USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM
Procurement and Supply Management

FISCAL YEAR 2021

QUARTERLY REPORT | QUARTER 1

OCTOBER 1, 2020 TO DECEMBER 31, 2020

USAID FROM THE AMERICAN PEOPLE

PEPFAR

USAID CDC

U.S. President's Malaria Initiative

FISCAL YEAR 2021

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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
Alu	artemether-lumefantrine
API	active pharmaceutical ingredient
ART	antiretroviral therapy
ARV	antiretroviral
CPG	Consensus Planning Group
COP20	Country Operational Plan 2020
DCP	decentralized procurement
DMPA	depot-medroxyprogesterone acetate
DRC	Democratic Republic of the Congo
EID	early infant diagnosis
eLMIS	electronic logistics management information system
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 projec
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
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
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
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
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 first quarter (Q1) 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 has been significantly challenged to cope with the unparalleled conditions of the global health crisis. Amidst this lengthy and ongoing pandemic, GHSC-PSM has met its programmatic commitments to maintain the continuous flow of health commodities and deliver technical assistance in creative ways. The project has kept 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 **44.7 million bottles of TLD** to **26 countries**
- Delivered enough anti-malarials to treat **293.4 million infections**
- Delivered contraceptives to provide **73.3 million couple-years** of protection
- Delivered **1.8 million mosquito repellent bottles** to protect pregnant women from Zika
- Procured and delivered **8,722 ventilators for 43 countries and NATO in just six months** in response to COVID-19
- Supported **42 countries** with technical assistance

In Q1, GHSC-PSM continued its efforts to improve supply chain efficiency through 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; specifically, the increasing ability to garner data visibility in "real-time" at the lowest-level service delivery points. Knowing that patients receive their medications when they need them enables the project to translate that prescription data into procurement data and future orders.

GHSC-PSM partners play a crucial role in data visibility. For HIV/AIDS, the project worked with USAID to equip the first wave of PEPFAR countries that participated in the global request for proposal (RFP) for early infant diagnosis (EID) and viral load with instrument Internet connectivity, LMIS integration, and remote monitoring capabilities. These activities resulted in health data sharing agreements in Mozambique and Nigeria that set a precedent for information exchange between local governments and U.S. Government agencies. Also, in Q1, the project signed a proof of concept for TradeLens, an

industry-wide ocean freight innovation developed by IBM and Maersk, that improves in-transit visibility to track and trace all shipment stages in real-time.

The project makes the supply chain more efficient by incorporating and exploring technologies, including machine learning, artificial intelligence, and robotic process automation. These upgrades reduce manual intervention, redundancies, cycle times, and operational expenses. In FY 2021, GHSC-PSM and partners plan to prioritize activities to adopt software applications that reduce waste, avoid stockouts, and assist overall contract management. The project updates the features and information in its health supply-chain technology solutions suite ARTMIS, providing reliable data and services to country programs and Missions worldwide.

Adopting global supply chain standards, GS1, in particular, is a central part of GHSC-PSM's undertaking to reduce costs, ensure supply chain security, enhance efficiency, reduce counterfeits 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 Q1, GHSC-PSM supported 10 countries on the journey to adopt GS1 standards.

MITIGATING RISK OF SUPPLY-CHAIN INTERRUPTIONS DUE TO COVID-19

In Q1, the impact of the COVID-19 pandemic continued to be felt 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. The materials shortages identified early in the pandemic that limited available key starting materials (KSMs) and active pharmaceutical ingredients (APIs) remain a concern. However, the project's long-term planning, strategic placement and reallocation of stock, and collaboration with global partners to address and mitigate challenges to the supply chain are allowing the project to meet its commitments and keep commodities flowing while GHSC-PSM and its partners work to expand the supplier pool.

Despite some improvements to air, ground, and ocean transit, ongoing reductions in flights, restrictions at land borders, container imbalances and bottlenecks at ports remain critical challenges. To mitigate these circumstances, GHSC-PSM takes an active role in monitoring commodities flow and periodically expediting and rerouting shipments to ensure that products reach their desired destination. The project continued its work with third-party logistics (3PL) providers and using spot bidding to keep costs stable and prevent delivery delays.

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 where possible. Also, the project collaborated with numerous global organizations to consolidate shipments, expand the supplier base, and address materials and production shortages.

Meeting Our Commitments in the Face of COVID-19

Throughout Q1, 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.

In Q1, Mozambique brought together stakeholders for emergency planning using the project's emergency supply chain (ESC) framework. 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. Mozambique is now one of 19 countries using this framework for emergency preparedness.

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 in advance of the goods availability dates (GADs) previously established for of existing orders.
- 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 reduce the temptation to stockpile.
- Reprioritizing order allocations.

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

Mitigation Efforts

Global

- Conducted a review of supply plan, order and inventory data and undertook prioritization exercises across task orders and across procurers to ensure that urgent needs are met.
- Categorized at-risk commodities and anticipated the supply and demand influences of the pandemic to avoid disruptions.
- Preordered 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' warehouse 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.

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 17 country programs.
- Procuring respiratory and cardiac supplies valued at $9.8 million in USD for Italy.
- Procuring and delivering ventilators to 43 countries and the North Atlantic Treaty Organization (NATO).
- Procuring oxygen-related equipment and technical assistance for eight countries.

In Q1, GHSC-PSM delivered its final shipment of 50 ventilators to Mongolia. This activity's sustained speed and flexibility represent an extraordinarily collaborative effort across the project, USAID, USG, and country governments. The project also delivered 277,069 lab commodity items valued at more than $3 million to 11 countries.

Starting in Q1, GHSC-PSM was tasked with assisting the oxygen sector that supports the management of COVID-19 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.

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

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 Q1 FY 2021 are provided below.

Procured almost $283 million in drugs, diagnostics, and health commodities in Q1, and nearly $3.5 billion to date.

Delivered almost $192 million in drugs, diagnostics, health commodities in Q1, and nearly $2.9 billion to date.

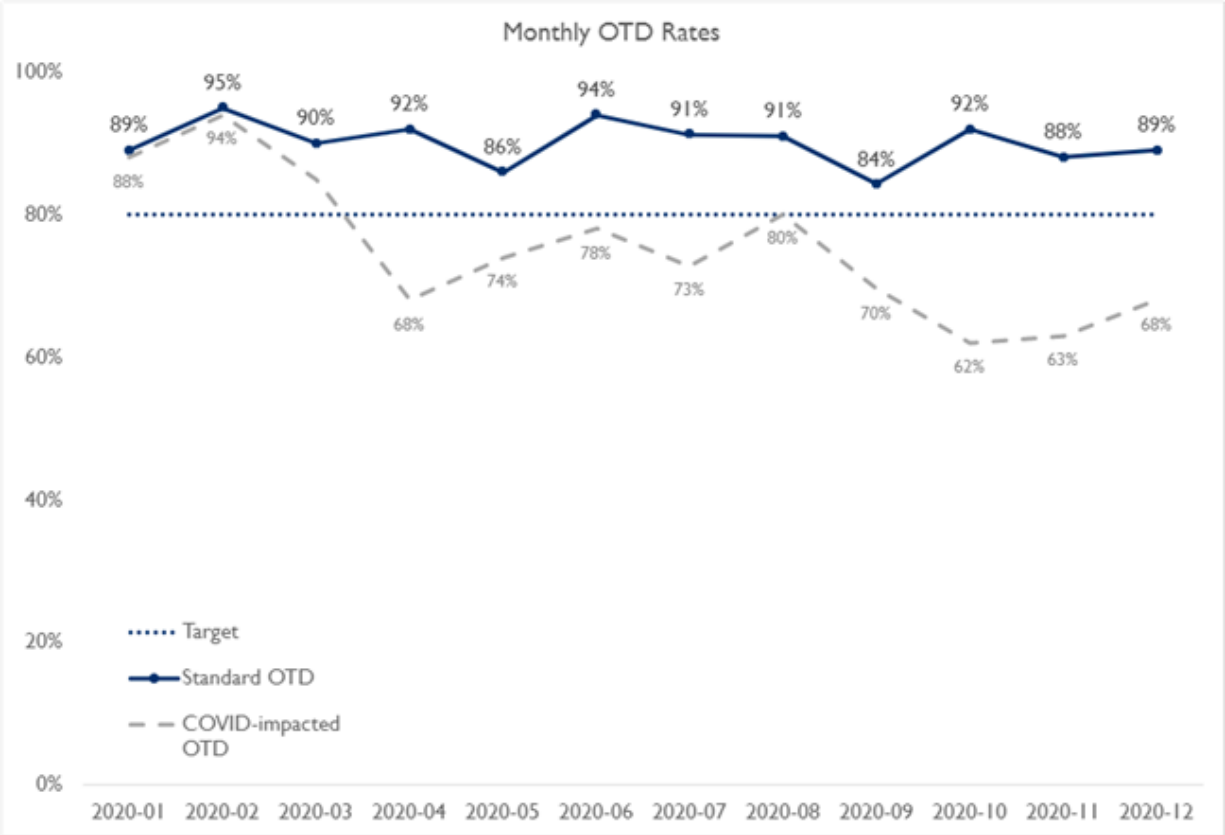
Achieved **on-time delivery[1] (OTD) of 89 percent (64 percent COVID-impacted) and on-time, in-full delivery (OTIF) of 84 percent (61 percent COVID-impacted).** The backlog of late orders decreased to 4 percent (see Exhibit 1).

OTD and OTIF rates lowered slightly but stayed strong for all health areas during Q1 despite COVID-19. OTD was 89 percent (64 percent COVID-impacted) and OTIF was 84 percent (61 percent COVID-impacted) for the quarter, the seventh successive quarter that OTD has been above 85 percent). OTD was 90 percent (56 percent COVID-impacted) for HIV; 93 percent (81 percent COVID-impacted) for malaria; 93 percent (84 percent COVID-impacted) for FP/RH; and 93 percent (75 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 FY 2021. This impact is expected to continue through Q2 and Q3. GHSC-PSM continues to conduct root-cause analysis of late deliveries and to refine procurement and supply-chain processes 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-

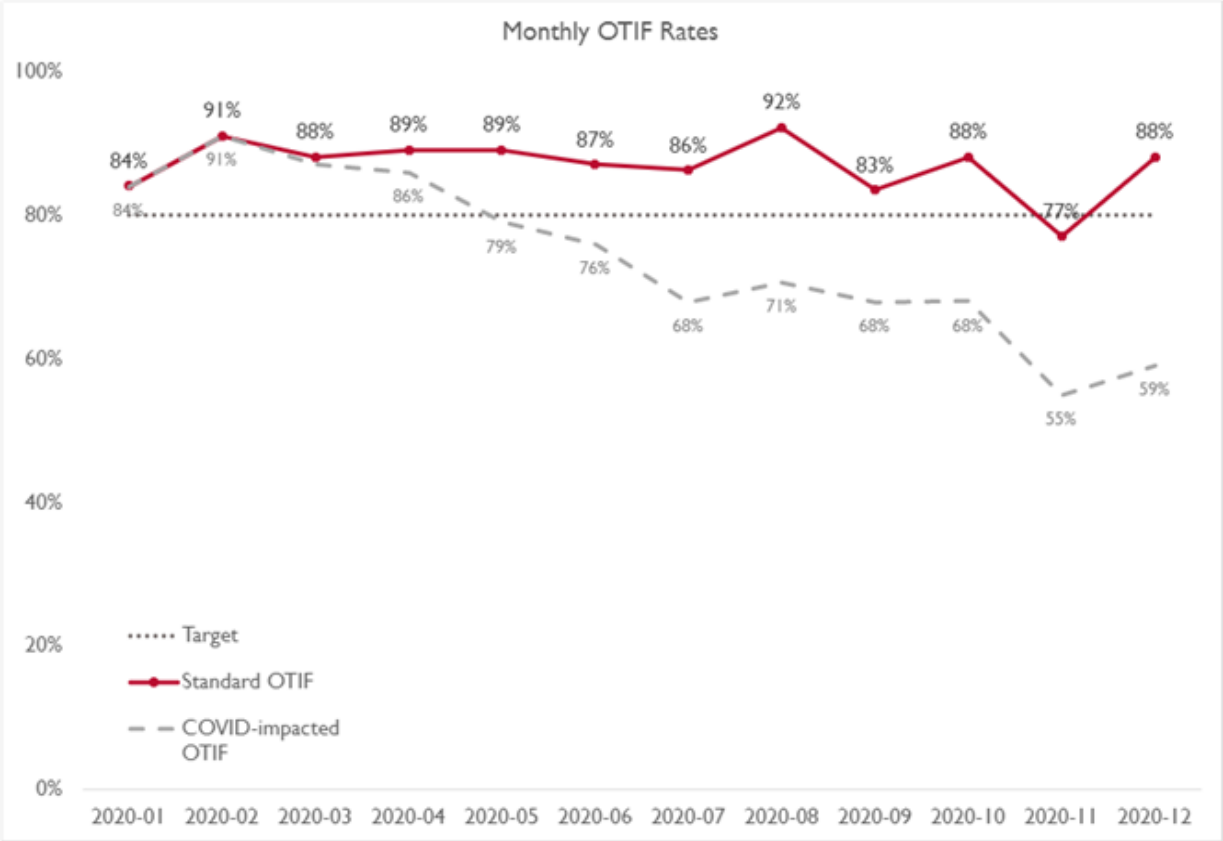
Exhibit 1. OTD January-December 2020



The project continued to feel the brunt of pandemic-related disruptions in Q1 FY 2021. (See Exhibit 2.) China's initial impact primarily affected the supply of active pharmaceutical ingredients, 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.

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 2. OTIF January–December 2020



Significant efforts were made in Q1 to stem the impacts of COVID-19 on freight and logistics as deliveries faced a shipping environment defined by historic COVID-19 shutdowns. The project continues to adapt to unforeseen shifts in the marketplace.

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 developed a transition tool for countries to simulate start dates and pace of transition to the DTG 10 mg dispersible tablet for optimized pediatric treatment following tentative U.S. Food and Drug Administration approval. For more information, see section B1. HIV/AIDS.

Scaling up multi-month dispensing (MMD). While MMD was an important approach during the pandemic, it has become the norm for GHSC-PSM procurement and delivery. This is in line with

PEPFAR's guidance and priorities. In Q1, MMD packaging (90- or 180-count bottles) accounted for 98 percent of tenofovir/lamivudine/dolutegravir (TLD). For more information, see section B1. HIV/AIDS.

Strengthening diagnostics optimization. GHSC-PSM, in close partnership with Foundation for Innovative New Diagnostics (FIND), LLamasoft, and USAID, completed the development and upgrade of a new diagnostics tool, Opti-Dx. This web-based, open-access tool will enable countries to improve the planning of their diagnostics testing services and increase patient access to testing for HIV and tuberculosis (TB), among other diseases. GHSC-PSM is piloting Opti-Dx in Malawi and Uganda. For more information, see section B1. HIV/AIDS.

GHSC-PSM has delivered enough anti-retroviral therapy to provide nearly **11.3 million patient-years of HIV treatment to date.**

This includes **6.6 million patient-years of TLD treatment delivered to date.**

Streamlining health facility data. In Q1, GHSC-PSM completed product (i.e., HIV/AIDS commodities) and facility matching for historical data and put in place a process for maintaining product and facility matching for future data collection. The data matched includes the project-collected data from national service delivery points' logistics management information system that is triangulated with patient data provided by USAID. 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 Q1, GHSC-PSM procured $55.6 million in malaria medicines and commodities **for 30 countries.**

This includes **treatment for 25 million infections.**

In Q1, GHSC-PSM facilitated the distribution of over 8 million **LLINs** in 9 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 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. Despite the positive impact of PMI's 15 years of supply chain investments, stockout performance for several countries has not consistently improved over time, with many PMI countries experiencing frequent stockouts of malaria commodities at service delivery points (SDPs). For example, across PMI-supported countries for which data are available, stockout rates of ACTs average roughly 20 percent.

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 Q1, the project initiated a pilot of the Stockout Reduction Initiative Playbook in Liberia and Cameroon. GHSC-PSM held weekly check-ins to review progress and receive feedback, which will guide the rollout of the playbook in FY 2021 to PMI-supported countries. For more information, see section B2. Malaria.

On-time delivery. GHSC-PSM achieved consistently high OTD performance for malaria drugs and commodities in Q1—93 percent (81 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 Q1. In mitigating these impacts, the project issued tenders to address production capacity constraints for malaria rapid diagnostic tests (mRDTs), add third-party lab services to expand LLIN testing capacity, and procure lab consumables. The project also continued global collaboration efforts on sourcing strategies and invested in pre-positioning key malaria commodities. For more information, see section B2. Malaria.

Quality assurance (QA). In Q1, GHSC-PSM continued to modify QA/QC protocols in response to COVID-19. The project onboarded new rapid diagnostic test (RDT) and LLIN suppliers, released an RFP for lab services, and participated in reviewing the East Africa Standards (EAS) for LLINs to promote supply chain health. Investigations and mitigation efforts continued for several suppliers, and the project concluded one out-of-specification (OOS) investigation of an LLIN supplier. For more information, see section B2. Malaria.

Global standards. GHSC-PSM coordinates with Global Fund to support suppliers' ability to meet the GS1 standards deadlines for compliance. In Q1, the second-phase deadline—for labeling nets and poly bags and synchronizing product master data through the Global Data Synchronization Network for LLIN-specific standards—passed, with 50 percent of in-scope items fully compliant at the deadline. For more information on LLINs and pharmaceuticals, see section B2. Malaria.

Prioritization of orders and transfer of stock. In Q1, to address country need and market constraints, GHSC-PSM, working closely with USAID, prioritized orders based on need and conducted order transfers to improve stock status. A total 29 countries submitted data to the Procurement Planning and Monitoring Report for malaria (PPMRm). The project expedited orders for countries in urgent need of stock, such as bringing forward deliveries of ACTs in Benin and Nigeria. In Mali, the project identified an urgent need for artemether/lumefantrine and worked with the supplier and the country office to obtain approvals to ship existing stock from a supplier to meet the stockout risk, reducing the estimated delivery date by several months. See section B2. Malaria for additional examples of how the project continued these strategies in Q1 to ensure that countries in need of product could avoid a stockout.

Distribution of LLINs. In Q1, 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. However, most campaigns were delayed because of COVID-19. Over 8 million LLINs were distributed to protect more than 17 million people in nine countries—Burundi, Ethiopia, Ghana, Malawi, Mali, Nigeria, Uganda, Zambia, and Zimbabwe. For more information, see section B2. Malaria

Family Planning and Reproductive Health

In Q1, 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 93 percent (84 percent COVID-impacted) of FP/RH commodities on time in Q1. For more information, see section B3: Family Planning and Reproductive Health.

Collaboration with global stakeholders. In Q1, 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 FP/RH commodity availability through various activities. GHSC-PSM:

- Attended the 2020 Joint UNICEF-UNFPA-WHO Virtual Meeting with Manufacturers and Suppliers. Participants highlighted the double target of ensuring a continuous supply of quality-assured medicines while equitably supplying commodities needed to fight COVID-19.
- Continued to serve as a key contributor to the strategic development and scale-up of the GFPVAN platform and processes. The project launched integrated support for GFPVAN by seconding three staff members to the RHSC to carry out Control Tower activities.

To date, the GHSC-PSM project has delivered enough contraceptives that, when combined with proper counseling and correct use, are estimated to **provide 76.8 million couple-years of protection to date.**

This includes **3.5 million couple-years of protection** in Q1.

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

Contraceptive security tracking. The project disseminated the results of the 2019 Contraceptive Security Indicators (CSI) survey online. Activities included blog posts to the Not Without FP Forum ahead of the virtual forum to take place in Q2 and the International Conference on Family Planning in Q1 FY 2022. For more information, see section B3: Family Planning and Reproductive Health.

The project **convened more than 30 representatives of private sector wholesalers** and related organizations in Q1 to discuss the role of wholesalers and wholesaler associations to provide quality MNCH commodities.

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 $165 million in MNCH drugs and commodities. For more information, see section B4: Maternal, Newborn, and Child Health.

Providing international MNCH supply chain leadership and guidance. The project worked with the Medicines, Technologies, and Pharmaceutical Services (MTaPS) project to update existing RH and MNCH forecasting guidance and postpartum hemorrhage (PPH) clinical guidelines, disseminate the guidelines, and engage the field in related supply-chain discussions to validate and eventually implement the guidelines. The project held two webinars in Q1, in coordination with the USAID Global Health Supply Chain-Technical Assistance Francophone Task Order project, that focused on the PPH guidelines.

GHSC-PSM also continued to collaborate with the Maternal Health Supplies Caucus and provide COVID-19–related support and guidance to GHSC-PSM countries, including publication of the comprehensive resource "Ensuring Maternal, Newborn and Child Health Commodity Availability During COVID-19" in Q1. For more information, see section B4: Maternal, Newborn, and Child Health.

The project continued conversations to identify opportunities to support wholesaler associations and improve wholesalers' capability to provide quality assured MNCH commodities with international and domestic wholesalers and other organizations working in the wholesaler space. For more information, see section B4: Maternal, Newborn, and Child Health.

Supporting data-informed decision-making for MNCH commodities. GHSC-PSM continues to support data collection and analysis for the end-use verification (EUV) survey in the countries it supports. In Q1, changes to improve EUV survey design and ultimately yield better data were discussed and finalized with USAID/Washington. The project also conducted supplemental EUV data analyses for high-priority MNCH commodities in Ethiopia, Ghana, Liberia, and Mali. Finally, the MCH task order convened focus groups in Q1 to gather information about in-country supply chain decision-making and available data analytics 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 Pakistan, Nigeria, and Liberia in Q1. GHSC-PSM in Pakistan developed a toolkit and helped the national government train facility-level focal persons in Punjab province to ensure critical Hepatitis C commodities reach pregnant mothers at risk of transmitting the virus to their children. In Nigeria, the project helped prepare Bauchi, Kebi, and Sokoto States to establish, receive, and manage the MNCH commodity seedstock from the country's Drug Revolving Funds. In Liberia, the project successfully advocated for oxytocin, a critical maternal health product that requires cold chain, to be included in the vaccine cold chain. Also in Q1, the project co-developed a procurement plan for and delivered essential medicines in Liberia. The plan coordinated resources and reduced delays caused by COVID-19. For more information, see section B4: Maternal, Newborn, and Child Health.

STRENGTHENING HEALTH INSTITUTIONS

GHSC-PSM continues to manage 34 country or regional offices. Supplemented by headquarters-based experts, these offices provide wide-ranging technical assistance to strengthen national health supply chains.

Participants from the QAT pilot training were from Benin, Botswana, Ethiopia, and Zimbabwe.

GHSC-PSM launched the new Quantifications Analytics Tool (QAT), a modernized solution for country-led supply planning. Funded by USAID, QAT leverages new technologies and improves the existing supply planning tool, PipeLine. 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. In Q1, the project

provided an all-remote QAT training for four pilot countries—Benin (part of the GHSC-Francophone Task Order), Botswana, Ethiopia, and Zimbabwe.

GHSC-PSM also worked with USAID to implement survey improvements for future end-use verification (EUV) data collection. The EUV survey is used to assess Malaria, family planning and reproductive health, and maternal, newborn and child health commodity availability in project-supported countries. GHSC-PSM helps countries conduct the survey, analyze EUV data, and report out on findings. During a series of meetings with USAID, GHSC-PSM provided feedback and participants voted on proposed changes for survey design and health area indicators. GHSC-PSM will monitor the updates as they go into effect.

COVID-19 preventive measures continued to have an impact on the project's ability to support health systems strengthening. The ability to conduct in-person activities varies from country to country, depending on public health policies and restrictions, GHSC-PSM's policies, connectivity, and local transmission levels. For example, in Burma, GHSC-PSM advocated with the Ministry of Health and Sports (MoHS) Procurement and Supply Division (PSD) to resume quarterly Supply Chain Technical Strategy Group meetings virtually. The meetings are necessary for critical discussions that advance the development of a supply chain strategy and coordinate the implementation of related operations. The meetings were suspended due to COVID-19 and a change in PSD leadership.

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

- In **Ghana**, the project completed onboarding and training 231 facilities in the Ashanti and Brong Ahafo regions and provided training for 23 Expanded Immunization Program (EPI) Officers to manage EPI commodities through the Ghana Integrated Logistics Management Information System (GhiLMIS).
- In **Kenya**, with the Afya Ugavi activity (Task Order 5), GHSC-PSM supported forming a commodity security technical working groups (TWG) in the counties it supports to systematically integrate commodity management operations and advocate for system strengthening initiatives.
- In **Lesotho**, at the national level, GHSC-PSM supported the Supply Chain Management Department's integration of EID commodities into the larger public health supply chain. At the district level, the project integrated EID commodities into health commodity storage to be managed like all other health commodities.
- In **Malawi** and **Rwanda**, GHSC-PSM completed phase one activities for developing a web-based national Product Catalog Management Tool (PCMT) to provide a central resource for products.
- In **Nepal**, the electronic logistics management information system (eLMIS) is now the single source for logistics data, providing real-time data from 991 sites—compared to 189 in FY 2019—and LMIS reports from more than 4,000 recorded in the eLMIS each quarter. This access to visible real-time data is available to many more decision-makers.

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[3]) 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 3 below).

A2. ABOUT THIS REPORT

We are pleased to present our performance report for Q1 FY 2021 (October 1, 2020, through December 31, 2020). 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 and context indicators** for October 1 through December 31, 2020 (quarterly indicators).

[3] 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.

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.

Exhibit 3. Countries for which GHSC-PSM procured commodities (proc.) or provided technical assistance (TA) over the life of 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

In this section, we summarize 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 anti-retrovirals (ARVs) to provide **11.3 million patient-years of HIV treatment over the life of the project**, including nearly **735.8 thousand patient-years of treatment in Q1**.

To date, GHSC-PSM has delivered more than **44.7 million bottles of tenofovir/lamivudine/dolutegravir (TLD)** to 26 countries, which would provide more than **6.6 million patient-years of treatment**.

Multi-month dispensing packages of TLD first-line treatment accounted for **91 percent of all quantities delivered** in Q1.

A total of 55 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 have likely saved **more than 5.8 million trips** to the pharmacy in Q1 and **34.7 million over the life of the project**.

GHSC-PSM brought **improved product visibility** into HIV commodities in **104 central and regional warehouses in 22 PEPFAR countries and 7,643 health facilities** in **10 PEPFAR countries**.

As of Q1, GHSC-PSM procured **25.4 million viral load tests for 18 countries** to support testing scale-up. These global viral load contracts have generated **$20.5 million in savings through Q1**.

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 to link patients with the necessary commodities.

COVID-19 Impacts

A year into the COVID-19 pandemic, the HIV/AIDS supply chain, although impacted, stayed the course, and mitigated issues that arose.

In Q1, the border crossing to Zimbabwe from South Africa became heavily congested due to delays caused by COVID-19 testing. To avoid HIV/AIDS commodity delays, GHSC-PSM routed through different ports according to mode to in-land countries such as Botswana.

