20 organizations.

To ensure data integrity and interoperability and improve management of the global service level agreements (SLAs) with the VL manufacturers while supporting strategic management of PEPFAR's global instrument fleet, USAID and GHSC-PSM partnered with manufacturers to develop a global multi-platform dashboard in FY 2020. In Q2, GHSC-PSM worked on building the global VL dashboard, with the Phase 1 (key performance indicator reporting module) near completion. This dashboard will assist PEPFAR in managing strategic contracts and patient-centric supply chains.

Laboratory supplies
In Q2, GHSC-PSM implemented a new laboratory supply procurement strategy. Following an RFQ, three wholesalers were pre-selected and prices agreed upon for 363 products (57% of the lab products in the catalog). When there is a request to fulfill, these wholesalers will be invited to simultaneously confirm remaining information, such as lead time, or offer a lower price. Supported by an evaluation tool (called the Requisition Order Automation tool), the project then reviews the submissions and selects the wholesaler that offers the best value. Business rules to determine the best value are embedded in the evaluation tool that automates requests to the vendor, evaluates for award, and captures the award justification.

Data-driven lab optimization using Opti-Dx. Through historical procurement data, forecast data, instrument coverage, utilization rates, and GPS data, the Opti-Dx web-based tool guides appropriate laboratory instrument selection. Piloting began in Malawi and Uganda. In Q2, implementation in Malawi shifted to the CDC, but GHSC-PSM continued diagnostics network optimization (DNO) monitoring. The project is currently working with Burundi as the next potential pilot country.

GHSC-PSM, in partnership with FIND, LLamasoft, and USAID, is co-creating a roadmap for OptiDx rollout. The roadmap includes agreed-upon solutions to address the main gaps and bottlenecks in uptake and impact of DNO while also agreeing on the partnership model for OptiDx rollout to establish and sustain its use as an integral element of country strategic planning.

Opti-Dx will assist country programs and donors in developing an optimization approach for existing sample referral linkages, determine the best instrument locations based on patient loads, and guide point-of-care testing integration. GHSC-PSM will continue to train countries in tool use.

Laboratory commodity quantification: GHSC-PSM in collaboration with the developer piloted ForLabPlus software in three countries: Burundi, Haiti, and Malawi. This tool is used for forecasting laboratory reagents and commodities. GHSC-PSM plans to evaluate the ForLabPlus tool with the manufacturer's quality control commodity calculators next quarter and incorporate the Quantification

Analytics Tool (QAT) into supply plans. For more information on QAT, see section C2. Systems-Strengthening Technical Assistance.

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 inventory data each month for more than 104 HIV medicines and commodities at the central and regional warehouse levels in 20 PEPFAR countries to identify stock imbalances. Data generated include the status of first-line ARV drawdown, the transition to TLD, and HIV commodity stockout risk. These reports help mitigate imbalances and avoid rationing and waste, where possible, by raising awareness, identifying opportunities to shift GHSC-PSM shipments, and supporting redistribution within a country.

In Q2, through data collection and analysis at central and regional warehouses, GHSC-PSM identified 17 HIV commodity stockout risks in five countries and quickly resolved them. The project standardizes HIV product names and formulations across all countries to streamline and improve data quality.

GHSC-PSM hosted the Proactive Stock Risk Management (ProStock) meetings in Q2. Building on the project's HIV/AIDS data collection and analysis, this meeting is a forum for GHSC-PSM and USAID to present and discuss actual and potential gaps in HIV commodities access and set action plans to address them. Through this meeting, GHSC-PSM highlighted its ongoing risk mitigation efforts that have prevented stockouts of TLD in DRC and supported the launch of PrEP programming in Mozambique and Nigeria. Data visibility efforts and the ProStock forum elevated first-line ARV stockout risks in Angola and Eswatini and helped USAID successfully advocate for additional commodity funding to place emergency orders for TLD for these countries.

The project collects national service delivery point (SDP) (i.e., health facility or site) LMIS data and tracks stock levels across SDPs each month from 12 countries. GHSC-PSM triangulates this information with patient data from PEPFAR-funded health facilities provided by USAID each quarter.

Clinical implementing partners provide the patient data from 12 countries, which are then stored in Data for Accountability, Transparency and Impact Monitoring (DATIM) datasets. Previously, GHSC-PSM completed product (i.e., HIV/AIDS commodities) and facility matching for historical data, as well as a process for maintaining product and facility matching for future data collection. Matching the two datasets is critical to maintain clear visibility into the number of PEPFAR-supported health facilities receiving and dispensing HIV/AIDS commodities.

Through these facility matching and product alignment exercises, the HIV/AIDS Data Visibility Team has significantly improved the quality of SDP data. In historical datasets, facilities were referred to differently over time. The project initially found 19,328 different references to facility names (excluding facilities in Cameroon). Of those references, GHSC-PSM found that 5,989 were referring to the same facility as other names in the data but were spelled differently, contained an abbreviation, had different punctuation, etc. Names are now standardized in the dataset, enabling the project to report and analyze inventory and consumption data from 13,339 facilities across 11 countries. GHSC-PSM also found 11,704 of these facilities matched with records in DATIM, enabling further analysis and triangulation with

patient data. The project achieved this through automated tools created internally as well as line-by-line quality assurance of all aforementioned records.

Similarly in Q2, GHSC-PSM conducted an exercise to better align product names between the Procurement Planning and Monitoring Report (PPMR) and Supply Chain-Facility-level AIDS Commodity Tracking (SC-FACT) datasets. The project began the alignment by looking at the total number of country/product pairs and every unique combination of a product in a country (i.e., every product the project tracks for each country). By doing so, GHSC-PSM reduced the number of pairs from 601 to 483 (i.e., 118 duplicative pairs were found). The project aligned an additional 46 pairs, increasing the total number of pairs present in both PPMR and SC-FACT datasets from 246 to 287.This enhancement from 246/601 (41 percent) to 287/483 (59 percent) indicates an 18 percent improvement in the alignment of country/product pairs across both datasets.

The facility matching and product alignment work will be foundational in GHSC-PSM's implementation of its End-to-End Data Visibility Plan.

COUNTRY SUPPORT

The HIV/AIDS Task Order funds supply-chain systems strengthening in 36 countries.

In **Guatemala**, the project and partners identified a potential shortage of HIV RTKs at sites and clinics. To confirm whether a shortage was likely, GHSC-PSM, in coordination with the National HIV/AIDS Program Laboratory Division, implemented an easy-to-use tool to gather inventory and consumption data from the sites and clinics. Using the tool to clarify the stock situation, they found no widespread shortage of kits at sites and clinics, with only two of the 45 sites and clinics requiring urgent replenishment of inventory. The project then supported local stakeholders in providing additional test kits to prevent stockout.

In February 2021, **Cameroon** received an emergency delivery of TLD 90 that GHSC-PSM secured and delivered thanks to PEPFAR. Concurrently, the project worked closely with the National AIDS Control Council on a distribution plan and GHSC-PSM carried out last-mile delivery of all 144,084 boxes of TLD 90, which is equivalent to about two and a half months of stock for 10 regions in the country. Each site has enough stock until the next scheduled delivery in May from the Global Fund.

B2. MALARIA

In Q2 FY 2021, delivered enough ACTs to treat over **23.4 million infections**.

In Q2 FY 2021, **29 countries procured malaria medicines and commodities,** and **22 countries received health supply chain systems strengthening** with malaria funding under the contract.

Supported distribution of LLINs to provide **protection from malaria for over 2.9 million people in Q2 FY 2021**.

Investigated upstream markets of API and KSM for malaria commodities to evaluate **malaria commodity market health** and mitigate risks for commodity security and quality.

Under the PMI-funded malaria task order, GHSC-PSM supplies quality lifesaving prevention and treatment medicines, malaria rapid diagnostic tests (mRDTs), LLINs, and lab supplies. The project offers partner countries new approaches to strategic planning, logistics, data visibility, analytics, and capacity building in line with PMI strategies. GHSC-PSM provides technical guidance to strengthen global supply, demand, financing, and the introduction of new malaria medicines and commodities. GHSC-PSM provides continuous support to USAID Missions to ensure they have the necessary malaria commodity data, analysis, and forecasting models to directly inform decision-making for PMI's malaria operational plans (MOPs).

The project monitors sourcing, procurement, and delivery challenges related to COVID-19, informing mitigation efforts and providing technical support to in-country supply chains. In Q2, GHSC-PSM rolled out the Stockout Reduction Initiative to all country offices to support PMI's new initiative to reduce stockouts at SDPs. To support PMI's FY 2022 MOP development, the project worked with PMI in revising the malaria commodity gap analysis tables and in developing guidance for all PMI-supported countries' gap analysis exercises.

WORKING THROUGH COVID-19

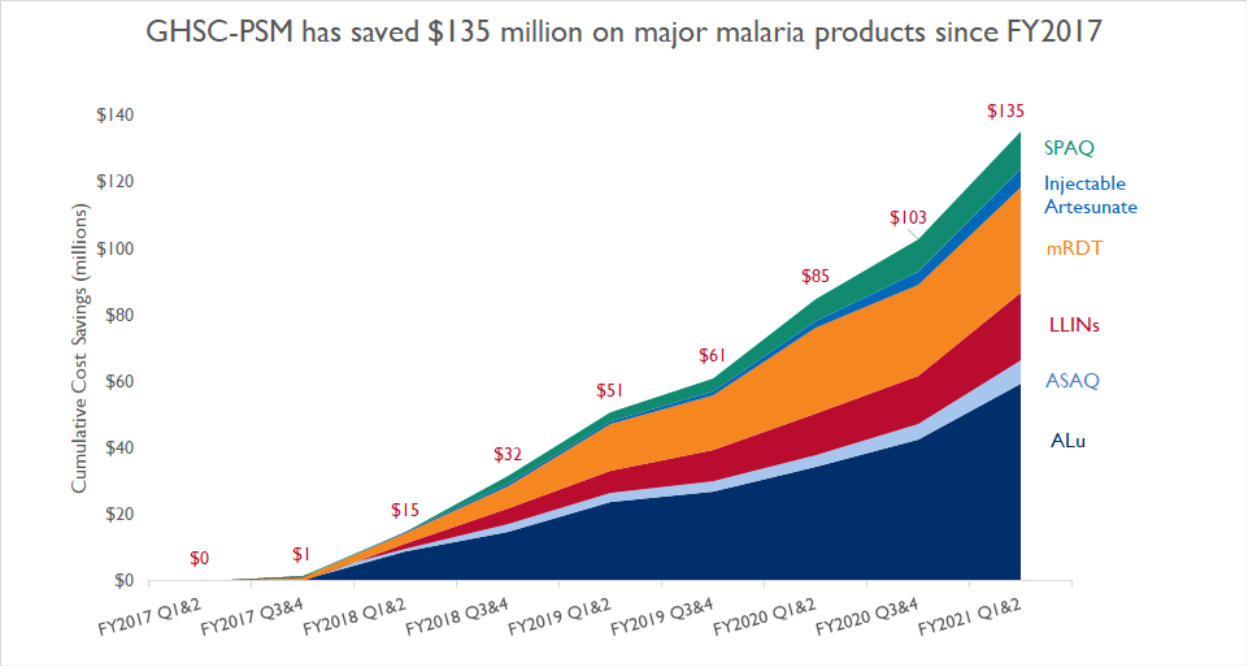
One year into the global pandemic, COVID-19 is still affecting the malaria commodity supply chains. GHSC-PSM works diligently to adapt to changes in global manufacturing and logistical systems that malaria supply chains depend on. As the virus continues to peak and recede around the world, the project examines opportunities to manage risk throughout the supply chain, strengthen its market position, refine stock allocations, explore new sourcing and rapid fulfillment strategies, promote sustainable pricing, and prequalify additional suppliers.

In Q2, the project began monitoring the impact of a second wave of COVID-19 outbreaks in India, which led to new lockdowns that could affect malaria commodity suppliers. The project monitors the potential impact of these lockdowns.

Malaria commodities also face a constrained shipping environment due to the impact of COVID-19 on global logistics. The project works closely with the 3PL providers to find solutions to ensure a continuous, reliable supply, including delaying a planned rate refresh in favor of instituting a spot quote approach to ensure GHSC-PSM was positioned to obtain the lowest possible cost and to minimize disruptions to country budgets.

COST SAVINGS ON MALARIA COMMODITIES

Exhibit 11. GHSC-PSM has saved $135 million on major malaria products since FY 2017



Over the life of the project, GHSC-PSM has achieved $135 million in cost savings for major malaria commodities (exhibit 11.) These savings represent 16 percent of the total spending on these product categories over the life of the project, and 15 percent of the total value spent on malaria products overall. Much of these savings were the result of strategic sourcing initiatives focused on diversifying the supplier base for key commodities and locking in fixed and tiered pricing. The majority of these savings come from artemether-lumefantrine, which has seen a substantial savings increase in FY 2021 due to high volumes procured at lower weighted average costs. For artesunate-amodiaquine, which typically has lower savings, the project secured over $1.2 million in savings this period by following an allocation strategy that pivoted to a lower cost supplier for a large order. Savings have also increased on single-pyrethroid LLINs. The project is now into its second year of long-term agreements with net suppliers, who have been offering more competitive pricing. For PBO nets, the project is also seeing better prices

following the implementation of long-term agreements and the addition of a fourth supplier into the market. For rapid diagnostic tests, prices have increased following the volatility in the market in 2020, although prices remain lower than the baseline. GHSC-PSM has onboarded new suppliers for RDTs, some of which have a lower price point, but prices are expected to remain higher than pre-pandemic rates. Finally, notable savings have also been achieved in injectable artesunate after the addition of a new supplier and a sourcing strategy focused on proactive procurement. The project is expecting to see additional savings from this strategy as procurements continue through the rest of this fiscal year.

COMMODITY SOURCING, PROCUREMENT AND DELIVERY

The ongoing fallout from the COVID-19 pandemic affects malaria commodity supply chains. GHSC-PSM regularly assesses the viability of existing sources of critical commodities, including key starting materials (KSMs) and active pharmaceutical ingredients (APIs). It uses these assessments to develop strategies that ensure that products are available and accessible, despite constrained supply and limited transit options.

Commodity risk profiles

Since FY 2020, the COVID-19 pandemic has significantly impacted the project's suppliers, particularly for malaria commodities, creating additional risk and longer lead times across commodity categories. To proactively manage this, GHSC-PSM segmented malaria commodities by volume and programmatic impact to evaluate and develop commodity risk profiles. The malaria commodity risk profiles are updated monthly and examine the geographical distribution of suppliers, as well as market and supplier-specific impacts related to production, sourcing of KSMs, raw materials, and packaging materials, in an effort to identify, mitigate, and minimize near-term and long-term supply disruptions.

Strategic sourcing

In Q2, GHSC-PSM strategic sourcing of malaria commodities focused on:

- ***Conducting a strategic tender for pharmaceuticals.*** The project issued a solicitation to determine allocations of expected FY 2022 demand for ACTs and certain severe malaria treatments among existing and potential new vendors offering eligible products. The tender will update established fixed pricing for FY 2022 procurements and emphasize other programmatic objectives, such as mitigating supply risk and establishing a rapid supply mechanism to better meet urgent needs. The project expects to finalize volume allocations in Q3.

In Mwendo Village, Rwanda, health care worker Venuste Twagirayezu explains proper use of ALu to his patient, Mrs. Domithilla Nyinawinkindi, after she tested positive for malaria by rapid diagnostic test. Photo credit: Rogers Kizenga, GHSC-PSM

- ***Conducting a tender for third-party lab services.*** To accommodate lot testing of pharmaceuticals and LLINs, GHSC-PSM uses a network of third-party testing laboratories. In Q1, the project issued a tender to existing and new testing laboratories that aimed to align pricing with current market conditions and expand available testing capacity, with the potential to contribute to shorter lead times. The project expects to finalize results in Q3.
- ***Developing a strategic tender for LLINs.*** In preparation for FY 2022 LLIN procurements, GHSC-PSM finalized a strategic approach and tender, which will be issued for Q3. The tender emphasizes the importance of quality and other value-adding components, as well as supply risk mitigation and establishing a rapid supply mechanism to better meet urgent needs.

Procurement and deliveries

In Q2, GHSC-PSM procured malaria commodities[9] for 27 countries (all PMI countries, including one USAID-designated malaria country). This included $102.6 million in malaria medicines and commodities.

OTD and OTIF. Timeliness of GHSC-PSM deliveries remained consistent and extremely strong for standard OTD and OTIF over the reporting period for malaria commodities in Q2, with a rate of 97 percent (71 percent for COVID-impacted) (see Exhibit 12). The OTIF rate in Q1 was 95 percent (70 percent for COVID-impacted). At the end of Q2 FY 2020, the number of COVID-19-impacted orders started increasing significantly. Although the high degree of uncertainty and the extreme volatility in global supply chains caused by the pandemic has decreased, COVID-19 affected a large number of orders in Q2 FY 2021.

[9] GHSC-PSM procured malaria commodities for the following countries: AFRICA: Angola, Burkina Faso, Burundi, Cameroon, Côte d'Ivoire, DRC, Ethiopia, Ghana, Guinea, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, Zambia, Zimbabwe; ASIA: Burma, Cambodia, Laos, Thailand.

Exhibit 12. Malaria Commodities, OTD

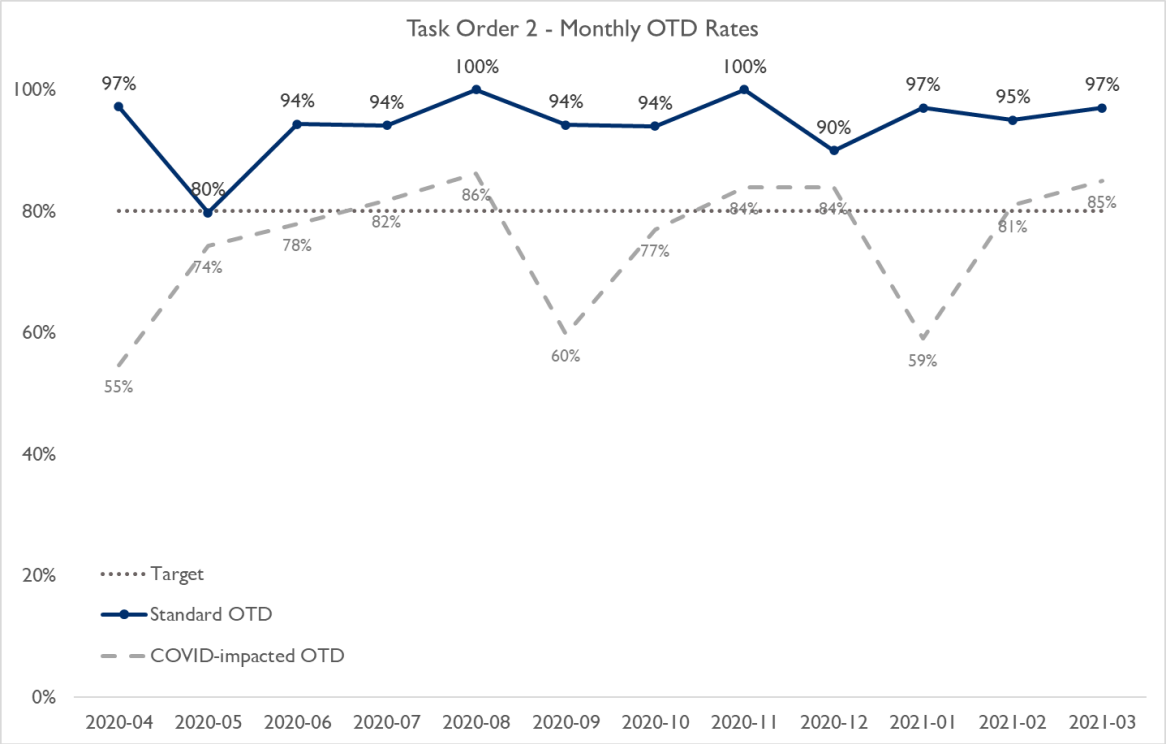
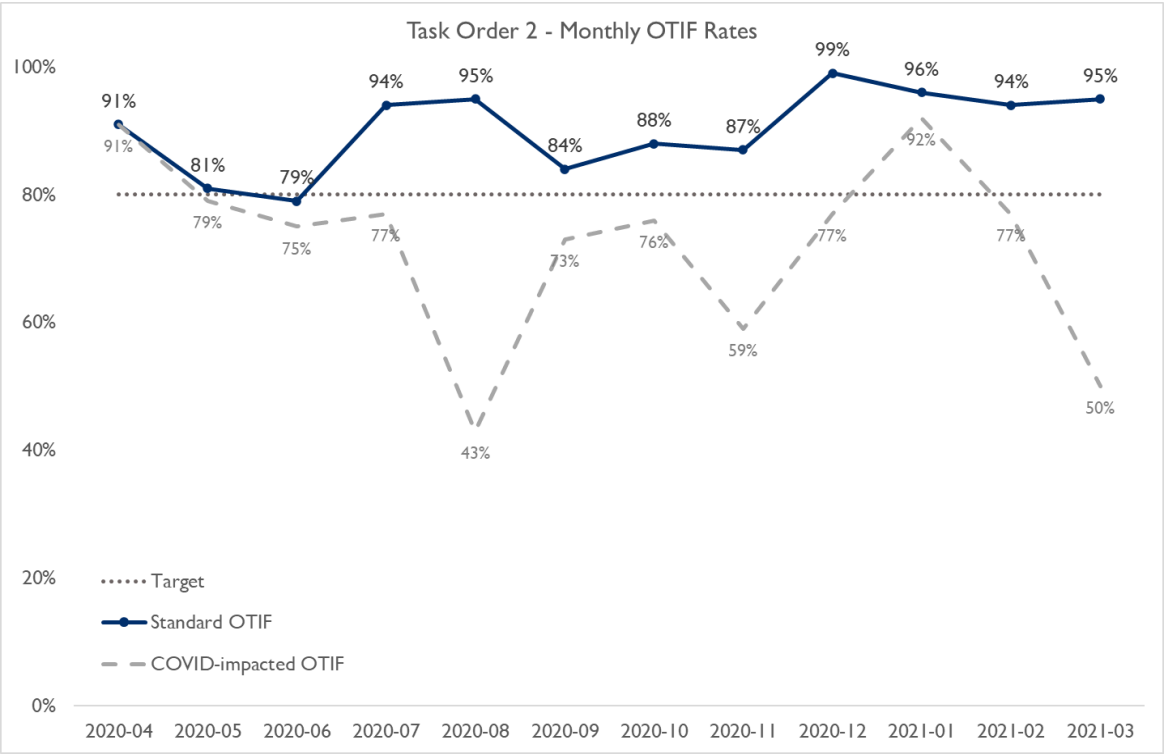


Exhibit 13. Malaria Commodities, OTIF



Global sourcing collaboration

GHSC-PSM participates in the Malaria Pharma Task Force, mRDT Task Force, and IRS/ITN Task Force and meets bi-monthly with UNICEF and the Global Fund to align priorities for strengthening supplier capacity and response. The monthly Global Donor TWG meets regularly to coordinate actions and resolve problems with suppliers who are unable to fulfill demands because of capacity constraints due to COVID-19. These task forces provide a valuable forum for information exchange on market risks and promote better collaboration across the global malaria community. They are supplemented by one-off working sessions and communications to discuss acute risks, issues, and opportunities (e.g., offering available stock to one another).

GHSC-PSM plays a leading role in the Malaria Pharma Task Force KSM/API working group, which increases visibility and identifies and mitigates risks related to the upstream supply chains of KSM and API for finished malaria pharmaceutical products. In Q2, the project took the lead to develop a tool for collective data capture and sharing and to liaise with stakeholders to drive analysis and investigation into specific drugs, molecules, and associated risks.

GHSC-PSM works with the Global Fund, UNICEF, and the Malaria Consortium to share demand information and to coordinate procurement planning for sulphadoxine-pyrimethamine + amodiaquine (SPAQ) for FY 2022 seasonal malaria chemoprevention (SMC) campaigns.

PROACTIVE PROCUREMENT STRATEGY FOR ARTESUNATE INJECTABLE AND ACTS

GHSC-PSM invests in and adapts the proactive procurement strategy for key malaria commodities. Since the onset of the COVID-19 pandemic, the project has executed several of these strategies, which are designed to move rapidly by leveraging a rotating emergency loan fund to secure large volumes of supplier capacity in markets where supply is particularly constrained. The project places orders based on data-driven demand signals, which enables it to secure production capacity far earlier in the ordering process—often well in advance of receiving actual orders. The intent of these proactive procurement strategies is to ensure access to supply of critical commodities when countries need them, to reduce fulfillment lead times, and to hedge against the considerable uncertainty and disruption in these markets. These strategies are enabled in part by a more robust use of demand data—derived from country supply plans and PPMRm—which the project translates into country stock risk dashboards that illustrate the timing and scope of upcoming stock risks. The strategies are designed in part to mitigate these future stock risks.

In Q2, the project converted IOs and contractual letters for the proactive procurement of ALu to purchase orders. GHSC-PSM executed a second round of proactive procurements for large volumes of artesunate injectable to fulfill most of the anticipated MOP22 demand.

QUALITY ASSURANCE

GHSC-PSM explores and acts on opportunities to enhance the quality of products procured on behalf of PMI and to ensure the safety and efficacy of these commodities. The project kicked off the discussion on the quality of LLINs and suppliers' quality management systems (QMS) with the Global Fund and UNICEF to improve quality and QMS for LLINs. The project completed an OOS investigation of a pharmaceutical product and responded to quality concerns of an OOS at an LLIN supplier.

Adjusted QA/QC protocols
The project implements modifications to the QA/QC protocols introduced as a result of COVID-19 and extended the protocol until July 2021. In Q2, the project began developing a broader, more permanent QA/QC strategy that will be the standard process going forward and that builds on the adjusted QA/QC protocol and lessons learned.

The adjusted QA/QC processes include modifications to product inspection, sampling, and testing based on an evaluation risk of the commodity type, the supplier's QMS, and the historical data that GHSC-PSM has for that particular product. These adjustments allow the project to monitor the quality of all products while focusing its resources and attention on higher risk products for quality issues. The process enables consignments deemed low risk to be shipped concurrently with testing, decreasing the overall lead time for delivering products to countries and to users.

Cost savings
In Q2 FY 2021, continued risk-based testing due to COVID-19, along with the adjusted QA/QC protocol, resulted in a cost savings of $322,017.24

Key performance indicators
GHSC-PSM reports on three key performance indicators for quality assurance:

- The project exceeded the 80 percent QA lead time target with a lead time of 89 percent in Q2.
- The percentage of batches of product showing non-conformity was 1.4 percent in Q2, for a target of less than 1 percent.
- The percentage of QA investigation reports submitted within 30 days of outcome determination was 100 percent in Q2, exceeding the 90 percent target.