Production of HIV/AIDS commodities is also mostly back to normal. Previous delays due to staff shortages have eased as well. as more staff can return to their manufacturing jobs.

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. Manufacturing of APIs restarted in Q1 and as such, GHSC-PSM processed a shipment in December, and shipments of lamivudine/zidovudine should be arriving in Q2.

OTD AND OTIF

Over the life of the project, GHSC-PSM has delivered over $1.9 billion in HIV commodities to countries. Timeliness of GHSC-PSM deliveries on TO1 remained consistently, and extremely, strong for standard OTD and OTIF over Q1, as shown in Exhibit 4 and 5. 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 been reduced, COVID still continued to impact an extremely large number of orders to a greater or lesser extent in Q1 FY 2021. This impact is expected to continue through Q2 and Q3.

Exhibit 4. HIV Commodities, OTD

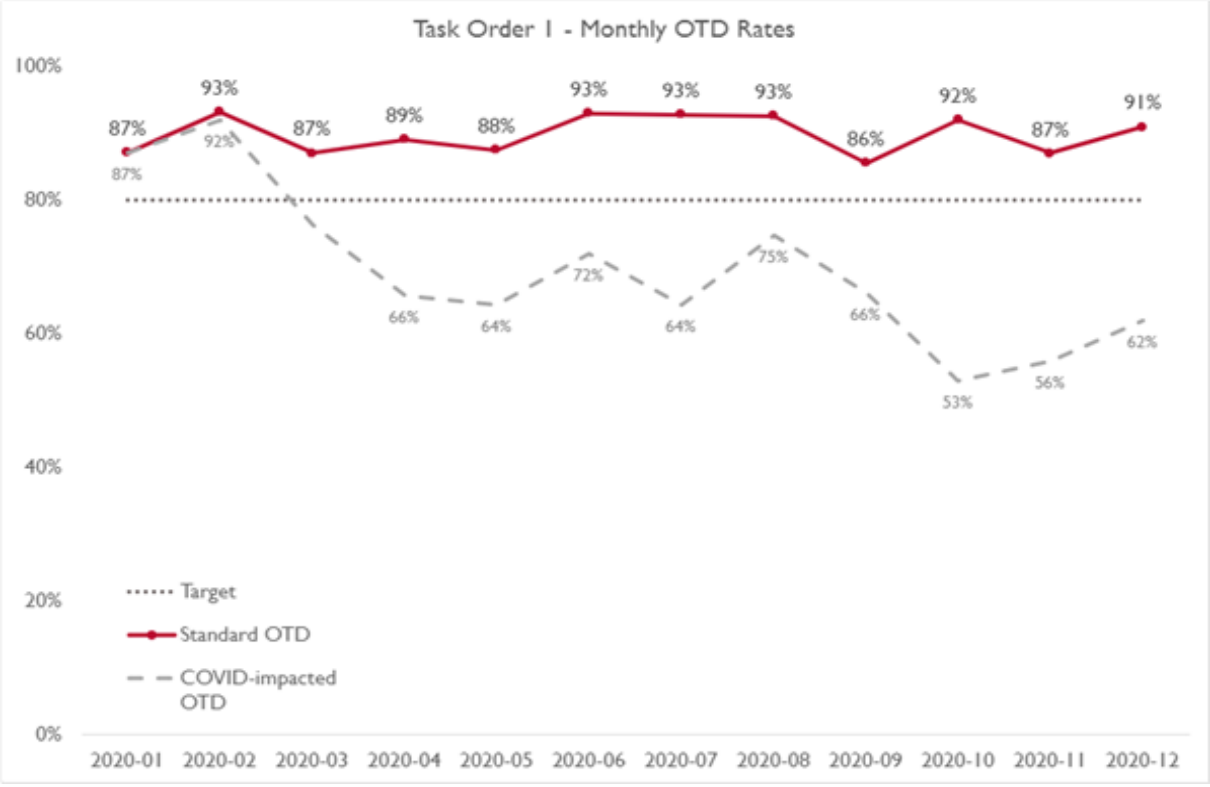
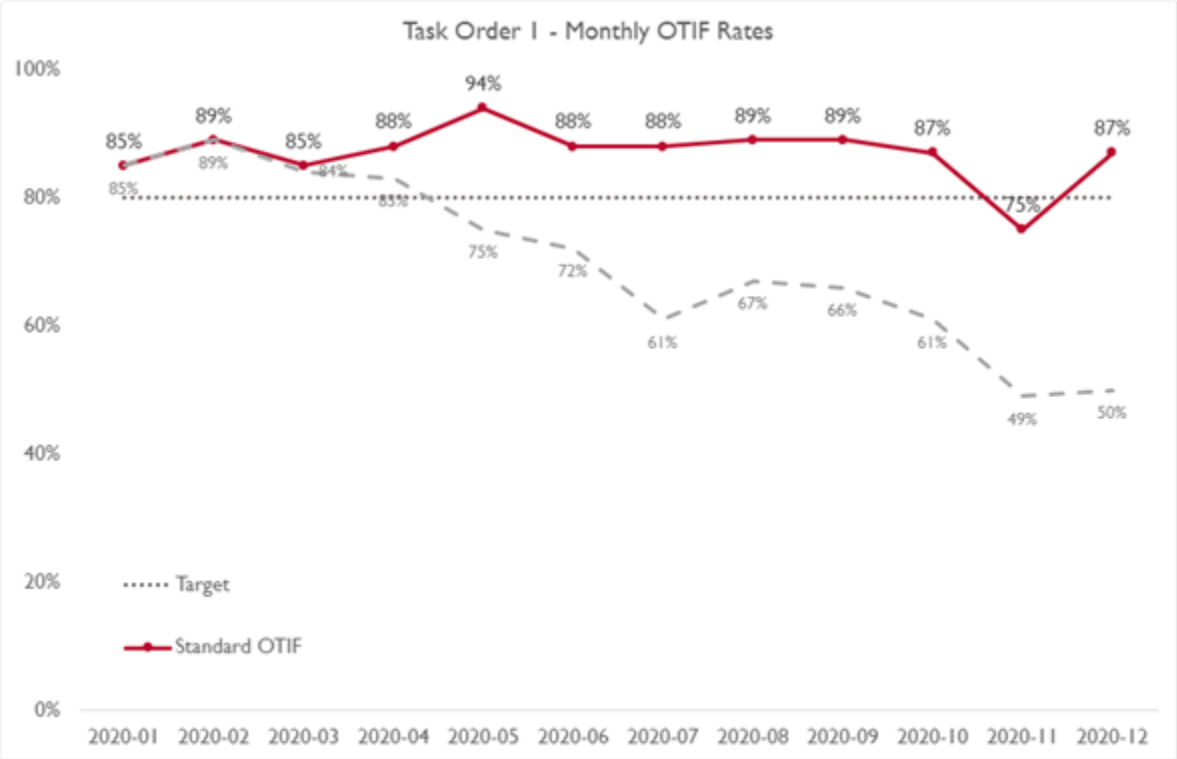


Exhibit 5. HIV Commodities, OTIF



SUPPORTING PEPFAR'S HIV PREVENTION AGENDA

Pre-exposure prophylaxis (PrEP)

Daily, oral PrEP using the anti-retroviral medicines tenofovir/emtricitabine (TE) or tenofovir/lamivudine (TL) dramatically reduces the risk of HIV infection in people who take it as directed. In Q1, GHSC-PSM delivered $3.46 million worth (more than 900,000 bottles) of PrEP to Cameroon, Haiti, Mozambique, Nepal, Nigeria, Rwanda, Vietnam, and Zambia.

Commodities Procured for HIV/AIDS Programs

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

In Q1, GHSC-PSM developed The PrEP Deck, a monthly PrEP scale-up report. The PrEP Deck provides country-specific analyses of PEPFAR-funded PrEP commodity deliveries, their impact on PrEP program scale-up, and mitigation strategies. Country projection analyses are provided for 17 countries[4] where ARV supply plans are available. Also, country projection data assumptions using requested delivery dates versus estimated delivery dates are included for seven additional countries[5] where ARV supply plans are not available, but PrEP is provided.

[4] Botswana, Burundi, Cameroon, DRC, Côte d'Ivoire, Ethiopia, Ghana, Haiti, Mali, Mozambique, Nigeria, Rwanda, Tanzania, Uganda, Vietnam, Zambia, and Zimbabwe.

[5] Guatemala, Kenya, Lesotho, Namibia, Nepal, Panama, and Ukraine.

GHSC-PSM also worked with International Partnership for Microbicides to establish pricing for the Depivirine Vaginal Ring 25mg (DapiRing). This new PrEP product was added to the USAID Global Health Supply Chain ARV eligibility list in Q1. It was approved for purchase in Q1 and will be available in packages of one or three. The International Partnership for Microbicides aims to make the product available in mid-2021.[6]

Condoms

In Q1, GHSC-PSM, concluded its male condom and lubricant sourcing event, resulting in the establishment of three-year basic ordering agreements with four strategic manufacturers. One outcome of this event was the expansion of the project's Made to Stock strategy from one manufacturer to two. Under this strategy, male condom suppliers store pre-made stock in their warehouses and GHSC-PSM pulls from the inventory. This is expected to result in shorter cycle times and reduce overall inventory management costs.

GHSC-PSM also conducted an open RFP for Female Condoms and is negotiating a new contract with the only U.S. Food and Drug Administration (FDA)-approved supplier. GHSC-PSM aims to establish a Made to Stock service agreement under this contract as well.

Voluntary medical male circumcision (VMMC) kits

GHSC-PSM awarded five VMMC kit suppliers fixed-price agreements in November 2020, extending through November 2021 to ensure consistent availability. The project received orders for all three VMMC kits from seven countries, including Eswatini, Malawi, Namibia, Rwanda, Tanzania, Uganda, and Zimbabwe.

In December 2020, GHSC-PSM signed a Basic Ordering Agreement with a sole-source supplier for Shang Ring devices. With the increase in demand for Shang Ring, this agreement will streamline the procurement and contracting process for new orders. To date, GHSC-PSM has received Shang Ring orders for Malawi and Uganda.

To facilitate the procurement process, GHSC-PSM worked with USAID to develop a one-page briefing document for VMMC countries on VMMC kits, VMMC pharmaceuticals, and Shang Ring devices. These documents provide countries with estimated pricing, lead time estimates, and product specifications.

Essential medicines

In Q1, GHSC-PSM proposed a new essential medicines sourcing strategy for FY 2021, which was approved by USAID. The strategy was included in the request for quotation (RFQ) that was released in December 2020. GHSC-PSM anticipates proposal evaluations and awards will take place in Q2.

GHSC-PSM also worked closely with GHSC-QA in Q1 to develop a pilot program for enabling select local essential medicines suppliers to offer products to GHSC-PSM from a wider range of sources.

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

[6] More information about the DapiRing can be found here.

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)
GHSC-PSM continued to collaborate with key stakeholders from the 3HP-ARV Procurement Working Group (APWG), which includes global donors, procurement agents, and ministries of health, to ensure PEPFAR's rifapentine (RPT) singles and rifapentine/isoniazid (RPT/INH) fixed-dose combination (FDC) tablet demands are considered in the global 3HP commodity allocation. GHSC-PSM received GHSC-QA and USAID eligibility notifications at the end of Q1. As a result, GHSC-PSM placed initial orders for Eswatini, Zambia, and Zimbabwe, which are anticipated to be delivered by February 2021. GHSC-PSM will continue to work with these key stakeholders in Q2 to ensure PEPFAR's demand for both RPT singles and RPT/INH FDC tablets is considered in 2021 allocations.

Isoniazid Preventive Therapy (IPT)
GHSC-PSM continued to deliver INH (Isoniazid) and Q-TIB (cotrimoxazole/isoniazid/pyridoxine [CTX/INH/B6]) to Cameroon, Lesotho, Mozambique, Nigeria, Rwanda, Tanzania, and Zambia to ensure a reliable supply of IPT commodities. Also, GHSC-PSM's regional distribution center (RDC) strategy ensured that INH was made available for countries planning to transition to 3HP in Country Operational Plan 2020 (COP20) but were affected by the 3HP supply constraints. The project stocked INH at the RDC to be readily available to fulfill COP20 orders quickly.

Isoniazid-rifampicin (3HR)
GHSC-PSM began procuring isoniazid/rifampicin in Q1 as per COP20 guidance on 3HR treatment for HIV-negative children who are in contact with PLHIV and who have TB. The first order was placed for Zimbabwe.

SUPPORTING THE FIRST 95: TESTING

In support of rapid test kit (RTK) availability to 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 actual procurement. The project also promotes better management of RTK orders and deliveries through the regional- and central-level stock data collected through the Warehouse AIDS Data Visibility, Evaluation and Reporting, or ADVISER, initiative. GHSC-PSM shares these data with GHSC-RTK monthly to guide RTK procurement planning and to triangulate data, reviewing HIV testing targets against RTK stock in countries with PEPFAR-supported HIV testing programs.

Scaling Up Supply of TLD

To date, the project has delivered **44.7 million bottles of TLD** to **26 countries**.

This is enough to provide more than **6.6 million patient-years of TLD treatment**.

SUPPORTING THE SECOND 95: TREATMENT

TLD transition 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 Q1, 98 percent of TLD delivered (by value) was in MMD packaging (90- or 180-count bottles)[8] The project delivered these commodities to Cameroon, DRC, Ethiopia, Haiti, Honduras, Nigeria, Rwanda, Uganda, and Zambia. GHSC-PSM also processed new and urgent TLD orders for Cameroon, Ecuador, Guatemala, Kenya, and South Africa (introduction of TLD 90-ct packs). These orders will be delivered in Q2.

To ensure close coordination with key stakeholders on TLD uptake, the project regularly shares data and facilitates technical coordination meetings. In Q1, GHSC-PSM continued to hold Country Progress Towards Key PEPFAR Initiatives—A Supply Chain Perspective Meetings (i.e., Country First meetings), in which supply-chain-related support and progress toward key PEPFAR initiatives, including adult and pediatric DTG transitions, MMD, decentralized drug distribution (DDD), and PrEP are reviewed. These meetings are held at least once a quarter for HIV/AIDS Task Order-supported countries.

Also, GHSC-PSM drafted a 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 will work best for their local context and the key critical supply chain elements that should be considered for each model. The project aims to publish the document in Q2 FY 2021.

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. Weekly reports are submitted to USAID outlining any second-line or suboptimal products that are ordered by partner countries so that both parties can engage country counterparts to determine if a better product should be selected.

According to the data collected in the FLARE reports, global issues of LZN and TLE600 have decreased by 98 percent and 91 percent, respectively, since November 2019. (See Exhibit 6.)

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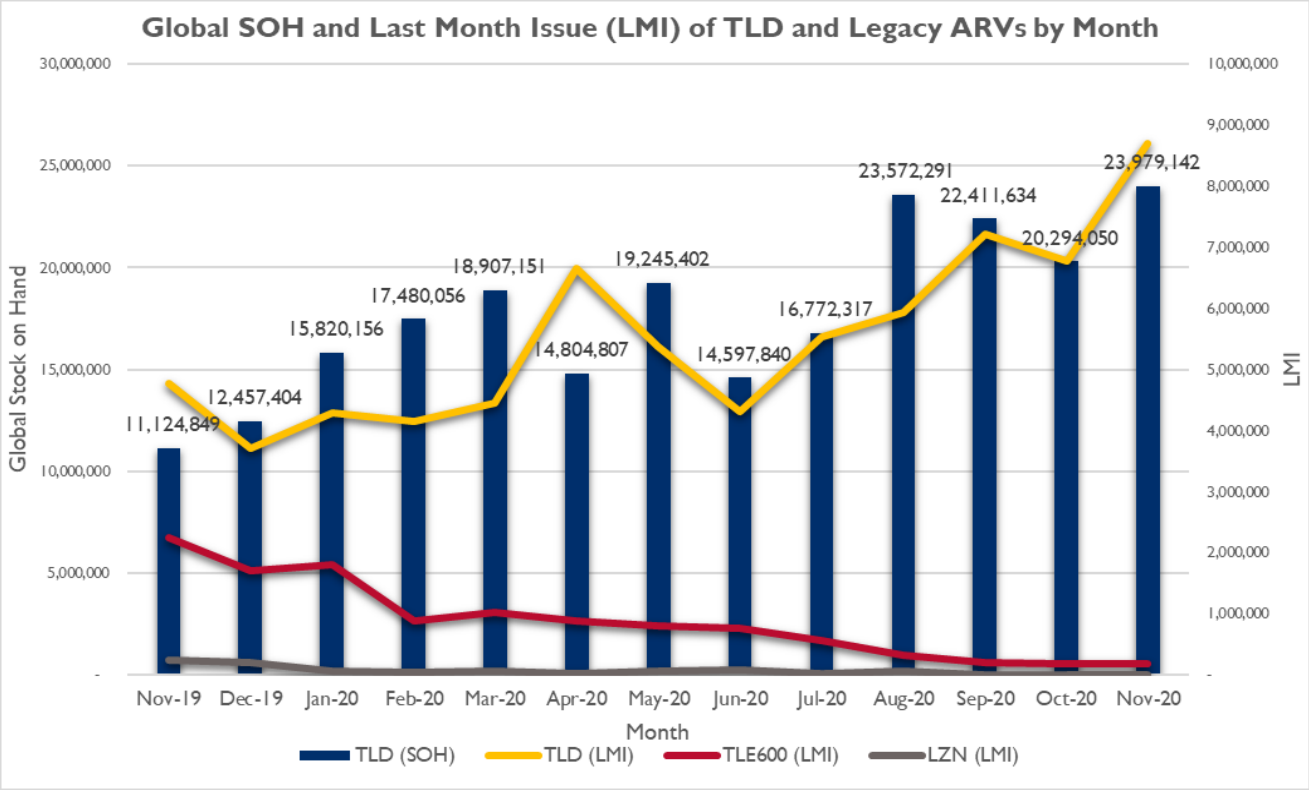
[7] The 24 countries for life of project through FY 2021 Q1 are: Botswana, Burkina Faso, Burundi, Cameroon, DRC, Côte D'Ivoire, El Salvador, Ethiopia, Haiti, Mozambique, Namibia, Nigeria, Panama, Pap Peru, Rwanda, Eswatini (Swaziland), Tanzania, Togo, Uganda, Ukraine, Vietnam, Zambia, and Zimbabwe.

[8] The 2 percent was a one-off delivery to South Africa of TLD 28-count bottles which meets the country's treatment guidelines.

Exhibit 6. Drawdown of stock-on-hand and reduced consumption of LZN from November 2019 to November 2020.[9]



The analysis above shows successful drawdown of efavirenz- and nevirapine-based regimens and an overall increase in TLD stock-on-hand each month from November 2019 to November 2020.

Pediatric ARVs

On November 19, 2020, the U.S. FDA provided tentative approval of the new Dolutegravir (DTG)10 mg, strawberry-flavored dispersible tablet. DTG 10 mg will help further reduce the pill burden for children living with HIV while maintaining dosage flexibility. GHSC-PSM has orders for over 500,000 90-count tablet bottles from 12 countries (Burundi, DRC, Côte d'Ivoire, Eswatini, Haiti, Mozambique, Namibia, Nigeria, Rwanda, Uganda, Zambia, and Zimbabwe). Initial orders are expected from the manufacturer by April 2021.

Key Pediatric Medicines

- Abacavir/lamivudine 120/60 mg
- Lopinavir/ritonavir 100/25 mg
- Lopinavir/ritonavir 40/10 mg pellets
- Lopinavir/ritonavir 40/10 mg granules
- Dolutegravir 10 mg

[9] 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 Q1, GHSC-PSM also negotiated a framework contract with the manufacturer of DTG 5mg, placed our first order for supply to Haiti, and pre-positioned inventory in our RDC.

GHSC-PSM developed a DTG 10 mg transition tool to allow PEPFAR-supported countries to simulate the start dates and pace of the transition so that they may better understand the consequences of any decisions regarding expiries of legacy products. The tool combines the country's established supply plan data with expiration date assumptions to provide detailed analysis of the amount and value of product estimated to expire as well as the timing when expiries may occur. Using existing supply plans minimizes the data input required from country teams. The tool will also accept manual data from countries that do not submit supply plans in PipeLine or the new Quantification Analytics Tool (QAT) software. Use of the tool allows GHSC-PSM to aggregate the data from PEPFAR countries and work to ensure limited DTG 10 mg supply meets demand while there is only one approved manufacturer.

90-count bottle of DTG 10 mg. *Photo credit: GHSC-PSM.*

SUPPORTING THE THIRD 95: VIRAL-LOAD TESTING

Implementing viral-load awards

In Q1, procurement and delivery of VL reagents and consumables to PEPFAR-supported countries continued at scale despite COVID-19-related challenges. Preliminary data show that in 2020, GHSC-PSM procured approximately 10 million VL patient tests and generated around $20.5 million in savings from lower prices negotiated with the three suppliers under the global RFP. In Q1 the GHSC-PSM team worked closely with USAID, CDC, and the laboratory technical working groups (TWGs) in the first wave of countries that participated in the RFP[10] to renew annual global and country-level volume commitments with the VL suppliers for FY 2021. Establishing higher commitment levels can enable GHSC-PSM to negotiate even lower prices per patient test in FY 2021.

Viral load and early infant diagnosis (VL/EID) suppliers continued submitting their quarterly and monthly key performance indicator (KPI) reports on instrument servicing, uptime, test failure rates, and supply chain indicators. GHSC-PSM also conducted performance review meetings in four countries (Mozambique, Nigeria, Uganda, and Zambia) with suppliers and key ministry of health and PEPFAR stakeholders to discuss KPI results against targets.

To conduct the KPI reports and procurement activities with greater continuity and efficiency, GHSC-PSM and USAID worked to equip the first wave of PEPFAR countries that participated in the global RFP for EID and viral load with instrument internet connectivity, LIMS integration, and remote monitoring capabilities. With the FY 2020 deployment of networking equipment in most Wave-1 countries, GHSC-PSM and partners will prioritize FY 2021 activities to develop and drive adoption of software applications that help reduce

[10] Kenya, Mozambique, Nigeria, Tanzania, Uganda, and Zambia.

waste, avoid stockouts, and assist overall VL contract management. Data-sharing agreements were signed by the Ministries of Health of Mozambique and Nigeria, which set a tangible precedent of health data sharing among USAID, CDC, and Department of Defense-supported HIV programs and beneficiary countries.

Data driven optimization using Opti-Dx

By using historical procurement data, forecast data, instrument coverage, utilization rates, and GPS data, the Opti-Dx web-based tool guides appropriate laboratory instrument selection. GHSC-PSM in partnership with FIND, LLamasoft, and USAID completed the development and upgrade of this tool in Q1 and are piloting it in two countries, Malawi and Uganda. 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 on use of the tool.

Laboratory commodity quantification

GHSC-PSM in collaboration with the developer completed an upgrade of ForLabPlus software used for forecasting laboratory reagents and commodities. GHSC-PSM will present the software during African Society for Laboratory Medicine LabCOP meetings and webinars to raise awareness and encourage countries to start using the upgraded tool in FY 2021.

HIV/AIDS SUPPLY CHAIN DATA VISIBILITY AND COMMODITY SECURITY

GHSC-PSM is working to improve 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 25 HIV medicines and commodities at the central and regional warehouse levels in 22 PEPFAR countries to identify stock imbalances. Data generated at this level include the status of first-line ARV drawdown, the transition to TLD, and HIV commodity stock-out 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 Q1, through data collection and analysis at central and regional warehouses, GHSC-PSM identified 20 risks of HIV commodity stockouts in 12 countries and quickly resolved them. The project continued standardizing HIV product names and formulations across all countries for streamlined and improved data quality.

GHSC-PSM continued to host the Proactive Stock Risk Management (ProStock) meetings in Q1. 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 access to HIV commodities and 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. Also, data visibility efforts and the ProStock forum elevated first-line ARV stock-out risks in Angola and eSwatini and helped USAID successfully advocate for additional commodity funding to place emergency orders for TLD for these countries.

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

Clinical implementing partners provide the patient data from these 12 countries, which are then stored in Data for Accountability, Transparency, and Impact Monitoring (DATIM) datasets. In Q1, 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.

GLOBAL COLLABORATION

During the November 2020 virtual Global Health Supply Chain Summit, GHSC-PSM presented on various approaches and lessons learned related to supply chain preparedness, response, and recovery related to COVID-19. Specific topics centered on Eswatini's supportive supervision to improve health care worker capacity and supply chain management and how COVID-19 affected Nigeria's National Integrated Specimen Referral Network. Two of the HIV/AIDS-related presentations were also nominated for the grand prize. For more information, see Section C3. Global Collaboration.

Delivering HIV/AIDS commodities to service delivery points in Haiti. *Photo credit: GHSC-PSM.*

COUNTRY SUPPORT

The HIV/AIDS Task Order funds supply-chain systems strengthening in 30 countries.

In **Burma**, GHSC-PSM is working closely with the Ministry of Health and Sports to implement mSupply, a cloud-based electronic logistics management information system (eLMIS) for health commodities, to facilitate the continuous supply of commodities needed to test and treat patients for HIV/AIDS and TB. Despite COVID-19, the project developed a remote mSupply training program, leveraged virtual meetings and on-demand videos, and safely and effectively trained 51 staff from the National TB Program (NTP) laboratory stores in Q1. In a post-session interview, NTP Team Leader, Dr. May Pyo Paing, explained she is confident in her understanding of the different mSupply tasks and, as a manager, will be able to more easily oversee the data collected by her team. NTP Laboratory Advisor, Daw Ohnmar Myo Swe, also expressed confidence in her ability to use mSupply and believes it will improve the efficiency and accuracy of data entry for health commodities.

Until October 2020, the Care Service Treatment (CST) services in DKI Jakarta Province, **Indonesia** used to calculate the estimated MMD patients and their drug requirements manually, which sometimes led to errors. This method is also time consuming and caused delays, particularly at service delivery points with a high number of patients. GHSC-PSM developed the MMD calculator, a web-based application that can be used by facilities to calculate MMD patients and drug requirements based on current ARV stocks. In December 2020, GHSC-PSM introduced the MMD calculator to 116 CSTs in DKI Jakarta Province. In attendance were 330 participants from the provincial health office, district health office, and CSTs, including the program manager, pharmacy, and recording and reporting officers.

GHSC-PSM trained participants on the options and advantages of the MMD calculator and showed them how to make a fast and error-free calculation of MMD for three months using their last month's facility stock report.

B2. MALARIA

Delivered **$51.3 million** of anti-malarial medicine in Q1, enough to treat over **25 million infections**.

In Q1, a total of 29 countries procured malaria medicines and commodities, and **22 countries received health supply-chain systems strengthening** with malaria funding under the contract.

Procured enough LLINs to provide **protection from malaria for over 20.5 million people in Q1**.

Continued to implement and evaluate sourcing strategies for **assessing malaria commodity market health** and mitigating risks for commodity security and quality.

Under the PMI-funded malaria task order, GHSC-PSM supplies lifesaving prevention and treatment medicines, malaria rapid diagnostic tests (mRDTs), and LLINs. 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 also provides continuous support to USAID missions to ensure they have the necessary malaria commodity data, analysis, and forecasting models to directly inform and support development of PMI's malaria operational plans (MOPs).

INTRODUCTION

One year into the global pandemic, the impact of COVID-19 continues to affect malaria commodity supply chains. GHSC-PSM has worked 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 in different areas of the world, the project is examining opportunities to strengthen its market position, refine stock reallocations, explore new sourcing strategies, promote sustainable pricing, and prequalify additional suppliers.

In Q1, the project continued to monitor sourcing, procurement, and delivery challenges to inform mitigation efforts and provide technical support to in-country supply chains. The project also initiated a pilot of the Stockout Reduction Initiative Playbook in Liberia and Cameroon to support PMI's new initiative to reduce stockouts at SDPs.

COMMODITY SOURCING, PROCUREMENT, AND DELIVERY

The ongoing fallout of the COVID-19 pandemic continues to affect malaria commodity supply chains. GHSC-PSM regularly assesses the viability of existing sources of critical commodities, including KSM and active pharmaceutical ingredients (APIs), and uses these assessments in developing strategies to ensure the products are available despite factors such as constrained supply and limited transit options.

Commodity risk profiles

Beginning in FY 2020, the COVID-19 pandemic had a significant impact on many GHSC-PSM suppliers, creating additional risk and longer lead times across the project. To proactively manage this, GHSC-PSM segmented commodities by volume and programmatic impact to evaluate and develop commodity risk profiles. The profiles, which continue to be updated monthly, examine the geographical sourcing of commodities, market and supplier-specific impact on production, and sourcing of KSMs, raw material, and packaging materials, in an effort to mitigate and minimize near-term and long-term supply disruptions.

Strategic sourcing

In Q1, GHSC-PSM strategic sourcing of malaria commodities focused on:

- ***Conducting a strategic tender for mRDT supply.*** The project issued this solicitation to determine allocation of remaining FY 2021 demand for mRDTs among existing and potential new vendors offering eligible products, while also re-establishing long-term fixed pricing for future orders. The new tender represents the final stage in a holistic approach taken to combat acute production capacity constraints during the second half of FY 2020 and in early FY 2021. The project expects to finalize volume allocations of remaining demand in Q2.
- ***Developing 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 also contribute to shorter lead times. The solicitation will be conducted in Q2.
- ***Finalizing a tender for lab consumables.*** GHSC-PSM released a solicitation for lab consumables in Q4 FY 2020. The project evaluated offers for nearly 400 items and finalized awards in Q1 FY 2021. The associated strategy for procurement of these goods emphasizes process efficiency, with expected benefits of decreased order processing lead time, and reduced procurement and logistics overhead costs. The strategy will also leverage the use of enhanced tools to automate the order-level communication with eligible vendors and subsequent evaluations of relevant factors for award of individual consignments.

Procurement and deliveries

In Q1, GHSC-PSM procured malaria commodities[11] for 29 countries (all PMI countries, including one USAID-designated malaria country). This included $55.6 million of malaria medicines and commodities.

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

OTD and OTIF

Timeliness of GHSC-PSM deliveries remained consistently and extremely strong for standard OTD and OTIF over the reporting period for malaria commodities in Q1, with a rate of 93 percent (81 percent for COVID-impacted) (see Exhibit 7). The OTIF rate in Q1 was 92 percent (72 percent for COVID-impacted). Note beginning at the end of Q2 FY20, the number of COVID-impacted orders started to increase significantly and, as predicted in previous reports, continued to adversely affect 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 been reduced, COVID still continued to affect an extremely large number of orders to a greater or lesser extent, in Q1 FY 2021. This impact is expected to continue through Q2 and Q3.

Exhibit 7. Malaria Commodities, OTD

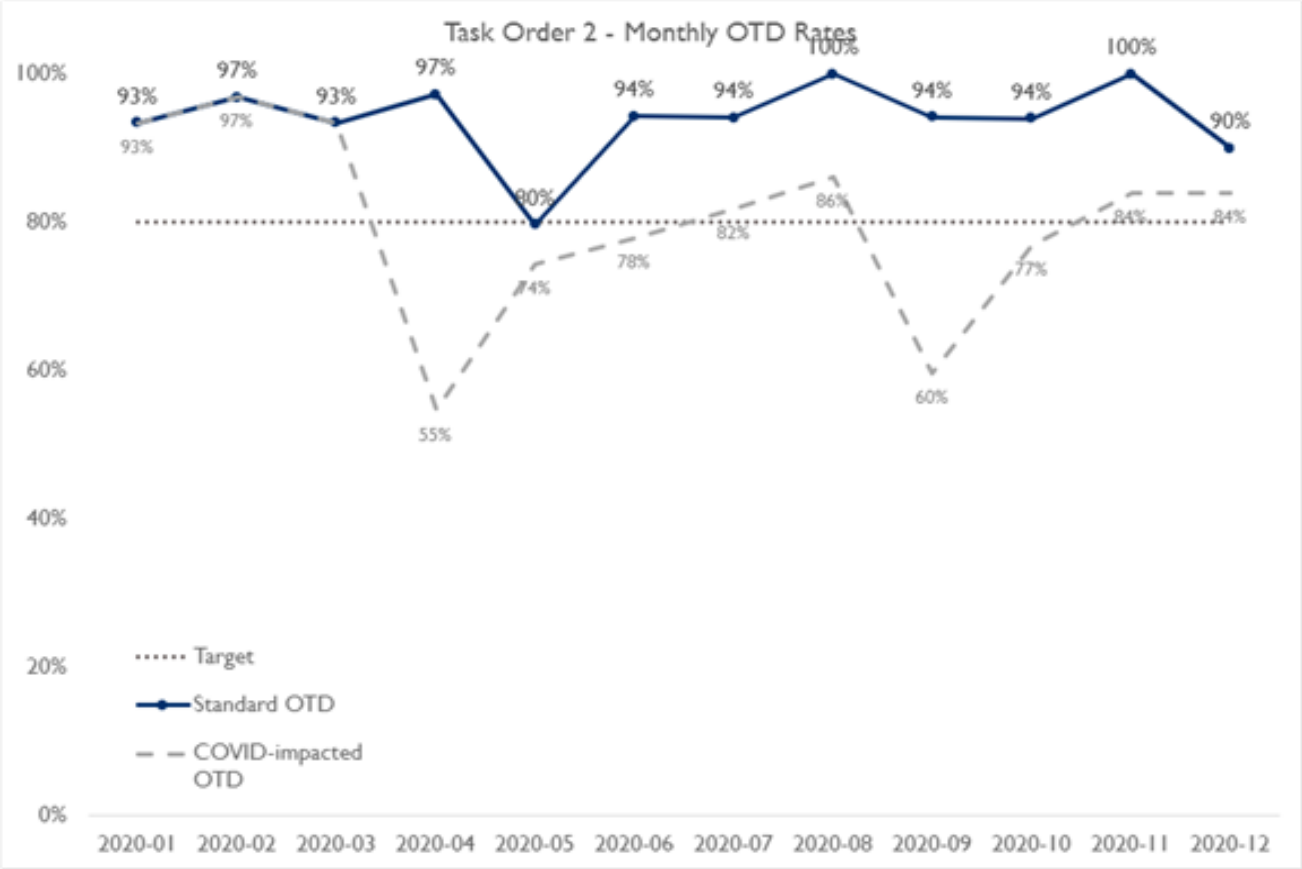
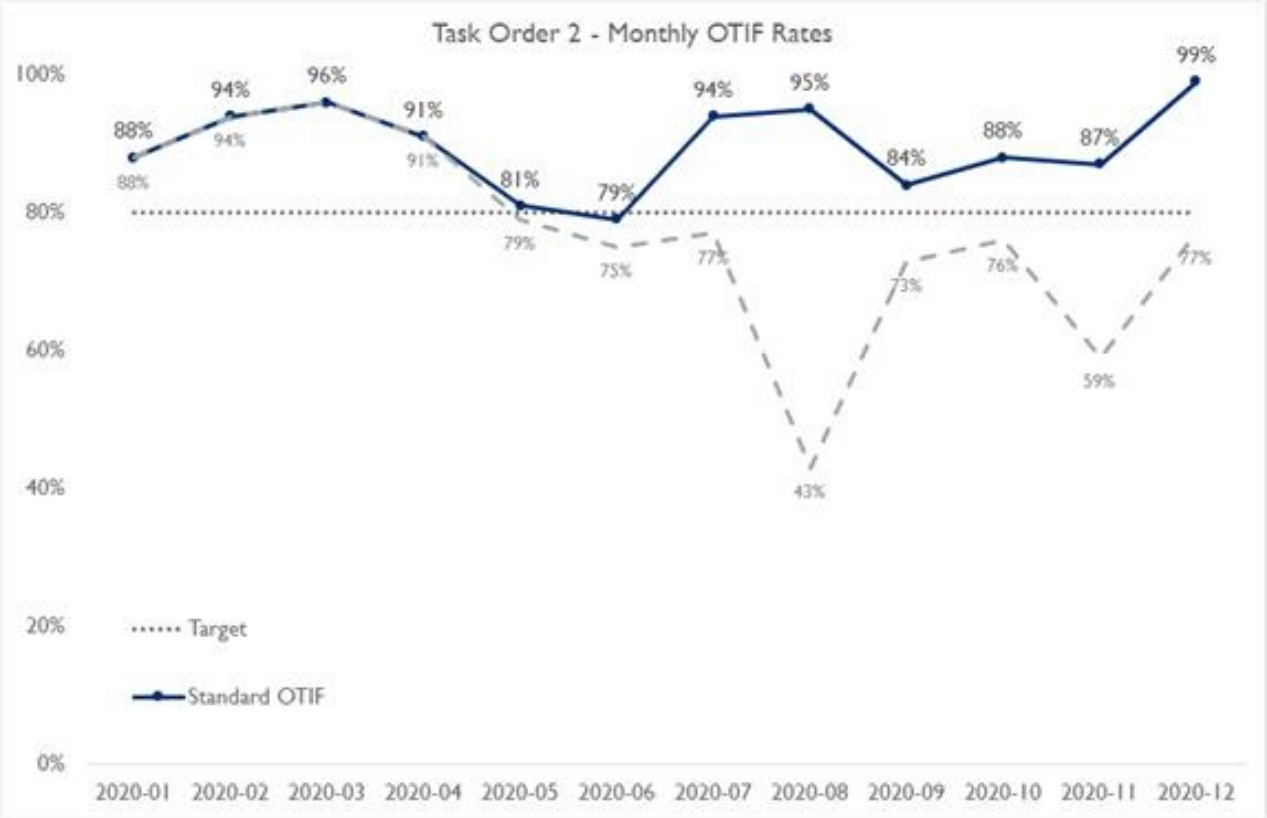


Exhibit 8. Malaria Commodities, OTIF



Global sourcing collaboration

In Q1, GHSC-PSM continued to participate in the Pharma Task Force, mRDT Task Force, and IRS/ITN Task Force and meet bi-monthly with the United Nations Children's Fund (UNICEF) and Global Fund to align priorities for strengthening supplier capacity and response. The bi-weekly 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.

In Q1, the Pharma Task Force developed a sub-working group focused on key pharmaceutical ingredients and active pharmaceutical ingredients with the goal of better understanding risks and diversity in the KPI and API markets. GHSC-PSM led the group in developing terms of reference.

Also, GHSC-PSM worked with the Global Fund to understand its plan for procuring sulphadoxine-pyrimethamine + amodiaquine (SPAQ), to inform decision-making regarding procurement for FY 2022 seasonal malaria chemoprevention (SMC) campaigns.

PROACTIVE PROCUREMENT STRATEGY FOR ARTESUNATE INJECTABLE AND ACTS

In Q1, GHSC-PSM continued to invest in and adapt the proactive procurement strategy for key malaria commodities, including with a new, second supplier of artesunate injectable. Despite global coordination efforts, other major donors booked all production capacity for artesunate injectable with the new supplier for the first half of CY 2021. In response, to ensure best value, the project used emergency funding to secure production capacity and proactively procure commodities with goods availability dates (GADs) in the second half of CY 2021. The project continues to work with the previous supplier to respond to urgent demand.

The second round of proactive procurement for ACTs also continued to ensure the project secures production capacity and addresses lead time constraints.

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 20 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.

The project produced a video to introduce the Stockout Reduction Initiative Playbook to country teams.

Determining what combination of PMI supply chain investments will first achieve, then maintain large reductions in stockout rates at SDPs will require that each country create a set of interventions tailored to the country context that address 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.

To facilitate the rollout of this initiative, in Q1, the project launched a pilot of the Stockout Reduction Initiative Playbook in Cameroon and Liberia following the six steps for implementation, which include:

- Identify stakeholders, introduce the initiative, and align expectations
- Understand baseline performance and define aspirations
- Diagnose and prioritize root cause issues
- Prioritize solutions and rebalance investments
- Develop detailed investment and execution plans
- Implement, manage, and monitor performance improvements

The project guided the pilot countries through the above steps and provided them with tools to collect and calculate the baseline stockout rates. Weekly check-ins were established to review progress and receive feedback from the countries. The pilot is expected to conclude in Q2; feedback will be used to revise the playbook and guide the rollout in 21 PMI-supported countries.

QUALITY ASSURANCE

In Q1, the project continued to explore and act on opportunities to ensure the quality of products procured on behalf of USAID to assure their safety and efficacy. The project pre-qualified and onboarded additional mRDT suppliers for more flexibility, particularly with existing mRDT suppliers pivoting toward producing COVID-19 RDTs.

Adjusted QA/QC protocols

In Q1, the project continued to implement modifications to the QA/QC protocols in response to COVID-19. The adjusted QA/QC processes included modifications to the inspection, sampling, and testing of particular products based on an evaluation of risk of each commodity, the supplier's quality management system (QMS), and GHSC-PSM's historical experience and data on that product. These adjustments allowed the project to monitor the quality of all products while focusing resources and attention on products that were deemed higher risk for quality-related issues. The process also allowed consignments deemed low risk to be shipped concurrently with testing, decreasing the lead time for delivering products to countries and subsequently to clients.

Cost savings

In Q1, risk-based randomized testing, along with the adjusted QA/QC protocol resulted in reduced testing, leading to cost savings of $69,198.06.

Key performance indicators

A key performance indicator is the completion of QA/QC activities on time (within the stipulated time frame for the certificate of conformance to be issued) with a target of 80 percent. In Q1, the project reported that 79 percent of QA/QC activities for orders were completed on time in total and 99 percent with the exclusion of orders with COVID-19-related issues.

Promoting Supply Chain Health

The project continued efforts to support strategic sourcing and procurement by pre-qualifying additional *Pf* HRP2 and *Pv* RDTs from three suppliers, injectable artesunate from one supplier, and sulfadoxine/pyrimethamine from three suppliers. The project also performed evaluation testing for two new LLIN products.

The project on-boarded two new mRDT suppliers and one LLIN supplier, including setting QA expectations—reviewing the project's QA/QC activities including timing and information required— and performing QC activities for the first orders from these suppliers. These activities have allowed for a larger pool of mRDT suppliers, particularly with existing mRDT suppliers pivoting toward producing COVID-19 RDTs.

The project released an RFP for laboratory services and successfully developed a comprehensive list of technical requirements. Upon completion of the RFP process, contracts with new labs will expand the

project's pool of qualified laboratories. Also, the project continued to build capacity with existing laboratories through method transfers to enable labs to test additional products, and engaged an additional LLIN testing laboratory.

GHSC-PSM began a comprehensive review of the LLIN guidelines document produced by the East Africa Standards (EAS), an intergovernmental organization in East Africa. The project is evaluating the guidelines for its impact on quality, the qualification of LLINs currently in the project's portfolio, and the impact on testing and releasing LLINs for use.

Fostering a more robust QMS

In Q1, the project continued to investigate quality issues and out-of-specification (OOS) occurrences that were reported in Q4 FY 2020, using these incidents as opportunities to enhance the project's QMS and to assist suppliers in strengthening their own QMS.

Quality in pharmaceuticals. As a result of GHSC-PSM's investigation of an OOS result, one ACT supplier implemented additional system controls in its manufacturing process. The OOS result, which occurred on an assay of artemether was initially reported by the project's third-party lab to the supplier, whose initial response was that the OOS result was due to lab error. GHSC-PSM continued the investigation and facilitated an experiment to understand where a breach occurred in the manufacturing process. The project assisted with developing and reviewing the protocol and approving the third-party lab to repeat the testing. This investigation identified that the OOS was due to variations in the supplier's processes. Subsequently, the supplier retested the samples analyzed by the third-party lab and confirmed the OOS result.

The project delivered malaria supplies to Malanje municipality in Kinje commune, Angola. *Photo credit: GHSC-PSM*

The project supported and provided guidance to the supplier in their investigation, including suggesting that the supplier compare its manufacturing process to the parent company's manufacturing process. The review indicated that a difference in manufacturing processes was the root cause of the OOS result for assay. The supplier implemented the appropriate change controls in their manufacturing process, which will reduce variation in future artemether assay results. Supporting the resolution of this OOS result will allow the project to continue procuring from this manufacturer.

Quality in LLINs. The project concluded an investigation of one LLIN supplier for which an OOS result was found during product testing. The project discovered that the supplier in question had falsified test reports. GHSC-PSM worked with the supplier as it implemented a corrective action/preventive action (CAPA), which resulted in the supplier hiring an independent QA manager to oversee production processes to ensure a more robust QMS process.

The project completed an OOS investigation report for a second LLIN manufacturer who produced LLINs using an incorrect manufacturing process. Lessons from the investigation, such as how to conduct

post-shipment testing, are being incorporated into investigation instructions and product eligibility instructions.

Quality in mRDTs. GHSC-PSM continued implementing a process to ensure the quality of mRDTs procured from an mRDT supplier that had received a notice of concern (NOC) from WHO and was under remediation. While orders were still allocated to the mRDT supplier they will be subject to enhanced QA processes.

The project also updated instructions to facilitate applications by mRDT suppliers for WHO approval based on lessons learned from all project-procured mRDTs.

Strategies and Innovations. GHSC-PSM continues to explore opportunities to innovate and implement better quality strategies. The project presented a proposal for a more robust QC process for LLINs. The proposal is based on a more detailed understanding of LLIN suppliers' manufacturing processes. The activity will inform a broader QMS process and contribute to enhanced standardization of LLINs.

The project continued its proactive strategy of using the adjusted QA/QC process and will continue to evaluate aspects that can be incorporated into standard QA/QC practices.

Collaboration. In Q1, the project and the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) renewed a commitment to continue monthly collaboration meetings. PMI and the Global Fund engage the same manufacturers, use the same WHO guidance, and often experience similar supplier QA/QC challenges. Representatives from both teams discussed QA/QC activities to mitigate challenges arising from COVID-19 restrictions, OOS investigations and other shared experiences.

In Q1, the project and the Global Fund began executing a proposal for quality requirements needed to re-engage one mRDT supplier. The project and the Global Fund also initiated discussions to facilitate targeted and robust QC processes for evaluating LLINs.

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

GHSC-PSM has worked to operationalize requirements for suppliers of pharmaceuticals, medical devices, sterile kits, laboratory reagents, and long-lasting insecticide-treated nets (LLINs) to leverage GS1 standards by adopting standardized identification, labeling, and exchange of product master data. 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. Q1 marked a major milestone for LLINs, which is detailed below. See section C for notable accomplishments and activities in Q1 across task order categories.

Since the publication of the "Recommended Identification, Capture, and Data Sharing Specifications for Long Lasting Insecticidal Nets" in FY 2019 by the TraceNet working group, GHSC-PSM has been closely coordinating with IDA Foundation, the Global Fund's procurement agent for LLINs, to support suppliers to meet the deadlines for compliance with GS1 standards. This is being implemented using a phased schedule, with the LLIN-specific implementation phases referred to as LP1, LP2, and LP3.

The LP1 deadline was June 30, 2020. This phase required manufacturers to allocate standardized product and location identifiers, or Global Trade Item Numbers (GTINs) and Global Location Numbers (GLNs),

respectively. The project's LLIN suppliers' LP1 compliance remains strong, with 90 percent of items compliant at the end of Q1. Much of this success was due to the collaborative inputs of the TraceNet working group in developing the GS1 recommendations document and the educational webinars.

The LP2 deadline was December 30, 2020. This phase required labeling nets and poly bags and synchronizing product master data through the Global Data Synchronization Network (GDSN). Three out of seven in-scope LLIN suppliers and 50 percent of in-scope items were fully compliant with LP2 requirements at the deadline. All noncompliant suppliers have demonstrated steps toward labeling and master data synchronization, including having signed a contract with a GDSN Data Pool. Taken together, these numbers demonstrate the value in implementing common global standards requirements across organizations—even for a category where global standards were not previously used, such as LLINs—and serve as a roadmap for successful implementation in other new categories in the future. They also lay the groundwork for using standards in information systems and processes throughout national and global supply chains to strengthen supply chains and ultimately ensure patient safety.

PRIORITIZING AND TRANSFERRING ORDERS

In Q1, to address country need and market constraints, GHSC-PSM, working closely with USAID, prioritized orders based on need and conducted commodity order transfers to improve stock status. Below are a few examples of how the project continued these strategies in Q1 to ensure that countries in need of product could avoid a stockout. The project expedited orders for countries in urgent need of stock, such as bringing forward deliveries of ACTs in Benin and Nigeria. In Mali, the project identified an urgent need for artemether/lumefantrine (ALu). The project worked with the supplier and the country office to obtain approvals to ship existing stock from a supplier to mitigate the stockout risk, reducing the estimated delivery date by several months.

In Q1, all 29 countries submitted data to the Procurement Planning and Monitoring Report for malaria (PPMRm). The PPMRm collects and reports information on stock status and on host governments' and other donors' shipments. The visibility into stock status and shipment information enables PMI, the project, and countries to make decisions on prioritizing, expediting, transferring, or delaying procurements or shipments, and facilitates review of forecasts and supply plans to optimize procurements.

Based on PPMRm data, the following actions were taken at the global or national level in Q1:

- **Angola:** The project noted overstocked ALu 6x2, 6x3, and 6x4 at the central level and in some provinces, while other provincial warehouses were understocked or stocked out. The project recommended that the National Malaria Control Program (NMCP) coordinate with the central medical store and provinces to redistribute the ALu formulations to the understocked provinces as needed.
- **Thailand:** GHSC-PSM received an urgent request from the Department of Disease Control (DDC) for 12,500 mRDTs to test fever cases in the COVID-19 quarantine centers along the Thailand-Myanmar border. Due to long global procurement lead times, the project was unable to fulfill the urgent request with a new procurement. However, while reviewing PPMRm data, the project found that the Division of Vector Borne Diseases (DVBD) had an overstock of mRDTs at risk of expiry. The project advised the DDC to borrow the mRDTs from the DVBD to respond to the urgent need, and the project would proceed with an expedited procurement

for the remaining mRDTs needed. The DDC and the DVBD agreed with the approach, which provided a solution to the DDC to obtain urgently needed mRDTs, and relieved the risk of expiry for the DVBD commodities. The new procurement will then provide additional stock to the DDC and the DVDB.

END USER VERIFICATION (EUV) CHANGE CONTROL BOARD ACTIVITIES

The EUV survey assesses availability of malaria, FP/RH, and MNCH commodities at health facility level. In December 2020, GHSC[12] held a change control board meeting to review and approve suggested changes to the EUV survey to better align the survey with how it is used for decision making. This three-day meeting between PMI, USAID FP/RH, USAID MNCH, and the GHSC EUV team provided a dedicated forum for stakeholders to discuss proposed changes to the survey questions, indicator definitions, and report visualizations. These changes were suggested by the 17 GHSC field offices that conduct the EUV, as well as the stakeholders who attended the meeting. As a result, the project will make more than 25 changes and expect to roll them out to country offices in FY2021 Q3. Additionally, the purpose of the EUV was updated to align with its current use:

1. Establish stock statuses where missing or to triangulate LMIS data
2. Collect data not captured in LMIS (e.g., stock management challenges, stockout reasons, case management)
3. Strategic planning (e.g., trend analysis)
4. Double as an opportunity for supportive supervision

LLIN DISTRIBUTION SUPPORT

In Q1, many countries continued to deliver LLINs for routine distribution. Other countries planned, launched, or continued large-scale LLIN distribution campaigns as a key malaria prevention strategy. However, most campaigns were delayed because of COVID-19. These massive initiatives ensure beneficiaries receive the nets they need, particularly in high-impact areas. While the actual distributions can last just a few weeks, logistics, supply planning, procurement, and pre-positioning the nets can take months.

GHSC-PSM supported LLIN distribution activities, including:

- **Angola and Niger:** In Q1, GHSC-PSM worked with the NMCPs and other stakeholders to start the planning process for an LLIN mass distribution campaign in Angola and last-mile distribution in Niger. Tentative distribution plans were initiated and are being updated.

[12] With regards to this EUV section, GHSC includes GHSC-PSM and GHSC-TA.

- **Ethiopia:** The project supported the Southern Nations, Nationalities, and People's (SNNP), Afar, Amhara, and Oromia regional states to distribute nearly 111,969 LLINs procured with PMI funding to flood-affected and internally displaced people (IDPs), and in the context of COVID-19. The LLINs are intended to protect the flood-affected people from malaria transmission and to significantly reduce malaria morbidity and mortality. The project delivered the LLINs to 116 *woredas* (districts) and reached 91 *kebeles* (health posts) and distributed to 56,000 households, benefiting 223,938 flood-affected people and IDPs at the time of the campaign completion. GHSC-PSM supported the *woredas* to organize community mobilization activities; deploy health post–level supervisors and campaign coordinators; provide LLIN distribution pads; transport LLINs to the health posts; and provide alcohol-based hand sanitizer, face masks, and gloves to ensure protection of campaign actors, beneficiaries, and the community against COVID-19. All LLIN distribution activities were conducted adhering to LLIN distribution guidelines in the context of COVID-19. Following MOH guidance, a maximum of two LLINs were distributed per household for the flood-affected community. Throughout the distribution process, GHSC-PSM collaborated with the Ministry of Health, regional health bureaus, and local COVID-19 task forces.

A team in Ethiopia transports LLINs to internally displaced persons after a flood in the Afar region. *Photo credit: GHSC-PSM*

- **Ghana**: GHSC-PSM supported the NMCP and the Ghana Education Service to implement the 2020 school LLIN distribution in November 2020, following the gradual easing of COVID-19 restrictions by the government. The national rollout of the 2020 campaign was scheduled for May 2020 but was delayed in compliance with government restrictions to limit the spread of COVID-19. The National LLIN Taskforce, in consultation with key partners, distributed this life-saving commodity directly to junior high students in the classroom, and by appointment to primary school students who were not coming to schools due to COVID-19 precautions. Leveraging the services of third-party logistics (3PL) providers, GHSC-PSM distributed 1,229,650 LLINs from the central warehouse through the district level to 26,765 schools in 15 regions targeted for the campaign. Of the targeted schools, 99.96 percent received their allocation of LLINs for onward distribution to the intended beneficiaries.