PROMOTING SUPPLY CHAIN HEALTH

GHSC-PSM uses a network of third-party testing laboratories. In Q1 FY 2021, the project issued a tender to existing and new testing laboratories to align pricing with current market conditions, expand available testing capacity, and potentially shorten lead times. In Q2 FY 2021, GHSC-PSM completed quality assessments of the respondents to the RFP for LLIN and pharmaceutical testing laboratories. Upon completion of the RFP process, contracts with new labs will expand the project's pool of qualified laboratories. The project increased testing options by completing method transfers (a process for validating third-party laboratories' ability to perform a supplier's in-house test method) at two secondary labs for pharmaceutical products.

GHSC-PSM responded to a request from PMI to create a flow chart for communicating testing delays. The project created a chart of the project's current protocol for communicating delays to the PMI QA counterpart, for review by April 2021.

Investigating Out-of-specification (OOS) incidents
The project used OOS incidents as opportunities to enhance the project's own QMS and to assist suppliers in implementing more robust QMS. In Q2 FY 2021, the project investigated two OOS occurrences:

- Assay results of pyrimethamine for a batch of SPAQ: After rejecting the batch, the project supported the supplier with their corrective action/preventive action (CAPA) investigation by discussing additional studies for phase III investigation and providing the supplier with samples for testing. The goal of the CAPA investigation is to determine the root cause of the OOS and implement measures to create a more robust QMS and prevent future OOS occurrences.
- The project reviewed the Global Fund's OIG report on an LLIN manufacturer. Based on the report, the project presented the details of the OOS investigation to PMI, including corrective and preventative actions instituted by the project, and provided a comparison of GHSC-PSM versus Global Fund approaches to QC processes for LLINs.

GHSC-PSM responded to a notice of possible quality issues at another LLIN suppliers that was designated to produce about 30 percent of the single pyrethroid LLINs procured by the project. Procurement was paused while the project engaged with the supplier to fully understand the scope of the quality issues, the root cause, and the potential impact on the project. GHSC-PSM reviewed the supplier's QMS and discussed improvements. The recommendations were well received by the supplier.

Quality in LLINs

GHSC-PSM's LLIN sourcing governance board (SGB) works to elevate the LLIN market, including developing allocation strategies and improving the quality of LLINs with LLIN suppliers (see Collaboration on next page for more detail).

The project is issuing a tender for LLINs that includes questions regarding manufacturers' QMS in the RFP and will engage the SGB in scoring and weighting responses with the goal of having the ratings contribute to the project's LLIN allocation strategy.

Quality in mRDTs

At the request of PMI, GHSC-PSM managed the inspection, sampling, and testing process for a new G6PD RDT that the project is procuring for a country-based study. This process required GHSC-PSM to engage with a new laboratory and help determine the appropriate testing scheme for the RDTs.

The project also received notice of a change in the testing scheme at the RITM laboratory, which is used exclusively for malaria RDTs. The change aimed to reduce the volume of testing performed by the RITM lab. The project quickly reviewed the revised testing scheme from RITM and assessed its potential impact on the project, particularly in the context of the adjusted QA/QC protocol. The project determined that the revised testing scheme at RITM would not adversely impact GHSC-PSM and that it would complement the randomization of RDT testing.

Strategies and innovations

Faced with an expected delay in receiving the placebo needed to test artemether/lumefantrine (ALu) dispersible tablets, GHSC-PSM proactively proposed to PMI that the project reprioritize and reorder laboratory testing on other products tested at the same laboratory to mitigate the impact of the ALu testing delays on those products and on country stock levels.

Collaboration

In Q2, the project initiated a monthly QA for LLINs meeting with the Global Fund and UNICEF to

gather information and brainstorm processes for enhancing manufacturers' QMS for LLINs to improve overall LLIN quality.

The project and the Global Fund also continued holding existing monthly QA/QC collaboration meetings in Q2, with WHO PQ as an optional attendee. PMI and the Global Fund engage the same manufacturers, use the same WHO guidance, and often experience similar supplier challenges. Representatives from both teams discussed QA/QC activities to mitigate COVID-19 restrictions, OOS investigations, and other shared experiences.

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

In Q2, GHSC-PSM continued to see a positive trend in compliance of in-scope malaria suppliers with identification, barcoding, and data-sharing requirements of products procured. These requirements involve a phased implementation grounded in GS1 Healthcare Standards, with the objective of creating an enabling environment for data exchange and visibility. Q2 highlights and milestones associated with these are included in Section C.

PRIORITIZING AND TRANSFERRING ORDERS

In Q2, to address country needs and market constraints, GHSC-PSM worked closely with USAID to prioritize orders based on need and conducted commodity order transfers to improve stock status. Below are examples of how the project continued these strategies in Q2 to ensure that countries needing products could avoid a stockout.

Due to changes in Kenya consignee and import requirements, GHSC-PSM delayed shipping an order of mRDTs in Q1 FY 2021. In March 2021, the project identified an urgent need for mRDTs in Senegal. GHSC-PSM worked with the supplier and country offices to obtain approvals and redirected the order of 1,563,125 mRDTs destined for Kenya to Senegal to address the stockout risk. The shipment is pending waiver and expected to arrive in Senegal in Q3.

In Q1, GHSC-PSM delayed a shipment of ALu due to the same circumstances in Kenya. In Q2, the project requested that the supplier transfer the production slot to advance a Malawi order for the same presentation and label requirements. This allowed Malawi to receive a portion of its consignment early. The GAD for Kenya's shipment was moved to June 2021.

STOCKOUT REDUCTION INITIATIVE

Despite the positive impact of PMI's 15 years of supply chain investments, stockout performance for several countries has not consistently improved over time. Many PMI countries have frequent stockouts of malaria commodities at SDPs. For example, across PMI-supported countries for which data are available, stockout rates of ACTs average roughly 22 percent. To address this gap, in FY 2020, PMI launched an initiative to optimize its investments with the goal of significantly reducing stockout rates at SDPs across all supported countries over the next two to three years.

Determining what combination of PMI supply chain investments will achieve and maintain large reductions in stockout rates at SDPs, requires each country to create a set of activities tailored to the local context that addresses the key barriers and risks to consistent supply chain performance.

In support of this initiative, GHSC-PSM is rolling out a set of activities that addresses two components: first, identifying the most critical barriers and risks to consistent stock performance that are already known by country teams; and second, building toward development of a comprehensive two-year PMI supply chain investment plan.

Following the pilot of the Stockout Reduction Initiative Playbook in Cameroon and Liberia in Q1 FY 2021, in Q2 GHSC-PSM began stage one of the playbook rollout to the 19 remaining PMI-supported countries.[10] The objective of stage one was to justify the major activities included in MOP FY 2022. The project focused on a subset of playbook modules to inform investment recommendations, including:

- Identify and plan engagement with relevant stakeholders
- Calculate baseline stockout rates and set stockout reduction targets
- Diagnose and prioritize root causes preventing stockout reduction
- Prioritize solutions
- Develop detailed investment plans
- Identify potential risks and interdependencies that need to be addressed before and/or during implementation

The project guided the countries through the above steps and provided them with tools to collect and calculate the baseline stockout rates and to prioritize solutions. All 21 PMI-supported countries developed draft investment plans that the Missions and PMI/HQ are reviewing. In May 2021, GHSC-PSM will begin stage two of the playbook rollout, which includes refining investment plans and developing deliverables, mainly focused on budget and performance management.

LLIN DISTRIBUTION SUPPORT

Many countries deliver LLINs for routine distribution. Other countries planned, launched, or continued large-scale LLIN distribution campaigns as a key malaria prevention strategy. These massive initiatives ensure beneficiaries receive the nets they need, particularly in high-impact areas. While the actual distributions are just a few weeks, logistics, supply planning, procurement, and prepositioning the nets can take months.

GHSC-PSM supported LLIN distribution activities, including:

Burundi. GHSC-PSM, through its partner PSI, supported the NMCP to conduct supportive supervision to monitor implementation of the national strategy for continuous LLIN distribution in 27 health districts and 54 health centers. The objectives of the supervision visits were to verify LLIN coverage for targeted populations, verify the functionality of the LLIN distribution channels (e.g., ANC clinics), ensure the correct use of management tools, and verify LLIN stock status in health districts and health facilities.

[10] Angola, Burkina Faso, Burma, Burundi, Cambodia, Ethiopia, Ghana, Guinea, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Sierra Leone, Thailand, Uganda, Zambia, Zimbabwe

The project accompanied NMCP staff to conduct the visits to districts and health facilities, which revealed key strengths, including that most of the visited health centers distribute LLINs in accordance with the national strategy and that management tools were available and used correctly in most of the visited health districts and health centers. The project observed weaknesses, including incomplete or non-existent distribution registers in some health centers; some districts were delayed in data reporting, including updates to average monthly distribution (AMD) data. The supervision team provided on-the-job training, including the following recommendations: health centers should immediately set up and use the LLIN distribution register; malaria focal points should develop a reporting schedule and share it with all health centers; district pharmacy managers and heads of health centers should update the AMD every six months.

Ethiopia. The project provided technical assistance to the NMCP to strengthen oversight of LLIN mass distribution campaign activities, including technical, logistics, and communication before the campaign. In Q2, the project conducted the following activities:

- Refined and completed LLIN distribution microplanning exercises and facilitated discussions with the regional health bureaus to agree on the new malaria risk area stratification according to the new National Malaria Strategic Plan (2021–2025).
- Oriented 57 regional and zonal-level malaria and logistics managers from seven regions, and 615 *woreda*-level staff in Diredawa and Harari regions on campaign implementation activities, including distribution microplanning, campaign actor training, logistics, and tracking.
- Initiated the mass distribution campaign in two regions (Diredawa and Harari). At the end of Q2, 249,090 LLINs were distributed, benefiting approximately half a million people living in malaria risk areas.
- Distributed the remainder of the LLINs in five districts in Oromia region that had been delayed due to security challenges in Q1 (part of the 359,319 LLINs). The project distributed 242,865 LLINs to 104,283 households.

Nigeria. GHSC-PSM supports microplanning for the LLIN mass distribution campaign across the 11 PMI focus states. In Q2, the project worked with the governments of Sokoto, Kebbi, and Nasarawa States on micro planning exercises for the LLIN mass replacement campaign. The activity was a preparatory exercise for distributing LLINs to approximately 15 million people in the three states. The project trained 57 state facilitators on micro-planning data collection and storage assessment for state and LGA warehouses. Also, 5,000,033 LLINs were received for the Oyo LLIN campaign. The project will support Oyo State's LLIN mass replacement campaign in Q3, following PMI guidance and the state's readiness.

The Emir of Gwandu in Kebbi State, Alhaji Dr. Mohammed Illiyasu Bashar, speaks to his emirate council on about supporting the 2021 LLIN mass distribution campaign. Photo credit: GHSC-PSM

Exhibit 14. Many countries also supported LLIN distribution. Examples include:

Countries	Number of LLINs	Type of Distribution
Angola	600,000	Continuous distribution
Burundi	125,350	Continuous distribution
Ethiopia	608,409	Mass distribution campaign
Guinea	46,892	Continuous distribution
Zimbabwe	75,200	Continuous distribution
Total	**1,455,851**	

These LLINs are enough to protect more than 2.9 million people.

COUNTRY SUPPORT

GHSC-PSM provided supply chain systems strengthening support for malaria medicines and commodities in 22 countries in Q2 FY 2021.[11] Activities in Q2 included:

Burkina Faso. The project provided technical and financial support to the MOH to conduct the first round of the FY 2021 EUV activities to assess malaria commodity availability and use at the health facility. GHSC-PSM visited 110 sites (75 health facilities, 26 district stores, and nine CAMEG regional agencies) for data collection from March 1 to 14, 2021, and completed the data analysis from March 18 to 23, 2021, in collaboration with the NMCP and Family Health Directorate. From the preliminary results, key findings included no stockouts of RDTs on the day of the visit at the health facility or district store level; most health facilities (98.9 percent) had at least one ALu presentation on the day of the visit, and 93 percent of malaria cases had been confirmed by mRDT, thanks in part to high availability of mRDTs (92 percent) at the health facilities, as well as health providers' adherence to national guidelines for malaria case management. However, more than 64 percent of health facilities experienced a stock-out of SP on the day of the visit. This situation was caused by a delay in receiving government-funded orders: out of 3,869,700 doses expected in September 2020, only 131,900 doses were delivered to

[11] GHSC-PSM provides technical assistance to countries with malaria funding: Angola, Burkina Faso, Burma, Burundi, Cambodia, Cameroon, Ethiopia, Ghana, Guinea, Laos, Liberia, Malawi, Mali, Mozambique, Niger, Nigeria, Rwanda, Sierra Leone, Thailand, Uganda, Zambia, and Zimbabwe.

CAMEG in October 2020. Fortunately, one million doses were delivered to CAMEG in late Q2 and CAMEG started distribution to health facilities in March 2021.

Cameroon. In January 2021, GHSC-PSM held a quantification workshop to support the Ministry of Health's NMCP and Directorate of Pharmacy, Medicines and Laboratories (DPML) in conducting a multi-year forecast of malaria commodity requirements, and developing an 18-month supply plan for malaria commodities. The project supported logistics, financing, and facilitation for the workshop, including providing technical support in conducting the Regional Fund for Health Promotion (RFHP) and CENAME stock status report analyses, analyzing past SDP consumption, updating and analyzing supply plan data and actual consumption data in PipeLine, and forecasting consumption based on quantification reports, among other activities. Twenty-two participants from local and international stakeholders discussed strategies to address critical issues, including the inappropriate use of injectables and incomplete consumption data in the reporting system. Participants agreed on frequency and timing for upcoming quarterly reviews, supply plan updates, and monthly stock monitoring to better institutionalize forecasting and supply planning within the DPML/NMCP. They further updated inventory control parameters for PMI-supported regional warehouses.

Guinea. In January 2021, participants in the regional thematic group (GTRGAS) meeting in Labe district noticed that health facilities had placed orders for antimalarial products for Q1 FY 2021 despite knowing that there was stock available for redistribution between facilities. To avoid overstocks and to prevent stock-outs and expiry of large quantities of products in certain health facilities, the regional and district health authorities decided to conduct a physical inventory of antimalarial products in all district health facilities, followed by stock redistribution as needed. GHSC-PSM supported all health facility managers in conducting a comprehensive inventory and in correcting the data in the LMIS.

The project facilitated use of the inventory results to inform redistribution of 11,362 blisters of ACTs, 65,613 SP tablets, 11,523 quinine 300mg tablets, 3,797 bottles of artesunate 60mg, and 7,713 mRDTs. This inventory provided an opportunity to confirm what products were available and in which locations and whether the logistics management system was functioning accurately. Benefits of the exercise included access to validated consumption data (five months) at health centers, balanced stock at all district health facilities, tracking of complementary products by the *Pharmacie Centrale de la Guinée* (PCG), and involvement of health facility management committees (COSAH) in managing antimalarial products at the local level.

B3. FAMILY PLANNING AND REPRODUCTIVE HEALTH

To date, the GHSC-PSM project has delivered enough contraceptives that, when combined with proper counseling and correct use, are estimated to provide **81 million couple-years of protection**, including **6.7 million in Q2 FY 2021.**

Procured FP/RH commodities for 20 countries[12] and provided **health supply-chain systems-strengthening support** to **23 countries** with FP/RH funding.

Continued to successfully fulfill USAID-supported countries' orders in a timely manner, **achieving 97 percent (88 percent COVID-impacted) OTD** in Q2.

Launched the new "Harmonized CS Indicators Dataset, 2010–2019," which consolidates eight rounds of CS surveys into a single dataset.

In Q2, GHSC-PSM launched the first in a two-part video series that explains the newly developed Active Site business rule for more accurate measurement of stockouts and how to apply it.

GHSC-PSM supported onboarding 25 countries to the Global Family Planning Visibility and Analytics Network (GFPVAN) basic country viewer roles as part of the transition from the Procurement Planning Monitoring Report (PPMR). Users include members of ministries of health, USAID Mission staff, UNFPA staff, and implementing partners.

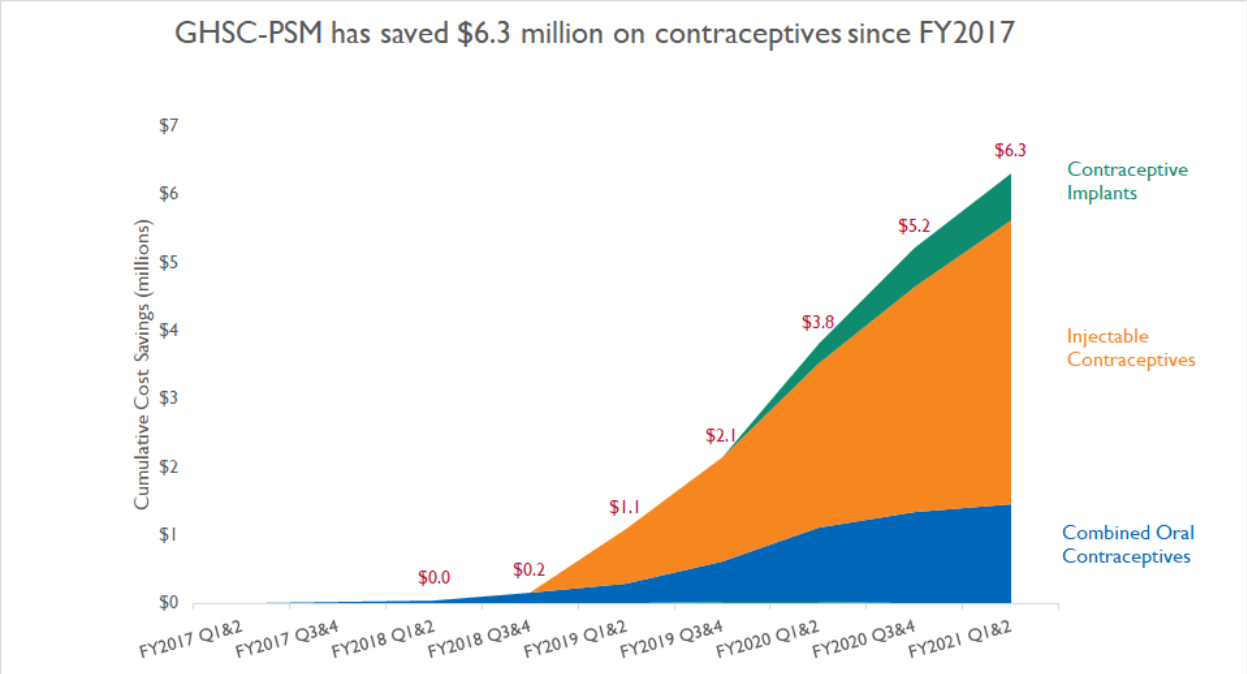
In Q2, GHSC-PSM finalized and published several important pieces of work, including the field guide and the accompanying two pagers for Recovery Strategies for Public Health Supply Chains Post-Black Swan Event; an informative video and fact sheet on the National Product Catalog (NPC) and an article on the Supply Chain Information Systems Maturity Model (SCISMM).

The FP/RH task order serves as the primary vehicle through which USAID procures and provides FP/RH commodities for its voluntary FP 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.

[12] Per USAID guidance, all condom procurements are counted under the HIV/AIDS task order.

COST-SAVINGS ON CONTRACEPTIVES

Exhibit 15: Cost-savings on contraceptives LOP



GHSC-PSM's strategic sourcing activities generate significant cost savings for USAID by diversifying the supply base, adding generic products to historically constrained and non-competitive markets and negotiating new supply contracts. The project has saved $6.3 million on combined oral contraceptives, injectable contraceptives, copper-bearing intrauterine devices (IUDs), and implants over the life of the project. These savings represent about 5.5 percent of the procurement value of these key commodities over the life of the project, and about 3.6 percent of contraceptive spending overall, which are significant outcomes in these constrained markets.

ADDRESSING FP/RH PRIORITIES

GHSC-PSM addressed USAID's FP/RH priorities by managing and continuously improving its global supply operations, partnering with countries to build self-reliant supply chains, and leading with knowledge and evidence. In Q2, COVID-19 restrictions continued to prevent project staff from traveling to or joining in-person workshops to support activity implementation. Despite this challenge, GHSC-PSM worked with activity leads and country offices through virtual workshops or other approaches to ensure program continuity where possible.

COMMODITY SOURCING AND PROCUREMENT

Securing reliable supply and maintaining high on-time performance

In Q2, GHSC-PSM ensured a continuous and reliable supply of commodities to various countries despite the COVID-19 pandemic and persistent and severe global supply shortages of injectable and implantable contraceptives. Due to regulatory updates still outstanding, the supply and distribution of one DMPA-IM

product has been slower than planned in Q2. The impact of the pandemic on logistics continues, including a lower level of global shipping capabilities, continuous difficulty in confirming booking and moving cargo, a global container shortage, and decreased availability of air freight capacity.

Commodities Procured for FP/RH Programs

- Consumable kits for implants
- Contraceptive implants
- Cyclebeads®
- Injectables
- Intrauterine devices
- Oral contraceptive pills

Timeliness of GHSC-PSM deliveries remains strong for standard OTD over the reporting period for FP/RH commodities at 97 percent (88 percent COVID-impacted). OTIF numbers remain high at 93 percent (86 percent COVID-impacted). At the end of Q2 FY 2020, the number of COVID-impacted orders started to increase significantly and, as predicted in previous reports, continued to adversely affect OTD performance throughout the past year. Although the high degree of uncertainty and volatility in global supply chains caused by the pandemic has since lessened, COVID affected orders to a greater or lesser extent in Q2 FY 2021. This impact is expected to continue through Q3 and Q4.

Exhibit 16. FP/RH commodities, OTD

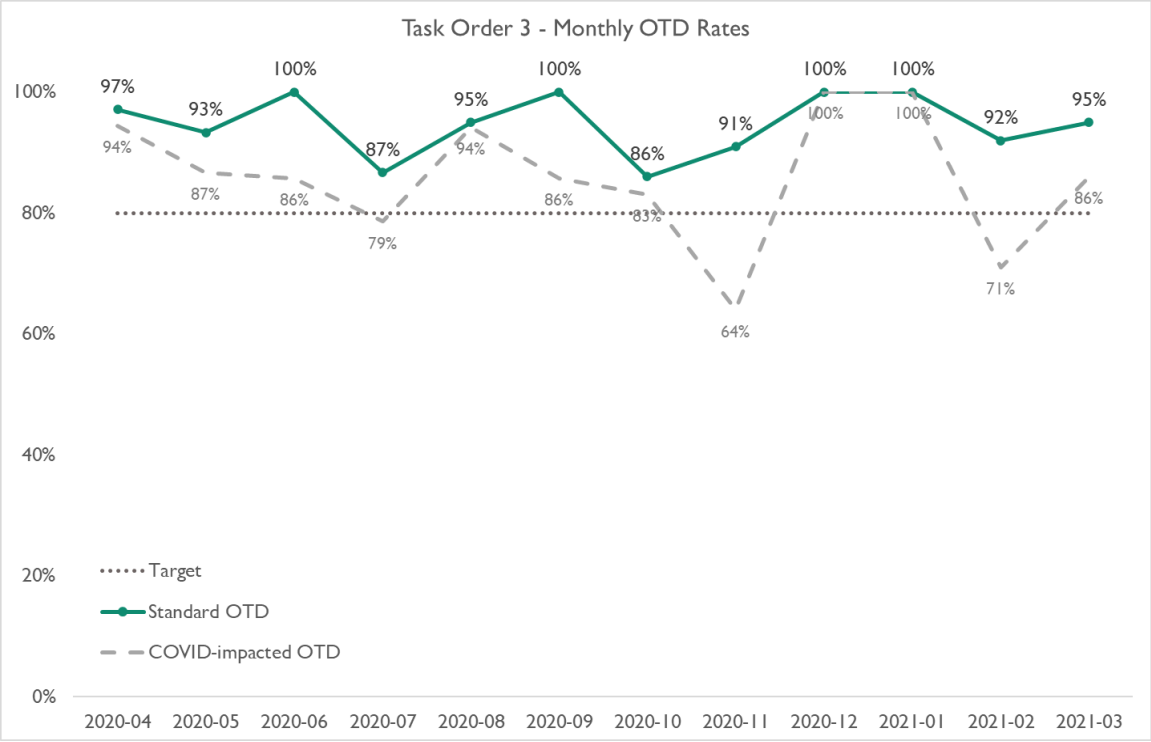
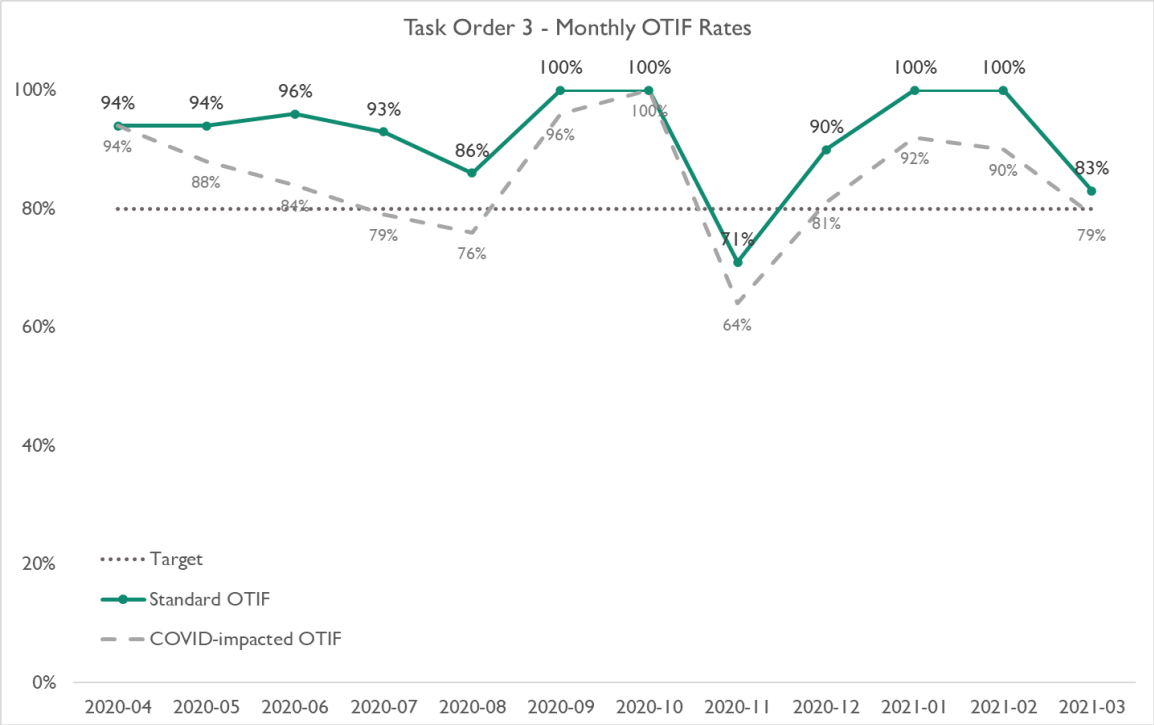


Exhibit 17. FP/RH commodities, OTIF



LTAs to drive the long-term strategy for the supply of FP/RH commodities

GHSC-PSM completed modifications of existing LTAs across product categories to extend the period of performance of all FP/RH long-term agreements through November 2023. The aim was to secure product pricing and ensure a strong contractual framework for the supply of all FP/RH commodities through the end of the project.

Pathways to increasing access to hormonal intrauterine devices

GHSC-PSM executed LTAs with two hormonal intrauterine device (IUD) suppliers in Q2. The project anticipates introducing hormonal IUD into the USAID Product Catalog for the first time in Q3. The Hormonal IUD Access Group, a consortium of governments, donors, manufacturers, procurement agencies, researchers, and service delivery groups, is supporting introduction of the hormonal IUD globally. GHSC-PSM along with the Hormonal IUD Access Group is taking a comprehensive approach to introduction and scale-up by: 1) ensuring availability of affordable, quality-assured products to facilitate sustainable markets; and 2) supporting countries that are ready and willing to introduce and scale up the method through a phased approach.

Countries that are currently planning to introduce the hormonal IUD are considered to be in Phase I. These countries have indicated strong government interest in adding the hormonal IUD to their method mix, have quality-assured product(s) registered or registrations are in progress, have articulated provider readiness to provide the method, and have begun development of plans for public sector introduction.

Social marketing engagement activities

In Q2, GHSC-PSM updated the social marketing organization (SMO) procurement database to include SM contraceptives delivered in Calendar Year 2020. This alongside routine updates to the project's SMO landscape and SMO needs analysis provide visibility critical to inform the demand and supply planning, dealing with unique SM requirements and managing global supply trends that affect SM activities. In March 2021, GHSC-PSM, in collaboration with the consensus planning group (CPG), facilitated a transfer of DMPA-SC from SMOs in Senegal to Bangladesh to relieve a projected product overstock. The project is conducting further outreach to better understand the causes of the overstock and any associated trends in demand. GHSC-PSM monitors the continuity of SM activities and provides SMOs with relevant information on global supply and product trends that could affect programming. This quarter, SMOs were notified of USAID's decision to discontinue the procurement of oral contraceptives with Iron (Fe) placebo and switch to sugar placebo products. GHSC-PSM began supporting SMOs through a gradual transition. This included ensuring SMOs have adequate Fe stock while addressing the regulatory implications of the product switch on their SM brand and assessing their capacity to meet supplier requirements for authorizations of the sugar placebo product as well as authorization to overbrand the product.

Packaging rationalization and stakeholder engagement

GHSC-PSM coordinates with UNFPA to operationalize recommendations for harmonization and optimization of packaging of key FP products. In coordination with UNFPA, GHSC-PSM developed and finalized a joint green packaging scope of work exploring opportunities for greener, more environmentally friendly packaging. A green packaging consultant will explore the scope of work as well as develop and prioritize recommendations for greener packaging of key FP products by the end of Q4.

Landscape survey of local manufacturers' capacity to produce modern contraceptives

In Q2, GHSC-PSM contracted IQVIA to conduct a landscape survey of local capacity to manufacture oral contraceptives and DMPA-IM in sub-Saharan Africa. The scope of work includes developing a preliminary business case for local manufacturing of DMPA-IM, combined oral contraceptives, and emergency oral contraceptives. The business case will consider the size of the investment required to build a standalone hormonal manufacturing factory, the cost of goods sold, operating costs, and profit. The project will interview manufacturers in Ethiopia and Kenya that have acquired World Health Organization (WHO) prequalification status for oral or parenteral formulations of pharmaceutical products, and are exporting products to countries with SRAs to discuss feasibility of local manufacturing.

DISCUSSION OF GEL OPTIONS FOR DIAPHRAGM USE

In Q2, GHSC-PSM participated in a facilitated discussion with stakeholders from USAID, CONRAD, FHI 360, and EECO to discuss potential opportunities and challenges related to procurement of the Caya Diaphragm and inform USAID's decision-making to scale up the commodity and its potential introduction into the USAID Product Catalog in the future.

COLLABORATION WITH GLOBAL STAKEHOLDERS

The project builds global partners' awareness of and support for the U.S. Government's FP/RH priorities and programs and supports USAID's leadership in contraceptive security through the following activities.

Not without FP
In Q2, a number of GHSC-PSM project staff attended the virtual Not Without FP Forum. The event's theme was FP, COVID-19, and universal health coverage. Participants discussed topics such as resilience and equity. The event launched the FP2030 initiative as a follow-on to the work of FP2020. The project met with representatives from FP2030 subsequent to the event to understand how to support the new initiative's goals. Information was shared with country office staff to ensure they are equipped to support the efforts of FP2030 scheduled to take place in several countries over the next 1–2 years.

FY22 core work planning workshop for enabling environment and workforce development
GHSC-PSM participated in a cooperating agency meeting on the enabling environment and workforce development technical priority areas. The discussions during this half-day workshop and follow-on meetings served as a space for dialogue and co-creation as partners brainstormed ideas for activities to include in the FY 2022 core work plan for these areas. Participants discussed ideas and submitted them to USAID for consideration at the end of Q2.

Tracking contraceptive security
GHSC-PSM disseminated results of the 2019 Contraceptive Security Indicators (CSI) survey online, including two Not Without FP Forum blog posts. The project collaborated with the ForoLAC group of the RHSC to report 2019 CSI data from seven countries: Argentina, Bolivia, Chile, Ecuador, Mexico, Nicaragua, and Paraguay. The project will post the data in Q3 to the CSI dashboard and landing page. The project began preparations for 2021 survey data collection, scheduled to begin in Q3. Survey results enable decision-makers in countries and the global health community to monitor contraceptive security progress and inform policies, program planning, and advocacy for increased resources.

In addition, GHSC-PSM launched the new "Harmonized CS Indicators Dataset, 2010–2019", which consolidates eight rounds of CS surveys into a single dataset. This dataset includes 238 raw, re-coded, harmonized, and transformed variables across 335 country-years. It is supplemented with supporting documentation (e.g., coding sheets, harmonization, and transformation rules, cleaning log) and mergeable context and output data. The goal is to encourage widespread use of the data among the broader research community by facilitating cross-national and longitudinal analysis of key CS indicators.

Enhancing data quality for the stock-out indicator
A constant challenge in calculating health facility stock-out rates is the interpretation of whether a facility is actively offering a product and tracking those facilities over time. To address this challenge, GHSC-PSM and USAID developed the Active Site Rule. This business rule uses available logistics data to better understand the stock status of FP methods at health facilities. An "active site" for an FP method is defined as a health facility that has had the method in stock, issued it to clients, or ordered it at any point in the previous 12 consecutive months. Facilities deemed inactive for the FP method are removed from the stock-out rate calculation for that method and for that reporting period—whether for the average stock-out rate indicator for USAID's annual Performance Plan and Report or for quarterly or monthly stock-out reporting. In Q2, GHSC-PSM launched the first in a two-part video series explaining the business rule and how to apply it. The second part will launch in Q3.

Enhancing visibility of FP supplies data
GHSC-PSM serves as a key contributor in supporting strategic development and scale up of the GFPVAN platform and processes. The GFPVAN is the reproductive health community's pioneering undertaking to increase supply chain visibility and improve collaboration across stakeholders. In Q2,

GHSC-PSM focused on enabling the project to realize the benefits of the tool by supporting and onboarding users.

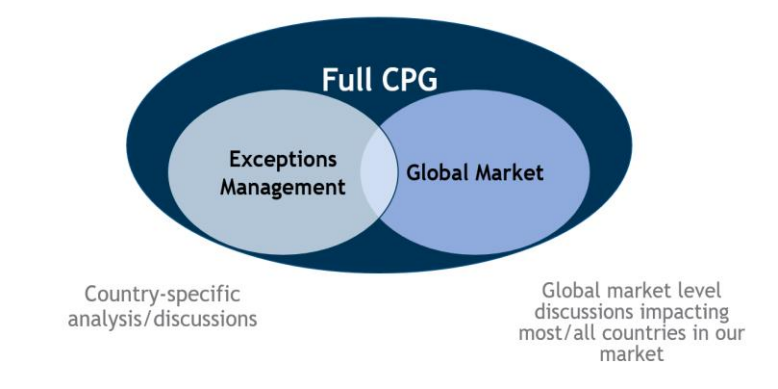
Specifically, GHSC-PSM staff:

- Onboarded 25 countries to the GFPVAN basic country viewer roles as part of the transition from PPMR. Users include members of Ministries of Health, USAID Mission staff, UNFPA staff, and implementing partners. The onboarding was the result of a coordinated effort to evangelize GFPVAN through webinars and inter-donor collaboration.

Scaling Participation in the Consensus Planning Group

This is enough GHSC-PSM participates in the Consensus Planning Group (CPG), a cross-organizational group working to prevent countries from ending up with too many or too few supplies to meet contraceptive needs. The CPG improves global coordination between key institutional procurers of FP commodities for the public sector and supply chain partners. It does so by sharing country-level data and global sources that make it possible to coordinate shipments and allocate resources appropriately within and among countries.

The CPG has four workstreams, and GHSC-PSM's involvement in the CPG is through the CPG Exceptions Management, the CPG Global Market, the full CPG, and the Control Tower Business Process Improvement workstreams.



The CPG Exceptions Management workstream focuses on discussing and resolving action request tickets created in GFPVAN (i.e., actions recommended to avert stock imbalances and make the most of available resources) and discuss identified procurement funding gaps for specific countries and strategies to mobilize resources.

The CPG Global Market workstream focuses on prioritizing constrained products within available supply and reviewing and discussing market demand forecasts (limited to contraceptive implants for now).

The Full CPG workstream focuses on discussing cross-cutting issues across sub-groups to ensure members of both groups are kept up to date on key outputs of each group.

Underneath the CPG is the Control Tower Business Process Improvement workstream focused on discussing the status of GFPVAN implementation for hybrid and CPL (Country Program Liaison) countries. It proposes business process changes to improve CPG workflow, proposes GFPVAN platform enhancements, and streamlines data sources for the CPG.

- Supported the translation of GFPVAN modules into French in advance of onboarding Francophone countries.
- Collected, reviewed, and transmitted 37 inventory reports into GFPVAN, including from SMOs.
- Trained five new GHSC-PSM headquarters users of GFPVAN, including procurement, financial, monitoring and evaluation, and non-field office team members.
- Engaged in strategic meetings with RHSC on improving and measuring user engagement, including providing feedback on new user roles as they relate to access and security.

NATIONAL PRODUCT CATALOG

NPC helps manage standardized GS1-based product master data, a critical step in adopting GS1 standards and in implementing traceability. GHSC-PSM provided technical support to Malawi and Rwanda to implement the NPC system in 2020. The project aims to roll out the NPC app in both countries in Q3. GHSC-PSM provided subject matter expertise to the Ethiopia team's NPC implementation in Q1. This included coordinating the collection of standardized data and establishing SOPs to manage that data. All of these countries now have over 200 GTINs. As part of this effort, John Snow, Inc., with funding from USAID, developed and introduced a mobile app that helps users to scan standardized barcodes and pull data from the NPC. GHSC-PSM helped draft policy guidelines around product master data and established a critical role, Catalog Manager, within the regulatory body, to coordinate and manage data for NPC. The GHSC-PSM Knowledge Management and Communications team published a video and fact sheet this quarter on NPC.

SUPPLY CHAIN INFORMATION SYSTEMS MATURITY MODEL (SCISMM)

GHSC-PSM collaborates with organizations such as WHO, UNFPA, MEASURE Evaluation project, and PATH through Digital Health and Interoperability working groups to disseminate and collect feedback about SCISMM in 2020. GHSC-PSM revised SCISMM based on the feedback received from this collaboration and published version 2.0 of SCISMM in Q2. The project also published an article about SCISMM on Digital Square. SCISMM helps countries to analyze their supply chain systems holistically and plan their supply chain information system investments, enabling coordinated and informed decision making by governments, donors, and implementing partners.

UPDATE ON PUBLIC HEALTH SUPPLY CHAINS POST-BLACK SWAN EVENT ACTIVITY

In Q2, GHSC-PSM finalized and published the field guide and accompanying two-pager in English, French, Portuguese, and Spanish for Recovery Strategies for Public Health Supply Chains Post-Black Swan Event. The guide discusses the impact and the subsequent recovery efforts of three types of supply chain shocks:

1. Demand shocks
2. Supply shocks
3. When supply chains simultaneously experience both supply and demand shocks

Recovery efforts underscore the importance of supply chain planners coordinating with open communication across the supply chain and having the willingness and ability to methodically revisit and reassess recovery strategies and make any necessary adjustments to build resilient supply chains.

LAST-MILE DYNAMIC ROUTING

In FY 2020, GHSC-PSM created a dynamic routing tool to enable distribution managers to plan distribution based on actual orders in the system. This was in response to an expressed need by countries for a decision-support tool to reduce reliance on "fixed routes" that limit the ability of transportation teams to respond to missing, late, or emergency orders, and can result in low utilization of transportation resources. In FY 2021, GHSC-PSM has been working with country teams in Cameroon and Zambia to implement this tool. Both countries have different use cases and country context that have driven different approaches to how the tool is implemented. In Q2, from Cameroon the country team worked with partners on how to best integrate the tool within Cameroon's existing distribution process. In Zambia, the team worked closely with the Zambia Medicines and Medical Supplies Agency on how to use and integrate the tool with the agency's distribution processes and partnership with 3PLs.

Drugs out of Range (DOOR) The Drugs out of Range (DOOR) system pilot activity is a novel intervention designed to increase visibility into the supply chain and ultimately reduce the incidence of stockouts. The activity installed Wi-Fi enabled Internet of Things (IoT) buttons into public-sector health service delivery points (SDPs) in Angola which were used to alert key stakeholders in the supply chain of stockouts, or low stock situations. In Q2, an evaluation of the pilot was completed which assessed the effectiveness, viability, and acceptability of this novel intervention. The results and insights are now being captured in a final report to be completed and submitted in FY21 Q3.

COUNTRY SUPPORT

Below are examples of the technical assistance that GHSC-PSM provided to strengthen in-country[13] supply chains for FP/RH commodities this reporting period.

Burkina Faso

From January 9 to 19, GHSC-PSM in Burkina Faso supported annual physical inventory in 70 health districts, 15 university teaching hospitals, and 39 local NGOs and associations. The inventory's objective was to improve monitoring of priority health products to better inform commodity supply plans.

The inventory for FP products showed low stocks of Microgynon, Sayana Press, and Jadelle. More than half of the facilities visited lacked adherence to proper storage guidelines, such as the principle of first expired, first out and proper labeling. There were also insufficient pallets and the presence of insects, rodents, and dust.

Data from this physical inventory were used to improve the February 2021 supply plan review and inform storage practices.

[13] GHSC-PSM procured FP/RH commodities for the following countries: AFRICA: Angola, Burkina Faso, Burundi, DRC, Ethiopia, Ghana, Guinea, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Uganda, Zambia; LAC: Haiti; ASIA: Nepal. The countries for which GHSC-PSM provides technical assistance with FP/RH funding are: AFRICA: Angola, Burkina Faso, Burundi, Ethiopia, Ghana, Guinea, Liberia, Malawi, Mali, Mozambique, Nigeria, Rwanda, South Sudan, Uganda, Zambia; LAC: El Salvador, Republic of Guatemala, Haiti, Republic of Honduras, Nicaragua, Panama; ASIA/NEAR EAST: Nepal, Pakistan.

Also in Burkina Faso, to support the decentralization of GHSC-PSM logistics technical assistance initiative in FY 2021, the project hired an FP/MNCH regional logistics advisor in each of the Center-East, Center-West, and South-West regions. Starting this quarter, the advisors began orientation of the district store managers to conduct monthly supportive supervision visits to the health facilities and improve commodity management and stock availability.

Nigeria

Filling gaps in Plateau State

In Q4 2020, the five-year USAID SHOPS-PLUS project in Nigeria's Plateau State ended, leaving gaps in accessing FP commodities and services in the previously supported sites.

To help close these gaps, GHSC-PSM provided technical assistance to build the capacity of the Plateau State Logistics Management Coordination Unit (LMCU) in preparing proof of delivery, conducting pick and pack, generating last-mile delivery (LMD) orders, and preparing a plan for commodity distribution to health facilities.

The acquired skills equipped the state to conduct FP LMD. Now the state LMCU collects LMIS data; generates LMD orders; prepares requisition, issue, and receipt vouchers, and pick and pack; and distributes FP commodities. The state has successfully completed and fully funded two cycles without partner support.

Orienting FP coordinators on logistics management

For the last few years, Nigeria faced shortages of one-rod and two-rod implants bought for the public sector. In response, in 2019, the government introduced another type of two-rod implant, which is effective for up to three years. In line with the mandate to support the Government of Nigeria's FP program, GHSC-PSM convened a workshop in Abuja, at the end of Q2 2021 to update state master trainers on the Contraceptive Logistics Management System (CLMS).

The workshop oriented FP coordinators from Bauchi and Sokoto States to use CLMS, including supply chain considerations for introducing the new two-rod implant. The training improved participants' skills in the National Health Logistics Management Information System using the Requisition, Issue, and Report Forms for data reporting. The workshop introduced eight participants to best practices for integrating the new implant into the existing commodity reporting mechanism and integrated the last-mile delivery system and inventory management process. Participants will cascade the knowledge and skills gained to all facilities providing FP services in their respective states.

"This training could not have come at a better time because [the new two-rod implant] has been in high demand in Bauchi State," said Bauchi State FP Coordinator Hajiya Yahaya.

GHSC-PSM facilitated distribution of 1,104 units (694 Bauchi and 410 in Sokoto) of the new two-rod implant to health facilities during the March 2021 last-mile distribution cycle to meet the high demand for contraceptive implants. This distribution follows implant insertion trainings conducted by the USAID Integrated Health Program.

B4. MATERNAL, NEWBORN, AND CHILD HEALTH

19 countries received maternal and child health supply chain strengthening support in Q2 FY 2021.

12 countries procured MNCH medicines and commodities in Q2. Since its beginning, the project has procured a total of **$22.3 million in MNCH commodities.**

The project translated and disseminated **global guidance on distributing and dispensing MNCH commodities during COVID-19** in Q2.

Under the Maternal and Child Health (MCH) task order, GHSC-PSM supports efforts to prevent child and maternal deaths by increasing access to quality-assured medicines and supplies for MNCH. In collaboration with USAID, 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 quarterly report summarizes achievements under the MCH task order objectives in Q2, including those of the project's global supply chain and country offices. Specific objectives may not be addressed if there is not significant progress to note for the quarter. The MCH task order objectives are as follows:

Addressing COVID-19 challenges

In Q2 FY 2021, GHSC-PSM continued to implement core activities in the MCH portfolio despite challenges related to COVID-19. Many activities were quickly adapted to virtual settings. More on how the project has supported countries' management of MNCH commodities in the time of COVID-19 is included under "Helping countries adapt to address COVID-19 challenges" below.

- **Objective 1. Provide international MNCH supply chain leadership and guidance**: GHSC-PSM contributes to the global MNCH commodity and supply chain knowledge base, 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 to manage commodities.
- **Objective 3. Improve adherence to globally recognized MNCH commodity quality standards**: The project develops procurement, storage, and distribution resources and partners with national governments to implement MNCH commodity quality standards.
- **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 availability of quality-assured MNCH commodities** in project-supported countries.

PROVIDE INTERNATIONAL MNCH SUPPLY CHAIN LEADERSHIP AND GUIDANCE

Improving uterotonic selection and management in Malawi

Ensuring availability and quality of health commodities for postpartum hemorrhage (PPH) remains a challenge to reducing maternal death in many low- and middle-income countries (LMICs). In Q2, GHSC-PSM launched an activity in Malawi to improve the selection and management of PPH commodities. The activity leverages existing TO4 tools and approaches to analyze in-country supply chain and temperature data to identify risks that affect the availability of appropriate, quality-assured PPH commodities. Upon conclusion of the activity in late Q3 or early Q4, GHSC-PSM will co-develop a risk mitigation strategy with the Malawian government and partner stakeholders to improve the management of PPH commodities.

Conducting a commodity landscape study in Ghana on antihypertensives for use during pregnancy

Nearly 300,000 maternal deaths occur annually, with the majority occurring in LMICs. Hypertensive disorders in pregnancy—comprising chronic hypertension, gestational hypertension, pre-eclampsia, and eclampsia—are the second-leading cause of maternal death and account for 14 percent of maternal deaths globally. In Q2, GHSC-PSM, in collaboration with the Ministry of Health and Ghana Health Service, began to assess the antihypertensive supply chain to identify factors that either contribute to or inhibit commodity availability. The project started a desk review in Q2 by collecting information on policies and processes for procurement and supply management of antihypertensives. The project then assessed the national medicines list, standard treatment guidelines, financing mechanisms, and LMIS data to determine commodity availability, usage, and movement through the supply chain. GHSC-PSM will continue the assessment through Q3 FY 2021 and once it is complete, will share results with key government and partner stakeholders and co-develop an action plan to improve management of these commodities.

Validating revised RMNCH commodity forecasting guidance

Under the United Nations Commission on Life-Saving Commodities for Women and Children, a group of experts developed forecasting guidance for select essential reproductive, maternal, newborn, and child health (RMNCH) commodities. In FY 2020, the Medicines, Technologies, and Pharmaceutical Services (MTaPS) project revised the guidance, with GHSC-PSM support, to include additional maternal health commodities in line with recent changes in WHO recommendations. In Q2, GHSC-PSM started validating the guidance by using it during forecasting across five countries: Ethiopia, Ghana, Nepal, Nigeria, and Pakistan.

- In January, Nigeria started their validation during MNCH quantification. This is set to be completed by mid-April in three priority states.
- In March, Ghana fully validated the updated guidance document during their family planning quantification.
- Nepal conducted their MNCH quantification in March with the aim of completing the validation process by mid-April.

- Pakistan and Ethiopia will conduct their validations during MNCH quantification exercises in April and May, respectively.

Once the document is fully validated, MTaPS will finalize the guidance document and publish it for global use.

Supporting private sector domestic wholesalers in Zambia

GHSC-PSM launched its technical assistance activity supporting Zambia's national wholesaler association, Zambian Pharmaceutical Business Forum (ZPBF) in Q2. ZPBF is a non-profit association of pharmaceutical wholesalers, manufacturers, and retailers that aims to help members effectively operate as suppliers of health commodities. GHSC-PSM partnered with the foundation arm of the International Federation of Pharmaceutical Wholesalers, Inc. (IFPW) to assist ZPBF as it supports domestic wholesalers, promotes private sector interests, and affects positive change. GHSC-PSM developed a Memorandum of Understanding with ZPBF on the roles, responsibilities, duties, and obligations of each organization under this activity. The technical assistance will commence in Q3.

Supporting international and regional MNCH supply chain groups

GHSC-PSM continues to support the Maternal Health Supplies Caucus through participation in ongoing meetings to discuss MNCH commodity challenges, innovations, and lessons learned. In Q2, GHSC-PSM met with partners to provide input on the Every Newborn Action Plan (ENAP) Commodities Work Plan. The global ENAP maps out strategic actions for ending preventable newborn mortality and stillbirth and reducing maternal mortality and morbidity.

The newly translated guidance on dispensing and distributing MNCH commodities during COVID-19 is available in comprehensive and abridged formats in English and French.

Helping countries adapt to address COVID-19 challenges

Since the initial outbreak of COVID-19, health supply chains in GHSC-PSM countries needed to adjust to new demands, including changes in patient consumption, upstream supply shocks and the need to ensure health care workers' access to personal protective equipment (PPE). Maintaining MNCH services and commodity availability at health facilities remains critical to prevent suffering and potential deaths of women and children. COVID-19 also aggravated existing service delivery challenges and prompted a need for new and dynamic supply chain planning and operations. Following the Q1 release of a new technical resource, *Ensuring Maternal, Newborn and Child Health Commodity Availability During COVID-19* (in English), GHSC-PSM

published a version in French in Q2. This comprehensive resource reviews distribution and dispensing considerations for public-sector supply chain and MNCH stakeholders in LMICs.

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

Conducting End-Use Verification surveys in project-supported countries

MNCH data and analytics within national logistics management and information systems (LMISs) are not always adequate to identify and resolve supply chain issues. As a result, GHSC-PSM uses the End-Use Verification (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 service delivery point staff and Ministries of Health, gather supplemental qualitative data on reasons for stock-outs, and cross-check LMIS data accuracy on stock availability trends. In Q2, GHSC-PSM submitted EUV reports for Benin, Burkina Faso, Mali, and Liberia. In addition, Ethiopia, Ghana and Nigeria resumed their data collection in Q2, which was postponed due to the COVID-19 pandemic.

Improving data analytics for MNCH commodity decision-making

When designed effectively, eLMIS platforms help stakeholders analyze an array of national supply chain information. In FY 2020, GHSC-PSM conducted a data use survey in 15 countries in which it mapped the availability of MNCH commodity-related data across electronic and paper-based systems. Findings indicated that countries often face the time-consuming challenge of manually entering, consolidating, and analyzing logistics data. These challenges often delay decision-making and response to supply chain challenges.

The MNCH data tools catalog explores common commodity management questions and what tools country teams have found most useful to answer them.

In FY 2021, GHSC-PSM set out to improve data analytics functions and capabilities within the countries it supports to drive data-based decision-making for MNCH commodities. During Q1, GHSC-PSM conducted focus group discussions (FGDs) in 15 countries[14] that receive MNCH support. The FGDs identified frequent MNCH commodity management decision points and the corresponding analytics

[14] GHSC-PSM convened 15 project-supported countries to collect data tools information: Burkina Faso, Ethiopia, Ghana, Guinea, Haiti, Kenya, Liberia, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan, Rwanda, and Zambia.

tools countries use to inform such decisions. In Q2, GHSC-PSM used the FGDs' inputs to design a Power BI data catalog, which is a repository of adaptable and robust data tools used in project-supported countries. The catalog describes each tool, the platform it uses, the data it requires to function, and a point of contact for the tool. This catalog will be especially helpful to countries with nascent eLMIS systems, providing a blueprint for what works. The project will formally launch the catalog in Q3 to encourage missions and field offices to invest in and adopt new tools for their country context in future GHSC-PSM activities.

IMPROVE ADHERENCE TO GLOBALLY RECOGNIZED MNCH COMMODITY QUALITY STANDARDS

Systems strengthening technical assistance

GHSC-PSM provided MNCH systems strengthening support to increase access to quality-assured MNCH commodities to 19 countries[15] in Q2. Specific country achievements are described below.

Assessing private-sector capacity in Ghana. GHSC-PSM designed a landscape analysis in Q2 to assess MNCH commodity availability in the private sector in Ghana. GHSC-PSM will use a quantitative tool to collect information on commodity availability, storage conditions, and product components including brand, manufacturer, and price. The goal of this analysis is to identify systemic challenges that impede availability and access to priority commodities at all levels of distribution in the private sector and supply mechanisms to the public sector. The survey of private sector facilities will begin in Q3.