Exhibit 9. GHSC-PSM supported LLIN distribution activities in many countries. Examples include:

Countries	Number of LLINs	Type of Distribution
Burundi	416,440	Continuous distribution
Ethiopia	140,948	Mass distribution campaign

Ghana	1,229,650	School distribution
Malawi	361,750	Continuous distribution
Mali	553,286	Continuous distribution
Nigeria	3,575,770	Mass distribution campaign
Uganda	382,402	Continuous distribution
Zambia	1,756,000	Mass distribution campaign
Zimbabwe	108,900	Continuous distribution
Total	**8,525,146**	

These LLINs are enough to provide protection from malaria for over 17 million people.

COUNTRY SUPPORT

GHSC-PSM provided supply chain systems strengthening support for malaria medicines and commodities in 22 countries in Q1 FY 2021.[13] Activities in Q1 included:

Burkina Faso. The *Direction de la Chaine d'Approvisionnement des Produits de Santé* (DCAPS) identified inadequate collection and use of logistics data in the National Health Data Repository (ENDOS-BF) as one of the critical challenges that have an impact on the availability of health products at SDPs. In collaboration with the Directorate of Sectoral Statistics (DSS) and GHSC-PSM, DCAPS organized four training sessions on data extraction and data analysis from ENDOS-BF for 102 supply chain managers in December 2020. With DCAPS, GHSC-PSM trained supply chain managers from all 13 health regions and all 70 health districts on data collection, data extraction, and data analysis from ENDOS-BF to improve the timeliness and completeness of the logistics reports and data for decision-making.

Guinea. GHSC-PSM supported the training of 23 data managers from the NMCP, MOH, and implementing partners (GHSC-PSM, UNFPA, Catholic Relief Services, and WHO) on how to use the eLMIS advanced dashboard on Power-BI that was previously developed and tested by the project. The training aimed to improve data availability and data analysis to ensure continuous availability of the products at health facilities.

Malawi. GHSC-PSM provided technical support to the NMCP to finalize the activity report following the 2020 quantification review workshop. Due to COVID-19, the workshop was held virtually in September 2020. The 2020 quantification review report was finalized and shared with stakeholders in

[13] 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.

Q1 FY 2021. The review identified significant malaria commodity gaps for 2021. Stakeholders are determining how to address the gap.

Rwanda. The project supported the validation of malaria orders at the district level. In December 2020, GHSC-PSM and the Malaria Division reviewed 31 orders and found that Alu 6x3 was overstocked, with short remaining shelf life in some health facilities. Five orders were revised to facilitate redistribution of Alu 6x3 and minimize expiration and stockouts. The central medical store will facilitate redistribution and resupply of Alu 6x3 in Q2 according to the revised orders.

Sierra Leone. GHSC-PSM supported the District Forecast and Distribution Technical Working Group (TWG) meetings in nine districts. Participants identified data quality problems from the health facilities monthly reports and conducted data cleaning and analysis for decision-making. The TWG, with a core team comprised of supply chain personnel from each district, including the district pharmacist, analyzed the data with GHSC-PSM's support, and used the data to develop a distribution matrix of malaria commodities for last-mile distribution in Q1 2020. The health facility data have guided commodity allocations, helping to prevent understocking in some facilities and overstocking in others.

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 **76.8 million couple-years of protection**, including **3.5 million in Q1 FY 2021.**

Procured FP/RH commodities for 24 countries[14] 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 93 percent (84 percent COVID-impacted) OTD** in Q1.

Launched integrated support for GFPVAN through secondment of three staff to the Reproductive Health Supplies Coalition (RHSC) to carry out Control Tower activities.

Continued to disseminate results of the 2019 Contraceptive Security Indicators (CSI) survey online, including a blog post to the Not Without FP Forum website ahead of the forum in February and the International Conference on Family Planning in November 2021.

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

Published a second blog post on last-mile dynamic routing on the Not Without FP Forum website. The blog linked to associated GHSC-PSM research and linked effective last-mile delivery using digital tools to contraceptive security and universal health coverage.

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 global supply, increase financing, and introduce new FP/RH commodities.

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 Q1, 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 Q1, GHSC-PSM ensured a continuous and reliable supply of commodities to various countries despite the persistent and severe global supply shortages of injectable, implantable, and oral contraceptives and the shocks triggered by the COVID-19 pandemic.

Commodities Procured for FP/RH Programs

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

Timeliness of GHSC-PSM deliveries remained consistently and extremely strong for standard OTD over the reporting period for FP/RH commodities at 93 percent (84 percent COVID-impacted). OTIF numbers also remained high at 88 percent (82 percent COVID-impacted). 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 affect 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 been reduced, COVID still continued to affect orders to a greater or lesser extent in Q1 FY 2021. This impact is expected to continue through Q2 and Q3.

Exhibit 10. FP/RH commodities, OTD

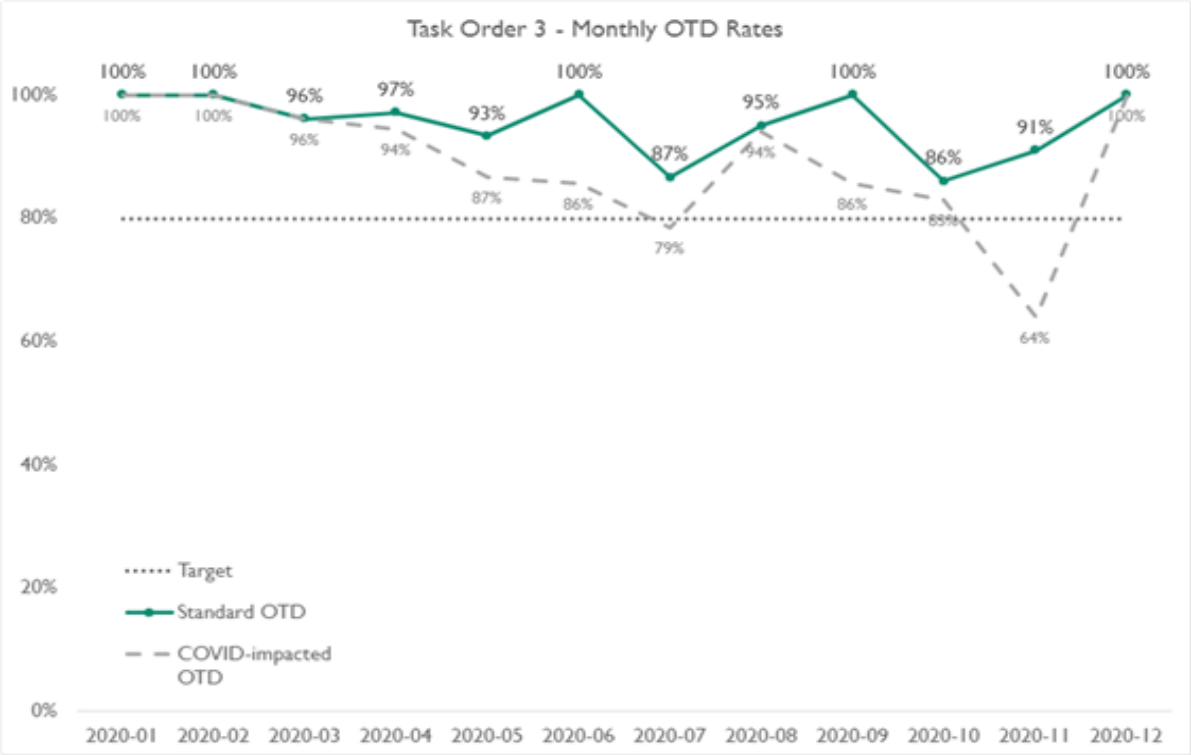
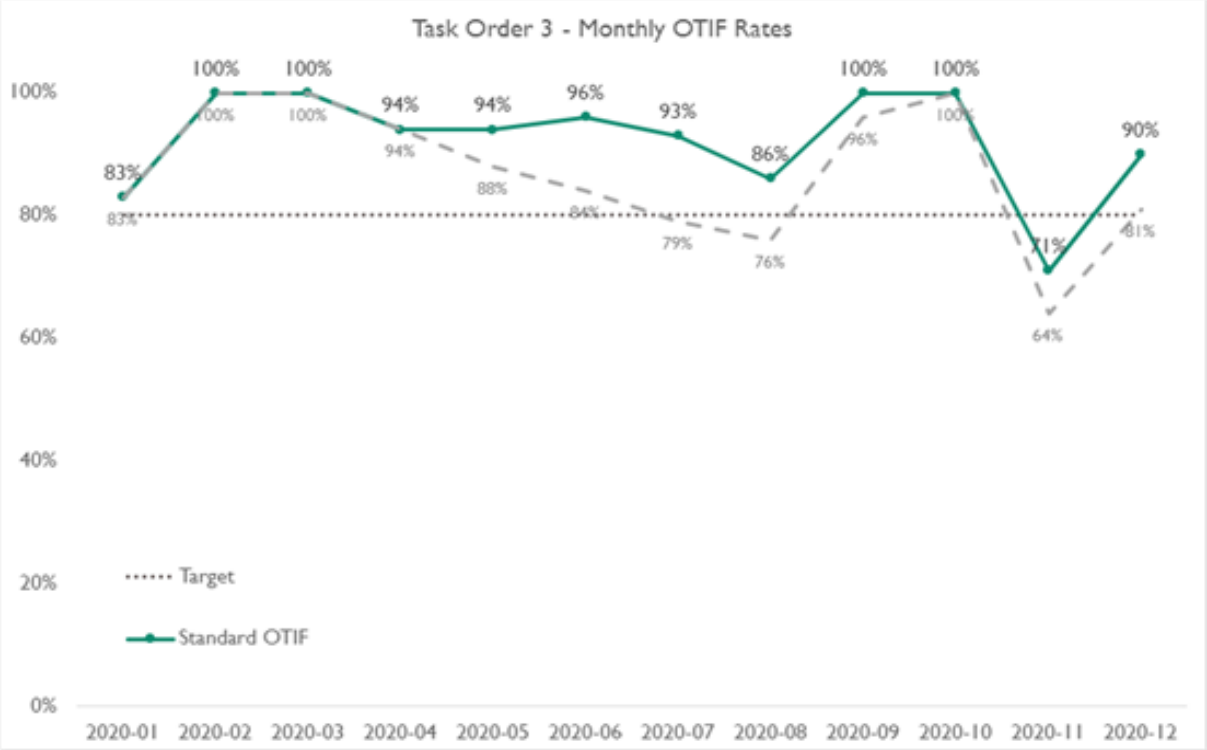


Exhibit 11. FP/RH commodities, OTIF



Using the Commodity Council 5 and LTAs to drive the long-term strategy for the supply of FP/RH commodities

GHSC-PSM convened Commodity Council 5 in Q1, which focused on long-acting reversible contraception (LARC), including implants, injectables, and hormonal intrauterine system (IUS) given ongoing/planned introduction efforts and shifts in the markets. The project also conducted a strategic commodity review of oral contraceptives to overhaul the sourcing strategy in response to market trends.

Following Commodity Council 5, GHSC-PSM convened a meeting of the Sourcing Governance Board to align on a sourcing strategy 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 system

Following the release of its hormonal IUS request for quotation, GHSC-PSM issued an advance notification of award to two suppliers in Q1. The project anticipates introducing hormonal IUS into the USAID Product Catalog for the first time in Q2. Also, in Q1, GHSC-PSM, along with donors and key partners, worked to increase access to hormonal IUS by building on the significant momentum among in-country partners and developing strategies to support the introduction of a quality-assured product(s) at an affordable public-sector price.

Social marketing engagement activities

GHSC-PSM continues the routine update of its social marketing organization (SMO) landscape and analysis of SMO needs. These updates and analyses provide visibility critical in informing demand and supply planning, dealing with unique social marking (SM) requirements, and managing global supply trends that affect SM activities, as shown in the achievements below.

In Q1, the project negotiated contract extensions with suppliers and incorporated SM considerations around overbranding and distribution. To that effect, GHSC-PSM analyzed data on SMOs to inform contract negotiations and to ultimately ensure a continuous supply and prevent program disruption.

Monitoring continuity of SM activities remains crucial following the projected end to some SMO contracts in FY 2021 and depot-medroxyprogesterone acetate-intramuscular (DMPA-IM) regulatory limitations to procurement due to pending in-country regulatory updates of the historical leading product. In Q1, GHSC-PSM worked to understand USAID Mission plans to continue SM activities in some countries such as Afghanistan, Bangladesh, Mali, and Nepal. This will continue in Q2 to enable the project to identify future needs early on and effectively manage transitions where applicable. GHSC-PSM is also monitoring DMPA-IM regulatory filings and approval status in certain countries to ensure the continuous supply and availability of the product. For instance, in Ghana, where such limitations restrict the ability to procure the product until Q4 FY 2021, GHSC-PSM in Q1 worked with the SMO on the acceptability of a generic alternative to help manage the current stock-out. Procurement of this generic is expected in Q2 FY 2021. Tracking the registration landscape of generic options in general, especially for Ghana in the context noted above, is also critical for proposing options.

Packaging Rationalization and Stakeholder Engagement

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.

In FY 2021, GHSC-PSM will continue to coordinate with UNFPA to operationalize recommendations for harmonization and optimization and explore opportunities for greener, more environmentally friendly packaging.

Landscape survey of local manufacturers' capacity to produce modern contraceptives
GHSC-PSM collaborated with USAID to finalize the scope of work for a landscape survey of local manufacturers' capacity to produce modern contraceptives, with a focus on sub-Saharan Africa (SSA). Given that the modern contraceptive market is dominated by imports from only a few manufacturers, this market concentration and high barriers to entry for new suppliers make the supply of modern contraceptives vulnerable to disruptions to the physical supply chain and to manufacturers' decision to withdraw from the market. Disruptions to the supply chain, and dependency on imports, raise the question of whether some production of quality-assured modern contraceptives could be located in SSA and whether the potential cost implications would be outweighed by the value of bolstering local production. This landscape survey aims to assess the existence and feasibility of manufacturers located in two SSA countries producing modern contraceptives at a competitive price and describe potential solutions to any manufacturing-specific challenges that would need to be overcome. In Q2, GHSC-PSM will contract IQVIA to conduct this assessment.

COLLABORATION WITH GLOBAL STAKEHOLDERS

The project continued to build global partners' awareness of and support for the U.S. Government's FP/RH priorities and programs and to support USAID's leadership in FP/RH commodity availability through the following activities.

2020 Joint UNICEF-UNFPA-WHO Virtual Meeting with Manufacturers and Suppliers
GHSC-PSM attended the 2020 Joint UNICEF-UNFPA-WHO Virtual Meeting with Manufacturers and Suppliers held in Q1. During the meeting, organizations highlighted the dual target of ensuring a continuous supply of quality-assured medicines while taking up the challenge of supplying commodities needed to fight COVID-19 and to do so in an equitable way for the destination countries. Stakeholders established a strong coordination mechanism and developed special tools, new collaborative procedures, pilots, and guidelines around evaluation of bids, monitoring of orders, and joint operations. This work serves to further the existing collaborative procedures and WHO prequalification efforts and strengthen regulatory systems through cooperation.

The presentations and the associated exchanges during the meeting constituted a rare opportunity for GHSC-PSM and USAID to get the latest updates from global stakeholders, to continue collaborating with them, and to identify new opportunities to do so.

Tracking contraceptive security

GHSC-PSM continued to disseminate results of the 2019 Contraceptive Security Indicators (CSI) survey online, including through blog posts to the Not Without FP Forum ahead of the forum in February and the International Conference on Family Planning in November. Since the launch of the 2019 CSI Dashboard in August 2020 through the end of FY21 Q1, the dashboard has had over 1,400 page views from over 950 global users, showing the expanding reach of the dashboard data and its usage. Also, the project has collaborated with the ForoLAC group of the Reproductive Health Supplies Coalition to report 2019 CSI data from seven additional countries: Argentina, Bolivia, Chile, Ecuador, Mexico, Nicaragua, and Paraguay. The new data will be available on the CSI dashboard and landing page by Q3. Survey results are intended to enable decision-makers in countries and the global health community to monitor progress toward contraceptive security and inform policies, program planning, and advocacy for increased resources. Data collection for the 2021 survey will take place in Q4.

Enhancing visibility of FP supplies data

GHSC-PSM continued to serve 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. At the start of FY 2021, the project embarked on a new, more integrated approach to supporting this community undertaking. Following the successful transition of the Procurement Planning and Monitoring Report (PPMR) database management to the RHSC, GHSC-PSM is now seconding two staff to the RHSC GFPVAN to serve as Control Tower Analysts. These staff will work with other GFPVAN Control Tower members to ensure that all required inventory and supply plan data are uploaded on time, are complete, and meet defined quality standards, so as to be reliable for decision-making. Also, the project seconded a Control Tower Master Data Management and Analytics Analyst who will focus on: 1) enabling the GFPVAN community of platform users access to complete and timely data that are presented in a manner that enables them to glean meaningful insights; and 2) serving as the GHSC-PSM global supply chain data steward. By seconding these staff, the project will further its contribution to the overarching goal of the GFPVAN to enable the RH community to better aggregate, share, and align country demand data with production, procurement, and funding to avoid stock imbalances and maximize use of limited resources to ensure continuous availability and choice of FP products in low-income countries.

Beyond the seconded staff, GHSC-PSM in Q1 FY 2021 supported the launch of the GFPVAN subscription model by paying its first annual subscription for the portal. Other GHSC-PSM staff supporting the GFPVAN effort will focus on enabling the project to realize the benefits of the tool.

Specifically, in Q1, GHSC-PSM staff:

- Planned and initiated the launch of the basic country viewer role that supports onboarding remaining PPMR countries to access their data through the GFPVAN

- Identified and trained GHSC-PSM super users on basic functionalities of GFPVAN to increase the scale and usability of the tool across GHSC-PSM for FP supplies data

- Engaged in shaping the structure of the Consensus Planning Group (CPG), which merged the functions of Coordinated Supply Planning and CARhs (Coordinated Assistance for Reproductive

Health Supplies) through multiple workstreams in which the CPG seeks to improve global-level coordination among USAID, UNFPA, and other key supply chain partners

- Continued to share data with the GFPVAN network to better enable accomplishments of the objectives of the CPG

- Initiated a system integration activity in Ghana to allow automatically sending the ordering information from the warehouse management system (WMS) to the GFPVAN. The GFPVAN will transfer the shipment and procurement information to feed to the country's WMS. The integration effort plans to be completed in Q2.

Also in Q1, TO3 and colleagues across the project participated in a series of meetings with USAID/Washington to discuss survey improvements for future end-use verification survey data collection. During the meetings, GHSC-PSM provided feedback and participants voted on the proposed changes for survey design and FP/RH indicators. GHSC-PSM will monitor the updates as they go into effect.

COUNTRY SUPPORT

Below are examples of the technical assistance that GHSC-PSM provided to strengthen in-country[15] supply chains for FP/RH commodities this reporting period.

Improving FP Delivery at the Last Mile in Ghana

GHSC-PSM and Health Keepers Network (HKN), a Ghana-based NGO, assists the Family Health Division of the Ghana Health Service (GHS) to improve access to high-quality, affordable contraceptives in underserved communities through a new door-to-door service. The approach is modeled on a door-to-door sales method to get products to the last mile: a client's doorstep.

The service has become necessary, as the number of clients visiting health facilities for FP services has declined during the COVID-19 pandemic. GHSC-PSM worked with HKN to develop a work plan and obtain GHS approval. The activity was launched in December 2020 to be conducted in the Central Tongu District in the Volta region, Ga South Municipality in the Greater Accra region, and Mion District in the Northern region.

Contraceptive Pooled Procurement TA Provided to the Government of Pakistan

GHSC-PSM has been providing TA to the Government of Pakistan for pooled procurement of contraceptives for FY 2020–21 in line with Federal Task Force decisions. The project provided TA to the Population Program Wing of the Ministry of National Health Services, Regulations, and Coordination to develop the standard bidding documents and procurement plans for the first-ever contraceptive pooled procurement by provinces and regions to achieve economies of scale.

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[15] GHSC-PSM procured FP/RH commodities for the following countries: AFRICA: Angola, Benin, Burundi, DRC, Ghana, Guinea, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Senegal, Tanzania, Togo, Uganda, Zambia; LAC: Haiti; ASIA: People's Democratic Republic of Bangladesh and 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, Panama; ASIA/NEAR EAST: Nepal, Pakistan.

In Pakistan, injectables and oral pills are manufactured locally, but condoms, IUDs, and implants are procured internationally. The contraceptive quantities for all provinces and regions would be pooled to increase competition among local/international suppliers. The initiative is also expected to improve contraceptive commodity security across the country.

B4. MATERNAL, NEWBORN, AND CHILD HEALTH

19 countries received maternal and child health supply-chain strengthening support in Q1 FY 2021.

Eight countries procured MNCH medicines and commodities in Q1. Since its beginning, the project has procured a total of **$12.4 million in MNCH commodities.**

The project supported updates and dissemination of critical global MNCH commodity guidance in collaboration with its partners in Q1. As a first step, GHSC-PSM **convened discussions for project country staff and Ministry of Health partners in French and English** regarding recently updated **global uterotonics information** for treating and preventing postpartum hemorrhage.

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 the achievements of each MCH task order objective in Q1, including the achievements of the project's global supply chain and country offices. The section will address the following:

- Objective 1. Provide international MNCH supply chain leadership and guidance
- Objective 2. Support data-informed health supply chain decision making for MNCH commodities
- Objective 3. Improve adherence to globally recognized MNCH commodity quality standards
- Objective 4. Enhance in-country MNCH supply chain coordination and collaboration
- Objective 5. Conduct ad hoc strategic procurement to increase availability of quality assured MNCH commodities

Addressing COVID-19 challenges

In Q1 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.

MCH task order supported countries

Burkina Faso
El Salvador
Ethiopia
Ghana
Guatemala
Haiti
Honduras
Liberia
Madagascar
Malawi
Mali
Mozambique
Nepal
Nicaragua
Nigeria
Pakistan
Panama
Rwanda
Zambia

Disseminating postpartum hemorrhage commodity information and validating revised RMNCH commodity forecasting guidance

Since 2017, WHO and other global partners have updated clinical guidelines for MNCH-related conditions, including recommendations for postpartum hemorrhage (PPH) and possible severe bacterial infection in infants. In response, GHSC-PSM worked with project staff, Ministries of Health, and relevant logistics and health agencies in MCH task order-supported countries (see box 2) to raise awareness for these guidelines and engage stakeholders to think through related supply chain implications and actions. GHSC-PSM has committed to implementing two related activities in FY 2021: disseminate information on PPH commodities to all MCH task order countries and assist the Medicines, Technologies, and Pharmaceutical Services (MTaPS) project with field validation of an updated forecasting resource for MNCH commodities.[16]

In Q1, GHSC-PSM carried out the first activity on PPH commodities. In collaboration with MTaPS, the project hosted two webinars in English and French. The webinars targeted project staff and Ministry of Health counterparts in countries supported by GHSC-PSM's MCH task order and the USAID Global Health Supply Chain–Technical Assistance Francophone Task Order project. Approximately 60 participants from 12 countries attended the webinars to learn about the updated global guidance for PPH management and received detailed supply chain information on commodities for PPH management.

Facilitating improved access to quality MNCH commodities within the private sector

In Q1, 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 (LMICs). 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. The discussion and expert feedback will inform future GHSC-PSM coordination with global health partners and project activities to support domestic wholesalers.

Supporting international and regional groups that address MNCH health commodity and supply chain challenges

GHSC-PSM continues to support the Maternal Health Supplies Caucus through participation in ongoing meetings. In Q1, GHSC-PSM participated in the diarrhea-focused USAID Partners' Meeting sharing private-

[16] 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 supplement was revised by the MTaPS project, with support from GHSC-PSM, to include additional maternal health commodities in line with recent changes in WHO recommendations.

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.

Helping countries adapt to address COVID-19 challenges

Since the initial outbreak of COVID-19, health supply chains in GHSC-PSM countries have been forced to adjust to new demands, including changes in patient consumption, upstream supply shocks, and the need to ensure health care workers' access to appropriate personal protection equipment (PPE). Maintaining MNCH services and commodity availability at health facilities remains critical to avoid suffering and potential deaths of women and children from preventable causes. COVID-19 has aggravated existing service delivery challenges and prompted a need for new and dynamic supply chain planning and operations. GHSC-PSM released a new technical resource in Q1 to help national governments ensure the availability of MNCH commodities as COVID-19 continues. This comprehensive resource reviews distribution and dispensing considerations for public-sector supply chain and MNCH stakeholders in LMICs. The project disseminated the document to GHSC-PSM countries receiving MNCH support and to the broader MCH community through the Maternal Health Supplies Caucus of the Reproductive Health Supplies Coalition.

The latest resource on ensuring availability of key MNCH commodities helps national governments adapt to the COVID-19 environment.

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

End-use verification surveys (EUVs) conducted in GHSC-PSM–supported countries

MNCH data and analytics within national logistics management and information systems (LMISs) are not always adequate to identify and resolve key supply chain issues. As a result, the project has used the EUV survey as an interim solution 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. The EUV data collection is also an opportunity for GHSC-PSM country teams to provide onsite capacity building for staff at service delivery points and the Ministry of Health, gather supplemental qualitative data on reasons for stockouts, and cross-check LMIS data accuracy on stock availability trends.

In Q1, GHSC-PSM submitted EUV reports for Burkina Faso, Ghana, Guinea, and Liberia. The MCH task order and colleagues across the project participated in a series of meetings with USAID/Washington to discuss survey improvements for future EUVs. During the meetings, GHSC-PSM provided feedback and voted on the proposed changes for survey design and MNCH indicators. GHSC-PSM will monitor the updates as they go into effect.

Supplemental EUV data analyses conducted on high-priority MNCH commodity areas

Over the past few years, GHSC-PSM supported efforts to improve the breadth and accuracy of the EUV. In Q1, GHSC-PSM supplemented EUV analysis using data from Ethiopia, Ghana, Liberia, and Mali

from 2018 to present to identify observable trends related to (1) the uptake of amoxicillin dispersible tablets (DT) and co-packaged ORS and zinc and (2) facility-level management of oxytocin and magnesium sulfate. Due to data quality and sampling limitations, it was not possible to describe observable trends over time. In some instances, data on commodity availability aligned with broader contextual knowledge and insights from in-country project staff, e.g., information on government-led procurements and challenges with MNCH commodity financing. GHSC-PSM generated recommendations based on this analysis to inform the annual EUV change board meeting and allow for future trend analysis.

Improve data analytics for MNCH commodity decision-making through technical assistance
When designed effectively, eLMIS platforms can equip stakeholders to analyze an array of national supply chain information. In FY 2020, GHSC-PSM conducted a data use survey in 15 countries in which it provides MNCH support to map 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-related data. These challenges often delay decision-making and response to supply-chain challenges.