Nigeria Drug Revolving Fund (DRF). GHSC-PSM in Nigeria works in three states—Bauchi, Kebbi, and Sokoto—to strengthen their technical and financial capacity to manage MNCH commodities. To this end, the project established functional DRF in collaboration with these local governments. The DRF is a mechanism by which select Nigerian states can ensure a steady supply of essential MNCH commodities through the sustainable management and financing of procurement, storage, distribution, and monitoring of those commodities.

This quarter, GHSC-PSM completed seedstock procurement and began delivery of the commodities to Bauchi State's central and zonal medical stores. The project also verified three state warehouse upgrades conducted by the Bauchi government in Q2. GHSC-PSM supported the installation and use of a warehouse management system (WMS) in Bauchi. All commodities delivered to the state are captured in the WMS to ensure commodity visibility across all warehouses. The project continued to provide technical assistance to improve warehouse storage capacity in Kebbi and Sokoto States.

GHSC-PSM helped finalize the DRF training curriculum and conducted a train-the-trainer workshop that certified 22 master trainers and helped refine DRF monitoring and evaluation tools based on participant feedback. In the upcoming quarters, the project will roll out DRF training for the drug management agency, local government, and health facility staff who can support DRF operations at secondary and primary health facilities.

[15] GHSC-PSM provided MNCH technical assistance to 19 countries in Q1 FY2021: Burkina Faso, El Salvador, Ethiopia, Ghana, Guatemala, Haiti, Honduras, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Nicaragua, Nigeria, Pakistan, Panama, Rwanda, and Zambia.

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

GHSC-PSM supported procurement of MNCH commodities for eight countries in Q2,[16] including an emergency procurement of essential medicines for DRC from a newly identified domestic supplier. To address commodity shortages and stock-outs, GHSC-PSM worked with the new supplier to provide and deliver a range of essential medicines to six different locations in DRC. The project conducted extensive onboarding and orientation sessions on GHSC-PSM processes for the DRC supplier and monitored the order and delivery through daily standing meetings with the supplier.

Central medical stores staff in Malawi check oxytocin quantities before they are distributed to health facilities across the country. Photo credit: Flora Kalimba/GHSC-PSM

The project also delivered a range of essential medicines to Mali and Nigeria, for a total of $540,488 of MNCH commodities delivered by GHSC-PSM in Q2.

Oxytocin donated from Madagascar makes its way to facilities across Malawi

Following GHSC-PSM support of a complex transfer of oxytocin overstock from the government of Madagascar to the government of Malawi, in Q2 the project provided cold chain distribution support to get the 260,000 ampoules into 381 health facilities for immediate use. This injection of the critical maternal health commodity into Malawi's supply has reduced stock-out rates from 17 percent in November 2020 to approximately 9 percent in February 2021.

[16] GHSC-PSM provided MNCH commodity procurement support to eight countries in Q2 FY 2021: DRC, Haiti, Liberia, Malawi, Mali, Mozambique, Nigeria, and Zambia

SECTION C

PROGRESS BY OBJECTIVE

C1. GLOBAL COMMODITY PROCUREMENT AND LOGISTICS

Procured $236.4 million in health commodities in Q2. Total values for the life of the project are nearly **$3.7 billion**.

Delivered 1,539 line item orders in Q2, with a value of **$203.9 million**.

Delivered 87 percent (70 percent COVID-impacted) 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 86 percent (68 percent COVID-impacted) on-time and in full.**

C1A. GLOBAL SUPPLY CHAIN: FOCUSED ON SAFE, RELIABLE, CONTINUOUS SUPPLY

GHSC-PSM's procurement strategy continuously identifies opportunities to pursue three main objectives:

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

In Q2, the project maintained strong OTD and OTIF while operating the global supply chain within the context of the continuing impact of the COVID-19 pandemic 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 other health commodities that 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 analysis, leads strategy development, uses best sourcing practices, contributes to process improvements, and negotiates and proactively manages contracts with suppliers. 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.

Supplier relationship management
In Q2, GHSC-PSM conducted business reviews with more than 25 key suppliers while proactively managing operations affected by market, supply chain, and logistics factors, including the continuing impacts of COVID-19. Supplier meetings update the project on the impact of regional shutdowns, logistical challenges, and other issues for production and delivery schedules, while commodity and supplier risk profiles inform performance assessments and order allocation strategies.

Regional Distribution Center (RDC) operations
For the first time, GHSC-PSM engaged a third-party provider to conduct a stock count at the Dubai RDC in Q2. This is important to manage the operations in situations where staff travel is not possible—due to the COVID-19 pandemic—and the benefits of independent verification that a third-party audit brings. The activity found a 0 percent discrepancy in the total quantity between the system and the physical count and only a 0.09 percent discrepancy in the verified locations; GHSC-PSM later corrected this. The project expects the other two RDCs will engage third-party providers to conduct similar activities in Q3.

DECENTRALIZED PROCUREMENT (DCP)

GHSC-PSM pursues a DCP strategy to procure carefully selected goods and services through nine country offices. Country office procurement specialists are closer to recipients and authorized local and international suppliers. The DCP improves efficiency in coordination and processing changes to specifications, quantities or delivery terms, reducing cycle time and bolstering on-time delivery. Commodities procured under the DCP include laboratory, VL, and EID in the DCP countries, plus essential medicines in Zambia.

In Q2, GHSC-PSM managed a large volume of orders through DCP. The project had 87 percent OTD for the quarter; however, many DCP commodity types remain adversely affected by global supply shortages, logistics constraints, and disruptions to the supply chain driven by COVID-19. Examples of issues and solutions include:

- **VL/EID supply.** GHSC-PSM held strategic supplier relationship management meetings with key VL suppliers to understand and communicate supply constraints expected to persist during FY 2021. These constraints are anticipated through Q4 for reagents and consumables, placing several vital components on allocation and extending production lead times for several commodity categories.
- **Examination glove procurement strategy.** During ongoing bi-weekly order management calls with the holders of framework contracts for laboratory supplies, GHSC-PSM learned that some supply constraints for gloves have begun to normalize. At the same time, many laboratory consumables used in vaccine administration will continue to show volatility. These issues are known well in advance and managed to reduce potential impacts to stock availability in-country.

GLOBAL STANDARDS

GHSC-PSM implemented procurement requirements for pharmaceutical, medical device, sterile kit, laboratory reagent, and LLIN suppliers to adopt standardized identification and labeling, and to exchange product master data, all leveraging GS1 standards. These supplier requirements include:

- Assigning Global Trade Item Numbers (GTINs) that identify trade items and Global Location Numbers (GLNs) that identify business entities and locations.
- Labeling specified packaging levels with barcodes encoded with the GTIN, batch/lot, and expiration date.
- Exchanging master data through the Global Data Synchronization Network (GDSN).

There is progress in FY 2021 in supplier compliance with these requirements to enable this data in global and national supply chain processes and systems. This requires regular engagement with suppliers to drive compliance and data quality for both existing and new items. In Q2, through ongoing engagement with suppliers, the project:

- Collected, validated, and added GTINs for 146 items to the GHSC-PSM catalog
- Sent and received more than 4,000 messages with product master data through the GDSN, including GDSN data for 82 previously unsynchronized in-scope items
- Received new GDSN data from 28 different suppliers, including 6 suppliers that had not previously synchronized GDSN data. In total, 79% of suppliers required to synchronize GDSN data had done so for at least one in-scope item by the end of Q2.

To improve compliance with the standards-based requirements, the project pursued a series of strategic activities designed to enhance and capitalize on the maturity of the GHSC-PSM global standards implementation in pursuit of three goals:

1. **Standardize**: Maximize efficiency while addressing compliance gaps by refining data collection and validation processes.
2. **Scale**: Expand use of standards-based data across global-level GHSC-PSM activities by familiarizing audiences with existing standards-based data and identifying opportunities for further use.
3. **Share**: Disseminate lessons learned and benefits of standardized data for use by country programs, donors/procurers, and other partners that may be implementing standards in their programs

In Q2, GHSC-PSM pursued several activities to support these goals, including collaboration with GHSC-QA to create a new compliance validation/audit process; pilot activities to collect more standards-based data as a part of existing procurement processes; and resources documenting the impact of standards-based identification, labeling, and master data on the GHSC-PSM program to date.

Quality assurance (QA)

In Q2, GHSC-PSM continued to streamline and optimize quality assurance (QA) and quality control (QC) business processes/procedures and rapidly address any incidents and product failures as they occur to ensure quality products reach the end consumer. The project maintained communication flow, identified areas of mutual concern, and ensured QA requirements were incorporated into GHSC-PSM systems. Highlights this quarter include:

- Implemented GHSC-PSM's updated recall SOP and trained all appropriate parties involved in the recall process. Emphasized collaboration across teams to expedite recalls and ensure patient safety.

- Managed open quality incidents, conducting QA awareness training for country office staff for the first time to promote reporting of quality incidents and adherence to SOPs to ensure quality product distribution to the end user.
- Developed a scorecard matrix on the severity of quality incidents (i.e., OOS, Regulatory Body notices, etc.) that the supplier relationship team can use to assess supplier performance.
- Worked collaboratively with GHSC-QA to provide input and support toward COVID-19–related commodity procurement.

QA for malaria commodities

In Q2 FY 2021, GHSC-PSM explored opportunities to enhance the quality of products procured on behalf of PMI and ensure the safety and efficacy of commodities. The project modified the QA/QC protocols in response to COVID-19 and initiated a standard QA strategy that builds upon the modifications made to the QA/QC protocols.

The project kicked off a discussion to improve LLIN and QMS quality with the Global Fund and UNICEF. GHSC-PSM completed an OOS investigation of a pharmaceutical product and was vigilant in responding to quality concerns at an LLIN supplier.

The project is working with the SGB to elevate the quality of LLINs to emphasize GHSC-PSM's commitment to driving the quality of LLINs with LLIN suppliers. The project supports the tendering process for LLINs by developing questions for the QMS requirement of suppliers to be included in the RFP process.

The project quickly responded when it became aware of possible quality issues at an LLIN supplier initially destined to procure about 30 percent of the single pyrethroid LLINs procured by the project. The project reviewed the QMS of the supplier and engaged in discussion on how the supplier could improve its QMS, and these recommendations were well received by the supplier.

See section B.2 for more details on these and other QA activities for malaria commodities.

IMPACTS OF COVID-19 ON FREIGHT AND LOGISTICS

Origin challenges

Logistics challenges due to COVID-19 continued through Q2 and were exacerbated further by new "waves" of COVID-19. Capacity constraints remained in effect for air freight, and pricing remained volatile with rates held for a week or less, particularly in China. More cargo moved from air to ocean, disrupting ocean freight as container shortages persisted and pricing rose.

Airfreight

Reduced capacity alongside rate fluctuations across the board impacted airfreight heavily. Scheduling by the airlines remains ad hoc, resulting in reduced service on some lanes, backlogs, and price increases. While freight services have increased in major routes, this has not improved pricing or lane scheduling required by the project. Carriers continue to cancel flights or lanes, requiring 3PLs to rebook and impacting the import duty waiver process. Pricing is valid on some lanes for no more than five to seven days, and 3PLs cannot secure rates until they have handed the cargo over to the airlines, which seek to increase rates.

Cold chain
Airlines' aversion to moving cold chain products due to liability concerns has significantly increased in the current market with ad hoc flight schedules, congested airport facilities, and skeletal ground handling crews. This presents an enormous challenge for frozen reagents that must be stored –20C and re-iced every two days. GHSC-PSM continues to work with the 3PLs to evaluate risks on a case-by-case basis, weighing the cost of flying cargo versus potentially incurring high storage costs and damaging temperature-sensitive commodities if a flight is canceled.

Ocean freight
Shortages of all container types persisted in Q2, and global ocean shipping schedule reliability dropped below 40 percent. This combination stretched 3PL container sourcing abilities and required flexibility in booking with carriers. At the end of Q2, the vessel Ever Given blocked the Suez Canal, leading to a backlog of about 420 ships that took 12 days to clear. This has had an immediate impact on our orders in Q2 and we expect that the project will feel the residual impacts of vessel timeliness due to port congestion, container availability, and pricing in Q3.

C1B. PROJECT PERFORMANCE

In this section, we summarize findings on key indicators of global supply chain performance. More detail on these and other indicators is provided in Annex A.

DELIVERY TIMELINESS

GHSC-PSM measures on-time delivery (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

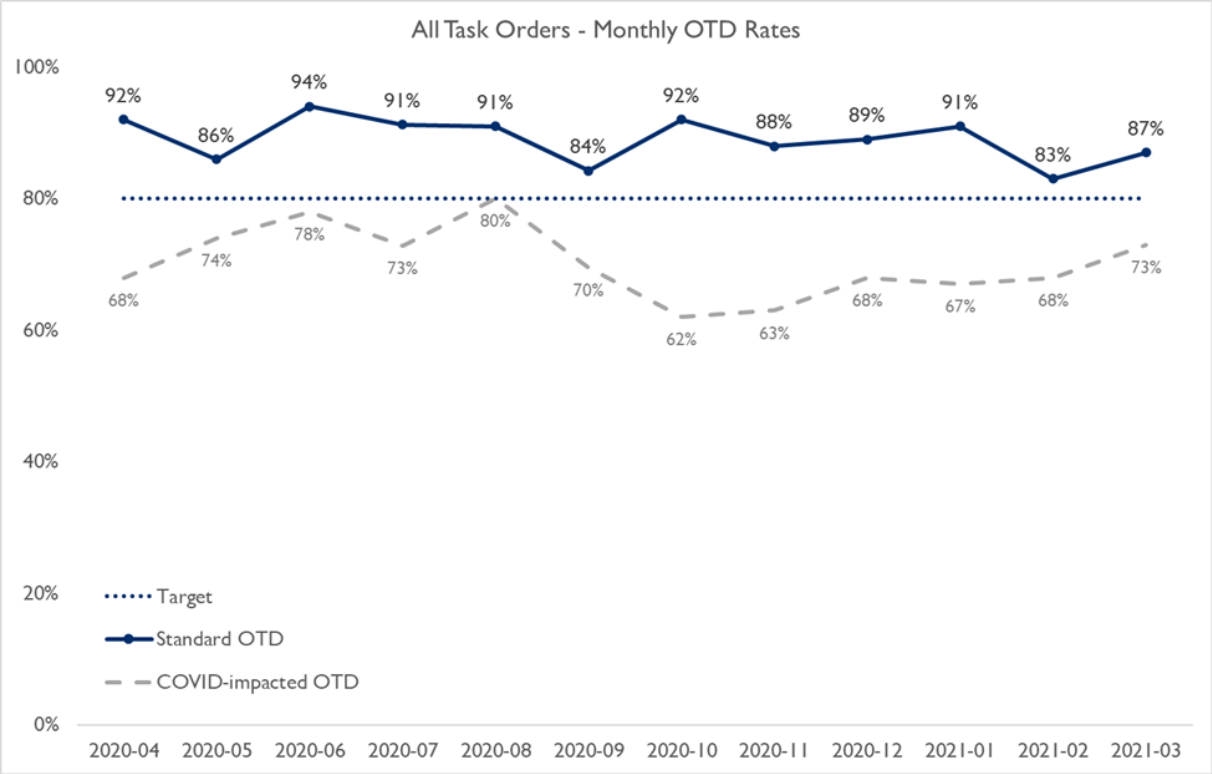
OTD is a more accurate reflection of recent performance, while OTIF is a lagging indicator as late orders due in prior periods get delivered.

In Q4, GHSC-PSM OTD was 87 percent (70 percent COVID-impacted) and OTIF 86 percent (68 percent COVID-impacted) for the quarter, the eighth successive quarter that OTD has been above 85 percent (see Exhibits 18 and 19).

During the COVID-19 pandemic, GHSC-PSM presents two versions of OTD indicators:

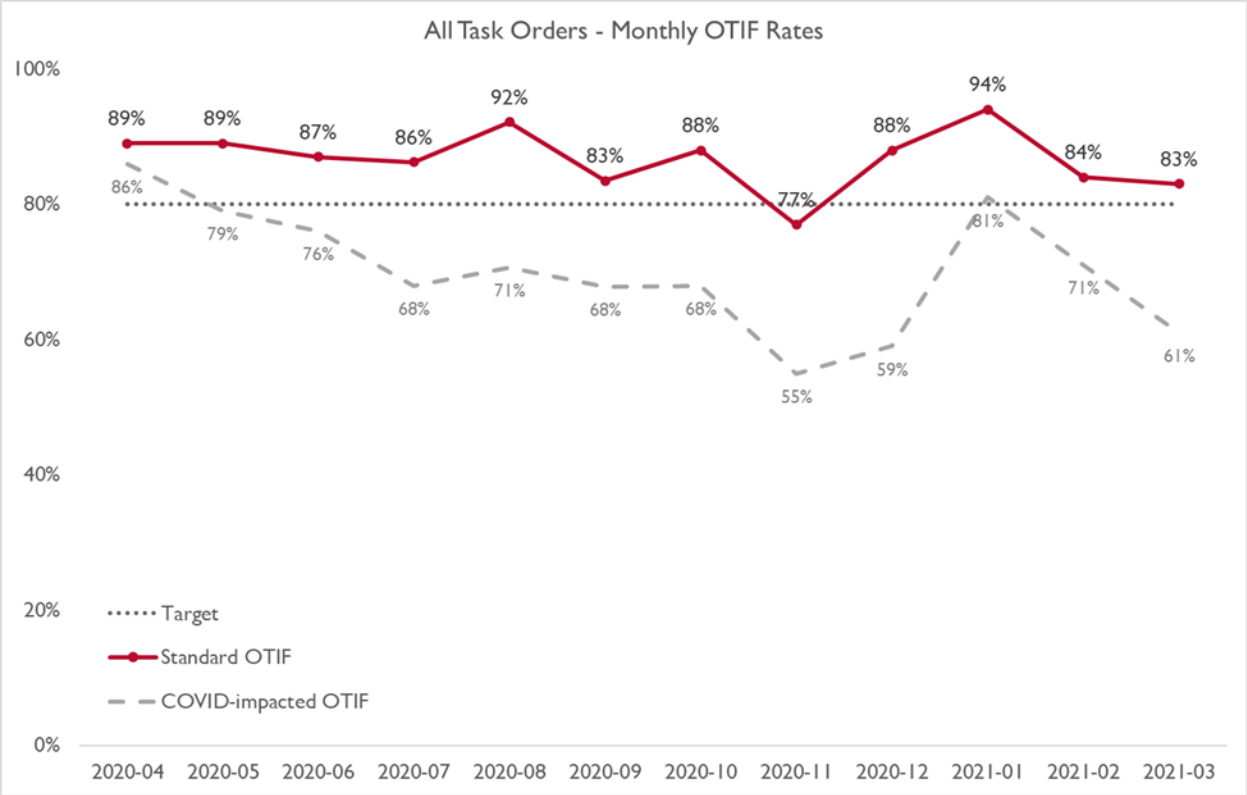
1. The "standard" version is calculated according to the indicator definition as laid out in the project's monitoring and evaluation plan and following all associated policies.
2. The "COVID-19-impacted" version, which follows the same rules and definitions as the standard indicator, but removed the "control" for pandemic impacts to demonstrate the adverse effect of COVID-19 on OTD from Q3 FY 2020 to date on GHSC-PSM shipments.

Exhibit 18. April 2020 through March 2021 monthly OTD



At the end of Q2 FY 2020, the number of COVID-impacted orders increased significantly and continued to adversely affect OTD throughout the past year. The high degree of uncertainty and the extreme volatility in global supply chains caused by the pandemic continued to affect a vast number of orders in Q2 FY 2021. This impact is expected to continue through Q3.

Exhibit 19. April 2020 through March 2021 monthly OTIF



C2. SYSTEMS STRENGTHENING TECHNICAL ASSISTANCE

Assisted 49 countries with health supply-chain systems strengthening.

Provided **technical feedback on 174 supply plans this quarter** to strengthen national supply planning capabilities.

As part of a new technical series, **published two landmark technical documents on activity-based costing and decentralized drug distribution**.

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. To support this goal, headquarters-based health supply chain systems strengthening technical specialists work with in-country teams to define systems strengthening strategies that are appropriate to the local context and that can be realistically achieved. Emphasis is placed on automated data capture and real time end-to-end data visibility, pharmaceutical-grade infrastructure, and efficient distribution across countries. The project works with country stakeholders to ensure their supply chains are managed by supply chain professionals dedicated to quality improvement, and, where possible, collaborates on strategies to outsource functions to accountable private-sector providers.

Despite the ongoing local and international travel restrictions to prevent COVID-19 transmission, GHSC-PSM continues to provide technical support across all program areas through various remote strategies.

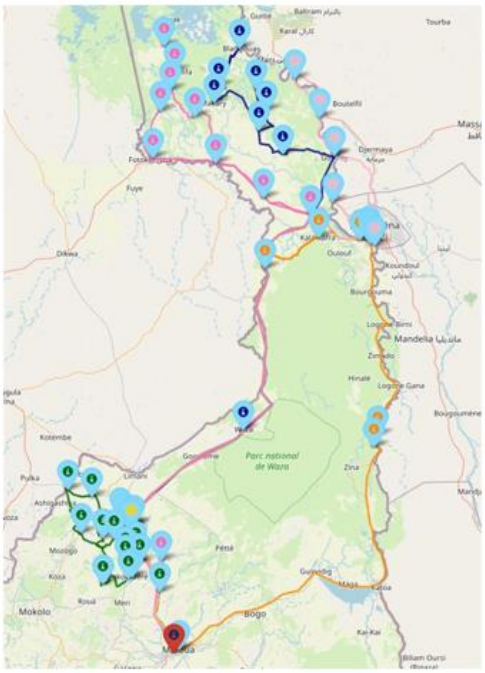
ADVANCED ANALYTICS

Advanced Analytics supports decision-making through access to near-real-time data and analysis. GHSC-PSM provided remote support to Cameroon, Ethiopia, Ghana, Haiti, Nepal, Uganda, Zambia, and Zimbabwe.

Two key activities this quarter were testing and implementing the dynamic routing[17] tool called Last Mile-Distribution Optimization System (LM-DOS) and migration of Zambia's stock redistribution tool to the cloud. The LM-DOS is a tool that dynamically generates optimized routes for last-mile distribution. It uses Excel as the front-end for user interaction, with a Python back-end to perform routing optimization using open-source tools, including Google OR tools solver.

[17] For more information on dynamic routing, go to https://www.ghsupplychain.org/last-mile-dynamic-routing.

In **Cameroon and Zambia**, GHSC-PSM processed country-specific data within LM-DOS to test the tool and generate distribution routes. Generation of routes helps determine if and how the tool can be used within each country's context. (See sample map from Cameroon at right.) The next step in both countries is to continue refining the data processing for providing order data into LM-DOS for use in distribution planning.



LM-DOS in Cameroon.

In **Zambia**, GHSC-PSM continued to expand the use of advanced analytics tools. Following the success of the stock redistribution tool, the project is moving the analytics tools to the cloud. Currently, the tool requires sharing of files through email following the latest extraction of data from the eLMIS. Moving to the cloud eliminates the need for email distribution and allows users to log into the system at any time following data updates. GHSC-PSM tested the speed and functionality under different Internet speeds and connection conditions and verified functionality under all tested conditions. Cloud deployment provides more timely access to data for decision-making and increases the tool's usability in other potential countries.

ENVIRONMENTAL COMPLIANCE

In accordance with USAID's Environmental Procedures (22 CFR 216), the project supports implementation of the GHSC-PSM Initial Environmental Examination (IEE) and the Environmental Mitigation and Monitoring Plan (EMMP). Implementation of the IEE and EMMP includes multi-faceted services to staff globally, such as review of documents pertaining to USAID's 22 CFR 216 Agency Environmental Procedures, technical guidance, and direct technical assistance.

In Q1, USAID approved the GHSC-PSM Warehouse Pesticide Evaluation Report and Safer User Action Plan (PERSUAP). In Q2, the project notified all project staff of this new documentation and framework, and screened warehousing activities for potential instances where pesticides may have been procured, stored, or applied, and required updated documentation, per the new guidance. Eswatini and Haiti emerged, and the country programs used the new templates from the Warehouse PERSUAP to ensure that both activities are compliant and all required documentation is on file and approved by relevant stakeholders.

GHSC-PSM and USAID clarified requirements for the Environmental Protection Information and Knowledge (EPIK) system, which will function similarly to an environmental management system. The project began drafting a scope of work for the services.

GHSC-PSM trained field-based operations, finance, and compliance staff on environmental compliance requirements for small-scale construction and rehabilitation activities.

FORECASTING AND SUPPLY PLANNING

GHSC-PSM supported forecasting and supply planning (FASP) for 45 countries to help institutionalize processes so that countries move from relying on external technical support to developing their own fully integrated FASP capabilities.

After launching and piloting the new **Quantification Analytics Tool (QAT)** supply plan module in Q1, GHSC-PSM continued the rollout in Q2. QAT's supply planning module is a modernized solution for country-led quantification that leverages new technologies and which has enhanced features over the existing supply planning tool, PipeLine (and will eventually replace it). With an enhanced user interface and usability, greater analytical capabilities, and automated data exchange, this new tool enables program managers to optimize commodity procurement and delivery schedules, monitor the stock status of products, and share data with external platforms and key stakeholders. The table below shows the schedule of QAT trainings held/to be held by the HSS FASP team with different country offices. Most staff to be trained in FY 2021 are PSM FO staff, with the exception of Benin (pilot cohort) and Tanzania (cohort 4). The project will begin to include local health program staff starting in Q3 FY 2021.

	Country	Training
Pilot	Benin	Nov/Dec 2020
	Zimbabwe	Nov/Dec 2020
	Ethiopia	Nov/Dec 2020
	Botswana	Nov/Dec 2020
Cohort 1	Nigeria	Jan/Feb 2021
	Zambia	Jan/Feb 2021
	Burundi	Jan/Feb 2021
	Laos	Jan/Feb 2021
Cohort 2	**Haiti**	April 2021
	Burkina Faso	April 2021
	Cameroon	April 2021
	Mali	April 2021

	Country	Training
Cohort 3	eSwatini	May 2021
	Malawi	May 2021
	Sierra Leone	May 2021
	Angola	May 2021
	Ghana	May 2021
Cohort 4	**Rwanda**	Aug 2021
	Ghana	Aug 2021
	Tanzania	Aug 2021
	Uganda	Aug 2021
	Lesotho	Aug 2021

In Q2, the project conducted a second all-remote QAT training for four countries (**Burundi, Laos, Nigeria, and Zambia**), followed by targeted, program-specific technical assistance to help countries transition their PipeLine supply plans to QAT. At the end of Q2, 22 supply plans were in QAT, with 13 fully transitioned to QAT, and nine in the process of onboarding. See more about supply planning submissions in the supply plan section. The project also began the initial brainstorming for the QAT module for forecasting.

In **Botswana**, GHSC-PSM helped develop a long-term ARV supply plan using QAT that the Central Medical Store (CMS) uses to place ARV orders. QAT was useful in calculating optimized quantities of drugs with accurate timing of shipments to avoid stockouts and overstocks at the CMS. By adhering to the supply plans generated by QAT, CMS can maintain optimum stock levels of ARVs to ensure uninterrupted HIV treatment.

The project also delivered a remote forecasting and Quantimed tool training to the **Tajikistan** Republican AIDS Center using simultaneous translation.

In **Burma**, GHSC-PSM and the National Tuberculosis Program (NTP) of the Ministry of Health and Sports trained NTP staff remotely in the forecasting of tuberculosis (TB) medicines using a QuanTB, an electronic quantification and early warning system designed to improve procurement processes, ordering, and supply planning for TB treatment.[18] The analytical capabilities of QuanTB far exceed those of the Excel-based tool previously used. The close collaboration between GHSC-PSM and NTP in developing the QuanTB training program and user guide highlights the dedication of the NTP to institutionalize this critical supply chain technology.

In **El Salvador** during Q1 and Q2, the project with the Salvadoran Social Security Institute (ISSS) Institutional Development Unit developed and launched two standardized product segmentation tools for the ISSS' Logistics Management Unit's use in demand planning and acquisition processes. An acquisition segmentation tool allows users to diversify purchasing mechanisms using risks and impact variables. A demand segmentation tool improves forecast accuracy. Together, the tools lower acquisition lead time, reduce the frequency of no-offer situations for critical and strategic products, and increase the forecast accuracy of high impact health products. GHSC-PSM will monitor results after implementing use of the tools for the annual forecasting and supply plan exercise.

In **Liberia**, GHSC-PSM supported development of the country's first national TB supply plan. The supply plan was one product of a three-day training with the National Quantification Technical Committee (NQTC) of the MOH and partners, including Village Reach/Last Mile Health and UNFPA, to estimate commodity requirements, gaps, program costs, and consumption forecasts. In addition to TB, GHSC-PSM developed supply plans for HIV/AIDS, malaria and FP/RH commodities.

In **Mali**, GHSC-PSM supported the Directorate of Pharmacy and Medicines (DPM) to update the quarterly supply plans for HIV/AIDS, malaria, and MNCH commodities. Several key recommendations arose from the workshop, including for DPM to print and disseminate procedure manuals for the quantification of health products, to include input TB products in the next edition of the manual, and to advocate with the Ministry of Health to establish a logistics management unit within DPM.

[18] QuanTB was created by the USAID-funded Systems for Improved Access to Pharmaceutical and Services (SIAPS) Program, For more information: https://siapsprogram.org/tools-and-guidance/quantb/

GLOBAL STANDARDS AND TRACEABILITY

GHSC-PSM provided technical support to nine countries in Q2, Botswana, Ghana, Liberia, Malawi, Namibia, Nigeria, Rwanda, Uganda and Zambia to assist in their journey to adopt GS1 standards for product identification, location identification and data exchange, including the below. More information on standards adoption can be found in the 'Management Information Systems' section. GHSC-PSM's support for implementation of GS1 standards aims to enable trading partners—including manufacturers and suppliers, logistics providers, regulatory agencies, medical stores, and health facilities—to operate from the same high quality master data. Adopting global standards can enable countries to reduce costs, enhance efficiency, and improve the availability of health commodities in their public-health supply chains.

- In **Botswana**, the Botswana Medicines Regulatory Authority (BOMRA) hosted a virtual meeting to obtain formal endorsement from key national stakeholders on the draft National Pharmaceutical and Traceability Vision and Strategy developed following a previous Botswana National Pharmaceutical Traceability Vision and Strategy workshop in December 2020. Following stakeholder endorsements of the strategy document, GHSC-PSM began supporting BOMRA in developing a Year 1 detailed plan to guide resourcing and implementation of traceability initiatives.

- In **Ghana**, the project supported the Ministry of Health, in partnership with GS1 Global and GS1 Ghana, to host a virtual National Pharmaceutical Traceability Vision and Strategy workshop. The MOH and GHSC-PSM agreed to a two-phased approach to adapt to the online format; Phase 1 took place on February 8 and 9 with 45 multi-stakeholder participants who worked to develop the nation's traceability vision statement, strategic objectives, and intermediate results for traceability implementation. Phase 2 will conclude vision and strategy development and is tentatively scheduled for Q3.

- In **Namibia**, an upgrade to the enterprise resource planning (ERP) software underway at the Central Medical Store provided the opportunity to incorporate barcode technology to capture the GS1 standards-based item identifiers and attributes as part of the upgrade. GHSC-PSM used the Supply Chain Information Systems Requirements[19] tool to support the vendor with requirements that will ensure the ERP can support GS1 standards for master data management, order management, warehouse management, and interoperability.

- In **Uganda**, the project works with a service provider on an automatic identification and data capture (AIDC) solution for the Joint Medical Store (JMS) to read standards-based barcodes. The solution automates receiving by scanning GS1 barcodes embedded with a unique identifier by the supplier (or print labels upon receipt for products lacking barcodes). GHSC-PSM developed a scope of work with the solution provider to support enhanced data capture and product hierarchy capabilities at JMS and developed a hierarchical master data file using data mapping from a variety of data sources. The solution provider modeled how GTIN alignment can be supported with no changes to the JMS data structure. The project procured all necessary

[19] See https://www.ghsupplychain.org/index.php/GS1SCISReqs

hardware (e.g., printers, scanners) that are pending delivery to JMS. Training, testing, and go-live will be scheduled based on hardware delivery date.

LABORATORY TECHNICAL SUPPORT

GHSC-PSM supported laboratory systems strengthening primarily for HIV/AIDS and TB programs. Areas of focus included viral load testing, forecasting and supply planning, and laboratory network optimization. Several countries—including Botswana, Lesotho, and Uganda —are leveraging viral load referral systems to support transport of COVID-19 samples for testing. Through use of historical procurement data, forecast data, instrument coverage, utilization rates, and GPS data, the Opti-Dx web-based tool guides appropriate laboratory instrument selection. For more information, see Section B1. HIV/AIDS.

In **Nigeria**, the Minister of Health unveiled the manual for the National Integrated Specimen Referral Network (NISRN) to be used across the country for all health areas, including HIV/AIDS and COVID-19. NISRN is a cost-effective, efficient, safe, and secure specimen referral system implemented and supported by GHSC-PSM. Through private-sector service providers, a dedicated team of motorcycle couriers are accountable for timely pick-up, transport, and delivery of samples for diagnostics tests.

LEADERSHIP AND GOVERNANCE

With GHSC-PSM support, countries aim to achieve a responsive health supply-chain system led by a strong national team with managerial capacity, institutionalized checks and balances, robust governance oversight, open civil society engagement, and cost-effective and transparent financing mechanisms.

This quarter, the project launched a new series of technical documents aimed at providing Ministries of Health and other key supply chain actors with information and tools to help build the capacity of health supply chains.

- **Activity-based costing (ABC).** Donors and country governments are beginning to use activity-based costing, a traditionally private-sector approach to measuring warehousing costs, as a way to better understand cost drivers, identify inefficiencies in warehousing processes and costs, implement process improvements to lower costs, and continually evaluate performance for further improvements. GHSC-PSM published an ABC overview document[20] to help USAID activity managers, country governments, and other key stakeholders understand what ABC is, the steps involved in implementing it, and the expected outcomes. The annexes to this handbook provide samples that are used to implement and practice ABC. Supported by an aggressive promotional plan on social media and other communication channels, in the five weeks following publication on January 25, the document had 794 page views on the GHSC website, which was second only to the homepage. The average time spent on the page was seven minutes and 19 seconds, significantly higher than the average time for other pages of two minutes and 18 seconds, indicating people accessing the page were fully engaging with the content. As follow-up to this first document, the project proposed including ABC in the Africa

[20] https://www.ghsupplychain.org/index.php/activity-based-costing-handbook

Resource Center's[21] (ARC) outsourcing toolkit and drafted a more extensive how-to guideline for implementing ABC. A first draft was submitted to USAID for review and, based on feedback received in Q2, will be revised in Q3, with the intention to publish by the end of that quarter.

- **Contracting transportation to the private sector.** The project is preparing a guideline document to be included in ARC's outsourcing toolkit (OSTK) that can be used by Ministries of Health or others wanting to understand the process of outsourcing distribution, warehousing, or other supply chain services to the private sector. GHSC-PSM aims to produce a final version and publish this guideline by the end of Q3.

Several countries, including **Botswana** and **Ethiopia**, requested technical assistance in procurement, including pre-qualification of suppliers and contract management. During Q3, the project anticipates supporting a number of remote assignments in non-USG-funded procurement.

Due to COVID-19, GHSC-PSM redesigned the introductory supply chain course intended for USAID staff to be delivered as an online presentation. USAID announced the course, now scheduled for Q3. As of the end of Q2, 30 USAID participants had registered.

In **Mali**, GHSC-PSM supported the Pharmacie Populaire du Mali (PPM) to validate its new strategic plan for 2021 to 2025 at a workshop led by a representative of the Minister of Health and Social Affairs and including representatives of key partners. Participants reviewed progress from the previous strategic plan and areas of improvement. The validation of the new strategic plan is a major achievement for the PPM and is a milestone in its progression as a hub of excellence in Mali.

In **Nepal**'s provinces 3 and 6, after successful advocacy by GHSC-PSM with the Province Health Directorate and Province Health Logistic Management Center and other stakeholders, the two provinces formed Supply Chain Management Working Groups (SCMWGs). The groups are responsible for improving logistics data reporting rates, strengthening the capacity of health workers, and creating standard operating procedures for health supply chain management. Formation of provincial SCMWGs aligns with Nepal's efforts to decentralize decision-making from the central level during the country's Pre-Federal Structure to the new Federal Democratic Republic structure, with three tiers of government: federal, provincial, and local. These two new groups follow previously established groups in Provinces 1, 2, 5, and 7, which are now functioning well.

In **Zambia**, GHSC-PSM worked with People that Deliver (PtD) to review and pilot a workload analysis tool with the Zambia Medicines and Medical Supplies Agency (ZAMMSA) and identified the data that will need to be collected to test the tool. In Q3, collected data will be uploaded to the tool for testing and analysis.

MANAGEMENT INFORMATION SYSTEMS

GHSC-PSM supports country programs in enhancing the functionalities and capabilities of their eLMISs by reviewing system requirements, supporting procurement and contract negotiation, and monitoring operation and performance. The MIS team keeps abreast of current trends and new technologies to provide the best advice to improve data accuracy and quality, and ultimately help to achieve end-to-end

[21] https://www.africaresourcecentre.org/

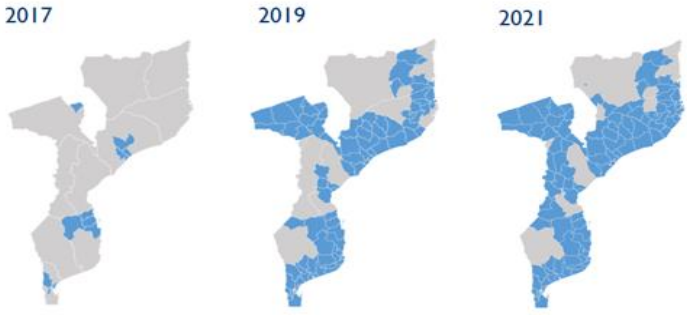
data visibility. Working group sessions and thematic presentations are organized periodically to help disseminate new tools and procedures and share lessons learned. In addition to eLMIS activities, the MIS team supports gathering requirements and identifying business processes for other information technology (IT) solutions to be deployed, such as warehouse management systems and eLearning tools, and produces SOPs and templates to standardize the project's status reporting and service-level agreements for quality and consistency.

GHSC-PSM provides system interoperability recommendations to integrate existing information systems to establish a single data source that is current and accurate for all relevant actors. A key component of this is the use of an online National Product Catalog (NPC) that facilitates the adoption of standardized product information, thus eliminating the need for manual interventions to keep all supply chain actors aligned.

- In **Nigeria**, GHSC-PSM began to support implementation of a national product catalogue by developing a master data management concept note and project plan and presenting them to the Master Data Management Technical Working Group (TWG), which is chaired by the National Agency for Food and Drug Administration and Control (NAFDAC.) NAFDAC approved the activity, and data collection is expected to begin in Q3. GHSC-PSM continues to work with NAFDAC through the Policy and Regulations TWG on regulations activities that would incorporate GS1 standards for product labelling and identification and master data standards as a part of the nation's traceability strategy.
- In **Zambia**, GHSC-PSM began the procurement process to select a vendor for a national product catalog product information management tool that would host the country's product master data. This process included releasing a request for proposals (RFP) and hosting a virtual bidders' conference. GHSC-PSM also began developing a product master data architecture that includes developing GS1 hierarchies in the Zambia Medicines and Medical Supplies Agency (ZAMMSA) product data. These activities are part of the project's ongoing support to establish a robust product master data program. GHSC-PSM continues to work with the Zambia Medicines Regulatory Authority (ZAMRA) on regulations to incorporate GS1 standards for product labelling and identification.

The project completed enhancement of the Supply Chain Information System Maturity Model (SCISMM) v2.0 that will be leveraged to assess the information system status and maturity in countries starting in Q3.

In **Mozambique**, with the expansion to Manica Province of SIGLUS—Mozambique's electronic logistics management information system at health facilities—coverage has reached all 11 provinces in the country. In January 2021, GHSC-PSM worked with CMAM (central medical store), CHAI, and USAID's ECHO



Rollout of SIGLUS in Mozambique since 2017. Illustration credit: Antonio Langa

project[22] to equip and train 54 health facilities in six districts in Manica Province (Báruè, Chimoio, Gondola, Macossa, Mussorize, and Vanduzi), reaching 100 percent coverage in the province. End-to-end data visibility and the use of the data for decision-making will drive operational efficiency and supply chain security, and empower country leadership to ultimately improve patient outcomes. As of February 2021, 1,304 health facilities (83 percent) nationwide reported data through SIGLUS. All 1,309 products managed by health facilities are included in SIGLUS, including 34 for HIV/AIDS, eight for malaria, 23 for FP/RH, and 39 for MNCH programs.

WAREHOUSING AND DISTRIBUTION

GHSC-PSM improves warehousing and distribution systems in more than 25 countries. As part of this work, the project aims to move countries from a "warehouse" to a "distribution center" model that promotes more frequent stock turnover and requires changes in infrastructure and processes. Interventions include improving data-driven decision-making across the supply chain, optimizing distribution networks, and increasing efficiencies in warehousing and distribution operations.

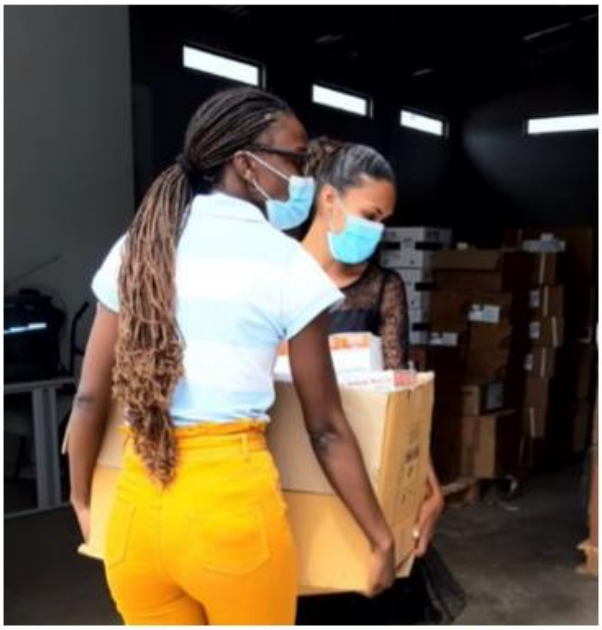
- **Third-party logistics (3PL) subcontracting.** GHSC-PSM develops SOPs and helps modify requests for quotes (RFQs) and 3PL subcontracts for various country programs, aiming to improve distribution and storage practices. Several countries are following Angola's template example for LLIN distribution, where a multi-award indefinite quantity service (IQS) contract is intended to pre-qualify suppliers who then compete for each distribution action through requests for task order proposals (RFTOPs). This approach is already showing cost savings of about 30 percent. By including KPIs in each RFTOP, the mechanism is projected to also produce higher and measurable performance improvements. The project produced a draft generic template based on the Angola model for potential use in any USAID-supported country.
- **Temperature and humidity monitoring.** GHSC-PSM collects data from temperature and humidity data loggers installed in Burkina Faso, Cameroon, Ghana, Guinea, Haiti, Mozambique, and Zimbabwe to analyze the information and produce a report in Q3 on the study findings.
- **Transportation information tool (TransIT).** TransIT is an electronic tool that transmits real-time proof of delivery from receiving locations to the main database for easy access. In Lesotho, GHSC-PSM implemented completely remote training sessions for drivers, dispatch staff, and other warehouse personnel. The project finalized the interface between the warehouse management system (WMS) and TransIT database and continued to work to align the master data to improve effective use of the tool. In Zambia, GHSC-PSM completed the interface between the WMS and TransIT and is preparing for training and piloting TransIT in Lusaka.

In **Angola**, after the receipt of the first TLD shipment by the Instituto Nacional de Luta contra a SIDA (INLS), GHSC-PSM supported distribution planning and delivery to 29 health facilities—including PEPFAR-supported sites—as part of the Phase 1 TLD transition. The project helped with reverse

[22] https://www.abtassociates.com/projects/controlling-the-hiv-epidemic-in-mozambique

logistics for legacy ARVs and training in stock and data management for 100 warehouse and health facility personnel across these provinces.

In **Zambia**'s Copperbelt Province, GHSC-PSM helped the Zambia Medicines and Medical Supplies Agency (ZAMMSA) pilot a private-sector last-mile delivery program for health commodities that provides a model for national implementation. Over two weeks in February, the pilot program showed impressive results, achieving 100 percent on-time and in full, last-mile delivery of 135 tons of health commodities to 25 district health offices (DHOs) and high-volume general hospitals. GHSC-PSM supported the Luanshya hub to draft and train on SOPs that guide management of the 3PL services and helped manage implementation of the pilot program. Because ZAMMSA struggled to deliver health commodities using its own fleet of delivery trucks, 80 percent of health facilities and DHOs have chosen to send their own vehicles to collect needed supplies from ZAMMSA warehouses. Under the pilot program, self-collection of health commodities dropped to 16 percent. Once the hub's management team has taken over full responsibility for operations, the program will roll out to other ZAMMSA hubs.



TLD Distribution activities being conducted by provincial logistics team. Photo credit: Sebastiao Capomba

WORKFORCE DEVELOPMENT

GHSC-PSM strengthens public health supply chain workforces through the project's country offices. These interventions build sustainable workforces through professionalization and systematic approaches to workforce development. GHSC-PSM provided remote support this quarter to Botswana, Burkina Faso, Ethiopia, Liberia, Rwanda, Zambia, and Zimbabwe.

Because COVID-19 prevents travel to partner countries, GHSC-PSM evaluates various learning management systems to support requests from country programs seeking online learning opportunities, to match the most appropriate platforms with various learning needs. **Ethiopia and Mozambique** are among countries seeking ways to offer virtual instruction. The workforce team identifies tools for synchronous and asynchronous learning as well as self-study.

In **Ethiopia**, GHSC-PSM developed the New Staff Induction and Skill Transfer Guide for Pharmaceutical Supply Chain and Pharmacy Services at Health Facilities in Ethiopia. The guide focuses on three areas of transition and induction.

1. **The general induction** introduces new staff to the organization, and their role, and exposes them to guiding rules of government civil service work.

2. **The task-tool checklist** transfers technical skills from older and outgoing employees to new staff within an established timeline.
3. **Managers and leaders are triggered to create opportunities** for junior staff, including potential future managers and leaders in the department.

The implementation strategy is under development and targets human resources and pharmacy department personnel.

In **Rwanda**, the MOH, Rwanda Biomedical Center, World Health Organization, and other key partners validated an online training program containing chapters introducing logistics management, product selection, quantification, procurement, inventory management, logistics information management system, evaluation, financial management, and leadership. GHSC-PSM previously developed and digitalized the program on an online learning platform available through the Regional Center of Excellence for Vaccines Immunization and Health Supply Chain Management. The training modules will be available to new and existing staff at service delivery points and the district and central levels of the health supply chain system. An estimated 2,000 health professionals are expected to access the training modules. After the first cohort completes the program, it will become available to colleagues working within the private sector, helping to align processes across the entire public health supply chain in Rwanda.

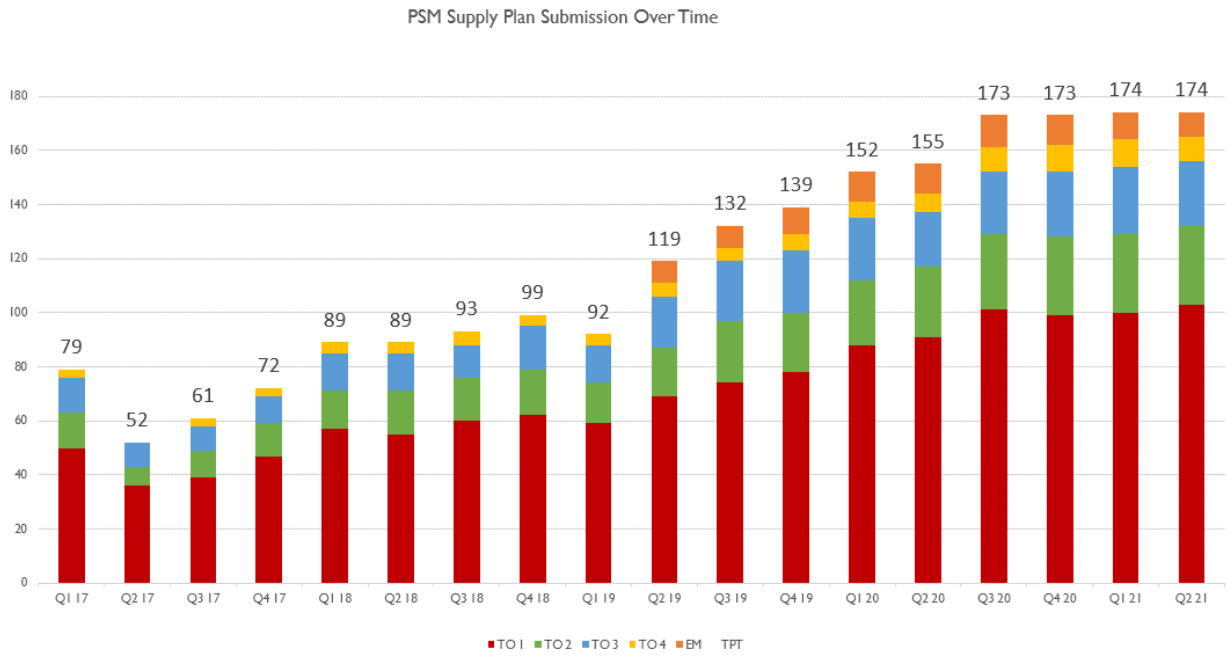
C2A. PROJECT PERFORMANCE

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

SUPPLY PLANS

GHSC-PSM drives adoption of the quarterly supply planning paradigm. In Q2, the project received 174 supply plans from 37 different countries. Of those, 141 were Priority 1 (required by USAID) supply plans, keeping the submission rate for this category above 90 percent (141 out of 151 submitted or 93 percent). Exhibit 20 shows the number of supply plans received by quarter and task order since Q1 2017. In Q2 FY 2021, five countries (Benin, Botswana, Ethiopia, Zambia, and Zimbabwe) submitted supply plans through the new QAT pilot. GHSC-PSM anticipates that more programs will use and submit their supply plans by QAT through FY 2021.

Exhibit 20. GHSC-PSM supply plan submissions over time



Under the quantification paradigm supported by GHSC-PSM, supply plans provide a regularly updated, forward-looking view of demand for 18 months. This comprehensive, systematic, and long-term approach to supply planning provides visibility into monthly demand, even if a single quarterly update is not submitted.

GHSC-PSM monitors supply plans quarterly to identify common errors and omissions across countries or commodity categories, to assess results from earlier improvement efforts, and to identify areas for additional guidance and mentoring. The quality of the plans is assessed against 16 criteria, with the reviews generating actionable recommendations for improvement. The supply plan reviews identify issues with future orders, allowing country offices to take pre-emptive actions to minimize impact.

CAPACITY BUILDING

The number of people trained is an indicator that the project focuses its capacity-building resources on and identifies areas to improve related supply chain outcomes. GHSC-PSM trained 3,491 individuals in Q2 (2,000 women and 1,491 men).

Most trainings were cross-cutting and addressed topics relevant to multiple health areas. By funding source, 66 percent were trained with HIV/AIDS funding; 8 percent with malaria funding; 15 percent with FP/RH funding; and 10 percent with MCH funding. Trainings focused on warehousing and inventory management, LMIS, governance and finance, transportation and distribution, and human resources capacity development.

C3. GLOBAL COLLABORATION

In Q2, GHSC-PSM worked with the Malaria Pharma Task Force's new sub-working group to diversify suppliers of key pharmaceutical ingredient and active pharmaceutical ingredient markets, a critical challenge during the global pandemic.

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

GHSC-PSM engages with other global players to promote the availability of medicines and commodities. The project does this by providing supply-chain expertise to important global fora, working with international partners to allocate scarce supply, promoting harmonization of standards and practices, and managing commodity stock information as a global good. Our contributions are recapped below.

MNCH global partnerships

The MCH task order collaborates with partners in the pharmaceutical wholesaler space to assess the private sector's role and capacity to supply quality assured MNCH commodities. In Q2, the project began working with the International Federation of Pharmaceutical Wholesalers, Inc. (IFPW) Foundation to identify domestic and regional wholesaler associations, develop work plans, and increase their capacity in availing quality assured MNCH commodities. GHSC-PSM and IFPW Foundation will begin supporting a Zambian association in Q3.

GHSC-PSM worked with FP/RH and MNCH partners to update and validate global quantification guidance for countries procuring and managing MNCH commodities, and with global health bodies to provide input on the Every Newborn Action Plan commodity work plan. For more information, see Section B4. Maternal, Newborn, and Child Health.