In FY 2021, GHSC-PSM aims to improve data analytics functions and capabilities within the countries it supports and help improve their data-based decision-making for MNCH commodities. During Q1, GHSC-PSM conducted focus group discussions (FGDs) with 15 countries that receive MNCH support. These FGDs organized the country teams into regional groups and worked to identify supply chain decisions that are made regularly to improve MNCH commodity management. The FGDs also helped identify the analytics tools that are being used to make such decisions. GHSC-PSM will use the information gathered in the FGDs to design an interactive dashboard that catalogues data tools and approaches that currently exist in project-supported countries. The dashboard aims to provide a blueprint for countries with nascent LMISs that helps automate their data collection and analysis and reduces the required investment by emergent countries to conduct similar analysis for improved MNCH commodity management.

IMPROVE ADHERENCE TO GLOBALLY RECOGNIZED MNCH COMMODITY QUALITY STANDARDS

As discussed previously, the project hosted several information exchanges and focus groups with MNCH-supported countries in Q1 to translate global discussion around MNCH commodity-related topics for project-supported country contexts. Country-specific examples of this work are described below.

Systems strengthening technical assistance GHSC
GHSC-PSM provided MNCH systems strengthening support to 19 countries[17] in Q1. Country successes for Q1 are described below.

Pakistan works to eliminate Hepatitis C. In Q1, GHSC-PSM in Pakistan worked with the government to develop a five-year budget plan for the Hepatitis C Virus (HCV) elimination program. This included consultations with provincial governments and other stakeholders. The program aims to prevent contraction and transmission of HCV, especially for pregnant women at risk of transmitting HCV to

[17] 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.

their children. The project supported the government of Pakistan to establish Planning, Development and Monitoring Units (PDMUs) at provincial and regional levels and once established, GHSC-PSM assisted PDMUs in Punjab province to identify, nominate, and train district focal persons (DFPs). These DFPs can improve diagnostic and therapeutic services for HCV at public and private sector facilities.

Also, the project co-developed a DFP toolkit and provided technical support to the Hepatitis Control Program to train 36 DFPs in Punjab province (while adhering to COVID-19 safety protocols). The toolkit contains standard operating procedures for diagnosing and treating patients and tracking and reporting the performance of districts and diagnostic/treatment facilities through monitoring and evaluation (M&E) checklists. The project is working to ensure the DFP toolkit includes a comprehensive supply chain management component, including forecasting and supply planning; procurement; warehousing and distribution; and inventory management through web-based LMIS for HCV products. The existing M&E module will also be modified to include logistics indicators, ensuring continued supply of HCV products for communities at the last mile. Ultimately, the program will improve the public health delivery system and strengthen the capacity of the health workforce. This intervention will be scaled up to additional provinces and regions. The efforts are projected to benefit 34 million women in Pakistan.

Nigeria Drug Revolving Fund. 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 Drug Revolving Funds (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.

As part of the DRF activity, GHSC-PSM procured the initial seedstock[18] for the funds, part of which arrived in Q1. To receive the seedstock, state warehouses must prove they have adequate storage space. In Q1, the project provided technical assistance to improve warehouse storage capacity at the state level in Bauchi and Kebbi, and as a result, Bauchi State received initial seedstock for the funds.

Also, GHSC-PSM facilitated major legislative actions to move the DRF forward in the remaining states. The State Houses of Assembly in Kebbi and Sokoto passed laws to establish drug management agencies that will autonomously manage the DRF schemes, and state-level governors are expected to assent early in Q2. These laws lay the foundation for DRF schemes and will ensure government ownership and sustainability of the DRF in the future.

Sokoto State House of Assembly discusses DRF financing for MNCH commodities. *Photo credit: GHSC-PSM/Maryam Sadiq*

[18] DRF seedstock is an initial amount of product sold to generate funds that will be used to purchase additional commodities once the stock is used up.

Expected next steps for the project include developing a comprehensive DRF/supply-chain strengthening training curriculum, supporting establishment of drug management agencies, conducting facility-level DRF trainings, and distributing MNCH commodities to select primary health centers.

Liberia demonstrates improved oxytocin management. The project provides technical assistance to Liberia's government in selecting appropriate uterotonics and identifying commodity management approaches to ensure product quality. GHSC-PSM in Liberia successfully advocated for integrating oxytocin into the country's Expanded Programme on Immunization (EPI) cold storage to ensure the product quality is maintained while stored at depots and facilities. In 2019, the project secured a letter from the Ministry of Health, Family Health Division directing that oxytocin be managed within EPI storage to maintain the cold chain of this essential commodity. The same letter stated that misoprostol should be used in health facilities where cold chain is not available and caretakers of newborns should be given chlorhexidine for cord care.

This ministerial guidance was paired with GHSC-PSM technical assistance and led to improved oxytocin storage practices at health facilities and depots. The latest EUV (completed in Q1) indicated that 73 percent of facilities surveyed are storing their oxytocin in working cold storage and 92 percent of oxytocin is stored in working cold storage at depots, compared to 41 percent and 22 percent, respectively, as was documented in the July 2020 EUV report.

ENHANCE IN-COUNTRY MNCH SUPPLY CHAIN COORDINATION AND COLLABORATION

One aspect of the MNCH leadership and technical assistance provided by GHSC-PSM to countries focuses on increased supply chain coordination and collaboration. The project's continued efforts to integrate MNCH commodities into the public health supply chain in Mali and Liberia are salient examples. More on GHSC-PSM Q1 successes in Liberia are provided below.

Coordination of resources for uterotonics in Liberia
GHSC-PSM in Liberia developed a joint in-country procurement plan with UNFPA to coordinate resources and timelines for procurement of essential health commodities. Combining forces in this effort enabled the country to reduce stockouts by leveraging resources and reducing delays caused by the COVID-19 pandemic. This coordination also facilitated GHSC-PSM's emergency procurement and delivery of 11,000 packs of misoprostol for PPH to increase access to the lifesaving drug.

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

GHSC-PSM supported procurement of MNCH commodities for fifteen countries in Q1.[19] This included processing a new order of 112 lines of essential medicines for DRC. GHSC-PSM achieved improved freight costs and lead-time efficiencies for the order by subcontracting the supplier to manage the freight services to the final destination. Also, GHSC-PSM in Ghana conducted market research and helped justify a USAID-supported procurement of refrigerators to help increase cold chain coverage and

[19] GHSC-PSM provided MNCH commodity procurement support to fifteen countries in Q1 FY 2021: Burkina Faso, DRC, Ethiopia, Ghana, Haiti, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan, Rwanda, and Zambia

storage space for oxytocin for the Ghanaian Ministry of Health and Ghana Health Service. The procurement is currently pending USAID approval.

SECTION C

PROGRESS BY OBJECTIVE

C1. GLOBAL COMMODITY PROCUREMENT AND LOGISTICS

Procured $283.5 million in health commodities in Q1. Procurement values have reached nearly **$3.5 billion for the life of the project**.

Delivered 1,335 line-item orders in Q1, with a value of **$192 million**.

Delivered 89 percent (64 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 84 percent (61 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 and increase 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 Q1, 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, focusing on performance and managing overall commodity and supply chain costs. GHSC-PSM did this by using the following initiatives.

MORE HEALTH 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 developed sourcing strategies and built strategic relationships with suppliers that shaped markets, enhanced project performance, and achieved greater value for USAID within each product category. In Q1, GHSC-PSM continued to conduct market analysis, lead strategy development, use best sourcing practices, contribute to process improvements, and negotiate and proactively manage contracts with suppliers. The project executed sourcing activities for products under each TO in line with the strategic sourcing calendar and undertook 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 Q1, GHSC-PSM held regular reviews with key suppliers while proactively managing operations affected by COVID-19. Supplier meetings provided updates on the impact of regional shutdowns and logistical challenges for production and delivery schedules. Commodity and supplier risk profiles informed performance assessments and order allocation strategies.

RDC Operations

In addition to standard RDC processes, GHSC-PSM released an RFQ for independent third parties to provide stock counts at the three RDC locations and validate the warehouses' information. Contracts will be finalized in Q2 FY 2021. The project expects to visit all RDCs and receive annual reports of the stock counts from third-party companies. These reviews are required by GHSC-PSM contracts and are necessary to validate the accuracy of data provided by contracted companies and to make additional documentation available for possible future audits.

DECENTRALIZED PROCUREMENT

GHSC-PSM pursues a decentralized procurement (DCP) strategy that procures carefully selected goods and services through nine country offices[20]. With DCP, the procurement specialist is closer to recipients and authorized local and international suppliers. The DCP is more efficient 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 Q1, GHSC-PSM managed a large volume of orders through DCP. The project had 89 percent OTD for the quarter; however, many DCP commodity types were adversely affected by the global shortages driven by COVID and disruptions to the supply chain directly caused by COVID. Examples of issues and solutions include:

- **VL/EID supply.** COVID-19 testing uses many of the same consumables as VL and EID testing. As a result of the rapid increase in COVID testing worldwide, the three major suppliers of test kits and consumables have limited supplies available for VL and EID, affecting the programs supported by DCP. GHSC-PSM monitors stock status, holds bi-weekly manufacturer calls to identify bottlenecks and agree on individual country allocations, and facilitates stakeholder discussions that include manufacturers, PEPFAR, and USAID.
- **Examination glove procurement strategy.** Due to the COVID-19 pandemic, GHSC-PSM experienced significantly limited availability of latex examination gloves. The prevailing QA requirement to procure only gloves that passed the "viral penetration" test further limited the project's ability to procure these products. After reviewing the challenges in the current market associated with acquiring the documentation from suppliers to demonstrate compliance with the viral penetration test, and considering the relatively low risks to end-users, USAID and GHSC-QA temporarily waived the viral penetration QA requirement for latex examination gloves for a minimum of six months. After six months, this waiver will be revisited in hopes that the procurement climate will change. With this sourcing flexibility, delivery lead times dropped by half, down to about six months.

[20] The country offices include Burundi, Ethiopia, Haiti, Mozambique, Nigeria, Rwanda, Uganda, Zambia, and Zimbabwe.

Requisition order (RO) automation tool. The project piloted an RO automation tool to reduce the time between RO clarification and approval of products with long-term agreements, automate sourcing decisions, and remove manual touchpoints. The initial RO pilot focused on selected lab and decentralized procurement (DCP) program commodities. In Q4 FY 2020, the tool was expanded to include ARV and condom procurement, which reduced condom cycle time by 68 percent and fulfillment from approximately 33 days to 10 days. In Q1, we expanded the allocation tool to include malaria lab commodities, enhanced the business rules for HIV/AIDS lab commodities and DCP, and incorporated a supplier contract refresh that took place Nov 2020. These enhancements will be deployed in early Q2.

GLOBAL STANDARDS

GHSC-PSM has worked to operationalize procurement requirements for suppliers of pharmaceuticals, medical devices, sterile kits, laboratory reagents, and long-lasting insecticidal nets (LLINs) to adopt standardized identification, labeling, and exchange of product master data leveraging GS1 standards. These supplier requirements include:

- Assigning global trade item numbers (GTINs) that identify trade items and global location numbers (GLNs) that identify their business entities and locations.
- Labelling specified packaging levels with barcodes encoded with the GTIN, batch/lot, and expiration date.
- Exchanging master data through the Global Data Synchronization Network (GDSN).

In FY 2021, progress continues to be made in supplier compliance with these requirements across all the aforementioned product categories to enable use of 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 Q1, the notable achievements were realized:

- Compliance with the GDSN data synchronization requirement reached 53 percent across all product categories, an increase of 10 percentage points from the previous quarter.
- Requirements for LLIN suppliers to submit product master data through the GDSN went into effect December 30, 2020, with the deadline compliance target met at 50 percent. This is expected to be exceeded in Q2 when all noncompliant suppliers have demonstrated steps toward labeling and master data synchronization, including having signed a contract with a GDSN data pool.
- LLIN suppliers' compliance with GTIN and GLN requirements continued to increase to 90 percent, which exceeded the target of 75 percent by 15 percentage points.
- The project initiated bi-weekly engagements with each wholesaler to drive greater compliance for products procured through this method and address sector-specific complexities.

Quality assurance (QA)

Health commodity quality assurance (QA) is a core element of GHSC-PSM processes. In collaboration with GHSC-QA, the project ensures that only quality-assured health commodities are procured and distributed.

In Q1, GHSC-PSM continued to streamline and optimize QA and quality control (QC) business processes and procedures and rapidly addressed quality or product failure incidents as they occurred. The project maintained communication flow, identified areas of mutual concern, and ensured QA requirements were incorporated into GHSC-PSM systems. Highlights include:

- Approved the recall standard operating procedure (SOP), which captures detailed and optimized processes. The SOP will be implemented in Q2, including training all relevant parties. This will enhance collaboration between the various teams involved to expedite recall incidents.
- Managed roughly 42 open quality incidents (approximately 28 registered in Q1) across TO1, TO3, and TO4. The number of incidents does not necessarily reflect product rejection, as QA is based on the situation and recommendations, in concurrence with USAID, are released or rejected for distribution.
- Conducted awareness training for several countries as corrective action/preventative actions (CAPAs) and promoted adherence to procedures and processes to ensure distribution of quality products to the end-user.
- With GHSC-QA, improved the scoring and severity of quality/regulatory incidents (e.g., out of specification incidents and regulatory body notices) related to overall supplier performance.
- Worked on adopting a potential social accountability (SA) policy for suppliers and identifying ways to incentivize suppliers to obtain an SA certification. An SA policy will shape the market and raise the bar on suppliers' ethics.
- With GHSC-QA, provided input and support to COVID-19-related commodity procurement.

QA for malaria commodities

In Q1, the GHSC-PSM continued to explore opportunities to enhance the quality of products procured on behalf of PMI and ensure the safety and efficacy of commodities. The project qualified and onboarded mRDT suppliers, increasing the project's mRDT supplier pool at a time when the market is uncertain for mRDTs as suppliers pivot toward producing COVID-19 RDTs instead.

GHSC-PSM's investigation of an OOS result led to an ACT supplier implementing additional system controls in its manufacturing process. The project concluded the investigation into two LLIN suppliers for OOS results. For full information, see section B1.

The project released an RFP for laboratory services and developed a comprehensive list of technical requirements. Upon completing the RFP process, contracts with new labs will expand the project's pool of qualified laboratories.

IMPACTS OF COVID-19 ON FREIGHT AND LOGISTICS

Origin challenges

Q1 brought little respite to shipment obstacles out of main origin locations—such as China, Europe and India—now facing logistics pressures from the annual peak season. Import/export activities remained constrained, and few passenger flights were available because government directives continued to limit air freight capacity. Europe's COVID-19 policies also restricted ground handling crews. Container imbalances—more exports than imports or vice versa—made it challenging to book refrigerated (reefer) equipment. In Africa, trucking across borders continued to be hampered by quarantine and lengthy testing requirements. Uganda saw improvements in clearance processing; however, new

requirements imposed on drivers have continued to lead to trucks backing up into Kenya. In-country trucking continued to face delays caused by seasonal weather events.

Air freight

International travel bans in Europe caused flight capacity to drop sharply. Airlines either canceled flights or reduced them to just a few per week. Reduced service meant delays, backlogs, and increased rates. In normal times, 50 percent of all commercial cargo flies on passenger aircraft; thus, these travel bans had a significant impact. As the only available flights were freighters or charters, prices quickly rose well above previous market prices, depending on the destination. Q1 continued this trend with many small countries struggling with regular flights. Many airlines ran ad hoc schedules to serve more profitable routes. Some, looking to manage passengers and cargo, ran afoul of government regulations as they reestablish operations, leading to flight cancellations. Transshipment hubs (such as Addis Ababa) were flooded with cargo, and warehouses were choked as airlines managed cargo to economize flights to smaller destinations. Airlines also imposed "pivot" weight (a charge to "make up" for any empty space on the flight to keep the flight moving). Through all of this, each step of logistics, including import duty waivers, required proactive management and swift decision-making.

Ocean freight

The ocean industry implemented a quick and disciplined approach to vessel scheduling to maintain viable capacity. As the need for cargo vessels fell, many ships were canceled, increasing lead times. Reefer and general container shortages were felt in all origin countries and required rigorous effort to identify solutions, such as proactively reviewing shipping container indices by port and carrier and shuffling the use of U.S. Flag and Foreign Flags. Globally, maritime crews faced COVID-19 outbreaks onboard vessels and continued to be prohibited from shore leave at select ports because of potential COVID-19 exposure. Many ships were not allowed to dock because of country policies, leading to port delays. Previous cyber-attacks continued to challenge booking timeliness as carriers caught up on backlogs, reduced container inventory visibility, and disrupted cargo tracking and tracing.

Container shortages became more severe. However, despite the shortages in supplier countries, the 216 containers carrying Ghana campaign LLINs and Côte d'Ivoire campaign LLINs are on track for on-time or early delivery.

Cold chain

Airlines are averse to moving cold chain products due to liability concerns with ad hoc flight schedules, congested airport facilities, and skeletal ground handling crews, making it nearly impossible to find flights for frozen reagents that must be stored at –20C and re-iced every two days. GHSC-PSM worked with the 3PLs to evaluate risks on a case-by-case basis, comparing the cost of flying cargo versus potentially incurring high storage costs and damaging temperature-sensitive commodities if a flight is canceled.

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.

TIMELINESS OF DELIVERY

GHSC-PSM measures on-time delivery 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

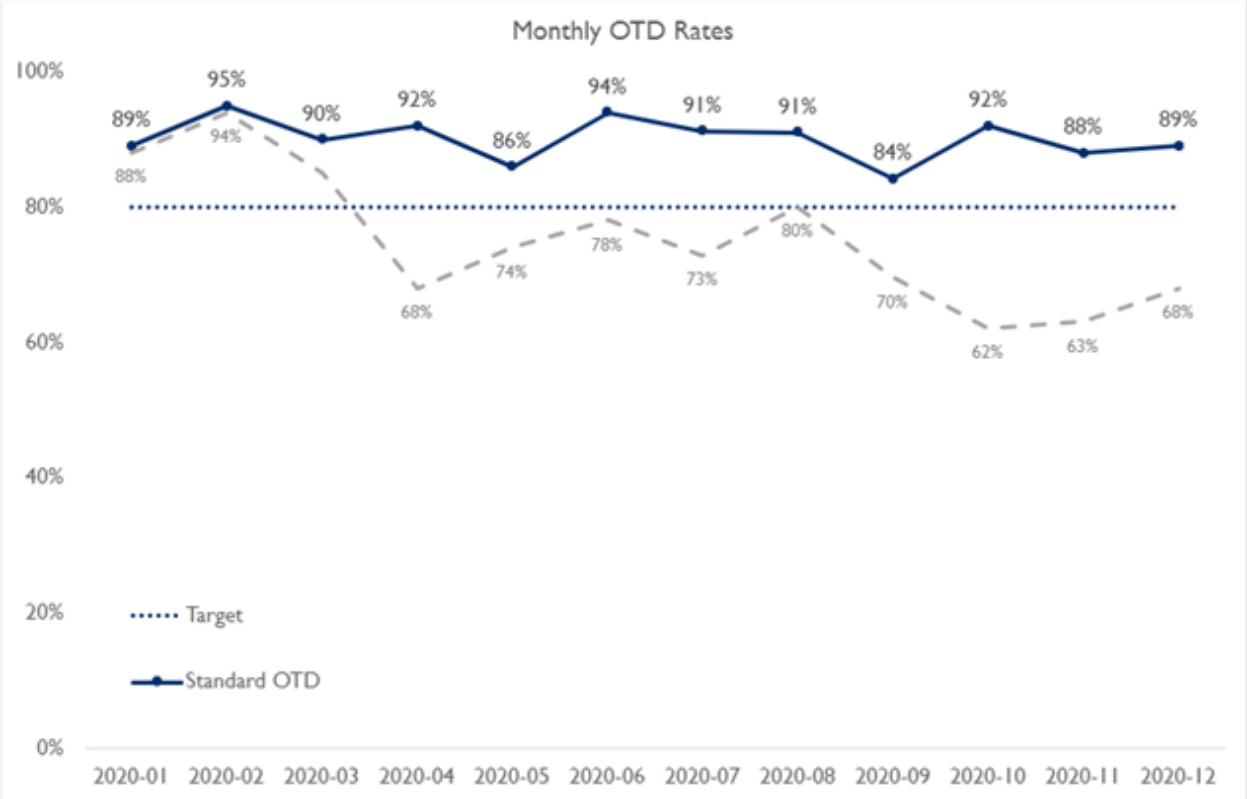
OTD is a more accurate reflection of recent performance, while OTIF is a lagging indicator as late orders due in prior periods get delivered.

In Q1, GHSC-PSM OTD was 89 percent (64 percent COVID-impacted) and OTIF 84 percent (61 percent COVID-impacted) for the quarter, the seventh successive quarter that OTD has been above 85 percent. (See Exhibits 12 and 13.)

As mentioned in the Executive Summary, during the period of the COVID-19 pandemic, GHSC-PSM is presenting two versions of its usual OTD indicator:

1. The "standard" version, 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 the "control" for pandemic impacts is removed in order to demonstrate the impact of COVID-19 on GHSC-PSM shipments

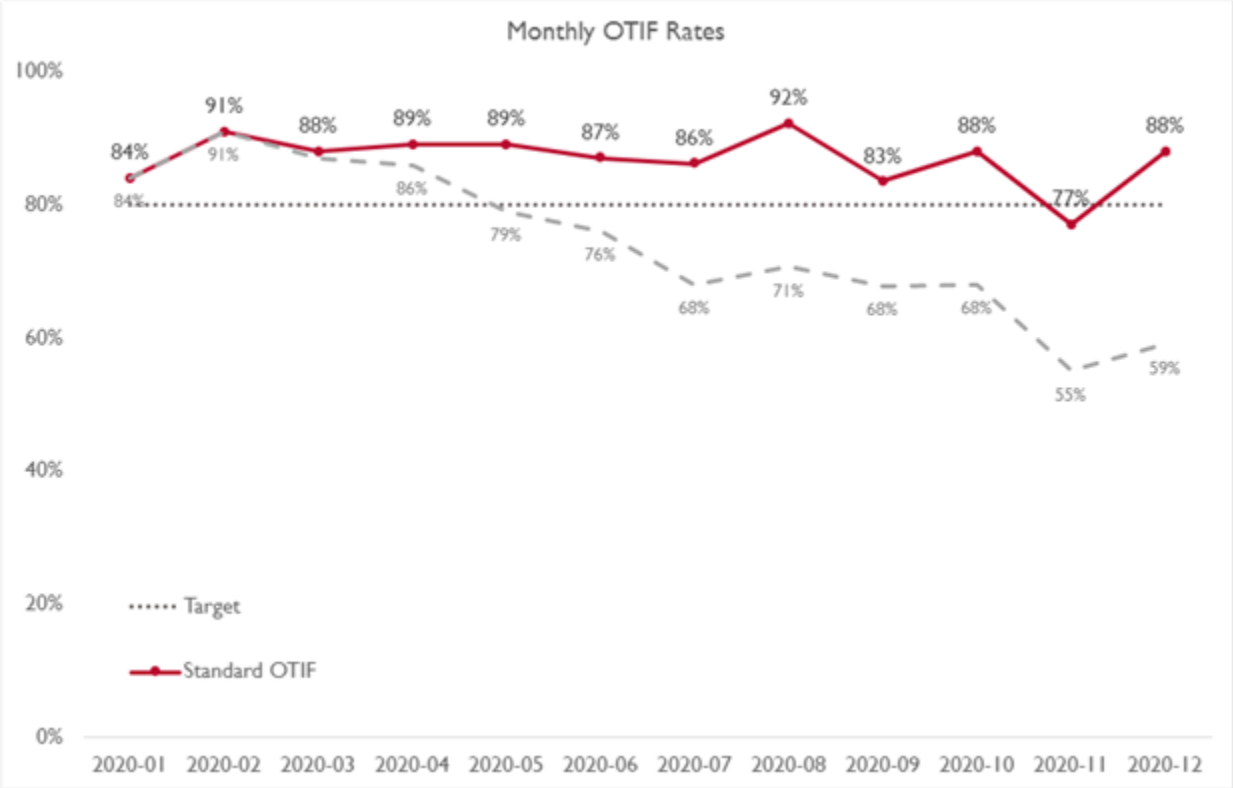
Exhibit 12. IDIQ October 2019 through December 2020 monthly OTD



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 affect 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 been reduced, COVID still continued to affect an extremely large number of orders in Q1 FY 2021. This impact is expected to continue through Q2 and Q3.

Exhibit 13. IDIQ October 2019 through December 2020 monthly OTIF



C2. SYSTEMS-STRENGTHENING TECHNICAL ASSISTANCE

Assisted 42 countries with health supply-chain systems strengthening.

Provided **technical feedback on 163 supply plans this quarter** to strengthen national supply planning capabilities.

Launched the new **Quantifications Analytics Tool (QAT)**, which leverages new, cloud-based technologies and enhances the existing supply planning tool, PipeLine.

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 continued to provide technical support across all program areas through various remote strategies.

ADVANCED ANALYTICS

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

In **Ethiopia**, GHSC-PSM deployed an existing early warning system (EWS) tool to provide greater visibility into central stock status and the impact of planned incoming shipments on the future stock status of products in medical stores. After deployment, the project began providing data and analysis support to different units at the Ethiopia Pharmaceutical Supply Agency and will monitor the impact on decision-making in the months to come. This tool was originally developed for use in Zambia and Zimbabwe.

In **Guinea**, building on initial analytics work started in 2019 with the development and testing of the new eLMIS advanced dashboard, GHSC-PSM supported a training workshop for central-level supply chain managers attended by 23 data managers of the NMCP, other departments of the Ministry of

Health, and implementing partners. Employing expertise in advanced analytics and management information systems, the new dashboard helps maximize the analysis and use of logistics data to guide decision-making, including an order calculator that allows the estimation of a facility's needs for a particular product. This activity was conducted in collaboration with the management information systems team and is an example of cross-cutting engagement in providing technical assistance to countries.

In **Nepal**, GHSC-PSM developed a proof of concept to semi-automate rapid analysis of inventory patterns at the facility level, categorize stock risks, and provide recommendations for mitigating or investigating the cause of the risk. The tool reviews variability in consumption to determine reliability of average monthly consumption (AMC) data to predict future consumption. (If AMC variability is high, it is a poor indicator of future consumption, and if it is low, it is a good indicator of future consumption.) The tool then reviews patterns of inventory turnover against Nepal's quarterly distribution schedule to determine facilities' actual rates of stock turnover versus what was planned, to identify risk of overstock or stockout. The tool then combines these two indicators to categorize facilities into different stock risks and recommend actions to resolve or mitigate the risk. Also, sites are then prioritized so that sites with the greatest risk receive preventive action first.

GHSC-PSM developed the tool using open-source code called Python. The proof of concept will serve as part of a strategy to support the tool's greater use in Nepal's system. In Ghana, GHSC-PSM is testing the same proof of concept, with some additional customization to meet Ghana's needs.

FORECASTING AND SUPPLY PLANNING

GHSC-PSM provided forecasting and supply planning (FASP) support to 37 countries to help institutionalize processes so that countries move from relying on external technical support to developing their own fully integrated FASP capabilities, thereby building sustainability into the program.