SUPPLY-CHAIN COLLABORATION IN GLOBAL FORA

GHSC-PSM represents the supply-chain point of view in key global meetings and conferences to ensure that donors and governments consider the supply chain in program planning. Participation helps GHSC-PSM exchange information and stay current with emerging trends, market risks, and requirements to respond to global health commodity needs. By sharing project success stories and innovations in these collaborative spaces, the project promotes USAID's global leadership in supply chain commodities. In Q2, the project did not formally present at any global events, but did prepare presentations and abstracts for submission to upcoming global events. More will be reported on these activities in Q3. In Q2, as described in Sections B1 through C1, GHSC-PSM participated in the following initiatives:

- The project has been a key participant in the KSM/API sub-working group[23] of the Malaria Pharma Task Force[24], to better understand the upstream market of malaria finished pharmaceutical products and to mitigate the risks in these active pharmaceutical ingredients and key starting materials. GHSC-PSM began leading the development of a tool for collective data capture and sharing, and is liaising with external stakeholders to drive analysis and investigation into specific drugs, molecules, and associated risks.
- The Global Donor Technical Working Group meets bi-weekly to coordinate actions and resolve problems with malaria commodity suppliers who cannot fulfill demands because of capacity constraints due to COVID-19.
- The project initiated a monthly QA for LLINs meeting with the Global Fund and UNICEF to gather information and brainstorm processes for enhancing manufacturers' quality management systems (QMS) for LLINs.
- GHSC-PSM supports the Maternal Health Supplies Caucus through participation in ongoing meetings.
- The global mRDT Task Force[25] and IRS/ITN Task Force[26] meet bi-monthly.
- Several GHSC-PSM staff attended the virtual Not Without FP Forum. The event was used to launch the new FP2030 initiative as a follow-on to the work of FP2020.
- The project held a cooperating agency meeting on the enabling environment and workforce development technical priority areas for FP/RH. Partners brainstormed ideas for activities to include in the FY 2022 core work plan.
- GHSC-PSM serves as a key contributor in supporting strategic development and scale-up of the GFPVAN platform and processes. The project focused on realizing the benefits of the tool and supporting and onboarding users.

COLLABORATION WITH OTHER USAID GHSC PROJECTS

GHSC-PSM is a member of the GHSC program family and regularly interacts 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. In Q2, the project worked with GHSC-QA to create a new compliance validation/audit process and pilot activities to collect more standards-based data as a part of existing procurement processes and resources documenting the impact of standards-based identification, labeling, and master data on the GHSC-PSM

[23] KSM/API Working Group members include the Clinton Health Access Initiative (CHAI), Gates Foundation, GHSC-PSM, the Global Fund, Medicines for All Institute (M4ALL), Medicines for Malaria Venture (MMV), Maisha Meds, PATH, Unitaid, PMI, and the World Health Organization (WHO).
[24] Pharma Task Force members include the Asia Pacific Leaders Malaria Alliance Secretariat, CHAI, the Gates Foundation, GHSC-PSM, the Global Fund, Impact Malaria, the Malaria Consortium, MMV, Médecins Sans Frontières (MSF), Pan-American Health Organization, PATH, PMI, UNICEF and WHO.
[25] mRDT Task Force members include CHAI, Foundation for Innovative New Diagnostics, the Gates Foundation, the Global Fund, the Malaria Consortium, MSF, PATH, PMI, GHSC-PSM, United Nations Development Program, UNICEF, UNITAID, and WHO.
[26] ITN/IRS Task Force members include the Against Malaria Foundation (AMF), Clinton Health Access Initiative (CHAI), the Gates Foundation, GHSC-PSM, the Global Fund, Innovative Vector Control Consortium (IVCC), International Federation Red Cross (IFRC), Medicines for Malaria Venture (MMV), Médecins Sans Frontières (MSF), PMI, Population Services International (PSI), Results In Health, United Nations Children's Fund (UNICEF), UNITAID, and WHO.

program to date. GHSC-PSM also worked with GHSC-QA to provide input and support toward COVID-19-related commodity procurement. GHSC-PSM implemented the updated recall SOP and trained all appropriate parties involved in the recall process, emphasizing collaboration across teams.

ANNEX A. COVID-19 RESPONSE

Delivered 460 patient vital sign monitors to Pomezia central warehouse in Italy for distribution to the country's hardest-hit regions and **saved the USG $389,223 in VAT exemptions** in Q2 FY 2021.

Issued 71 ROs and 133 POs for diagnostic sample collection items, diagnostic tests, general patient care, laboratory consumables, PPE, pharmaceutical treatments (essential medicines), and sanitation to 16 countries.

Delivered a total of **468,779 lab commodity items valued at nearly $6 million to 16 countries** by the end of Q2.

Issued POs for **233 oxygen concentrators** and **12 Pressure Swing Adsorption units** to strengthen COVID-19 response through oxygen provision in **7 countries**.

In Q3 FY 2020, the U.S. Government, through USAID, requested that GHSC-PSM undertake new procurement activities with additional funding specifically to support the global COVID-19 response. In Q2 FY 2021, the project continued to work on the following global supply chain workstreams to manage and respond to COVID-19, including:

- COVID-specific country support for procurement from a list of 332 USAID and GHSC-QA–approved products.
- Respiratory and cardiac supply procurement for Italy
- Ventilator support
- Oxygen procurement and technical assistance

COVID-SPECIFIC COUNTRY SUPPORT

Assuring commodity quality

In collaboration with the Global Health Supply Chain-Quality Assurance (GHSC-QA) project, GHSC-PSM provides QA support for COVID-19 activities.

Lab consumables procurement

GHSC-PSM received $12 million in USG funding to procure diagnostic sample collection items, diagnostic tests, general patient care commodities, laboratory consumables, and personal protective equipment (PPE). By the end of Q2 FY 2021, USAID approved 71 requisition orders (ROs) that enabled GHSC-PSM to execute 133 purchase orders (POs) and deliver 468,779 items to 16 countries. During Q2 FY2021, we delivered 154,116 items with a value of over $3.5 million.

PROCUREMENT OF COVID EQUIPMENT FOR ITALY

Over the course of Q1 and Q2, GHSC-PSM coordinated with U.S. Embassy Rome to secure value-added tax (VAT) exemption, from the Government of Italy's (GOI) Revenue Agency, for procurements as a part of USAID's COVID-19 response assistance package to Italy. On February 10, the Italian Revenue Agency granted VAT exemption, **saving the USG approximately $389,223.00 in charges**, and removing a major roadblock for the program's 11 remaining procurements and commodity shipments. With VAT exempted, the project finalized contracts with two key suppliers for intensive care unit (ICU) beds and patient vital sign monitors, resulting in the March 1 delivery of 460 patient vital sign monitors to the GOI's central warehouse in Pomezia, for their distribution to regions across Italy. Also, these contracts will provide 30 ICU beds and 35 patient vital sign monitors for hospitals selected by the USG and GOI. These commodities are scheduled for delivery in early Q3. In addition, GHSC-PSM procured and delivered 100 ventilators, 200 syringe pumps, 120 defibrillators, and 10,472 continuous positive air pressure (CPAP) helmets as a part of USAID's COVID-19 response assistance package for Italy.

VENTILATOR SUPPORT

With all ventilator deliveries completed in Q1, in Q2 GHSC-PSM provided price estimates for supplementary purchases, new consumables procurements, and coordination with ventilator manufacturers and local service providers for recipient countries. The sustained speed and flexibility in this activity represent an extraordinarily collaborative effort across the project, USAID, USG, and country governments.

OXYGEN

Procurement

As of March 31, 2021, GHSC-PSM submitted purchase orders for 12 Pressure Swing Adsorption (PSA) units earmarked for delivery to Afghanistan, Ghana, Mozambique and Tajikistan. The project issued five purchase orders for 233 concentrators to meet demand in Ghana, Guatemala, Haiti, Honduras, and Mozambique.

In Q2, GHSC-PSM conducted a comprehensive process, in close coordination with its USAID partners, to exhaustively list durable and consumable items for the oxygen workstream. The team confirmed item specifications, obtained pricing details from international wholesalers, and competed on bids for five item tranches resulting in 108 new products added to the recently developed oxygen product catalog, Oxygen Commodity Quantification and Budget Calculator.

GHSC-PSM issued requisition orders in Q2 for oxygen consumables and durables through two rounds of formal review for seven countries. This included a thorough analysis of air freight versus consolidated mix of freight options to maximize cost efficiencies across all ROs and countries. These ROs included a total of 223 lines and seven pickup points across four countries and three suppliers.

TECHNICAL ASSISTANCE

GHSC-PSM has initiated clinical and non-clinical technical assistance to improve the oxygen ecosystem for COVID-19 response in Afghanistan, Ghana, Guatemala, Haiti, Honduras, Kenya, Mozambique, and

Tajikistan. In Q2, the project established a contracting mechanism with clinically focused implementing partners that will carry out the project's clinical oxygen technical assistance.

In consultation with USAID/Washington and Missions, GHSC-PSM and implementing partners developed work plans to assess and analyze the oxygen supply chain in each country to determine priorities and shape the design of their technical assistance. The project also began recruiting consultants to support oxygen work in all eight countries.

These assessments have begun in most countries. For example, in Q2, GHSC-PSM, a clinical partner, and health facility staff in Monapo, Mozambique worked with a PSA manufacturer to assess site conditions and readiness for the equipment.

In Guatemala, GHSC-PSM will provide local distribution for oxygen commodities. In Q2 the project released a request for proposals for local distribution services and expects to select a firm for the distribution of concentrators, consumables, and durables from Guatemala City to 20 health facilities in Q3.

Upon completion of the initial assessment activities, GHSC-PSM and clinical partners will develop a comprehensive scope and design of non-clinical and clinical technical assistance activities that include sustainability plans to ensure countries can successfully operate and maintain equipment.

The project also began developing a facility infrastructure and a human resource capabilities assessment tool for use across all countries as needed.

HEALTH SYSTEMS STRENGTHENING: COVID-19 AND EMERGENCY PREPAREDNESS AND RESPONSE

GHSC-PSM publishes guidance documents to help supply chain implementers manage the crisis. In Q2, the project published the Black Swan Event Recovery guide for public health supply chains. This resource provides scenario planning and recommendations based on the project's expertise and experiences during COVID-19 and other recent black swan events. It is available in English, French, Portuguese, and Spanish.

In addition to global support, country teams engaged with national government stakeholders in Q2 to assist them in responding to the pandemic.

In **Sierra Leone,** GHSC-PSM sponsored a four-day COVID-19 Response Inter-Action Review (IAR) facilitated by the Government of Sierra Leone. The IAR was attended by 100+ stakeholders involved in the public health emergency response against COVID-19. Topics included information technology, transportation, non-medical and medical logistics, and use of the Emergency Supply Chain (ESC) Playbook to forecast clinical commodities needed to respond to COVID-19. Participants drafted best practices, challenges, and recommendations to inform the current COVID-19 response in Sierra Leone.

Mozambique brought together stakeholders for emergency planning using the project's emergency supply chain (ESC) framework in Q2. The goal was to make sure that the country is equipped with the mechanisms to ensure the flow of health commodities during a public health crisis.

Following the customization of the ESC playbook in **Botswana**, GHSC-PSM conducted two district-level orientation workshops for individuals involved in COVID-19 preparedness and response. The trainees will adapt the ESC playbook at the district level. The eventual district rollout and simulations are expected to promote country ownership and sustainability in ESC preparedness efforts in Botswana.

SUPPORTING THE GLOBAL COVAX INITIATIVE

In Q2, GHSC-PSM worked with USAID Missions to plan supply chain activities supporting COVAX, the global initiative supplying the COVID-19 vaccine to low- and middle-income countries. By the end of the quarter, USAID was working to funnel COVAX technical assistance funds for up to 13 project-supported country programs through the project's existing funding streams. This funding is expected early in Q3.

Namibia was allocated 127,000 doses of the COVID-19 vaccine through COVAX. In March 2021, USAID tasked GHSC-PSM with identifying a local 3PL to assist the Ministry of Health and Social Services (MoHSS) with vaccine distribution and to help estimate costs for this activity. At the time, very little detailed vaccine profile information was available in the public domain for estimating volume and weight requirements for a typical consignment of the vaccine. There was no distribution list to guide GHSC-PSM in estimating vaccine quantities for each regional distribution point. However, the project leveraged its knowledge base, conducted modelling, used census population distribution information, and estimated the weight of a vaccine box to develop a distribution list. Using this information, the project identified two 3PLs already providing cold chain logistics services to pharmaceutical wholesalers in Namibia. Within approximately three days the 3PLs provided an estimate of costs, allowing the project to swiftly provide this critical information to MoHSS so it could begin vaccinations.

Current Reporting Period

2021-Q2

GLOBAL HEALTH SUPPLY CHAIN PROGRAM

Procurement and Supply Management

Delivery Impact to Date

Number of ACT treatments delivered

320,290,220

Number of Couple Years Protection delivered

81,032,367

Person-years of ARV treatment delivered

12,580,245

Global Supply Chain M&E Indicator Performance

FY2021 Quarter 2, January-March 2021

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

USAID FROM THE AMERICAN PEOPLE | CDC | U.S. President's Malaria Initiative

Overall Project Performance

Fiscal Year 2021 Key Performance Overview - IDIQ

		FY 2021 Q1	FY 2021 Q2	FY 2021 Q3	FY 2021 Q4	FY 2021
Reporting Period (Quarter) Start Date		10/01/20	01/01/21	04/01/21	07/01/21	10/01/20
Reporting Period (Quarter) End Date		12/31/20	03/31/21	06/30/21	09/30/21	09/30/21
Global Supply Chain						
A1a.	Percentage of line items delivered on time and in full, within the minimum delivery window	84%	86%			
A1b.	Percentage of line items delivered on time, within the minimum delivery window	89%	87%			
A3.	Cycle time (average) – # days per shipment	271	264			
A4.	Inventory turns (average number of times inventory cycles through GHSC-PSM-controlled global facilities) – ratio	*Annual indicator*				
A5.	Total landed cost (logistics costs)	9.3%		*Semiannual indicator*		
A13.	Percentage of batches of product showing nonconformity (out of specification percentage)	0.5%	1.4%			
A16.	Percentage of backlogged line items	4.2%	3.1%			

Important: Key performance metrics on this page are intended to provide an overall snapshot of the project's performance. They may conceal nuances of TO and/or country performance and must be interpreted in light of individual TO and/or country performance of more granular data.

Fiscal Year 2021 Key Performance Overview - IDIQ

			FY 2021 Q1	FY 2021 Q2	FY 2021 Q3	FY 2021 Q4	FY 2021
Reporting Period (Quarter) Start Date			10/01/20	01/01/21	04/01/21	07/01/21	10/01/20
Reporting Period (Quarter) End Date			12/31/20	03/31/21	06/30/21	09/30/21	09/30/21
In-Country							
B1.	Stockout rate at SDPs		19%	19%			
B2.	Percentage of stock status observations in storage sites where commodities are stocked according to plan, by level in supply system		26%	22%			
B3.	SDP reporting rate to the logistics management information system (LMIS)		84%	82%			
C1.	Number of people trained – #	TO-Specific Trainings Combined	1,774	2,715			
		Cross-TO Trainings	543	776			
		All Trainings (TO-Specific & Cross-TO)	2,317	3,491			

Important: Key performance metrics on this page are intended to provide an overall snapshot of the project's performance. They may conceal nuances of TO and/or country performance and must be interpreted in light of individual TO and/or country performance of more granular data.

Fiscal Year 2021 Key Performance Overview By Task Order

Indicator		IDIQ FY21 Target	Task Order 1 – HIV/AIDS					Task Order 2 - Malaria					Task Order 3 – PRH					Task Order 4 – MNCH				
			FY21 Target	2020 Q3	2020 Q4	2021 Q1	2021 Q2	FY21 Target	2020 Q3	2020 Q4	2021 Q1	2021 Q2	FY21 Target	2020 Q3	2020 Q4	2021 Q1	2021 Q2	FY21 Target	2020 Q3	2020 Q4	2021 Q1	2021 Q2
Global Supply Chain																						
A1a	Percentage of line items delivered on time and in full, within the minimum delivery window (*Total number of line items delivered*)	80%	80%	89% 816	85% 931	83% 883	85% 1013	80%	82% 168	93% 222	92% 204	95% 238	80%	93% 74	95% 58	88% 51	93% 59	80%	89% 87	90% 31	76% 17	98% 50
A1b	Percentage of line items delivered on time within the minimum delivery window (*Total number of ADDs in the quarter*)	80%	80%	90% 866	89% 927	90% 868	86% 1065	80%	88% 168	97% 230	93% 207	97% 242	80%	97% 78	94% 54	93% 56	97% 58	80%	96% 79	89% 36	93% 14	96% 51
A3	Cycle time (average) – days per line item delivered	250	250	221	238	274	252	350	346	334	374	386	RDC: 250 DD: 275	RDC 280 DD: 239	RDC 248 DD: 276	RDC 277 DD: 265	RDC 219 DD: 353	375	457	369	355	113
A4	Inventory turns – ratio	NA	4	9.8		Annual		4	2.1		Annual		3	2.8		Annual		NA	*No inventory held*			

A2: See Task Order 2 QA-specific indicators below. This indicator is not reported for TO1, TO3, and TO4 because QA processes for these task orders are managed by the GHSC-QA project.
Fiscal Year targets represent desired indicator result aggregated over the full fiscal year.

Indicator		IDIQ FY21 Target	Task Order 1 – HIV/AIDS					Task Order 2 - Malaria					Task Order 3 – PRH					Task Order 4 – MNCH				
			FY21 Target	2020 Q3	2020 Q4	2021 Q1	2021 Q2	FY21 Target	2020 Q3	2020 Q4	2021 Q1	2021 Q2	FY21 Target	2020 Q3	2020 Q4	2021 Q1	2021 Q2	FY21 Target	2020 Q3	2020 Q4	2021 Q1	2021 Q2
A5	Total landed cost (logistics costs)	TBD	TBD	6.2%		6.7%		TBD	22.8%		17.8%		TBD	11.3%		12.6%		TBD	22.4%		31.8%	
A6a A6b	Absolute percent supply plan error, with variants annual absolute percent error and supply plan bias *And* Absolute percent forecast error, with variants annual absolute percent error and forecast bias	*See Forecast and Supply Plan Performance pages for detailed indicator results*																				
A7	Temporary waiver percentage	NA	NA	*Not required for TO1 per M&E Plan*				NA	10%	14%	11.3 %	8.4%	NA	3%	9%	7.8%	10.2 %	NA	*Not required for TO4 per M&E Plan*			
A8	Average percentage of shelf life remaining for warehoused commodities, weighted by the value of each commodity's stock	NA	75%	77%	82%	83%	82%	70%	83%	80%	NA	NA	78%	84%	80%	84%	81%	NA	*No inventory held*			
A10	Percentage of product procured using a framework contract (framework contract percentage)	NA	85%	91%	93%	93%	82%	85%	71%	83%	95%	88%	95%	100 %	100 %	100 %	100 %	75%	100 %	100 %	NA	100 %
A16	Percentage of backlogged line	<5%	<5%	6.4%	6.3%	4.5%	3.8%	<5%	5.1%	2.2%	1.6%	1.0%	<5%	0.9%	0.4%	0.4%	1.2%	<5%	4.2%	0.0%	2.4%	6.3%

A9, A11, A12: These indicators have been removed from the GHSC-PSM M&E Plan with approval from USAID.
A13, A14, A15: See Task Order 2-specific indicator results below. These indicators are not reported for TO1, TO3, and TO4 because QA processes for these task orders are managed by the GHSC-QA project.
Fiscal Year targets represent desired indicator result aggregated over the full fiscal year.

Indicator		Task Order 2 – Malaria				
		FY21 Target	2020 Q3	2020 Q4	2021 Q1	2021 Q2
A2	Percentage of QA processes completed within the total estimated QA lead times	80%	91%	97%	99%	89%
A13	Percentage of batches of product for which the final result is showing nonconformity (out of specification percentage)	<1%	0.0%	2.5%	0.5%	1.4%
A14b	Average vendor rating score – QA labs	NA	86%	90%	90%	75%
A15	Percentage of QA investigation reports submitted within 30 calendar days of outcome determination (QA investigation report submission)	90%	100%		Semiannual	
Indicator		Crosscutting				
A14a	Average vendor rating score – Suppliers	NA	83%	77%	73%	73%
A14c	Average vendor rating score – Freight Forwarders	NA	See detail page	See detail page	See detail page	87%

Fiscal Year targets represent desired indicator result aggregated over the full fiscal year. For certain performance indicators GHSC-PSM and USAID have agreed that targets are not appropriate, either because performance is not fully within project control, to avoid unwanted incentives, or because there is insufficient data to set targets at this time. For more detail, please see Annex C of the GHSC-PSM Monitoring and Evaluation Plan (17 Mar 2020).

Indicator		Task Order 1 – HIV/AIDS				Task Order 2 - Malaria				Task Order 3 – PRH				Task Order 4 – MNCH				Crosscutting			
		2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2
In-country Context, Performance, and Sustainability																					
B1	Stockout rate at SDPs	12%	14%	12%	10%	23%	27%	23%	21%	19%	20%	19%	21%	NA				NA			
B2	Percentage of stock status observations in storage sites where commodities are stocked according to plan, by level in supply system	29%	28%	32%	31%	15%	16%	21%	22%	22%	16%	26%	15%	NA				NA			
B3	SDP reporting rate to the logistics management information system (LMIS)	87%	89%	93%	85%	81%	88%	88%	80%	69%	83%	83%	83%	74%	86%	75%	80%	NA			
B4	Average rating of in-country data confidence at the central, subnational, and SDP levels – (0-9 scale)	6.6		Annual		7.0		Annual		6.9		Annual		7.4		Annual		NA			
B5	Percentage of required annual forecasts conducted	*See country-specific indicator pages for detailed data for this indicator (reported annually).*																			
B6	Percentage of required supply plans submitted to GHSC-PSM during the quarter	*See Supply Plan Submission and country-specific indicator pages for detailed data for this indicator.*																			

Targets for in-country performance indicators are set at the country level. Targets are not required for context indicators.

Indicator		Task Order 1 – HIV/AIDS				Task Order 2 - Malaria				Task Order 3 – PRH				Task Order 4 – MNCH				Crosscutting			
		2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2
In-country Context, Performance, and Sustainability																					
B7	Percentage of total spent or budgeted on procurement of commodities for public sector services by funding source	*See country-specific indicator pages for detailed data for this indicator (reported annually).*																			
B8	Percentage of targeted supply chain activities in which the host country entity has achieved technical independence with GHSC-PSM technical assistance.	*See country-specific indicator pages for detailed data for this indicator (reported annually).*																			
B9	Supply chain technical staff turnover rate	*See country-specific indicator pages for detailed data for this indicator (reported annually).*																			
B10	Percentage of countries that have a functional logistics coordination mechanism in place		82%	Annual			85%	Annual			84%	Annual			78%	Annual			NA		
B11	Percentage of leadership positions in supply chain management that are held by women		NA				NA				NA				NA				29%		

Targets for in-country performance indicators are set at the country level. Targets are not required for context indicators.

Indicator		Task Order 1 – HIV/AIDS				Task Order 2 - Malaria				Task Order 3 – PRH				Task Order 4 – MNCH				Crosscutting			
		2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2
In-country Context, Performance, and Sustainability																					
B12	Absolute percent consumption forecast error, with forecast bias variant	*See country-specific indicator pages for detailed data for this indicator (reported annually).*																			
C1	Number of innovations (including operations research studies) that were developed, implemented, or introduced and are related to the health commodity market or supply chain best practices	8	11	4	2	1	1	0	1	0	1	0	1	2	2	0	0	13	4	2	2
C2	Number of people trained	311	2638	1570	2208	73	467	170	201	12	67	0	224	29	0	34	82	243	2124	543	776
C7a	Percentage of product lost due to expiry while under GHSC-PSM control	*See Warehouse Performance and country-specific indicator pages for detailed data for this indicator.*																			
C7b	Percentage of product lost due to theft, damage, or other causes while under GHSC-PSM control	*See 3PL and Commodity Vendor Performance and country-specific indicators pages for detailed data for this indicator.*																			

Targets for in-country performance indicators are set at the country level. Targets are not required for context indicators.
C3, C4, C5 and C6: These indicators have been removed from the GHSC-PSM M&E Plan with approval from USAID.

Indicator		Task Order 1 – HIV/AIDS				Task Order 2 - Malaria				Task Order 3 – PRH				Task Order 4 – MNCH				Crosscutting			
		2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2
In-country Context, Performance, and Sustainability																					
C8	Number of global advocacy engagements in support of improved availability of essential health commodities	1		1		4		4		6		6		3		4		3		2	
C10	Percentage of GHSC-PSM-procured or supported molecular instruments that remained functional during the reporting period	80%	81%	77%	77%	NA				NA				NA				NA			
C11	Supply chain policies, regulations, strategies, or SOPs developed or updated with GHSC-PSM assistance	*See country-specific indicator pages for detailed narratives for this indicator.*																			

Targets for in-country performance indicators are set at the country level. Targets are not required for context indicators.
C9: This indicator has been removed from the GHSC-PSM M&E Plan with USAID approval.

Delivery Performance

Current Reporting Period

2021-Q2

A1a. On-time, In-Full Delivery

Task Order	Total # of Line Items Delivered	OTIF	OTIF Target
TO1 - COVID19	179	74%	80%
TO1 - HIV	1,013	85%	80%
TO2 - Malaria	238	95%	80%
TO3 - FP/RH	59	93%	80%
TO4 - MNCH	50	98%	80%
Total	**1,539**	**86%**	**80%**

A1b. On-time Delivery

Task Order	Total # of Line Items with ADDs in the quarter	OTD	OTD Target
TO1 - COVID19	184	75%	80%
TO1 - HIV	1,065	86%	80%
TO2 - Malaria	242	97%	80%
TO3 - FP/RH	58	97%	80%
TO4 - MNCH	51	96%	80%
Total	**1,600**	**87%**	**80%**

A16. Backlog Percentage

Task Order	Total # of line items with ADDs in the last 12 months	Backlog	Backlog target
TO1 - COVID19	869	2.2%	5%
TO1 - HIV	3,750	3.8%	5%
TO2 - Malaria	872	1.0%	5%
TO3 - FP/RH	248	1.2%	5%
TO4 - MNCH	189	6.3%	5%
Total	**5,928**	**3.1%**	**5%**

TO	Analysis
Crosscutting	Project-wide, GHSC-PSM continues to maintain strong delivery performance above its targets. On-time, in-full delivery for the quarter was 86 percent, and on-time delivery was 87 percent. The project also saw a reduction to the backlog, which fell to 3.1 percent, well within the targeted range. Delivery volume increased over Q1, pushed up by high volumes in March in particular. The project made more deliveries in March than in any other month since May 2019. The OTD and OTIF results shown here include all applicable reason codes and illustrate performance within GHSC-PSM's manageable control. "COVID-impacted" versions of these metrics are available in the main narrative of the report, showing how pandemic factors outside of project influence continue to impact supply chain outcomes. COVID-impacted OTD for the quarter was 70 percent, and COVID-impacted OTIF was 68 percent. For further discussion of global supply chain dynamics during the pandemic, please see the main narrative of this report.
TO1 - HIV	For HIV/AIDS products, GHSC-PSM continues to maintain strong delivery performance above its targets. On-time, in-full delivery for the quarter was 85 percent, and on-time delivery was 86 percent. OTIF and OTD for ARVs specifically exceeded 90 percent. Task Order 1 also saw a reduction to the backlog, which fell to 3.8 percent, well within the targeted range. Delivery volume increased slightly, with high volumes in March in particular. The project made more deliveries in March than in any other month for more than three years. The OTD and OTIF results shown here include all applicable reason codes and illustrate performance within GHSC-PSM's manageable control. "COVID-impacted" versions of these metrics are available in the main narrative of the report, showing how pandemic factors outside of project influence continue to impact supply chain outcomes. COVID-impacted OTD for the quarter was 69 percent, and COVID-impacted OTIF was 70 percent. For further discussion of global supply chain dynamics during the pandemic, please see the main narrative of this report.
TO2 - Malaria	For malaria products, GHSC-PSM continues to maintain very strong delivery performance above its targets. On-time, in-full delivery for the quarter reached 95 percent, and on-time delivery was 97 percent. There was also a further reduction to the backlog, which fell to 1 percent, well within the targeted range. The OTD and OTIF results shown here include all applicable reason codes and illustrate performance within GHSC-PSM's manageable control. "COVID-impacted" versions of these metrics are available in the main narrative of the report, showing how pandemic factors outside of project influence continue to impact supply chain outcomes. COVID-impacted OTD for the quarter was 71 percent, and COVID-impacted OTIF was 70 percent. For further discussion of global supply chain dynamics during the pandemic, please see the main narrative of this report.
TO3 - FP/RH	For family planning products, GHSC-PSM continues to maintain very strong delivery performance above its targets. On-time, in-full delivery for the quarter reached 97 percent, and on-time delivery was 93 percent. There was an increase in backlogged items, rising to 1.2 percent of all items promised in the last 12 months. This represents three line items which were in transit to the destination at the time of reporting. The OTD and OTIF results shown here include all applicable reason codes and illustrate performance within GHSC-PSM's manageable control. "COVID-impacted" versions of these metrics are available in the main narrative of the report, showing how pandemic factors outside of project influence continue to impact supply chain outcomes. COVID-impacted OTD for the quarter was 88 percent, and COVID-impacted OTIF was 86 percent, results which still exceed the targets for delivery performance. For further discussion of global supply chain dynamics during the pandemic, please see the main narrative of this report.
TO4 - MNCH	For maternal and child health products, GHSC-PSM continues to maintain very strong delivery performance above its targets. On-time, in-full delivery for the quarter reached 96 percent, and on-time delivery was 98 percent. Deliveries included an expedited order for DRC, which was procured from an in-country wholesaler, leading to a rapid response to stockouts in country. The project reported no impacts from COVID19 on TO4 orders this quarter. There was an increase in the backlog which, rose to 6.3 percent of all items promised in the last 12 months. This represents twelve line items which were in transit to the destination at the time of reporting, ten of which have since been delivered.

Delivery Performance

Current Reporting Period

2021-Q2

	A1a. OTIF rate		A1b. OTD rate		A16. Backlog percentage	
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
TO1 - COVID19	**74%**	**179**	**75%**	**184**	**2.2%**	**869**
COVID19	74%	179	75%	184	2.2%	869
TO1 - HIV	**85%**	**1,013**	**86%**	**1,065**	**3.8%**	**3,750**
Adult ARV	91%	140	94%	144	2.6%	466
Condoms	77%	26	88%	24	0.7%	146
Laboratory	80%	624	83%	662	4.1%	2,232
Other Non-Pharma	91%	45	82%	50	4.2%	240
Other Pharma	89%	57	88%	59	4.5%	156
Other RTK	33%	3	25%	4	6.7%	15
Pediatric ARV	91%	43	93%	43	2.3%	260
Severe Malaria Meds			0%	1	0.0%	1
TB HIV	100%	35	97%	36	0.8%	130
Vehicles and Other Equipment					0.0%	4
VMMC	100%	40	95%	42	12.0%	100
TO2 - Malaria	**95%**	**238**	**97%**	**242**	**1.0%**	**872**
ACTs	96%	110	99%	112	0.0%	316
Laboratory	100%	21	100%	21	2.7%	150
LLINs	91%	34	92%	36	3.1%	130
mRDTs	88%	33	91%	33	0.0%	98
Other Non-Pharma	75%	4	100%	3	0.0%	35
Other Pharma	100%	2	100%	2	0.0%	7
Severe Malaria Meds	100%	20	95%	21	1.4%	71
SMC		0		0	0.0%	35
SP	100%	14	100%	14	0.0%	30

	A1a. OTIF rate		A1b. OTD rate		A16. Backlog percentage	
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
TO3 - FP/RH	**93%**	**59**	**97%**	**58**	**1.2%**	**248**
Combined Oral Contraceptives	67%	9	89%	9	0.0%	48
Copper-Bearing Intrauterine Devices	100%	3	100%	3	0.0%	8
Emergency Oral Contraceptives	67%	3	100%	3	0.0%	14
Implantable Contraceptives	100%	28	100%	28	0.0%	53
Injectable Contraceptives	100%	5	100%	5	2.7%	75
Other Non-Pharma	100%	4	100%	2	0.0%	11
Other RTK					0.0%	2
Progestin Only Pills	100%	7	88%	8	4.0%	25
Standard Days Method					0.0%	12
TO4 - MNCH	**98%**	**50**	**96%**	**51**	**6.3%**	**189**
Laboratory					0.0%	17
Other Non-Pharma	100%	6	100%	6	0.0%	9
Other Pharma	98%	44	96%	45	7.4%	162
Other RTK					0.0%	1

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

2021-Q2

A3. Average overall cycle time

Task Order	# of line items delivered	Average Cycle Time	Cycle time target	Average dwell-adjusted cycle time
TO1 - COVID19	179	203		198
TO1 - HIV	1013	252	250	234
TO2 - Malaria	238	386	350	362
TO3 - FP/RH	59	298		288
TO4 - MNCH	50	113	350	113
Total	**1539**	**264**		**248**

A3. Average overall cycle time (with TO3 Targets)

Task Order	# of line items delivered	Average Cycle Time	Cycle time target	Average dwell-adjusted cycle time
TO3 - FP/RH	**59**	**298**		**288**
Direct drop fulfillment	35	353	275	351
Warehouse fulfillment	24	219	250	196

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

TO	Analysis
TO1 - HIV	End-to-end cycle times for HIV/AIDS products fell slightly in FY2021 Q2 to 252 days, close to the target. With an increase in order validation milestone completeness for orders delivered this quarter, the project was able to break down segment times for clarifications and sourcing this quarter. Combined, these segments are in line with cycle times from last quarter's deliveries, with each process averaging about one month. PO release and manufacturing/preparation of orders were both consistent with last quarter, with decreased cycle times for pick-up and delivery segments. (Note that pick-up dates are not available for products shipped under D Incoterms, so the Pick-Up and Deliver segments displayed above are representative of EXW/FCA/CIP term shipments only). Dwell-adjusted cycle time for the quarter was 234 percent. About 28 percent of orders had been placed on hold at some point during processing, with an average hold duration of 63 days. Holds were most commonly placed while orders were awaiting funding approvals.
TO2 - Malaria	End-to-end cycle times for malaria products rose this quarter, to an average of 386 days. Time from order processing through USAID approval and PO release was generally in line with deliveries in the previous quarter, but time from PO release to goods availability increased, as did pick-up to delivery times. Supplier delays due to COVID-19 were common. There was also a high proportion of deliveries of malaria products to the DRC this quarter (30 percent of all orders), which pushed cycle times upward. Average cycle time for QA processes was 36 days, a decrease from FY2021 Q1 (52 days). When adjusted for dwell time, average cycle time was 362 days. Holds were applied to 34 percent of delivered line items, averaging 72 days in duration. The most common reasons for holds included: waiting for MOP funding approvals or revisions and changes to quantities, which were typically also related to funding or in-country quantifications. Additional orders were placed on hold soon after order entry to await allocation closer to the requested delivery date.
TO3 - FP/RH	End-to-end cycle time for warehouse fulfillments dropped this quarter to 219 days. When adjusted for dwell time, the cycle time is further reduced, to 196 days. The most notable improvements were in the time from USAID approval to DO release, and in the time from cargo ready to final delivery. Reasons for dwell time included holds placed while awaiting funding allocations and decisions around order prioritization due to funding constraints. For direct drops, cycle time was longer, rising to 353 days with minimal impact from dwell adjustments. Orders were processed and released quickly but experienced long cycle times in the manufacturing and delivery stages. Drivers of long cycle times included four orders for Bangladesh, which where placed a year or more in advance of the requested delivery dates. These orders had long cycle times (>200 days) from order entry to recipient approval, but were delivered quickly following PO release. The project also delivered 20 line items to the DRC, which were placed a year in advance given the expectations for lengthy logistics lead times for this destination and allocation wait-times for constrained one-rod implants. Other long cycle times for direct drops were due to COVID-19 delays from manufacturers based in India and early order placement
TO4 - MNCH	Average cycle time for maternal and child health deliveries fell sharply this quarter due to a specific tranche of orders for the DRC. Typically DRC orders have long cycle times due to a high degree of complexity and lengthy processes to secure import waivers. However, in this case, USAID issued a technical directive memo to the project to process emergency procurements from an in-country wholesaler, to mitigate stockouts of essential medicines. GHSC-PSM expedited processing of the orders, and the supplier was able to fulfill the orders from their stock in-country. With manufacturing and logistics timeframes significantly shortened, the end-to-end cycle time was substantially reduced. A small number of other deliveries to Nigeria and Mali had more typical cycle times, averaging about 300 days. Finally, dwell-adjusted cycle time was the same as end-to-end cycle time, as no orders this period were placed on hold at any time.

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 end-to-end cycle times. Targets are not set for individual segments or dwell-adjusted cycle time.

Cycle Time Performance

Current Reporting Period

2021-Q2

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	**203**	**186**		**223**				**203**
COVID19	203	186		223				**203**
TO1 - HIV	**239**	**236**	**460**	**372**	**233**	**215**	**274**	**252**
Adult ARV	246	221		251	253	221	294	**251**
Condoms				307			186	**298**
Laboratory	252	237		475				**249**
Other Non-Pharma	270	224		478				**248**
Other Pharma	180	265	460	461				**350**
Other RTK	267							**267**
Pediatric ARV	240	149		401	203	137	176	**230**
TB HIV	214			308	170			**228**
VMMC	171			235	281		182	**182**
TO2 - Malaria	**267**	**497**		**426**			**133**	**386**
ACTs	280	517		479			133	**391**
Laboratory	218			414				**358**
LLINs		477		399				**405**
mRDTs	242			338				**335**
Other Non-Pharma	146			369				**313**
Other Pharma	289							**289**
Severe Malaria Meds	263			430				**413**
SP				461				**461**
TO3 - FP/RH	**215**	**380**		**369**	**210**		**225**	**298**
Combined Oral Contraceptives	192			394			196	**239**
Copper-Bearing Intrauterine Devices					156			**156**
Emergency Oral Contraceptives	133			292				**239**
Implantable Contraceptives	267			376	276		566	**361**
Injectable Contraceptives		369		307	195		245	**262**
Other Non-Pharma		383						**383**
Progestin Only Pills					135		195	**186**

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

Fulfillment Channel	Direct Drop Fulfillment			Total
Product Category	Air	Land	Sea	
Other Non-Pharma	352			**352**
Other Pharma	306	64	296	**81**
Total	**341**	**64**	**296**	**113**

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 are set for overall end-to-end cycle times. Targets are not set for individual segments or dwell-adjusted cycle time.

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	**82**	**3**	**49**		**84**	**41**	**51**
TO1 - COVID19	38	2	52		44	58	35
TO1 - HIV	73	3	55		98	32	36
TO2 - Malaria		2	29		77	46	83
TO3 - FP/RH		2	44		91	34	134
TO4 - MNCH	49	6	23		20	20	23
Warehouse fulfillment	**76**	**3**	**78**	**39**	**8**	**30**	**39**
TO1 - HIV	81	3	95	37	7	30	30
TO2 - Malaria		8	12	29	7	22	68
TO3 - FP/RH		2	26	48	14	34	62
Total	**81**	**3**	**51**	**97**			**50**

Quality Assurance Performance (TO2 only)

Current Reporting Period

2021-Q2

A2. QA processes completed within required lead times

Task Order	Total # of QA processes completed	% QA Processes On Time	A2 Target
TO2 - Malaria	**93**	**89%**	**80%**
ACTs	56	88%	80%
LLINs	19	84%	80%
mRDTs	5	100%	80%
Other Pharma	0		80%
Severe Malaria Meds	10	100%	80%
SMC	0		80%
SP	3	100%	80%

A13. Out-of-specification percentage

Task Order	Total # of batches tested	Out-of-specification percentage	A13 Target
TO2 - Malaria	**368**	**1.4%**	**1%**
ACTs	179	2.8%	1%
LLINs	39	0.0%	1%
mRDTs	78	0.0%	1%
Other Pharma	0		1%
Severe Malaria Meds	62	0.0%	1%
SMC	0		1%
SP	10	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

Task Order	# of reports due	Report submissions	A15 Target
TO2 - Malaria	**2**	**100%**	**90%**
ACTs	1	100%	90%
LLINs	1	100%	90%
mRDTs			
Other Non-Pharma			
Other Pharma			
Severe Malaria Meds			
SMC			
SP			

Ref	Analysis
A02	Excluding processes affected by COVID-19, 89 percent of QA processes were completed within the required lead times. Two laboratories (one for ACTs and one for LLINs) were temporarily closed during this quarter while the labs were being relocated, which delayed the testing process. Alternate labs were used when possible. With the inclusion of processes affected by COVID-19, the performance was 71 percent.
A13	Out of specification findings rose this quarter to 1.4 percent of batches tested. Five batches of an ACT order were identified as non-conforming, with root cause found to be in the manufacturing process. The batches were rejected and replaced, following the implementation of manufacturing process controls by the supplier to mitigate the variation in assay results, which were due to static energy generated during manufacturing.
A14b	QA lab performance decreased from 90 to 75 percent this quarter; however, this was heavily impacted by two of the four labs temporarily closing for relocation, which most impacted timeliness of test results (reliability). A third lab had all of its tests impacted by COVID delays, therefore those tests were not assessed for timeliness under the reliability indicator. Other labs experienced some COVID delays affecting some tests, which were also not assessed for timeliness. Customer service also decreased slightly, while the three remaining indicators (responsiveness, cost, and completeness of documentation) all improved this quarter.
A15	All QA investigation reports due to USAID in FY21 Q1-2 were completed and submitted on time. The team continues to diligently investigate nonconformities and seek PMI concurrence on investigation outcomes.

Warehouse Performance and Product Losses

Current Reporting Period

2021-Q2

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	$4,740	$236,411,571	0.00%
TO1 - HIV	RDC	Expiry	Adult ARV, Other Pharma	$274,119	$17,043,755	1.61%
TO2 - Malaria	RDC	Expiry	NA	$0	$0	
TO3 - FP/RH	RDC	Expiry	NA	$0	$7,352,796	0.00%
TO1 - HIV	Tanzania	Incorrect/Unacceptable Product Supplied	Laboratory	$292,829	$451,060	64.92%
TO2 - Malaria	Burundi	Missing product	ACTs	$8,127	$963,295	0.84%
TO2 - Malaria	Ethiopia	Other	Laboratory	$5,492	$1,373,807	0.40%
TO1 - HIV	Nigeria	Temperature Excursion	Laboratory	$153,490	$472,823,142	0.03%

A8. Shelf life remaining

Task Order	Inventory Balance	% Shelf Life Remaining	Shelf life target
TO1 - HIV	$104,788,078	82%	78%
TO2 - Malaria	$21,697,296	69%	70%
TO3 - FP/RH	$58,668,600	84%	77%
Total	**$185,153,973**	**78%**	

Ref	Analysis
A08	Shelf life performance for family planning commodities remained consistent with previous quarters, with 81 percent shelf life remaining. All product categories exceeded the 80 percent target, with the exception of combined oral contraceptives. Shelf life for these commodities was lower (but close, at 79 percent) due to stockpiling of this product to prevent shortages with the upcoming transition to sugar placebos. The project accepted product with lower shelf life from the supplier to ensure demand coverage. Demand is expected to be high enough to distribute the product with no risk of expiry in the RDC. The greatest share of inventory value is two-rod implants. GHSC-PSM increased its inventory of this product at the RDC in anticipation of increased demand for two-rod as the supply of one-rod implants has remained constrained, but the demand has not increased as expected. The project is therefore reducing inbound orders of two-rod implants in the next quarter to use up its current stock.
A08	Shelf life performance for HIV/AIDS commodities remained strong from the last quarter with 82 percent of shelf life remaining. Significant volumes were shipped from the RDC this quarter following lower outbound activity during the holiday season, leading to a 35 percent reduction in the total closing balance from Q1 to Q2. All product categories exceeded the 78 percent shelf life target, with the exception of a small quantity of VMMC items that have been discontinued per USAID guidance and slated for destruction.
A08	Similar to last quarter, there was zero usable stock on hand of malaria commodities at the end of this quarter. Procurements of Alu that were intended to replenish the RDC were diverted to emergency orders from Burkina Faso, Code d'Ivoire, and Liberia as direct drop shipments, resulting in no new stock replenishments at the RDC. Therefore, no shelf life figure is reported.
C07a	A small quantity of ARVs (EFV600) expired at the RDC this quarter due to product transition to TLD in countries. Other pharma that expired this quarter was the result of a lack of demand for the product from a direct drop cancellation that was re-routed to the RDC. No process issues contributed to product wastage.
C07a	There were no expiries of TO2 commodities this quarter.
C07a	There were no expiries of TO3 commodities this quarter.
C07b	This quarter, the most notable incidents included: a temperature excursion to lab commodities for Nigeria and an incorrect product delivery for Tanzania. Claims for reimbursements or replacements have been filed with the relevant suppliers or freight forwarders.

Data notes

Task Order 1 inventory includes all condoms. GHSC-PSM does not hold any inventory for Task Order 4.

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).

Expired inventory is excluded from shelf life calculations (A8). It is reported under product loss.

Average inventory balance (A4 and C7a denominator) is calculated using the ending balance at the close of each month.

Procurement Performance

Current Reporting Period

2021-Q2

A10. Framework contract percentage

Task Order	Procurement total	Framework contract percentage	Framework contract target
TO1 - COVID19	$2,932,246	23%	
TO1 - HIV	$111,918,569	82%	85%
TO2 - Malaria	$102,608,723	88%	85%
TO3 - FP/RH	$9,107,486	100%	95%
TO4 - MNCH	$9,844,547	100%	85%
Total	**$236,411,572**	**85%**	**NA**

A10. Product-level detail

Task Order	Framework contract percentage	Procurement total
TO1 - COVID19	**23%**	**$2,932,246**
COVID19	23%	$2,932,246
TO1 - HIV	**82%**	**$111,918,569**
Adult ARV	100%	$58,107,833
Condoms	100%	$3,280,304
Laboratory	55%	$37,010,175
Other Non-Pharma	19%	$3,875,781
Other Pharma	100%	$918,260
Other RTK	8%	$851,610
Pediatric ARV	100%	$4,642,553
TB HIV	100%	$719,120
VMMC	100%	$2,512,933
TO2 - Malaria	**88%**	**$102,608,723**
ACTs	100%	$17,680,393
Laboratory	99%	$248,177
LLINs	81%	$56,974,631
mRDTs	95%	$19,312,767
Other Non-Pharma	100%	$804,258
Other Pharma	100%	$13,125
Other RTK	0%	$39,375
Severe Malaria Meds	100%	$3,676,812
SMC	100%	$1,295,932
SP	100%	$2,563,253

A10. Product-level detail

Task Order	Framework contract percentage	Procurement total
TO3 - FP/RH	**100%**	**$9,107,486**
Combined Oral Contraceptives	100%	$1,126,276
Copper-Bearing Intrauterine Devices	100%	$57,935
Implantable Contraceptives	100%	$4,853,050
Injectable Contraceptives	100%	$2,779,071
Other Non-Pharma	100%	$203,213
Progestin Only Pills	100%	$78,192
Standard Days Method	100%	$9,750
TO4 - MNCH	**100%**	**$9,844,547**
Other Pharma	100%	$9,844,547

Task Order	Analysis
TO1 - HIV	Eighty-two percent of HIV/AIDS commodities were procured under framework contracts, a decline from the previous three quarters. The total procurement value also fell, following a reduction in ARV procurements for the quarter. While adult and pediatric ARVs continue to be entirely procured under framework agreements, ARV procurements up a smaller share over of the overall procurement values (56 percent in Q2 compared to more than 70 percent in the last three quarters). Laboratory procurements were therefore more impactful on the indicator this quarter. Lab items continue to be procured under a mix of framework and non-framework agreements.
TO2 - Malaria	Use of framework contracts for malaria procurements fell from 95 percent to 88 percent of procurement value this quarter. All pharmaceuticals continue to be procured under IDIQs, and non-pharma were procured under BOAs. This quarter, all lab products (with the exception of an order of reagents for Ethiopia) were procured under BOAs. Ninety-five percent of rapid diagnostic tests were procured under IDIQs. The percentage of LLINs procured under IDIQs fell from 90 percent last quarter to 81 percent this quarter, due to procurements of DualAI nets, for which the project does not yet have framework agreements. These are executed under one-off contracts, utilizing a co-payment mechanism involving a third party. GHSC-PSM expects to execute a long-term agreement for the DualAI nets directly with the manufacturer in the near future.
TO3 - FP/RH	TO3 continues to procure all items under framework contracts, per the sourcing strategy for these commodities. This quarter, the Family Planning Procurement team began extending the period of performance for contracts through November 2023, which will cover the remainder of the GHSC-PSM project.
TO4 - MNCH	There were several procurements of maternal and child health essential medicines for DRC this quarter, valued at $9.8 million and procured under BOAs.

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	**8.4%**	**238**
ACTs	11.8%	110
LLINs	0.0%	34
mRDTs	6.1%	33
Laboratory	0.0%	21
Severe Malaria Meds	0.0%	20
SP	21.4%	14
Other Non-Pharma	0.0%	4
Other Pharma	100.0%	2
SMC		0
TO3 - FP/RH	**10.2%**	**59**
Implantable Contraceptives	7.1%	28
Combined Oral Contraceptives	11.1%	9
Progestin Only Pills	14.3%	7
Injectable Contraceptives	0.0%	5
Other Non-Pharma	0.0%	4
Copper-Bearing Intrauterine Devices	66.7%	3
Emergency Oral Contraceptives	0.0%	3
Total	**8.8%**	**297**

Task Order	Analysis
TO2 - Malaria	Use of registration waivers fell to 8.4 percent of line items delivered in FY2021 Q2. This included 12 line items of ACTs (11.8 percent of ACTs), nine of which were for Liberia. Others included two lines each for mRDTs and other pharma (primaquine), and three lines of SP. Destination countries requiring waivers for one or more line items included Burkina Faso, Burundi, Cote d'Ivoire, Ghana, Laos, Liberia, Niger, Nigeria, Senegal, and Sierra Leone.
TO3 - FP/RH	Use of registration waivers this quarter rose to just over 10 percent of line items delivered. This included several orders for Angola for oral contraceptives and implants, which were placed as emergency gap-fills. USAID does not typically procure for Angola, and therefore suppliers have not prioritized registration in this country. Other unregistered products included copper-bearing IUDs for Malawi and implants for Haiti (which has no functional registration agency). Looking ahead, use of registration waivers is likely to increase given two factors: first, the manufacturing location for key injectables products is changing, which requires re-registration; and second, the upcoming switch from COCs containing iron to sugar placebos will likely mean a need for new registrations in many countries. Waivers will be used as needed as these registration updates proceed.

Supply Plan Submissions

Current Reporting Period

2021-Q2

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

Product Group	# of supply plans required	Supply plan submission rate	Submission target
ARVs	20	100%	90%
Condoms	21	100%	90%
FP commodities	21	100%	95%
Lab (HIV diagnostics)	15	100%	90%
Malaria commodities	29	97%	90%
RTKs	18	100%	90%
TPT	14	93%	85%
VMMC	6	67%	80%
Total	**144**		

Analysis

Supply plan submissions for key HIV/AIDS commodity groups were strong this quarter with a 100 percent submission rate for ARVs, RTKs, lab commodities, and condoms, similar to previous quarters. Four out of six required plans were once again submitted for VMMC commodities this quarter, and an increase of 13 out of 14 plans were submitted for TPT.

All required malaria supply plans were submitted as expected this quarter except for one, lowering the submission rate from 100 percent to 97 percent.

All required family planning and condoms supply plans were submitted as expected this quarter.

Supply Plan and Forecast Performance

Current Reporting Period

2021-Q2

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	18%	-18%	31%	25%	-31%
Condoms	64%	64%	31%	25%	31%
Laboratory	96%	-96%	19%	25%	-19%
Pediatric ARV	7%	-7%	35%	25%	-35%

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	8%	-8%	69%	35%	-69%
mRDTs	24%	-24%	40%	35%	-40%

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	61%	61%	22%	25%	22%
Copper-bearing Intrauterine Devices	271%	-271%	51%	25%	-51%
Implantable Contraceptives	33%	33%	13%	25%	13%
Injectable Contraceptives	0%	0%	10%	25%	10%
Progestin Only Pills	0%	0%	0%	25%	0%

Task Order	Analysis
TO1 - HIV	Actual orders of condoms greatly exceeded planned orders this quarter, yielding a 64 percent error. This disparity is due in part to emergency shipments with short order lead times of male condoms to Burkina Faso, Togo, and Malawi, to prevent stockouts. The shortage in-country for Malawi was the result of delays in condom deliveries due to COVID-19. In contrast, female condoms and lubricants performed well this quarter due to countries placing orders well above average lead time.
TO1 - HIV	Supply plan error for adult ARVs and pediatric ARVs improved this quarter, to 18 percent for adult ARVs and 7 percent for pediatric ARVs. However, the rolling four-quarter view of the metrics has opened up to show wider variance over the last, as overordering in early FY2020 has been followed by underordering for the last four quarters. Orders and plans came into better alignment this period, but more volatility is expected ahead. Many countries have not yet designated their upcoming TLD orders as planned for GHSC-PSM procurement, as COP21 funds are being finalized. This will create variance between past supply plans and orders as they are placed. For pediatrics, deliveries of DTG 10 are about to begin. Supply plan variance is expected as countries revise their LPV/r orders and transition to DTG 10.
TO1 - HIV	Supply plan error for lab items rose to 96 percent this quarter, with actual orders falling short of supply plan quantities for every lab product group except for CD4. Within lab product groups, EID performed the strongest, with 36 percent error
TO2 - Malaria	Supply plan error for mRDTs was 24 percent, consistent with previous quarters. Planned quantities continue to exceed actual orders. Supply plan error for ACTs decreased overall from last quarter. Planned quantities were nearly identical to actual orders for AL, but planned quantities exceeding ordered quantities for ASAQ. Orders of ASAQ for the DRC, Angola, and Liberia were the main contributors to the supply plan error. Although the DRC did not have any orders scheduled for delivery during Q2, due to COVID-19 delays that began in October, several shipments arrived at this time, leading them to push back planned orders for this quarter. Angola planned large orders of ASAQ totaling 1.4M tablets, but only procured 10 percent of the quantity. The GHSC-PSM TO2 team is working closely with the Angola team to improve quantification efforts moving forward. After the annual quantification, Liberia procured only two presentations of ASAQ and now intends to phase out this commodity and only procure AL. The GHSC-PSM TO2 team is in communication with all countries transitioning from ASAQ (including Liberia) to update their supply plans to reflect this change.
TO3 - FP/RH	Forecast error for implants and combined oral contraceptives increased this quarter to 33 percent and 61 percent, respectively. A two-rod implant order for Mali was increased to account for the stock running low while waiting for the order to be delivered due to long supplier lead time, and Kenya requested an emergency order of one-rod implants to prevent stockout. A combined oral contraceptives order for Mali increased to meet the needs of both the public and social marketing sectors. The combined orders will be delivered to the SMO, as the public sector location is unavailable due to the unrest following the 2020 coup. Burkina Faso placed an order for COCs with short order lead time. This was the first COC order for Burkina Faso funded by USAID in the past 10 years, as this product was previously funded by UNFPA previously. (Ultimately, this order was canceled before the PO was issued, but it was still in progress at the time of reporting.) The forecast for copper-bearing intrauterine devices exceeded the actuals by 271 percent this quarter, a result of an order placed by Uganda whose RDD was postponed to a later quarter to account for overstock in country. There was strong performance for injectables this quarter, with zero variance from the global forecast due to coordination around allocations both internally within GHSC-PSM and externally with the Consensus Planning Group under GFPVAN. Progestin-only pills continued to have no variance from the global forecast this quarter due to countries placing orders with adequate lead time.