GHSC-PSM launched the new Quantifications Analytics Tool (QAT), a modernized solution for country-led supply planning. Funded by USAID and tested by potential end users in Benin, Ethiopia and Zimbabwe, QAT leverages new technologies and enhances the existing supply planning tool, PipeLine. 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. QAT's features include:

- Web-based with offline synchronization: Provides users with automatic system updates, data exchange capabilities with other systems, and improved control over master data.
- Integration, interoperability, and Application Programming Interface: Includes close integration with GHSC-PSM's procurement platform and the Global FP VAN and has an Application Program Interface for data exchanges with other procurement and logistics management information systems. Provides csv, xml, and Excel templates for the export or import of data to and from other systems.
- Modular design: Allows for designing and adding different modules to the core database (i.e., an upcoming forecasting module will not interfere with the existing supply planning module).

- Enhanced user interface: Features an enhanced interface that will still look familiar to experienced PipeLine users and includes translation into French, Portuguese, and Spanish.
- Role-based access rights: Allows for differing levels of system access based on user profiles.
- Open source: Built on a free open-source software platform for use by multiple supply planning initiatives, ensuring sustainability.
- Inclusive of PipeLine legacy data: Allows the importation and storage of PipeLine data, eliminating the data gap between tools.

This comprehensive supply planning solution allows greater automation, integrative analytics and optimization.

In Q1, the project provided an all-remote QAT training for four pilot countries: Benin (part of the USAID GHSC-TA Francophone Task Order), Botswana, Ethiopia, and Zimbabwe. This first cohort included 15 GHSC-PSM country office staff members. After the training, Zimbabwe submitted the first two QAT supply plans for ARVs and contraceptives/condoms to headquarters staff for review. Other countries and programs are in progress.

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

GLOBAL STANDARDS AND TRACEABILITY

GHSC-PSM provided technical support to 10 countries in Q1 to assist in their journey to adopt GS1 standards for product identification, location identification, and data capture and exchange. GHSC-PSM's support for implementation of GS1 standards aims to ensure that all trading partners—including manufacturers and suppliers, logistics providers, regulatory agencies, medical stores, and health facilities—will operate from the same, high-quality master data. Adopting global standards helps countries reduce costs, enhance efficiency, improve the availability of health commodities, and ensure end user safety in their public-health supply chains.

- In **Botswana**, GHSC-PSM conducted a workshop in partnership with the Botswana Medicines Regulatory Authority (BOMRA), Central Medical Stores, GS1 South Africa, and GS1 Global to support development of a Botswana National Pharmaceutical Traceability Vision and Strategy. In Q2 FY 2021, a draft National Pharmaceutical and Traceability Vision and Strategy will be presented to national stakeholders for feedback and eventual endorsement by the Government of Botswana. The strategy is expected to guide implementation of traceability initiatives.
- In **Ghana**, the project partnered with GS1 Global and GS1 Ghana to host a training on global standards and traceability for stakeholders across the Ghana health sector. The primary goal of this training was to provide a baseline understanding of GS1 global standards, their applicability to the Ghana health sector, and their relevance to enabling pharmaceutical traceability. As a follow-up to the training, Ghana stakeholders agreed to participate in a workshop to develop a national strategy for pharmaceutical traceability in Q2.
- In **Namibia**, GHSC-PSM partnered with GS1 Global and GS1 South Africa to host a virtual half-day GS1 and Traceability Sensitization Workshop. In attendance were 29 participants from across the public and private sectors, including the Central Medical Store, Global Fund, Ministry of Health and Social Services, Namibia Trade Forum, Namibia Barcode Centre, Namibia

Medicines Regulatory Council, USAID, and United Nations Development Programme. Stakeholders agreed to move toward the second phase of the GHSC-PSM traceability planning framework, with a national pharmaceutical traceability vision and strategy workshop in Q2.

- In **Uganda**, the project continued to work with a service provider on an automatic identification and data capture, or AIDC, solution that the Joint Medical Store (JMS) will use to read standards-based barcodes. The solution will automate receiving by scanning 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 project procured all necessary hardware (e.g., printers, scanners) that were pending delivery to JMS at the end of Q1.
- In **Zambia**, GHSC-PSM worked with stakeholders to finalize the Product Information Management (PIM) System Technical Design document and standard operating procedures that will allow for application of a consistent methodology for ongoing maintenance of master data, including entering, aggregating, consolidating, standardizing, and maintaining data and removing duplication. This activity is part of the project's ongoing support to establish a robust master data program. GHSC-PSM continues to work with the Zambia Medicines Regulatory Authority (ZAMRA) on updating existing regulations to incorporate GS1 standards for product labelling and identification.

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.

In **Burma**, GHSC-PSM successfully advocated with the Procurement and Supply Division (PSD) of the Ministry of Health and Sports (MoHS) to resume the quarterly Supply Chain Technical Strategy Group meeting virtually and resume critical discussions needed to advance development of a supply-chain strategy and coordinate the implementation of related operations. The meetings had been suspended due to COVID-19 and a change in leadership at PSD. With discussions resumed, GHSC-PSM reaffirmed its lead role in providing technical assistance for developing a new five-year national supply chain strategy. PSD, GHSC-PSM, and implementing partners also resumed efforts to fill gaps in implementation of the national cloud-based eLMIS, mSupply, which helps improve data visibility, accuracy, and efficiency of data entry.

Burma's quarterly stock review meeting for TB and laboratory commodities. *Photo credit: GHSC-PSM*

Also in **Burma**, the National Tuberculosis Program (NTP) reaffirmed its commitment to transitioning ownership from GHSC-PSM of the stock monitoring and early warning system (SM&EWS) for laboratory commodities and advocated for expanding the tool's use from the central and state/regional level to the township level to improve stock data visibility and quality. Users of this tool—implemented by GHSC-PSM in 2018—include NTP data staff, laboratory staff, and medical officers. At the NTP Quarterly Stock Review Meeting for Tuberculosis Laboratory Commodities held in Q1, an evaluation of stock status performance and SM&EWS use revealed substantial improvements. The SM&EWS's on-time reporting rate was 94 percent (above the target of 90 percent), and system users achieved a data accuracy rate of 78 percent—compared to a quarterly range of 72 to 75 percent the previous year. The success of the SM&EWS will ensure laboratory commodities are available when NTP microbiologists and laboratory technicians need them.

In **Haiti**, GHSC-PSM supported development of an operational plan for managing unused pharmaceutical product (UPP) to serve as a reference framework for the effective destruction of UPP under the leadership of the Ministry of Public Health and Population (MOH). These efforts aim to eliminate the costs and logistical challenges in exporting UPP for destruction. The management of UPP has been a significant challenge, with no formal elimination pathway for UPP in Haiti. Most of these products are destroyed by open burning, and most of the rest are stored, waiting for better management of the situation. In FY 2020 the UPP management plan is aligned with World Health Organization standards, and the MOH has identified two local institutions with incinerators capable of carrying out these operations. The project and other partners are awaiting the final validation of this plan by the MOH before proceeding with implementation.

In **Kenya**, GHSC-PSM supported the formation of commodity security technical working groups (TWGs) in the counties it supports to systematically integrate commodity management operations and advocate for systems strengthening initiatives. As a step toward sustainability, in Homabay County—one of the counties that GHSC-PSM supports—the county leadership spearheads and fully pays expenses for its Health Commodities Security TWG. The TWG meetings aim to increase efficiency and effectiveness of the supply chain for increased availability, accessibility, and affordability of health commodities within each county health system.

In **Malawi**, all districts reported that pharmacy services are now a permanent member of their District Health Management Team (DHMT), and supply chain issues are now on the standing agenda. This information comes from a risk monitoring exercise conducted in 20 districts by GHSC-PSM, the Drug Theft Investigation Unit (DTIU), and Health Technical Support Services (HTSS) to monitor implementation of risk mitigation measures identified in the Supply Chain Risk Mitigation Plan (developed in 2019 with support from GHSC-PSM). One of the key high-risk observations highlighted in the plan was that there was no pharmacy representation at DHMTs, the decision-making body within each district that determines resource allocation and use. As a result, supply chain issues for medicines and supplies were not sufficiently prioritized and therefore deemed as high risk. After GHSC-PSM recommended pharmacy services be a permanent member of each DHMT the Minister of Health endorsed the recommendation and sent a directive to all DHMTs in FY 2020. This change in policy will support MOH efforts in reducing supply risks and improving accountability for health commodities.

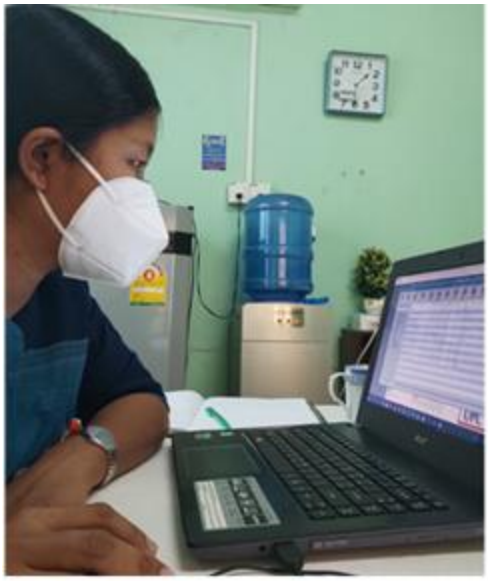
In **Mozambique**, GHSC-PSM prepared and co-facilitated a Global Health Security Agenda (GHSA) workshop, which was held in cooperation with CDC, the Mozambican National Institute of Health

(INS), and USAID. Various stakeholders participated, including Food and Agriculture Organization of the United Nations (FAO), MTaPS, Ministry of Agriculture, and Ministry of Environment. The workshop aimed to reach consensus from all stakeholders on their respective workplans. Participants discussed best practices in readying the supply chain for public health emergencies, and GHSC-PSM presented a high-level plan to develop the ESC manual, including roles and participation by stakeholders. GHSC-PSM's key contribution to GHSA in FY 2021 will be an ESC playbook. The ESC framework will support developing the capabilities, governance model, and procedures to strengthen and prepare Mozambique's supply chain to ensure a system exists for sending and receiving medical and non-medical supplies during a public health emergency. The framework will be customized to prioritize zoonotic and other infectious threats. The activity is scheduled to take place from Q2 to Q4 FY 2021.

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. By keeping abreast of current trends and new technologies, the project provides recommendations to improve data accuracy and quality to achieve end-to-end data visibility. In addition to eLMIS activities, the project supports requirements gathering and business process identification for other information technology (IT) solutions to be deployed, such as warehouse management systems and eLearning tools. Furthermore, the project provides guidance on proper integration between separate information systems to establish a single data source that is current and accurate for all relevant actors. GHSC-PSM also produces SOPs and templates to standardize the project's status reporting and service-level agreements for quality and consistency worldwide. The project supported 13 countries in Q1.

In **Burma**, GHSC-PSM trained 51 staff from the National TB Program (NTP) laboratory stores in the use of mSupply, a cloud-capable eLMIS for health commodities. The project leveraged virtual meetings and on-demand videos[21] to accommodate COVID-19 safety measures. The Ministry of Health and Sports and GHSC-PSM committed to fully implement mSupply, the national eLMIS platform, to facilitate the continuous supply of commodities needed to test and treat patients for HIV/AIDS, tuberculosis (TB), and malaria.



Dr. May Phyo Paing is one of 51 people trained on mSupply in Burma. *Photo credit: Dr. Khin Sander Aye/GHSC-PSM*

In **Ghana**, Following the official launch of the Ghana Integrated Logistics Management Information System (GhiLMIS) in February 2020, GHSC-PSM worked with stakeholders from the Ministry of Health and Ghana Health Service to complete the rollout of the system to all hospitals and regional medical stores. In Q1, the team completed training and onboarding of 231 facilities in the Ashanti and Brong Ahafo regions and provided training for 23 Expanded Program on Immunization (EPI) officers to manage EPI commodities in GhiLMIS. To ensure quality and

[21] Click here to view.

standardization of data in the system, cubic scanners and handheld barcode readers were procured and installed through the Global Fund at the Eastern and Brong Ahafo Regional Medical Stores. GHSC-PSM continues to provide onsite supportive supervision to onboarded facilities to achieve optimal usage.

In **Malawi** and **Rwanda**, GHSC-PSM completed Phase 1 activities planned for developing the Product Catalog Management Tool (PCMT) for the National Product Catalog (NPC) project. During Phase 1 in Malawi, the project installed and configured the PMCT with 541 global trade item numbers collected and mapped to Malawi product IDs. Starting in Q2 (Phase 2 of the NPC project), Malawi will configure the mobile application of the PCMT to allow users to inquire about product information. In Q2, Malawi will focus on stakeholder training on the national product catalog. For Rwanda, continuous collection of product information will be the main focus for Q2 and beyond.

In **Nepal**, the eLMIS is now the single source of logistics data, with real-time data from 991 sites (compared to 189 in FY 2019) and LMIS reports from more than 4,000 sites recorded in the eLMIS each quarter. With 991 sites having real-time access, data visibility is available to many more decision-makers. Currently, all nine central medical stores, the National Public Health Laboratory, seven provincial public health laboratories, all seven provincial health logistics management centers, all 77 district health offices, 98 hospitals, 15 medical colleges, all 753 local level government (LLG) stores, and 24 health posts/primary health centers are "eLMIS-live." After the government of Nepal approved the eLMIS to scale up across the country in Q3 FY 2020, GHSC-PSM will have completed eLMIS implementation in all the sites requested by the government despite COVID-19 by January 2, 2021. With the eLMIS-scale up at the LLG health commodity stores, quarterly data for service delivery points are now entered at the LLG level instead of at the district level, greatly reducing travel time and expense.

In **Panama**, GHSC-PSM conducted several trainings for 12 key personnel in charge of the new LMIS tool, the Logistics Data Integrator (or the Spanish abbreviation, IDL). This online tool represents a key milestone, replacing a spreadsheet-based database, and has played a vital role in improving routine measurement of medicine availability, and is assisting in expediting availability of ARVs with MOH suppliers. Also, the MOH's laboratory supplies department is considering using IDL as the main tool for other commodities, including viral load, early infant diagnosis, and HIV rapid test kits.

WAREHOUSING AND DISTRIBUTION

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

- **Activity-based costing (ABC).** GHSC-PSM proposed the inclusion of ABC in the Africa Resource Center[22] outsourcing toolkit and drafted a how-to guideline for implementing ABC. The draft document will be submitted to USAID for review in Q2, with the intention to publish by the end of the quarter.
- **Temperature and humidity monitoring in the supply chain.** GHSC-PSM continued to collect data from temperature and humidity data loggers installed in Burkina Faso, Cameroon,

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

Ghana, Guinea, Haiti, Mozambique, and Zimbabwe, with the intent of analyzing the information and producing a report in Q3 on the study findings. Real time data is available to users by an on-line portal, which includes allows users to set up alerts in case of temperature excursion.

- **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 the effective use of the tool. In Zambia, GHSC-PSM completed the interface between the WMS and TransIT and continued to prepare for training and pilot of TransIT in the capital Lusaka.
- **3PL subcontracting.** GHSC-PSM continued to develop SOPs and help modify RFQs and 3PL subcontracts for various country programs, aiming to improve distribution and storage principles. Several countries are following Angola's template example for LLIN distribution, and the project produced a draft generic template for future use in any GHSC-PSM country. In addition, we are preparing a guideline in collaboration with the Africa Resource Center's Out-Sourcing Toolkit (OSTK) that can be used by anyone wanting to understand the process. In Angola, 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 (about $30,000). By including KPIs in each RFTOP, the mechanism is projected to also produce higher and measurable performance improvements. The outsourcing toolkit for the Africa Resource Center will include a guideline for health programs—including those not funded by USAID—to use this type of mechanism. GHSC-PSM aims to publish this guideline by the end of Q2.

In **Eswatini**, GHSC-PSM supported the Central Medical Store to review and update its SOPs for warehousing and inventory management to align with a previously developed supply chain business process flow. Also, the new SOPs reflect changes to processes enacted since the outbreak of COVID-19. In Q2, full adoption and training will begin after conducting final reviews.

The project hosted a virtual training on procurement planning in the Kingdom of Eswatini. *Photo credit: GHSC-PSM*

In **Lesotho**, GHSC-PSM supported the Supply Chain Management Department to integrate EID commodities into the larger public health supply chain and, at the district level, into health commodity storage where they will be managed like all other health commodities. EID commodities have their own stock cards and are included in monthly reporting as part of the informed push system. Until now, following the close-out of the Point of Care EID project in 2019, EID commodities were managed separately from other health commodities, using different inventory management tools, creating various challenges in managing a reliable supply.

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, putting countries on a path to self-reliance. GHSC-PSM provided remote support this quarter to Botswana, Burkina Faso, Ethiopia, Liberia, Rwanda, Zimbabwe, and Zambia.

Because COVID-19 prevented travel to partner countries, GHSC-PSM continued to evaluate various learning management systems to support requests from country programs seeking on-line learning opportunities, aiming to match the most appropriate platforms with various learning needs.

Professionalization framework: In 2020, GHSC-PSM continued to develop and redefine the Supply Chain Management Professionalization Framework, which is intended for health supply chains to meet public and private educational and development needs. The framework consists of:

- Library of Competencies & Designations for Health Supply Chains
- Collection of Roles and Job Descriptions for Health Supply Chains
- Mapping of Education for Health Supply Chains
- Implementation Approach for Health Supply Chains

The project will publish and distribute the framework widely in Q2.

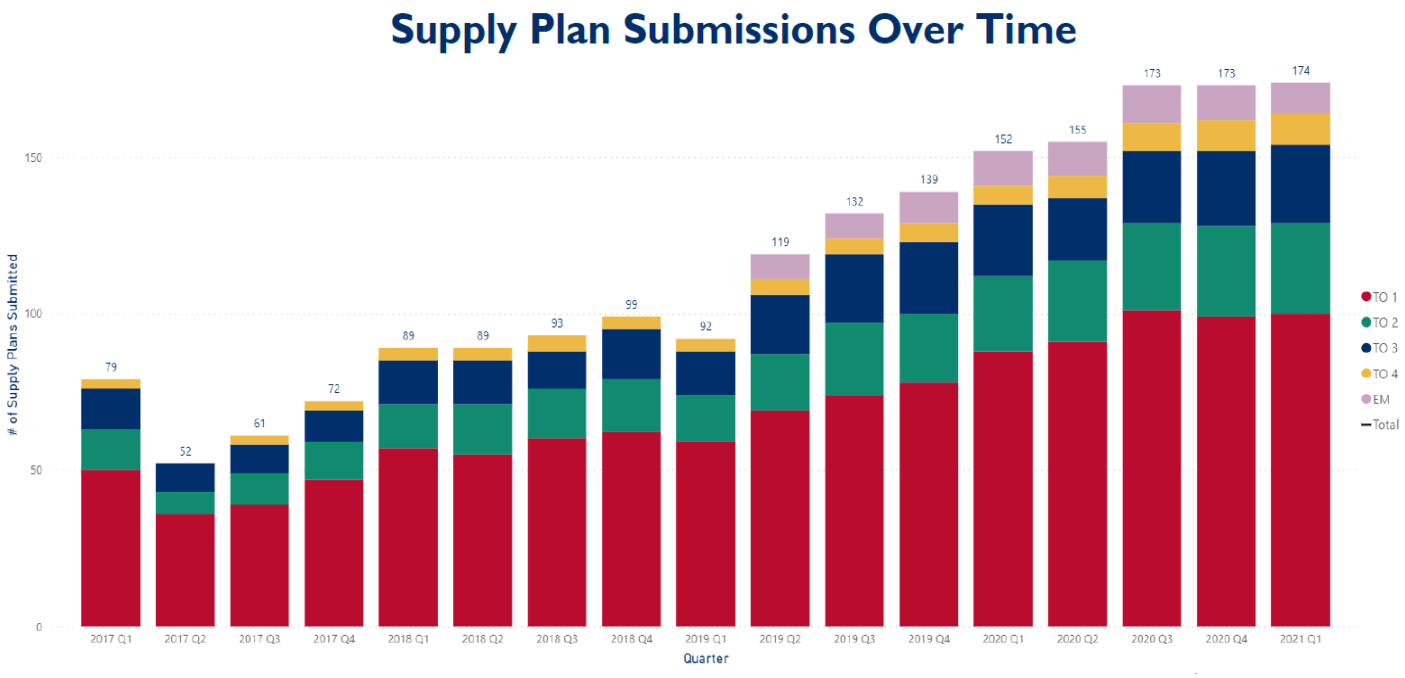
C2A. PROJECT PERFORMANCE

GHSC-PSM collects and analyzes data on a variety of indicators of national supply-chain system health to understand the environments in which we operate and to help us calibrate our work. These indicators also help establish priorities for our health supply-chain systems-strengthening support and, over time, will allow us to assess the outcomes of our technical assistance. Values for these indicators are provided in Annex A. To facilitate understanding of progress in each country, health supply-chain systems-strengthening indicators are presented country by country and include important contextual information for each country. Dashboards with these country-specific indicators are made available for GHSC-PSM country offices to explore with in-country stakeholders.

SUPPLY PLANS

GHSC-PSM continued to drive adoption of the quarterly supply planning paradigm. In Q1, GHSC-PSM received 169 supply plans from 36 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 14 shows the number of supply plans received by quarter and task order since Q1 2017. In Q1 FY 2021, Zimbabwe was the first country to submit supply plans through the new Quantification Analytics Tool (QAT) as part of the QAT piloting process. GHSC-PSM anticipates that more programs will be using QAT and submitting their supply plans via QAT through FY 2021.

Exhibit 14. 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 the country offices to take pre-emptive actions to minimize the impact.

Capacity Building

The number of people trained is one indication of where the project is focusing its capacity-building resources and where it might expect related supply-chain outcomes to improve. In Q1, 2,317 individuals were trained under the project (1,310 women and 1,007 men).

Most trainings were cross-cutting, meaning they addressed topics relevant to multiple health areas. By funding source, 73 percent were trained with HIV/AIDS funding; 14 percent with malaria funding; 7 percent with FP/RH funding; and 6 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

GHSC-PSM partnered with IBM and Maersk on a proof of concept for TradeLens, a Blockchain-enabled ocean shipping solution to provide end-to-end visibility of ocean shipments and promote efficiency and secure global trade.

The project had 11 abstracts approved by large international conferences in Q1. Three of the project's country program presentations were nominated for the prestigious Global Health Supply Chain Summit's Grand Prize.

In Q1, 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.

GHSC-PSM's global collaboration efforts in Q1 FY 2021 focused on coordinating with global donors and stakeholders to develop innovative means for responding to supply chain interruptions. The scale, scope, and complexity of managing a global supply chain required 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.

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 collaborated with partners in the pharmaceutical wholesaler space to assess the private sector's role and capacity to supply quality assured MNCH commodities. GHSC-PSM also worked with FP/RH and MNCH partners to update global quantification guidance for countries procuring and managing MNCH commodities.

The project also convened 30+ private sector wholesaler representatives and related organizations in Q1 to discuss domestic wholesalers' role and capacity in availing quality assured MNCH commodities. For more information, see Section B4. Maternal, Newborn, and Child Health.

TradeLens

TradeLens is an industry-wide Blockchain-enabled ocean freight innovation that improves in-transit visibility to track and trace all shipment stages in real time. Currently, ocean shipments have limited visibility once the shipment begins its journey. This is particularly true for shipments that use Deliver at

Place (DAP)—an international shipping standard whereby the logistics provider ensures order delivery. TradeLens was developed by two of the industry's largest partners—IBM, with their leading blockchain and cloud platforms, and Maersk, the world's largest ocean shipment provider—and builds off their networks to promote efficiency and secure global trade. GHSC-PSM signed a proof of concept (POC) contract with IBM to build a platform and test it over one year and then evaluate its use for the project. TradeLens features include:

- Highly reliable and secure data visible throughout the end-to-end journey of a shipment where currently limited data are available.
- Improved analysis on shipping times and delays to better address service issues and improve inventory management due to real-time updates.
- Ability to share trade documents and gain access to high-fidelity shipping milestones across parties.

TradeLens is designed to be used at all levels of the supply chain. GHSC-PSM and IBM work with 3PLs to set up TradeLens accounts and shipping lines. The project assigned a customer code in the Maersk system for 3PLs to enter while booking shipments. Customer codes for other shipping lines (APL, CMA) are in progress. Discussions with commodity vendors are underway to explore implementing a similar process to gain visibility on DAP.

SUPPLY CHAIN COLLABORATION IN GLOBAL FORA

GHSC-PSM represents the supply-chain point of view in key global meetings and conferences to ensure 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 Q1, as described in Sections B1 through C1, GHSC-PSM participated in the following activities:

Q1 FY 2021 Conference Participation Snapshot

In Q1 FY 2021, 11 GHSC-PSM abstracts were accepted by three conferences. Conference presentations include:

- Seven oral presentations
- Four poster presentations

Of these presentations, three were nominated for the Global Health Supply Chain Summit's Grand Prize.

- At the annual Global Health Supply Chain Summit in November 2020, GHSC-PSM presented lessons learned around supply chain preparedness, response, and recovery. The project's Angola, Nigeria, and Zambia country teams presented on redesigning and rethinking supply chain programs to adapt to the pandemic, capitalizing on partnerships, and adapting existing supply chain innovations, such as integrated testing sample networks for HIV/AIDS and advanced eLMISs, to respond to COVID-19. Three additional GHSC-PSM project presentations from Eswatini, Nigeria, and South Sudan were nominated for the Summit's annual grand prize.
- The Women and Girl's Summit Africa, November 2020, featured a presentation from the project's Ghana office on lifesaving oxytocin deliveries.
- The American Society of Tropical Medicine & Hygiene (ASTMH) Meeting, November 2020, featured posters about an integrated supply chain management course in Angola; zinc-containing

regimens for controlling diarrhea in children from Ethiopia; use of supply chain data for community case management from Kenya; and new technologies and global standards for patient safety from the global team.

- In Q1, GHSC-PSM participated with the Malaria Pharma Task Force's sub-working group focused on better understanding the risks and diversity of key pharmaceutical ingredient and active pharmaceutical markets. GHSC-PSM led the group in developing terms of reference.
- The Global Donor Technical Working Group meets bi-weekly to coordinate actions and resolve problems with suppliers to mitigate impact from limited supplier capacity for RDT orders across the global malaria community due to the COVID19 pandemic.
- The project and the Global Fund continued monthly collaboration meetings on malaria commodities. In Q1, both organizations' representatives discussed QA/QC activities to mitigate COVID-19 restrictions, OOS investigations, and other shared experiences. The project and the Global Fund began executing a proposal for quality requirements to re-engage an RDT supplier. The two organizations also initiated discussions on a targeted and robust LLIN QC evaluation process. In Q1, GHSC-PSM also worked with the Global Fund to understand its SPAQ procurement plan, to inform the project's decision-making on SPAQ procurement for FY 2022 SMC campaigns.
- GHSC-PSM attended the joint UNICEF-UNFPA-WHO virtual meeting with manufacturers and suppliers in November and December 2020, where organizations highlighted the dual target of ensuring a continuous supply of quality medicines while supplying commodities to fight COVID-19. This work furthers the existing collaborative procedures and efforts of WHO prequalification and the strengthening of regulatory systems.
- Engaged with GFPVAN, the RHSC platform to increase supply-chain visibility and improve collaboration, as a key contributor. GHSC-PSM continues to share data with the GFPVAN network. In Q1, the project seconded staff members to work with the GFPVAN Control Tower and ensure quality and timely data collection for inventory and supply planning. The project supported a subscription model, launched a country viewer role, and identified and trained GHSC-PSM users. The project also helped to merge two groups into the Consensus Planning Group. (For more information, see section B3.)
- Participated in the TraceNet Working Group, which is chaired by PMI and Global Fund representatives, including the Global Fund's procurement agent for LLINs, IDA Foundation. TraceNet supports suppliers to meet the GSI standards deadlines for compliance.
- GHSC-PSM continues to support the Maternal Health Supplies Caucus through participation in ongoing meetings.
- In Q1, GHSC-PSM participated in the diarrhea-focused USAID Partners' Meeting, sharing private-sector supplier perspectives on the challenges of providing MNCH commodities to treat childhood diarrhea.
- GHSC-PSM is actively involved in the global mRDT Task Force and IRS/ITN Task Force and meets monthly with the Global Fund and UNICEF to collaborate regarding the global mRDT market and to strategize how best to prioritize allocation and meet urgent country needs.

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 Q1 FY 2021, the project worked with GHSC-QA to develop pilot program options to enable selected local suppliers to offer essential HIV/AIDs medicines from a broader range of sources. When the supply of latex medical gloves was limited due to the pandemic, the two projects worked together to enable sourcing flexibility. Also, with GHSC-QA, the project improved the scoring and severity of quality/regulatory incidents related to overall supplier performance.

ANNEX A. COVID-19 RESPONSE

Delivered a total of **8,722 ventilators to 43 countries and NATO** by the end of Q1 FY 2021.

Issued 68 ROs and 124 POs for diagnostic sample collection items, diagnostic tests, general patient care, laboratory consumables, PPE, pharmaceutical treatments (essential medicines), and sanitation to 17 countries.

Delivered a total quantity of **277,069 lab commodity items valued at more than $3 million to 11 countries** by the end of Q1.

Received **US $9.8 million in USG** funding and procured respiratory and cardiac supplies for Italy.

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 Q1 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 procurement
- Oxygen (O2) 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 continued to provide QA support for COVID-19 activities. In Q1, GHSC-QA provided input and support to COVID-19 commodity procurement and worked with GHSC-PSM to define a list of standard COVID-19 products to procure from established eligibility criteria.

Lab consumables procurement
By the end of Q4 FY 2020, GHSC-PSM had received $12 million in USG funding to procure diagnostic sample collection items, diagnostic tests, general patient care, laboratory consumables, and personal protective equipment (PPE). In Q1 FY 2021, USAID approved 62 requisitions orders that enabled GHSC-PSM to execute 125 purchase orders and deliver 277,069 items to 11 countries.

Cold chain solutions deliver in Honduras. USAID donated 43 types of emergency medical commodities, including lab consumables, worth $1.7 million, to support Honduras' response to COVID-

19 and longer-term pandemic preparedness capabilities. The COVID-19 impact was, however, felt before cargo collection. Record demand for essential supplies caused global shortages and delays in order readiness and waivers. At the same time, international transportation was under severe pressure. Significant depletion of personnel and flights coincided with increased demand, rising costs, uncertainty, competition for scarce cargo space, and airlines' aversion to risk in carrying cold chain products. These challenges were further exacerbated when two Category 4 hurricanes, Eta and Iota, made landfall in Central America on November 3 and November 17, respectively. These hit Honduras, and the San Pedro Sula International airport was shut down, leading to logistics backlogs.

GHSC-PSM worked with the USAID/Honduras Mission and 3PLs to identify solutions based on the commodity characteristics, such as ambient or cold-chain storage requirements. The ambient shipments were re-routed through neighboring Guatemala and Nicaragua and trucked to their destination in Honduras. The cold/frozen shipments were flown directly to San Pedro Sula, as it was too risky to transport them by land. These commodities were held by the supplier until the airport reopened. Honduras also rescheduled some COVID-19 test shipments, as the country had enough stock on hand; therefore, the tests on order risked expiry before they could be used. By the end of Q1, the project was working to obtain a wavier for the replacement tests and get them safely to San Pedro Sula despite limited flight options.

PROCUREMENT OF COVID EQUIPMENT FOR ITALY

In the months before Q1 FY 2021, GHSC-PSM procured and delivered 100 ventilators, 200 syringe pumps, 120 defibrillators, and 10,472 continuous positive air pressure (CPAP) helmets to the Government of Italy (GOI), as a part of USAID's COVID-19 response assistance package. These items were available without a value-added tax (VAT) charge due to GOI's Decree n. 34_19.05.2020, which exempted VAT for a series of medical goods used in caring for COVID-19 patients. GHSC-PSM, in coordination with U.S Embassy Rome, is currently working with the Italian Revenue Agency to obtain VAT exemption for the remaining medical products that will be procured, shipped, and donated to GOI. These include intensive care unit (ICU) beds, patient vital sign monitors, central stations for monitoring, echocardiography machines, and non-invasive ventilation helmets. Concurrent to managing the VAT exemption discussion, GHSC-PSM is coordinating with the relevant suppliers to minimize lead times once GOI reaches a decision on VAT exemption.

VENTILATOR PROCUREMENT

In Q1 FY 2021, GHSC-PSM delivered its final shipment of 50 ventilators to Mongolia, for a total of 8,722 ventilators delivered to 43 countries and NATO since May 2020. The sustained speed and flexibility in this activity represent an extraordinarily collaborative effort across the project, USAID, USG, and country governments.

Exhibit 15. Ventilator Recipient Countries

Exhibit 16. Ventilator Dashboard: Fulfillment View

OXYGEN

Procurement

Evidence demonstrates that the provision of oxygen results in improved outcomes for COVID-19 patients. As part of USAID's broader response to the COVID-19 pandemic, in Q1, GHSC-PSM was tasked with assisting the oxygen sector through three separate, but interrelated, activities in 12 countries. The activities include:

- Coordinating in-country oxygen supply activities

- Procuring oxygen-related equipment and supplies
- Providing clinical and non-clinical technical assistance to host-country counterparts related to maintenance of oxygen equipment and its use in clinical care for COVID-19 patients.

In early October, GHSC-PSM received $15.4 million in USG funding to procure U.S.-sourced oxygen generating plants, oxygen concentrators, and consumables and durables for eight countries. GHSC-PSM immediately conducted two complex, competitive sourcing events to identify suppliers of oxygen generating plants and concentrators. By December 22, the project had awarded multiple basic ordering agreements (BOAs) to eligible suppliers. As of December 31, GHSC-PSM had submitted a total of six draft requisition orders for Mission/country review for 108 concentrators and 11 oxygen generating plants earmarked to satisfy demand in six countries.

Focus Countries	Optimized Countries[23]
Afghanistan	Guatemala
Ghana	Honduras
Haiti	
Kenya	
Mozambique	
Tajikistan	

TECHNICAL ASSISTANCE

In Q1, GHSC-PSM began establishing a contracting mechanism with clinically focused implementing partners to support the project's oxygen technical assistance work. With finalization of the requisition orders and budgets for procurement in Q1, USAID country missions were also able to define the focus for related clinical and non-clinical technical assistance. In Q2, PSM and clinically focused implementing partners will confirm timing and coordination of these activities.

[23] Optimized countries are those that already have an existing oxygen ecosystem in-country. GHSC-PSM support for these countries will only consist of procurement and some in-country verification and support, but will not include clinical and non-clinical technical assistance.

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

GHSC-PSM continues to publish guidance documents to help supply chain implementers manage the crisis. In Q1, the project published a comprehensive guide for ensuring priority MNCH commodity availability during COVID-19, which addresses health care worker safety, commodities that should be prioritized, alternative options for dispensing and distributing MNCH commodities, and supply chain actions.

In addition to global support, country teams engaged with national government stakeholders in Q1 to assist them in responding to the pandemic.

In **Botswana**, GHSC-PSM finalized customization of the Emergency Supply Chain (ESC) playbook, which provides a set of operational tools that will assist the Ministry of Health and Wellness in ensuring role clarity among stakeholders and governance; quantify commodities needed to respond to the emergency; and understand the national capacity to stockpile and transport commodities to the last mile during an emergency. This was accomplished through a two-day simulation and concluding workshop attended by 44 remote and in-person participants from various departments of the government of Botswana and other in-country development partners.

GHSC-PSM in **Sierra Leone** officially handed over the ESC management framework to the Government of Sierra Leone, confirming that (1) their ownership of those processes and protocols that will ensure critical health commodities reach those in need during the COVID-19 pandemic and (2) the supply chain is prepared for future "black swan" events.

GHSC-PSM in **Rwanda** participated in a Rwanda Biomedical Center workshop, bringing together stakeholders from USAID, CDC, WHO, UNICEF, and the Ministry of Health. The event focused on exchanging challenges and lessons learned in responding to COVID-19 with the aim of using these experiences in developing a new updated National COVID-19 Preparedness and Response Plan to cover Q2 and Q3 FY 2021.

GHSC-PSM contributed mainly to the operations and logistics pillar whose goal is to ensure availability of adequate medical and non-medical equipment/materials, transportation, human resources and administration, infrastructure, and MIS solutions. Examples of these activities include:

- Engaging supply chain experts to help the team quantify the needed medicine, equipment, and materials and develop a costing plan to ensure commodity security during emergencies.
- Identifying ways to address shared COVID-19 supply chain challenges by integrating COVID-19 commodities into the existing eLMIS to avail data that guide decisions and easy distribution, consumption, and resupply processes at all supply chain levels.

Current Reporting Period

2021-Q1

GLOBAL HEALTH SUPPLY CHAIN PROGRAM

Procurement and Supply Management

Delivery Impact to Date

Number of ACT treatments delivered

293,433,430

Number of Couple Years Protection delivered

76,847,696

Person-years of ARV treatment delivered

11,322,711

Global Supply Chain M&E Indicator Performance

FY2021 Quarter 1, October-December 2020

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 Centers for Disease Control and Prevention

U.S. President's Malaria Initiative

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%				
A1b.	Percentage of line items delivered on time, within the minimum delivery window	89%				
A3.	Cycle time (average) – # days per shipment	271				
A4.	Inventory turns (average number of times inventory cycles through GHSC-PSM-controlled global facilities) – ratio	*Annual indicator*				
A5.	Total landed cost (logistics costs)	*Semiannual indicator*		*Semiannual indicator*		
A13.	Percentage of batches of product showing nonconformity (out of specification percentage)	0.5%				
A16.	Percentage of backlogged line items	4.2%				

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%				
B2.	Percentage of stock status observations in storage sites where commodities are stocked according to plan, by level in supply system		26%				
B3.	SDP reporting rate to the logistics management information system (LMIS)		84%				
C1.	Number of people trained – #	TO-Specific Trainings Combined	1,774				
		Cross-TO Trainings	543				
		All Trainings (TO-Specific & Cross-TO)	2,317				

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 2020 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 Q2	2020 Q3	2020 Q4	2021 Q1	FY21 Target	2020 Q2	2020 Q3	2020 Q4	2021 Q1	FY21 Target	2020 Q2	2020 Q3	2020 Q4	2021 Q1	FY21 Target	2020 Q2	2020 Q3	2020 Q4	2021 Q1
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%	85% 744	89% 816	85% 931	83% 883	80%	92% 238	82% 168	93% 222	92% 204	80%	95% 66	93% 74	95% 58	88% 51	80%	100% 26	89% 87	90% 31	76% 17
A1b	Percentage of line items delivered on time within the minimum delivery window (*Total number of ADDs in the quarter*)	80%	80%	89% 767	90% 866	89% 927	90% 868	80%	94% 247	88% 168	97% 230	93% 207	80%	98% 60	97% 78	94% 54	93% 56	80%	100% 26	96% 79	89% 36	93% 14
A3	Cycle time (average) – days per line item delivered	250	250	208	221	238	274	350	389	346	334	374	RDC: 250 DD: 275	RDC 229 DD: 220	RDC 280 DD: 239	RDC 248 DD: 276	RDC 277 DD: 265	375	354	457	369	355
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 Q2	2020 Q3	2020 Q4	2021 Q1	FY21 Target	2020 Q2	2020 Q3	2020 Q4	2021 Q1	FY21 Target	2020 Q2	2020 Q3	2020 Q4	2021 Q1	FY21 Target	2020 Q2	2020 Q3	2020 Q4	2021 Q1
A5	Total landed cost (logistics costs)	TBD	TBD	7.2%	6.2%		Semi annual	TBD	28.5 %	22.8%		Semi annual	TBD	13.2 %	11.3%		Semi annual	TBD	63.2 %	22.4%		Semi annual
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	5%	10%	14%	TBD	NA	7%	3%	9%	TBD	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%	82%	77%	82%	83%	70%	83%	83%	80%	NA	78%	82%	84%	80%	84%	NA	*No inventory held*			
A10	Percentage of product procured using a framework contract (framework contract percentage)	NA	85%	86%	91%	93%	93%	85%	79%	71%	83%	95%	95%	100 %	100 %	100 %	100 %	75%	100 %	100 %	100 %	NA
A16	Percentage of backlogged line	<5%	<5%	2.6%	6.4%	6.3%	4.5%	<5%	0.9%	5.1%	2.2%	1.6%	<5%	0.0%	0.9%	0.4%	0.4%	<5%	0.0%	4.2%	0.0%	2.4%

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 Q2	2020 Q3	2020 Q4	2021 Q1
A2	Percentage of QA processes completed within the total estimated QA lead times	80%	87%	91%	97%	99%
A13	Percentage of batches of product for which the final result is showing nonconformity (out of specification percentage)	<1%	3.6%	0.0%	2.5%	0.5%
A14b	Average vendor rating score – QA labs	NA	80%	86%	90%	90%
A15	Percentage of QA investigation reports submitted within 30 calendar days of outcome determination (QA investigation report submission)	90%	80%	100%		Semiannual
Indicator		Crosscutting				
A14a	Average vendor rating score – Suppliers	NA	77%	83%	77%	73%
A14c	Average vendor rating score – Freight Forwarders	NA	85%	See detail page	See detail page	See detail page

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 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1
In-country Context, Performance, and Sustainability																					
B1	Stockout rate at SDPs	11%	12%	14%	12%	20%	23%	27%	23%	18%	19%	20%	19%	NA				NA			
B2	Percentage of stock status observations in storage sites where commodities are stocked according to plan, by level in supply system	29%	29%	28%	32%	17%	15%	16%	21%	16%	22%	16%	26%	NA				NA			
B3	SDP reporting rate to the logistics management information system (LMIS)	85%	87%	89%	93%	86%	81%	88%	88%	84%	69%	83%	83%	81%	74%	86%	75%	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 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1
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 Q2	2020 Q3	2020 Q4	2021 Q1		2020 Q2	2020 Q3	2020 Q4	2021 Q1		2020 Q2	2020 Q3	2020 Q4	2021 Q1		2020 Q2	2020 Q3	2020 Q4	2021 Q1		2020 Q2	2020 Q3	2020 Q4	2021 Q1
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		3	8	11	4		2	1	1	0		1	0	1	0		2	2	2	0		3	13	4	2
C2	Number of people trained		578	311	2638	1570		217	73	467	170		240	12	67	0		113	29	0	34		650	243	2124	543
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 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1
In-country Context, Performance, and Sustainability																					
C8	Number of global advocacy engagements in support of improved availability of essential health commodities	3	1		Semi annual	5	4		Semi annual	6	6		Semi annual	1	3		Semi annual	7	3		Semi annual
C10	Percentage of GHSC-PSM-procured or supported molecular instruments that remained functional during the reporting period	77%	80%	81%	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-Q1

A1a. On-time, In-Full Delivery

Task Order	Total # of Line Items Delivered	OTIF	OTIF Target
TO1 - COVID19	180	78%	80%
TO1 - HIV	883	83%	80%
TO2 - Malaria	204	92%	80%
TO3 - FP/RH	51	88%	80%
TO4 - MNCH	17	76%	80%
Total	**1,335**	**84%**	**80%**

A1b. On-time Delivery

Task Order	Total # of Line Items with ADDs in the quarter	OTD	OTD Target
TO1 - COVID19	188	82%	80%
TO1 - HIV	868	90%	80%
TO2 - Malaria	207	93%	80%
TO3 - FP/RH	56	93%	80%
TO4 - MNCH	14	93%	80%
Total	**1,333**	**89%**	**80%**

A16. Backlog Percentage

Task Order	Total # of line items with ADDs in the last 12 months	Backlog	Backlog target
TO1 - COVID19	716	7.1%	5%
TO1 - HIV	3,414	4.5%	5%
TO2 - Malaria	851	1.6%	5%
TO3 - FP/RH	247	0.4%	5%
TO4 - MNCH	167	2.4%	5%
Total	**5,395**	**4.2%**	**5%**

TO	Analysis
Crosscutting	Across task orders, including orders for COVID-19, the project achieved an on-time delivery rate of 89 percent, and on-time, in-full delivery rate of 84 percent. We also saw a reduction to the backlog, which fell to 4.2 percent, back within the targeted range. The total number of line items delivered return to a more typical volume, following the surge in COVID-19 deliveries in FY2020 Q4. 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 64 percent, and COVID-impacted OTIF was 61 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, the project achieved an on-time delivery rate of 90 percent, and on-time, in-full delivery rate of 83 percent. We also saw a reduction to the backlog, which fell to 4.5 percent, back within the targeted range. The total number of line items delivered fell from the pervious quarter, but remained slightly higher than previous quarters. 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 56 percent, and COVID-impacted OTIF was 53 percent. For further discussion of global supply chain dynamics during the pandemic, please see the main narrative of this report.
TO2 - Malaria	For malaria commodities, the project achieved an on-time delivery rate of 93 percent, and on-time, in-full delivery rate of 92 percent. We also saw a reduction to the backlog, which fell to 1.6 percent. The total number of line items delivered was 204 , fairly consistent with pervious quarters. 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 81 percent, and COVID-impacted OTIF was 72 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 commodities, the project achieved an on-time delivery rate of 93 percent, and on-time, in-full delivery rate of 88 percent. The backlog and the number of line items delivered both remained consistent with the previous quarter. 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 84 percent, and COVID-impacted OTIF was 82 percent. (The wide use of the RDCs for family planning commodities may be a contributing factor insulating TO3 from pandemic-related supplier delays). 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 commodities, the project achieved an on-time delivery rate of 93 percent, and on-time, in-full delivery rate of 76 percent, just below the target. The backlog increased to 2.4 percent, and the number of line items delivered fell to a low volume. The lower OTIF result was due to three late lines and one split shipment. 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 75 percent, and COVID-impacted OTIF was 71 percent. For further discussion of global supply chain dynamics during the pandemic, please see the main narrative of this report.

Delivery Performance

Current Reporting Period

2021-Q1

	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	**78%**	**180**	**82%**	**188**	**7.1%**	**716**
COVID19	78%	180	82%	188	7.1%	716
TO1 - HIV	**83%**	**883**	**90%**	**868**	**4.5%**	**3,414**
Adult ARV	87%	100	95%	100	1.0%	420
Condoms	73%	51	83%	46	1.9%	159
Laboratory	84%	525	91%	517	6.1%	1,918
Other Non-Pharma	69%	68	82%	60	3.1%	293
Other Pharma	90%	49	90%	49	4.8%	126
Other RTK	100%	1	100%	1	0.0%	17
Pediatric ARV	92%	50	92%	52	2.2%	279
Severe Malaria Meds	0%	1				
TB HIV	87%	23	91%	23	1.7%	119
Vehicles and Other Equipment	0%	2	0%	1	0.0%	4
VMMC	85%	13	58%	19	10.1%	79
TO2 - Malaria	**92%**	**204**	**93%**	**207**	**1.6%**	**851**
ACTs	93%	82	95%	86	2.1%	290
Laboratory	100%	23	96%	24	0.5%	189
LLINs	86%	36	84%	37	3.8%	131
mRDTs	90%	29	100%	26	1.5%	68
Other Non-Pharma	100%	6	86%	7	2.0%	50
Other Pharma	100%	2	100%	2	0.0%	8
Severe Malaria Meds	88%	24	91%	23	0.0%	56
SMC					0.0%	38
SP	100%	2	100%	2	0.0%	21

	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	**88%**	**51**	**93%**	**56**	**0.4%**	**247**
Combined Oral Contraceptives	82%	17	89%	18	1.8%	56
Copper-Bearing Intrauterine Devices	100%	1	100%	1	0.0%	6
Emergency Oral Contraceptives	100%	1	100%	1	0.0%	10
Implantable Contraceptives	80%	5	83%	6	0.0%	35
Injectable Contraceptives	86%	14	94%	16	0.0%	86
Other Non-Pharma	100%	2	100%	2	0.0%	9
Other RTK	100%	1	100%	1	0.0%	2
Progestin Only Pills	100%	10	100%	11	0.0%	30
Standard Days Method					0.0%	13
TO4 - MNCH	**76%**	**17**	**93%**	**14**	**2.4%**	**167**
Laboratory					0.0%	18
Other Non-Pharma	0%	1			0.0%	3
Other Pharma	81%	16	93%	14	2.8%	145
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-Q1

A3. Average overall cycle time

Task Order	# of line items delivered	Average Cycle Time	Cycle time target	Average dwell-adjusted cycle time
TO1 - COVID19	180	113		112
TO1 - HIV	883	267	250	262
TO2 - Malaria	204	357	350	328
TO3 - FP/RH	51	266		262
TO4 - MNCH	17	331	375	313
Total	**1335**	**261**		**252**

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	**51**	**266**		**262**
Direct drop fulfillment	19	248	275	242
Warehouse fulfillment	32	277	250	274

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 commodities continued to rise in FY2021 Q1, averaging 267 days from order entry until final delivery to the recipient. While there was some lengthening in the clarifications and sourcing segments, the key increase was in the manufacturing, preparation, and pick up stages following purchase order release. Supplier and logistics delays due to the COVID-19 pandemic were a key factor in this outcome, as were deliveries to DRC. The project delivered 98 HIV line items to DRC, across product categories. These items averaged more than 150 days from PO release to pick up, due both to DRC's lengthy waiver process and to COVID-related supplier and logistics delays. The project is also reporting dwell-adjusted cycle time for the first time this quarter. The purpose of dwell-adjusted cycle time is to show order processing time with periods of dwell removed, illustrating active processing time more clearly. The project has implemented hold status policy to enable procurement teams to capture this dwell time and remove it from the results. For HIV products, dwell-adjusted cycle time is still showing similar results to full end-to-end time, at 262 days. Sixteen percent of line items delivered this quarter had a hold status applied, with an average hold duration of 33 days. Looking ahead, the project expects a greater proportion of delivered line items to have accrued measurable dwell. The impact of the dwell adjustment is expected to increase throughout the fiscal year.
TO2 - Malaria	End-to-end cycle times for malaria commodities increased in FY2021 Q1, rising to 357 days, a similar level as earlier in FY2020. A contributing factor to the cycle time results was deliveries to DRC, whose 34 line items averaged more than 450 days on average. This is a fairly typical results for DRC, which has a lengthy waiver processing time. Despite the long cycle times here, the large majority of DRC line items were delivered earlier than the agreed delivery date, with recipient approval. Other lengthy cycle times included rapid diagnostic tests, many of which experienced COVID-19-related delays or required reallocation following vendor disruptions in FY2020. Cycle time for quality assurance was 52 days, an increase from FY2020 Q4, but consistent with earlier periods in FY2020. Please note that the project has brought additional milestone data for Distribution Orders into cycle time reporting, allowing us to break down the Manufacture/Prepare and Pick Up segments at the TO level this quarter. The project is also reporting dwell-adjusted cycle time for the first time this quarter. The purpose of dwell-adjusted cycle time is to show order processing time with periods of dwell removed, illustrating active processing time more clearly. The project has implemented hold status policy to enable procurement teams to capture this dwell time and remove it from the results. For malaria products, dwell-adjusted cycle time is beginning to show some divergence from end-to-end time, at 328 days. This is 29 days less than average overall cycle time. Thirty-one percent of line items delivered this quarter had a hold status applied, with an average hold duration of 93 days. The most common dwell reason is funding holds, where an order cannot proceed until funding has been confirmed.

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-Q1

A3. Average overall cycle time

Task Order	# of line items delivered	Average Cycle Time	Cycle time target	Average dwell-adjusted cycle time
TO1 - COVID19	180	113		112
TO1 - HIV	883	267	250	262
TO2 - Malaria	204	357	350	328
TO3 - FP/RH	51	266		262
TO4 - MNCH	17	331	375	313
Total	**1335**	**261**		**252**

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	**51**	**266**		**262**
Direct drop fulfillment	19	248	275	242
Warehouse fulfillment	32	277	250	274

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

TO	Analysis
TO3 - FP/RH	End-to-end cycle times for family planning commodities delivered from the regional distribution centers rose to 277 days on average in FY2021 Q1. Factors in the increase included longer planning times following order validation, and an increase in delivery time. Notably, 60 percent of the line items delivered through this channel were for DRC, which tends toward longer cycle times, in this case averaging nearly 300 days. All DRC line items were delivered early or on time. Cycle times for direct drop line items fell from the previous quarter, averaging 248 days. Some lengthy cycle times were noted for Tanzania and Zambia in particular. Relevant factors here included COVID-19 supplier delays and customs clearance challenges. The project is also reporting dwell-adjusted cycle time for the first time this quarter. The purpose of dwell-adjusted cycle time is to show order processing time with periods of dwell removed, illustrating active processing time more clearly. The project has implemented hold status policy to enable procurement teams to capture this dwell time and remove it from the results. For family planning items in either fulfillment channel, dwell-adjusted cycle time is still showing similar results to full end-to-end time, with a difference of three days for RDC orders and six days for direct drops. Only six percent of line items delivered this quarter had a hold status applied, with an average hold duration of 62 days. Looking ahead, the project expects a greater proportion of delivered line items to have accrued measurable dwell The impact of the dwell adjustment is expected to increase throughout the fiscal year.
TO4 - MNCH	Average cycle time for Task Order 4 remained consistent with the previous quarter, at 355 days from order entry to final delivery. FY2021 Q1 was a low-volume quarter for maternal and child health commodities, with only 17 line items delivered. Of these, seven were shipped to Haiti. These items had lengthy cycle times, exceeding 400 days, but all spent nearly 40 days on hold pending resolution on order quantities. The project is also reporting dwell-adjusted cycle time for the first time this quarter. The purpose of dwell-adjusted cycle time is to show order processing time with periods of dwell removed, illustrating active processing time more clearly. The project has implemented hold status policy to enable procurement teams to capture this dwell time and remove it from the results. For Task Order 4 products, dwell-adjusted cycle time is 18 days less than overall cycle time, at 313 days. Just over half of line items had a hold applied, with an average hold duration of 33 days.