Total Landed Cost

Current Reporting Period

2021-Q2

A5. Total Landed Costs

Task Order	Total Landed Cost (Freight and Logistics)	TLC Target	Delivery Total	Total Landed Cost (Freight, Logistics, and HQ Operations)
TO1 - HIV	6.7%		$695,945,742	10.5%
TO2 - Malaria	17.8%		$183,709,195	22.8%
TO3 - FP/RH	12.6%		$37,590,532	27.2%
TO4 - MNCH	31.8%		$5,177,464	47.9%
Total	**9.3%**		**$922,422,933**	**13.8%**

A5. Cost Breakdown

Cost Type	TO1 - HIV	TO2 - Malaria	TO3 - FP/RH	TO4 - MNCH	**Total**
Freight and Logistics	**$46,633,612**	**$32,746,400**	**$4,724,967**	**$1,648,218**	**$85,753,197**
Country-specific Logistics	$1,988,951	$226,616	$588,473	$7,503	**$2,811,543**
Demurrage	$13,687	$83,206	$8,463	$23,896	**$129,252**
Drop Ship Freight	$29,591,021	$30,156,207	$1,777,336	$1,619,806	**$63,144,369**
Inbound Freight	$3,329,435	$377,013	$131,565	$0	**$3,838,013**
Insurance	$802,356	$285,713	$91,204	($162)	**$1,179,112**
Loss	$13,391	$0	$439	$0	**$13,830**
Outbound Freight	$8,844,062	$1,739,937	$2,036,536	($2,824)	**$12,617,710**
Security	$533,197	$159,567	$13,936	$0	**$706,700**
Warehousing	$1,517,513	($281,860)	$77,014	$0	**$1,312,668**
HQ Operations	**$26,100,075**	**$9,188,326**	**$5,489,031**	**$831,487**	**$41,608,919**
Forecasting and Supply Planning	$2,994,520	$1,136,127	$1,045,526	$52,422	**$5,228,595**
GS1	$1,077,723	$495,667	$127,223	$39,870	**$1,740,484**
MIS	$3,153,660	$1,201,812	$2,164,464	$90,115	**$6,610,051**
Monitoring and Evaluation	$3,834,632	$3,430,527	$665,296	$146,944	**$8,077,400**
Procurement	$13,667,814	$2,632,841	$1,407,097	$456,670	**$18,164,421**
Warehousing and Distribution	$1,371,726	$291,352	$79,424	$45,466	**$1,787,968**
Total	**$72,733,688**	**$41,934,726**	**$10,213,998**	**$2,479,705**	**$127,362,117**

Task Order	Analysis
TO1 - HIV	Freight and logistics costs as a percentage of the dollar value delivered increased slightly from the previous period, rising to 6.7 percent. Costs fell for country-specific logistics, but increased for all categories of freight (inbound, outbound, and drop ship). This may be reflective of increased freight costs during the COVID-19 pandemic, which have been widely observed across most global industries. The global freight market remains highly constrained and volatile as the pandemic continues. This data includes deliveries and expenditures.
TO2 - Malaria	This quarter, freight and logistics costs as a percentage of the dollar value delivered continued to fall, reaching 17.8 percent. Expenditures remained consistent despite a 27 percent increase in the dollar value of commodities delivered. It should be noted that this result may be partially due to the invoicing lag noted above. Most industries have seen increased freight costs during the COVID-19 pandemic, as the global freight market remains highly constrained and volatile as the pandemic continues. Per agreement with USAID, quality assurance costs are not included in this indicator since GHSC-PSM does not manage QA across all Task Orders. For TO2, where QA is managed by the project, the total landed cost (freight and logistics) with QA included increases to 18.7 percent. Total landed cost including HQ operations is 24.2 percent with QA included.
TO3 - FP/RH	This quarter, freight and logistics costs as a percentage of the dollar value delivered rose to 12.6 percent. While warehousing and outbound freight expenditures fell, drop ship freight costs increased. The total value of goods delivered also fell by about 15 percent, from $44.3 million to $35.6 million. Total freight and logistics expenditures only fell by 6 percent in the same period, resulting in the increased total landed cost percentage. Most industries have seen increased freight costs during the COVID-19 pandemic, as the global freight market remains highly constrained and volatile as the pandemic continues. The reduced delivery value also drove the TLC rate increase with HQ operations costs factored in. Total expenditure on HQ operations remained consistent with the previous period, but the lower delivery volume resulted in an increased TLC rate.

Data notes

GHSC-PSM's total landed cost indicator is equal to the sum of all costs associated with commodity delivery, divided by the total value of commodities delivered. It is reported semiannually, for a rolling 12-month period. It provides a high-level sense of the project's relative operations and direct logistics costs, but it may lack precision for several reasons: 1) Commodity cost savings may cause the denominator to decrease, even if volume stays the same. This may have the effect of increasing total landed cost as percentage, even if costs in the numerator remain the same. 2) Logistics costs for items shipped under C and D Incoterms are built into the commodity cost charged by the supplier. They cannot be separated out and assigned to the numerator. 3) Costs in the numerator represent invoices paid, per the project monthly financial statement, while commodity costs are based on items delivered Numerator costs may therefore be delayed compared to delivery activity represented by the denominator.

Total Landed Cost

Current Reporting Period

2021-Q2

A5. Total Landed Costs

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Total	**$72,733,688**	**$41,934,726**	**$10,213,998**	**$2,479,705**	**$127,362,117**

Task Order	Analysis
TO4 - MNCH	This quarter, freight and logistics costs as a percentage of the dollar value delivered rose again, reaching 31.8 percent. The value of deliveries remained consistent at around $5 million, but drop ship freight costs increased. Most industries have seen increased freight costs during the COVID-19 pandemic, as the global freight market remains highly constrained and volatile as the pandemic continues.

Data notes

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Vendor Performance

Current Reporting Period

2021-Q2

A14a-c. Average vendor rating score

Vendor Type	Average vendor rating
Commodity Supplier	73%
Freight Forwarder	87%
QA Lab	75%

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?	57%	48%	27%
2 - Responsiveness	Does the lab provide prompt response after receipt of GHSC-PSM request for testing	94%	15%	14%
3 - Completeness of Documentation	Frequency of modification to Certificates of Analysis (CoA)	100%	18%	18%
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)	63%	10%	6%
Total			**100%**	**75%**

Analysis

The average freight forwarder (3PL) vendor score this quarter was 87 percent, higher than the last reported score of 85 percent one year ago. GHSC-PSM has resumed reporting the customer service assessment this quarter, enabling the project to resume reporting an overall freight forwarder score. There was an improvement in on-time performance this quarter, as well as in invoicing accuracy since last quarter. However, it must be noted that the project has updated its methodology for measuring invoicing accuracy this quarter to encompass only invoices that were actually processed during the reporting period, regardless of when the invoices were received. Invoices received this quarter but processed in the following quarter, for example, will now be assessed in the following quarter. Therefore, trends in invoicing accuracy may lag slightly behind trends in the other metrics. Spot quote turnaround has continued to improve, despite the large increase in spot requests over the past year. The percentage of shipments for which the arrival at port was within the ETA set by the 3PL (ETA delivery accuracy/reliability) declined slightly again this quarter. All other metrics remained largely constant.

Supplier on-time performance stayed constant at 73 this quarter. As in recent quarters, late orders affected by COVID-19 continue to be counted as on-time through an acceptable supplier delay code. However, in the past two quarters, fewer orders have been affected by COVID-related delays. Delays this quarter can in part be explained by the delay of a large order of malaria

QA lab performance decreased from 90 to 75 percent this quarter; however, this was heavily impacted by two of the four labs temporarily closing for relocation, which most impacted timeliness of test results (reliability). A third lab had all of its tests impacted by COVID delays, therefore those tests were not assessed for timeliness under the reliability indicator. Other labs experienced some COVID delays affecting some tests, which were also not assessed for timeliness. Customer service also decreased slightly, while the three remaining indicators (responsiveness, cost, and completeness of documentation) all improved this quarter.

Data notes

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

Global Advocacy Engagements

Current Reporting Period

2021-Q2

Crosscutting

1

Name of Engagement	Description
Global Digital Health Forum 2020	GHSC-PSM attended the 2020 Global Digital Health Forum as a presenter to introduce the Quantification Analytics Tool (QAT), a modernized forecasting and supply planning (FASP) solution that is replacing legacy FASP software and aims to improve country-led supply planning, global data visibility, and thus availability of commodities across health programs.

HIV/AIDS

1

Name of Engagement	Description
ARV Procurement Working Group (APWG) Annual Meeting	GHSC-PSM participated in the annual meeting of the APWG. Key performance indicators for the next fiscal year were approved (supply security, consolidated order management, procurement consortium demand, order cycle coordination, and product selection optimization). Alignment was also achieved on key activities moving forward (dolutegravir 10 mg transition, tracking adult and pediatric ARV market trends, manufacturer lead times for low-demand ARVs, etc.).

Global Advocacy Engagements

Current Reporting Period

2021-Q2

Malaria

4

Name of Engagement	Description
American Society of Tropical Medicine and Hygiene (ASTMH) annual meeting	GHSC-PSM participated in the virtual ASTMH 2020 annual meeting. Major thematic areas for malaria, among other tropical diseases, were included in the meeting, such as malaria epidemiology studies, entomology studies, case management, seasonal chemoprevention, malaria in pregnancy, insecticide-treated nets, malaria elimination, surveillance, insecticide and antimalarial resistance, malaria immunity, etc. The project presented three posters in the meeting: "Leveraging new technologies and global standards for improved supply chain security and patient safety for malaria products" by the head office; "An integrated supply chain management course is building capacity in Angola" by the Angola field office; and "Use of routine supply chain data to improve rollout of community case management for malaria in Siaya County, Kenya" by the Kenya FO.
Procurement coordination with global partners	GHSC-PSM worked with the Global Fund, UNICEF, and Malaria Consortium to share demand information and coordinate planning of procurement of sulphadoxine-pyrimethamine + amodiaquine (SPAQ) for FY 2022 seasonal malaria chemoprevention (SMC) campaigns.
Malaria Pharma Task Force, mRDT Task Force, and IRS/ITN Task Force	In Q2, GHSC-PSM continued to participate in the Malaria Pharma Task Force, mRDT Task Force, and IRS/ITN Task Force and to meet bimonthly with the United Nations Children's Fund (UNICEF) and Global Fund to align priorities for strengthening supplier capacity and response.
Global Donor TWG	The monthly Global Donor TWG continues to meet regularly to coordinate actions and resolve problems with suppliers who are unable to fulfill demands because of capacity constraints due to COVID-19. These task forces continue to provide a valuable forum for information exchange on market risks and promote better collaboration across the global malaria community. They are supplemented by one-off working sessions and communications to discuss acute risks, issues, and opportunities (like offering available stock to one another).

Global Advocacy Engagements

Current Reporting Period

2021-Q2

Family Planning and Reproductive Health

6

Name of Engagement	Description
Not Without FP	A number of GHSC-PSM staff participated in Not Without FP, a virtual event hosted by the organizers of the International Conference on Family Planning. More than 7,000 people participated globally to champion the important role family planning plays in universal health coverage (UHC) schemes, and explore the impact of COVID-19 on sexual and reproductive health and rights worldwide. Themes and learnings were shared across the project by those who participated. The project contributed two blog posts in advance of the meeting.
FP2020 Performance Monitoring and Evidence Working Group	GHSC-PSM regularly participates as a selected member of the FP2020 Performance Monitoring and Evidence (PME) Working Group. The PME Working Group is a forum to share knowledge and technical advice on how to monitor progress towards the FP2020 goal of 120 Million new users; to promote the use of data to inform decision-making; and to contribute to the understanding of quantitative and qualitative evidence in key dimensions of family planning, such as quality of care and human rights. In Q2 The FP2020 Performance Monitoring and Evidence (PME) Working Group convened remotely for its semi-annual meetings. The primary focus of the meeting was additional development of the FP2030 Measurement Framework and transition. Specific objectives included: review and development of a commentary on the "unmet need" indicator, discussion of equity measures and a review of the new uncertainty estimates that will be included in FP2020's reporting moving forward.
Global Family Planning Visibility and Analytics Network	GHSC-PSM regularly participates in a variety of task forces organized by the RHSC associated with the implementation of the GFPVAN. This includes the data-sharing task force, Steering Committee, Information Management task force among others. Detailed updates on the outcomes of work on the GFPVAN can be found in the TO3 section of the report.
Systems Strengthening Working Group	GHSC-PSM regularly participates in SSWG meetings held by the Reproductive Health Supplies Coalition. The working group provides a forum for those working in systems strengthening to convene and discuss common issues and challenges. In Q1 and Q2, discussions focused on reviewing the new RHSC work plan and providing input in anticipation of developing a working group-specific work plan.
Market Development Approaches Working Group	GHSC-PSM regularly participates in the MDAWG meetings held by the RHSC. The working group provides a forum for those in the RH community working on market dynamics to convene and discuss common challenges and issues. In Q1 and Q2, discussions focused on reviewing the new RHSC work plan and providing input in anticipation of developing a working group-specific work plan.
Packaging Requirements Harmonization	In Q1, GHSC-PSM presented the results of its FY 2020 packaging rationalization and stakeholder engagement activity to USAID and UNFPA. The primary objective was to share the results of country case studies (conducted in Mozambique, Rwanda, Zambia, and Zimbabwe) with joint GHSC-PSM and UNFPA suppliers and discuss manufacturing capabilities and/or constraints associated with the harmonization of packaging configurations with UNFPA. This harmonization project aims to optimize packaging configurations according to the needs of in-country supply chains. The presentation highlighted opportunities for harmonizing product categories—including injectables, intrauterine devices and oral contraceptives—that will yield high impact and have increased feasibility in the near term.

Global Advocacy Engagements

Current Reporting Period

2021-Q2

Maternal, Newborn, and Child Health

4

Name of Engagement	Description
Consultation on Every Newborn Action Plan (ENAP) Milestone 6 (Commodities) Workplan	GHSC-PSM participated in a meeting with various partners to provide input into the Every Newborn Action Plan (ENAP) Commodities Workplan. The global ENAP provides a road map of strategic actions for ending preventable newborn mortality and stillbirth and for contributing to reducing maternal mortality and morbidity.
Maternal Health Supplies Caucus (MHSC)	GHSC-PSM regularly participates in the MHSC meetings. The Caucus provides a forum for the maternal health communities to develop an understanding of maternal health supply-related challenges and solutions.
The role of private sector domestic wholesalers in global health supply chains: Implementation activities and opportunities	GHSC-PSM convened 30+ organizations, including global health partners and private sector domestic wholesalers, to collectively identify opportunities to continue to support domestic wholesalers and increase availability of priority essential health commodities in select low- and middle-income countries. Convening participants discussed the domestic wholesaler landscape in global health supply chains including roles, what is working, and what challenges these organizations face. The interactive meeting included presentations from private sector international and domestic wholesalers and facilitated dialogue regarding opportunities to improve domestic wholesaler abilities to avail quality health commodities.
USAID Partners' Meeting on Diarrhea	GHSC-PSM participated in the diarrhea-focused USAID Partners' Meeting, sharing private sector supplier perspectives and information on the challenges of providing MNCH commodities such as oral rehydration salts (ORS) and zinc to treat childhood diarrhea with USAID implementing partners.

Complete Quarterly Results (TO1)

Reporting Period

2021-Q2

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	**74%**	**179**	**75%**	**184**	**2.2%**	**869**	**23%**	**$2,932,246**
COVID19	74%	179	75%	184	2.2%	869	23%	$2,932,246
TO1 - HIV	**85%**	**1,013**	**86%**	**1,065**	**3.8%**	**3,750**	**82%**	**$111,918,569**
Adult ARV	91%	140	94%	144	2.6%	466	100%	$58,107,833
Condoms	77%	26	88%	24	0.7%	146	100%	$3,280,304
Laboratory	80%	624	83%	662	4.1%	2,232	55%	$37,010,175
Other Non-Pharma	91%	45	82%	50	4.2%	240	19%	$3,875,781
Other Pharma	89%	57	88%	59	4.5%	156	100%	$918,260
Other RTK	33%	3	25%	4	6.7%	15	8%	$851,610
Pediatric ARV	91%	43	93%	43	2.3%	260	100%	$4,642,553
Severe Malaria Meds			0%	1	0.0%	1		
TB HIV	100%	35	97%	36	0.8%	130	100%	$719,120
Vehicles and Other Equipment					0.0%	4		
VMMC	100%	40	95%	42	12.0%	100	100%	$2,512,933
Total	**83%**	**1,192**	**84%**	**1,249**	**3.5%**	**4,619**	**80%**	**$114,850,816**

A6a and A6b. Absolute percent supply plan or forecast error

A6 Indicator	Supply plan/ forecast error	Supply plan/ forecast bias	4-quarter error	4-quarter bias
A6a - Supply plan error				
Adult ARV	18%	-18%	31%	-31%
Laboratory	96%	-96%	19%	-19%
Pediatric ARV	7%	-7%	35%	-35%
A6b - Forecast Error				
Condoms	64%	64%	31%	31%

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
ARVs	100%	20
Condoms	100%	21
Lab (HIV diagnostics)	100%	15
RTKs	100%	18
VMMC	67%	6

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment				Warehouse Fulfillment			Total
Task Order	Air	Land	Multiple	Sea	Air	Land	Sea	
TO1 - COVID19	**203**	**186**		**223**				**203**
COVID19	203	186		223				**203**
TO1 - HIV	**239**	**236**	**460**	**372**	**233**	**215**	**274**	**252**
Adult ARV	246	221		251	253	221	294	**251**
Condoms				307			186	**298**
Laboratory	252	237		475				**249**
Other Non-Pharma	270	224		478				**248**
Other Pharma	180	265	460	461				**350**
Other RTK	267							**267**
Pediatric ARV	240	149		401	203	137	176	**230**
TB HIV	214			308	170			**228**
VMMC	171			235	281		182	**182**
Total	**232**	**232**	**460**	**338**	**233**	**215**	**274**	**244**

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	$4,740	$236,411,571	0.00%
RDC	Expiry	Adult ARV, Other Pharma	$274,119	$17,043,755	1.61%
Tanzania	Incorrect/Unacceptable Product Supplied	Laboratory	$292,829	$451,060	64.92%
Nigeria	Temperature Excursion	Laboratory	$153,490	$472,823,142	0.03%

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
82%	$41,080,641

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	73%
Freight Forwarder	87%

Complete Quarterly Results (TO2)

Reporting Period

2021-Q2

	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	**95%**	**238**	**97%**	**242**	**1.0%**	**872**	**8.4%**	**238**	**88%**	**$102,608,723**	**89%**	**93**	**1.4%**	**368**	**100%**	**2**
ACTs	96%	110	99%	112	0.0%	316	11.8%	110	100%	$17,680,393	88%	56	2.8%	179	100%	1
Laboratory	100%	21	100%	21	2.7%	150	0.0%	21	99%	$248,177						
LLINs	91%	34	92%	36	3.1%	130	0.0%	34	81%	$56,974,631	84%	19	0.0%	39	100%	1
mRDTs	88%	33	91%	33	0.0%	98	6.1%	33	95%	$19,312,767	100%	5	0.0%	78		
Other Non-Pharma	75%	4	100%	3	0.0%	35	0.0%	4	100%	$804,258						
Other Pharma	100%	2	100%	2	0.0%	7	100.0%	2	100%	$13,125		0		0		
Other RTK									0%	$39,375						
Severe Malaria Meds	100%	20	95%	21	1.4%	71	0.0%	20	100%	$3,676,812	100%	10	0.0%	62		
SMC		0		0	0.0%	35		0	100%	$1,295,932		0		0		
SP	100%	14	100%	14	0.0%	30	21.4%	14	100%	$2,563,253	100%	3	0.0%	10		
Total	**95%**	**238**	**97%**	**242**	**1.0%**	**872**	**8.4%**	**238**	**88%**	**$102,608,723**	**89%**	**93**	**1.4%**	**368**	**100%**	**2**

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment			Warehouse Fulfillment	Total
Task Order	Air	Land	Sea	Sea	
TO2 - Malaria	**267**	**497**	**426**	**133**	**386**
ACTs	280	517	479	133	**391**
Laboratory	218		414		**358**
LLINs		477	399		**405**
mRDTs	242		338		**335**
Other Non-Pharma	146		369		**313**
Other Pharma	289				**289**
Severe Malaria Meds	263		430		**413**
SP			461		**461**
Total	**267**	**497**	**426**	**133**	**386**

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

Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
RDC	Expiry	NA	$0	$0	
Burundi	Missing product	ACTs	$8,127	$963,295	0.84%
Ethiopia	Other	Laboratory	$5,492	$1,373,807	0.40%

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
Malaria commodities	97%	29

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
	$0

A14. Average vendor rating - QA labs

Average vendor rating
75%

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	8%	-8%	69%	-69%
mRDTs	24%	-24%	40%	-40%

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	73%
Freight Forwarder	87%

Complete Quarterly Results (TO3)

Reporting Period

2021-Q2

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	**93%**	**59**	**97%**	**58**	**1.2%**	**248**	**100%**	**$9,107,486**
Combined Oral Contraceptives	67%	9	89%	9	0.0%	48	100%	$1,126,276
Copper-Bearing Intrauterine Devices	100%	3	100%	3	0.0%	8	100%	$57,935
Emergency Oral Contraceptives	67%	3	100%	3	0.0%	14		
Implantable Contraceptives	100%	28	100%	28	0.0%	53	100%	$4,853,050
Injectable Contraceptives	100%	5	100%	5	2.7%	75	100%	$2,779,071
Other Non-Pharma	100%	4	100%	2	0.0%	11	100%	$203,213
Other RTK					0.0%	2		
Progestin Only Pills	100%	7	88%	8	4.0%	25	100%	$78,192
Standard Days Method					0.0%	12	100%	$9,750
Total	**93%**	**59**	**97%**	**58**	**1.2%**	**248**	**100%**	**$9,107,486**

A7. Temporary Waiver Percentage

Task Order	Temporary registration waiver percentage	Total # of line items delivered
TO3 - FP/RH	**10.2%**	**59**
Copper-Bearing Intrauterine Devices	66.7%	3
Progestin Only Pills	14.3%	7
Combined Oral Contraceptives	11.1%	9
Implantable Contraceptives	7.1%	28
Emergency Oral Contraceptives	0.0%	3
Injectable Contraceptives	0.0%	5
Other Non-Pharma	0.0%	4
Total	**10.2%**	**59**

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment			Warehouse Fulfillment		**Total**
Task Order	Air	Land	Sea	Air	Sea	
TO3 - FP/RH	**215**	**380**	**369**	**210**	**225**	**298**
Combined Oral Contraceptives	192		394		196	**239**
Copper-Bearing Intrauterine Devices				156		**156**
Emergency Oral Contraceptives	133		292			**239**
Implantable Contraceptives	267		376	276	566	**361**
Injectable Contraceptives		369	307	195	245	**262**
Other Non-Pharma		383				**383**
Progestin Only Pills				135	195	**186**
Total	**215**	**380**	**369**	**210**	**225**	**298**

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

Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
RDC	Expiry	NA	$0	$7,352,796	0.00%

B6. Quarterly supply plan submissions

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

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	61%	61%	22%	22%
Condoms	64%	64%	31%	31%
Copper-bearing Intrauterine Devices	271%	-271%	51%	-51%
Implantable Contraceptives	33%	33%	13%	13%
Injectable Contraceptives	0%	0%	10%	10%
Progestin Only Pills	0%	0%	0%	0%

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	73%
Freight Forwarder	87%

Complete Quarterly Results (TO4)

Reporting Period

2021-Q2

	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	**98%**	**50**	**96%**	**51**	**6.3%**	**189**	**100%**	**$9,844,547**
Laboratory					0.0%	17		
Other Non-Pharma	100%	6	100%	6	0.0%	9		
Other Pharma	98%	44	96%	45	7.4%	162	100%	$9,844,547
Other RTK					0.0%	1		
Total	**98%**	**50**	**96%**	**51**	**6.3%**	**189**	**100%**	**$9,844,547**

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	73%
Freight Forwarder	87%

A3. Cycle time (average)

Task Order	Direct Drop Fulfillment	Total
TO4 - MNCH	**113**	**113**
Other Non-Pharma	352	**352**
Other Pharma	81	**81**
Total	**113**	**113**

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
A03	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. The project is implementing new dwell tracking procedures, with the intent of reporting dwell-adjusted cycle time by FY2021.

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.

Total Landed Cost

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
A05	Total Landed Cost (as a percentage of total value of commodities delivered to recipients)	Sum of all freight and logistics costs (in USD) paid by GHSC-PSM during the reporting period	Sum of the value of all commodities delivered to recipients during the reporting period	ARTMIS, Monthly Financial Statement	Semiannual	The project will also report a variant of this indicator that includes all HQ supply chain operations costs in the numerator. Quality assurance costs will be excluded from all task orders, as QA costs are not paid by GHSC-PSM for all task orders. A version of the indicator including QA costs will be reported for Task Order 2 only.

Global Advocacy Engagments

Indicator Code	Name	Numerator	Denominator	Data Source(s)	Reporting frequency	Other Info
C08	Number of global advocacy engagements in support of improved availability of essential health commodities	Number of global advocacy engagements in support of improved availability of essential health commodities	NA	Project work plans, narrative reports	Semiannual	

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.