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-Q1

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

Fulfillment Channel / Task Order	Direct Drop Fulfillment				Warehouse Fulfillment			Total
	Air	Land	Multiple	Sea	Air	Land	Sea	
TO1 - COVID19	**110**	**74**		**170**				**113**
COVID19	110	74		170				**113**
TO1 - HIV	**258**	**225**	**484**	**364**	**242**	**296**	**243**	**267**
Adult ARV	256	124		325	244	360	275	**277**
Condoms				311	610		224	**284**
Laboratory	251	218	484	428				**255**
Other Non-Pharma	303	251		543		53		**303**
Other Pharma	329	263		312	368			**320**
Other RTK	303							**303**
Pediatric ARV	269			335	243	292	168	**270**
Severe Malaria Meds						43		**43**
TB HIV	212			277	139			**237**
Vehicles and Other Equipment		269						**269**
VMMC		324		303	129			**264**
TO2 - Malaria	**314**	**387**		**382**	**206**			**357**
ACTs	289			429	206			**369**
Laboratory	318			365				**334**
LLINs		387		335				**347**
mRDTs	331			381				**366**
Other Non-Pharma	377			239				**331**
Other Pharma	302							**302**
Severe Malaria Meds	359			342				**347**
SP				473				**473**
TO3 - FP/RH	**174**	**257**		**263**	**243**		**288**	**266**
Combined Oral Contraceptives				276	134		322	**289**
Copper-Bearing Intrauterine Devices				310				**310**
Emergency Oral Contraceptives				408				**408**
Implantable Contraceptives	99				319		163	**244**
Injectable Contraceptives	116	257		240	287		269	**249**
Other Non-Pharma				187				**187**
Other RTK	307							**307**
Progestin Only Pills					142		266	**253**

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

Fulfillment Channel / Product Category	Direct Drop Fulfillment			Total
	Air	Land	Sea	
Other Non-Pharma			364	**364**
Other Pharma	423	248	352	**329**
Total	**423**	**248**	**354**	**331**

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 measureable 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 indiviudal 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	**79**	**2**	**46**		**79**	**40**	**39**
TO1 - COVID19	30	1	31		25	16	19
TO1 - HIV	71	3	51		95	46	38
TO2 - Malaria		1	37		67	50	53
TO3 - FP/RH		3	38		35	36	64
TO4 - MNCH	109	13	53		92	31	53
Warehouse fulfillment	**63**	**6**	**90**	**50**	**27**	**27**	**57**
TO1 - HIV	55	7	109	45	28	28	49
TO2 - Malaria		1	1	133	90	90	8
TO3 - FP/RH		6	45	53	17	17	87
Total	**78**	**3**	**50**	**102**			**41**

Quality Assurance Performance (TO2 only)

Current Reporting Period

2021-Q1

A2. QA processes completed within required lead times

Task Order	Total # of QA processes completed	% QA Processes On Time	A2 Target
TO2 - Malaria	**105**	**99%**	**80%**
ACTs	42	98%	80%
LLINs	33	100%	80%
mRDTs	20	100%	80%
Other Pharma	3	100%	80%
Severe Malaria Meds	5	100%	80%
SMC	0		80%
SP	2	100%	80%

A13. Out-of-specification percentage

Task Order	Total # of batches tested	Out-of-specification percentage	A13 Target
TO2 - Malaria	**399**	**0.5%**	**1%**
ACTs	131	0.0%	1%
LLINs	40	0.0%	1%
mRDTs	77	0.0%	1%
Other Pharma	2	0.0%	1%
Severe Malaria Meds	113	1.8%	1%
SMC	29	0.0%	1%
SP	7	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			
ACTs			
LLINs			
mRDTs			
Other Non-Pharma			
Other Pharma			
Severe Malaria Meds			
SP			

Ref	Analysis
A02	Excluding COVID-19 impacted processes, 99 percent of QA processes were completed within the required lead times. Labs maintained this high level of performance despite an increase in testing volume this quarter. This performance is attributed to proactive adjustments made to the QC protocol and randomized product test based on quality risk. With COVID-19 impacted process included, the performance was 79 percent.
A13	Out of specification findings fell this quarter, to 0.5 percent of batches tested. The findings were for sterility results for two batches of artesunate injectable. The batches were rejected and replaced. (Please note that indicator A15 is reported semiannually. It will be reported in FY2021 Q2).
A14b	QA lab performance remained high this quarter at 90 percent, with great improvement in responsiveness of labs to confirm receipt of samples for analysis (scoring 90 percent, up from 72 percent). There were slight declines in the other elements, most notably cost (ensuring invoice accuracy), which decreased from 96 to 89 percent. Pandemic delay codes continue to be applied, allowing labs to be rated on-time in the case of pandemic-related delays, in acknowledgement that these delays are outside of their control and in alignment with other measures of project and vendor on-time performance.

Warehouse Performance and Product Losses

Current Reporting Period

2021-Q1

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	Uganda	Damage	Adult ARV	$689	$26,960,448	0.00%
TO1 - HIV	Tanzania	Damage	Condoms	$533	$12,477,280	0.00%
TO1 - HIV	Mozambique	Damage	Laboratory	$11,160	$11,501,607	0.10%
TO2 - Malaria	RDC	Damage	SMC	$599	$6,878,194	0.01%
TO2 - Malaria	RDC	Expiry	ACTs	$32	$182,729	0.02%
TO1 - HIV	RDC	Expiry	Adult ARV, Pediatric ARV, Other Pharma	$534	$26,960,448	0.00%
TO3 - FP/RH	RDC	Expiry	NA	$0	$7,140,979	0.00%
TO1 - HIV	Nigeria	Missing product	Adult ARV	$30,252	$26,960,448	0.11%
TO2 - Malaria	DRC	Missing product	LLINs	$50,460	$4,295,844	1.17%
TO1 - HIV	Nigeria	Temperature Excursion	Adult ARV, laboratory, Pediatric ARV	$222,076	$26,960,448	0.82%

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 was strong, at 84 percent shelf life remaining at the close of the quarter. All product categories exceed 80 percent, with the exception of combined oral contraceptives. Shelf life for these commodities was lower (73 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 all product, with no risk of expiry in the RDC.
A08	Shelf life performance for HIV/AIDS commodities was strong, 83 percent of shelf life remaining. The ending balance for the quarter surged to more than $63 million, with inbound replenishment orders of TLD 90-tablet bottles totaling more than $50 million. All product categories exceeded 80 percent shelf life at the close of the quarter, with the exception of a small quantity of VMMC items that have been discontinued per USAID guidance and slated for destruction.
A08	Task Order 2 ended the quarter with zero usable stock on hand, following the shipment of several orders from the ACT stockpile. Therefore, no shelf life figure is reported. (There were six units of residual stock at the Sour Africa RDC, valued under $100. Alu has not be routinely stocked in this location for several quarters, and these few items will be slated for destruction).
C07a	A minimal quantity of ARVs and other pharma expired at the RDC this quarter.
C07a	There was minimal expiries of ACTs this quarter.
C07a	There were no expiries of Task Order 3 commodities this quarter.

Data notes
Average inventory balance (A4 and C7a denominator) is calculated using the ending balance at the close of each month.
Expired inventory is excluded from shelf life calculations (A8). It is reported under product loss.
Quarterly indicator targets are effective beginning FY2018 Q4. Per the project M&E plan, no targets are required for product loss indicators (C7a and C7b).

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

Procurement Performance

Current Reporting Period

2021-Q1

A10. Framework contract percentage

Task Order	Procurement total	Framework contract percentage	Framework contract target
TO1 - COVID19	$7,277,144	81%	
TO1 - HIV	$206,935,553	93%	85%
TO2 - Malaria	$55,613,763	95%	85%
TO3 - FP/RH	$13,662,314	100%	95%
TO4 - MNCH	$0		75%
Total	**$283,488,774**	**94%**	**NA**

A10. Product-level detail

Task Order	Framework contract percentage	Procurement total
TO1 - COVID19	**81%**	**$7,277,144**
COVID19	81%	$7,277,144
TO1 - HIV	**93%**	**$206,935,553**
Adult ARV	97%	$143,810,359
Condoms	100%	$7,851,249
Laboratory	72%	$36,551,387
Other Non-Pharma	49%	$1,226,814
Other Pharma	100%	$6,066,512
Pediatric ARV	100%	$4,581,692
TB HIV	100%	$2,828,742
Vehicles and Other Equipment	0%	$18,105
VMMC	100%	$4,000,694
TO2 - Malaria	**95%**	**$55,613,763**
ACTs	100%	$18,143,700
Laboratory	100%	$223,827
LLINs	90%	$21,339,110
mRDTs	93%	$8,347,913
Other Non-Pharma	100%	$62,970
Other Pharma	100%	$42,500
Severe Malaria Meds	100%	$5,670,693
SMC	100%	$977,200
SP	100%	$805,850

A10. Product-level detail

Task Order	Framework contract percentage	Procurement total
TO3 - FP/RH	**100%**	**$13,662,314**
Combined Oral Contraceptives	100%	$673,920
Copper-Bearing Intrauterine Devices	100%	$81,000
Emergency Oral Contraceptives	100%	$86,734
Implantable Contraceptives	100%	$7,473,316
Injectable Contraceptives	100%	$5,088,144
Progestin Only Pills	100%	$259,200
TO4 - MNCH		**$0**
Other Pharma		$0

Task Order	Analysis
TO1 - HIV	Ninety-three percent of HIV/AIDS commodities were procured under framework contracts, consistent with the previous quarter. Laboratory procurements reached their highest level of framework procurement today, at 72 percent of procurement value.
TO2 - Malaria	Use of framework contracts for malaria procurements rose to 95 percent of procurement value this quarter. All pharmaceuticals continue to be procured under IDIQs, and lab and non-pharma were procured under BOAs. Ninety percent of LLINs and 93 percent of rapid diagnostic tests were procured under IDIQs.
TO3 - FP/RH	TO3 continues to procure all items under framework contracts, per the sourcing strategy for these commodities.
TO4 - MNCH	There were no new procurements of maternal and child health commodities this quarter. The project did facilitate a donation of oxytocin from Madagascar to Malawi, valued at $71,500. Additional essential medicines orders are in progress for Liberia, DRC, Mozambique, and Zambia, but have not yet been released.

Data notes

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

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

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

Registration Waivers

A7. Temporary registration waiver percentage

Task Order	Temporary registration waiver percentage	Total # of line items delivered
TO2 - Malaria	**11.3%**	**204**
ACTs	9.8%	82
LLINs	16.7%	36
mRDTs	6.9%	29
Severe Malaria Meds	16.7%	24
Laboratory	0.0%	23
Other Non-Pharma	0.0%	6
Other Pharma	50.0%	2
SP	100.0%	2
TO3 - FP/RH	**7.8%**	**51**
Combined Oral Contraceptives	11.8%	17
Injectable Contraceptives	7.1%	14
Progestin Only Pills	0.0%	10
Implantable Contraceptives	0.0%	5
Other Non-Pharma	0.0%	2
Copper-Bearing Intrauterine Devices	100.0%	1
Emergency Oral Contraceptives	0.0%	1
Other RTK	0.0%	1
Total	**10.6%**	**255**

Task Order	Analysis
TO2 - Malaria	Registration waiver were required for 11.3 percent of line items this quarter. Waivers were used across categories, notably for ACTs and LLINs. In the case of LLINs, six line items were shipped to Nigeria for the same supplier, whose registration is still in process. For ACTs, waivers were used to ship products to Cameroon and Laos. Additional waivers were used for pharmaceuticals for Mali, Malawi, Guinea, and Niger.
TO3 - FP/RH	The project used registration waivers for 7.8 percent of line items delivered this quarter. Two of the four line items were for Haiti, which does not have a functional registration agency in-country. Any unregistered products will continue to require the use of waivers, as new registrations cannot be processed. Other uses of unregistered products included copper-bearing IUDs for Uganda and injectable contraceptives for Angola. As always, GHSC-PSM and GHSC-QA work strategically to communicate USAID priorities and forecast demand to help vendors target their registration efforts, but the need to use occasional waivers is likely to continue.

Supply Plan Submissions

Current Reporting Period

2021-Q1

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	95%	90%
FP commodities	21	95%	95%
Lab (HIV diagnostics)	15	100%	90%
Malaria commodities	29	100%	90%
RTKs	18	100%	90%
TPT	14	79%	85%
VMMC	6	67%	80%
Total	**144**		

Analysis

Supply plan submissions for key HIV/AIDS commodity groups remained strong in FY2021 Q1, maintaining at 100 percent for ARVs, RTKs, and lab commodities, and dipping only slightly for condoms. Four out of six required plans were submitted for VMMC commodities, and 11 out of 14 for TPT.

Supply plan submissions for family planning products and condoms remained strong this quarter, with only one plan missing from each group.

All required malaria supply plans were submitted as expected this quarter.

Supply Plan and Forecast Performance

Current Reporting Period

2021-Q1

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	23%	-23%	20%	25%	-20%
Condoms	0%	0%	9%	25%	9%
Laboratory	47%	-47%	20%	25%	20%
Pediatric ARV	77%	-77%	14%	25%	-14%

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	71%	-71%	90%	35%	-90%
mRDTs	28%	-28%	38%	35%	-38%

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	0%	-0%	4%	25%	4%
Copper-bearing Intrauterine Devices	36%	-36%	23%	25%	-23%
Implantable Contraceptives	11%	11%	4%	25%	4%
Injectable Contraceptives	10%	10%	2%	25%	2%
Progestin Only Pills	0%	0%	0%	25%	0%

Task Order	Analysis
TO1 - HIV	Condoms performed well this quarter, at only 0.2 percent error. The only variance was a small order increase for female condoms for Senegal. In general, there were fewer country orders planned for this period and few changes to orders as requested delivery dates approached.
TO1 - HIV	Supply plan error for adult ARVs improved this quarter, narrowing from 68 percent in Q4 to just 23 percent in Q1. However, three quarters of over forecasting as TLD orders were pulled forward have caused the rolling metric to widen from 3 to 20 percent error. Supply plan error for pediatric ARVs increased to 77 percent, with supply plans again exceeding actual ordered quantities. Planned orders for Tanzania, Zambia, and Nigeria were either revised downward or were not requested for this quarter. Upcoming transitions for pediatric regimens have created complexities for supply planning.
TO1 - HIV	Supply plan error for lab items rose to 47 percent this quarter, with actual orders falling short of supply plan quantities after two quarters of under forecasting. Within lab product groups, viral load performed the strongest, at only 2 percent error. EID and CD4 both had more significant variance, due to quantity adjustments and delivery requests pushed out to future quarters.
TO2 - Malaria	Supply plan error for mRDTs was consistent with the previous quarter, at 28 percent. Planned quantities continue to exceed actual orders. Supply plan error for ACTs remains wide, with planned quantities continuing to exceed actual orders. There was an uptick in orders for ASAQ, which exceeded planned quantities for the first time in more than a year, but orders for AL were still much less than supply plan quantities. TO2 is now regularly conducting financial deep dives and communicating with field offices their findings. This may help countries plan orders accordingly to fit the available funding envelope.
TO3 - FP/RH	Forecast error for injectables and implants remained low this quarter, with requested quantities exceeding the forecast by only abut 10 percent in both cases. Changes to orders for DMPA-IM, DMPA-SC, and one-rod implants were related to order splits and reallocations related to managing the global allocation of these constrained products. The project continue to emphasize the USAID "state of the supply" communication, detailing supply constraints, to help better inform order placement and supply planning. Combined oral contraceptives and progestin-only pills also continued to have almost no variance from global forecasts. Copper-bearing IUDs saw increased error this quarter, due to an order cancellation related to budget constraints.

Vendor Performance

Current Reporting Period

2021-Q1

A14a-c. Average vendor rating score

Vendor Type	Average vendor rating
Commodity Supplier	73%
Freight Forwarder	72%
QA Lab	90%

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

Component Name	Indicator Name	Indicator Score	Indicator Weight (Overall)	Overall Weighted Score
1 - Reliability (Timeliness of Service)	Does the lab provide on-time provision of completed test reports?	92%	48%	44%
2 - Responsiveness	Does the lab provide prompt response after receipt of GHSC-PSM request for testing	90%	15%	14%
3 - Completeness of Documentation	Frequency of modification to Certificates of Analysis (CoA)	97%	18%	17%
4 - Invoice Accuracy	Submitted invoices for routing testing adhere to set IDIQ pricing	89%	10%	9%
5 - Service	Adherence to other terms and conditions, not related to reliability, responsiveness, completeness, and cost (Qualitative)	68%	10%	7%
Total			**100%**	**90%**

Analysis

Supplier on-time performance dropped slightly from 77 to 73 percent this quarter based on a revised list of suppliers. Periodically, GHSC-PSM re-assesses the list of high value/high risk suppliers based on changes in the market, updated sourcing strategies, etc., which are further evaluated through supplier scorecards. From this list, there were 30 suppliers with orders supplied during the quarter. While the 73 percent represents all orders with goods available prior to or by the committed goods availability date (GAD), an additional 11 percent of orders were supplied within two weeks of the GAD, while 16 percent were more than two weeks late. Late orders affected by COVID-19 continue to be counted as on-time through an acceptable supplier delay code.

QA lab performance remained high this quarter at 90 percent, with great improvement in responsiveness of labs to confirm receipt of samples for analysis (scoring 90 percent, up from 72 percent). There were slight declines in the other elements, most notably cost (ensuring invoice accuracy), which decreased from 96 to 89 percent. Pandemic delay codes continue to be applied, allowing labs to be rated on-time in the case of pandemic-related delays, in acknowledgement that these delays are outside of their control and in alignment with other measures of project and vendor on-time performance.

An overall freight forwarder vendor rating score again cannot be reported this quarter, due to the absence of the customer service assessment. This has been on hold due to the increased demands on both the GHSC-PSM Deliver/Return team and the 3PLs during the pandemic. Without this data, performance cannot be fully assessed. However, data from other aspects of the scorecard are available. On a whole, there was a slight reduction in scores since last quarter. The greatest drop was for invoice accuracy, where the increased use of spot tendering during the pandemic continues to pose challenges to invoicing processes, however these do not affect the accuracy of the final invoice amount. On-time RFQ transit time and on-time delivery were also down for the quarter.

Data notes

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

Complete Quarterly Results (TO1)

Reporting Period

2021-Q1

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	**78%**	**180**	**82%**	**188**	**7.1%**	**716**	**81%**	**$7,277,144**
COVID19	78%	180	82%	188	7.1%	716	81%	$7,277,144
TO1 - HIV	**83%**	**883**	**90%**	**868**	**4.5%**	**3,414**	**93%**	**$206,935,553**
Adult ARV	87%	100	95%	100	1.0%	420	97%	$143,810,359
Condoms	73%	51	83%	46	1.9%	159	100%	$7,851,249
Laboratory	84%	525	91%	517	6.1%	1,918	72%	$36,551,387
Other Non-Pharma	69%	68	82%	60	3.1%	293	49%	$1,226,814
Other Pharma	90%	49	90%	49	4.8%	126	100%	$6,066,512
Other RTK	100%	1	100%	1	0.0%	17		
Pediatric ARV	92%	50	92%	52	2.2%	279	100%	$4,581,692
Severe Malaria Meds	0%	1						
TB HIV	87%	23	91%	23	1.7%	119	100%	$2,828,742
Vehicles and Other Equipment	0%	2	0%	1	0.0%	4	0%	$18,105
VMMC	85%	13	58%	19	10.1%	79	100%	$4,000,694
Total	**82%**	**1,063**	**88%**	**1,056**	**5.0%**	**4,130**	**93%**	**$214,212,697**

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	23%	-23%	20%	-20%
Laboratory	47%	-47%	20%	20%
Pediatric ARV	77%	-77%	14%	-14%
A6b - Forecast Error				
Condoms	0%	0%	9%	9%

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
ARVs	100%	20
Condoms	95%	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	**110**	**74**		**170**				**113**
COVID19	110	74		170				**113**
TO1 - HIV	**258**	**225**	**484**	**364**	**242**	**296**	**243**	**267**
Adult ARV	256	124		325	244	360	275	**277**
Condoms				311	610		224	**284**
Laboratory	251	218	484	428				**255**
Other Non-Pharma	303	251		543		53		**303**
Other Pharma	329	263		312	368			**320**
Other RTK	303							**303**
Pediatric ARV	269			335	243	292	168	**270**
Severe Malaria Meds						43		**43**
TB HIV	212			277	139			**237**
Vehicles and Other Equipment		269						**269**
VMMC		324		303	129			**264**
Total	**218**	**216**	**484**	**343**	**242**	**296**	**243**	**241**

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

Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
Uganda	Damage	Adult ARV	$689	$26,960,448	0.00%
Tanzania	Damage	Condoms	$533	$12,477,280	0.00%
Mozambique	Damage	Laboratory	$11,160	$11,501,607	0.10%
RDC	Expiry	Adult ARV, Pediatric ARV, Other Pharma	$534	$26,960,448	0.00%
Nigeria	Missing product	Adult ARV	$30,252	$26,960,448	0.11%
Nigeria	Temperature Excursion	Adult ARV, laboratory, Pediatric ARV	$222,076	$26,960,448	0.82%

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
83%	$63,269,570

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	73%
Freight Forwarder	72%

Complete Quarterly Results (TO2)

Reporting Period

2021-Q1

	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	**92%**	**204**	**93%**	**207**	**1.6%**	**851**	**11.3%**	**204**	**95%**	**$55,613,763**	**99%**	**105**	**0.5%**	**399**		
ACTs	93%	82	95%	86	2.1%	290	9.8%	82	100%	$18,143,700	98%	42	0.0%	131		
Laboratory	100%	23	96%	24	0.5%	189	0.0%	23	100%	$223,827						
LLINs	86%	36	84%	37	3.8%	131	16.7%	36	90%	$21,339,110	100%	33	0.0%	40		
mRDTs	90%	29	100%	26	1.5%	68	6.9%	29	93%	$8,347,913	100%	20	0.0%	77		
Other Non-Pharma	100%	6	86%	7	2.0%	50	0.0%	6	100%	$62,970						
Other Pharma	100%	2	100%	2	0.0%	8	50.0%	2	100%	$42,500	100%	3	0.0%	2		
Severe Malaria Meds	88%	24	91%	23	0.0%	56	16.7%	24	100%	$5,670,693	100%	5	1.8%	113		
SMC					0.0%	38			100%	$977,200		0	0.0%	29		
SP	100%	2	100%	2	0.0%	21	100.0%	2	100%	$805,850	100%	2	0.0%	7		
Total	**92%**	**204**	**93%**	**207**	**1.6%**	**851**	**11.3%**	**204**	**95%**	**$55,613,763**	**99%**	**105**	**0.5%**	**399**		

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment			Warehouse Fulfillment	Total
Task Order	Air	Land	Sea	Air	
TO2 - Malaria	**314**	**387**	**382**	**206**	**357**
ACTs	289		429	206	**369**
Laboratory	318		365		**334**
LLINs		387	335		**347**
mRDTs	331		381		**366**
Other Non-Pharma	377		239		**331**
Other Pharma	302				**302**
Severe Malaria Meds	359		342		**347**
SP			473		**473**
Total	**314**	**387**	**382**	**206**	**357**

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	Damage	SMC	$599	$6,878,194	0.01%
RDC	Expiry	ACTs	$32	$182,729	0.02%
DRC	Missing product	LLINs	$50,460	$4,295,844	1.17%

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
Malaria commodities	100%	29

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
	$0

A14. Average vendor rating - QA labs

Average vendor rating
90%

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	71%	-71%	90%	-90%
mRDTs	28%	-28%	38%	-38%

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	73%
Freight Forwarder	72%

Complete Quarterly Results (TO3)

Reporting Period

2021-Q1

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	**88%**	**51**	**93%**	**56**	**0.4%**	**247**	**100%**	**$13,662,314**
Combined Oral Contraceptives	82%	17	89%	18	1.8%	56	100%	$673,920
Copper-Bearing Intrauterine Devices	100%	1	100%	1	0.0%	6	100%	$81,000
Emergency Oral Contraceptives	100%	1	100%	1	0.0%	10	100%	$86,734
Implantable Contraceptives	80%	5	83%	6	0.0%	35	100%	$7,473,316
Injectable Contraceptives	86%	14	94%	16	0.0%	86	100%	$5,088,144
Other Non-Pharma	100%	2	100%	2	0.0%	9		
Other RTK	100%	1	100%	1	0.0%	2		
Progestin Only Pills	100%	10	100%	11	0.0%	30	100%	$259,200
Standard Days Method					0.0%	13		
Total	**88%**	**51**	**93%**	**56**	**0.4%**	**247**	**100%**	**$13,662,314**

A7. Temporary Waiver Percentage

Task Order	Temporary registration waiver percentage	Total # of line items delivered
TO3 - FP/RH	**7.8%**	**51**
Copper-Bearing Intrauterine Devices	100.0%	1
Combined Oral Contraceptives	11.8%	17
Injectable Contraceptives	7.1%	14
Emergency Oral Contraceptives	0.0%	1
Implantable Contraceptives	0.0%	5
Other Non-Pharma	0.0%	2
Other RTK	0.0%	1
Progestin Only Pills	0.0%	10
Total	**7.8%**	**51**

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment			Warehouse Fulfillment		**Total**
Task Order	Air	Land	Sea	Air	Sea	
TO3 - FP/RH	**174**	**257**	**263**	**243**	**288**	**266**
Combined Oral Contraceptives			276	134	322	**289**
Copper-Bearing Intrauterine Devices			310			**310**
Emergency Oral Contraceptives			408			**408**
Implantable Contraceptives	99			319	163	**244**
Injectable Contraceptives	116	257	240	287	269	**249**
Other Non-Pharma			187			**187**
Other RTK	307					**307**
Progestin Only Pills				142	266	**253**
Total	**174**	**257**	**263**	**243**	**288**	**266**

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	$7,140,979	0.00%

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
Condoms	95%	21
FP commodities	95%	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	0%	-0%	4%	4%
Condoms	0%	0%	9%	9%
Copper-bearing Intrauterine Devices	36%	-36%	23%	-23%
Implantable Contraceptives	11%	11%	4%	4%
Injectable Contraceptives	10%	10%	2%	2%
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	72%

Complete Quarterly Results (TO4)

Reporting Period

2021-Q1

	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	**76%**	**17**	**93%**	**14**	**2.4%**	**167**		**$0**
Laboratory					0.0%	18		
Other Non-Pharma	0%	1			0.0%	3		
Other Pharma	81%	16	93%	14	2.8%	145		$0
Other RTK					0.0%	1		
Total	**76%**	**17**	**93%**	**14**	**2.4%**	**167**		**$0**

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	73%
Freight Forwarder	72%

A3. Cycle time (average)

Task Order	Direct Drop Fulfillment	Total
TO4 - MNCH	**331**	**331**
Other Non-Pharma	364	**364**
Other Pharma	329	**329**
Total	**331**	**331**

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.

GHSC-BI&A Data Sharing Indicators

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

Indicator Details

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

Delivery Impact Indicators

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