USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM
Procurement and Supply Management

FISCAL YEAR 2020

QUARTERLY REPORT – QUARTER 3

APRIL 1, 2020 TO JUNE 30, 2020

USAID FROM THE AMERICAN PEOPLE

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

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

FISCAL YEAR 2020

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April 1 to June 30, 2020

CONTRACT NO. AID-OAA-I-15-00004

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

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

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Contents

Acronyms

3HP	isoniazid/rifapentine (combination treatment for tuberculosis)
3PL	third-party logistics
ACT	artemisinin-based combination therapy
ADVISER	AIDS Data Visibility, Evaluation and Reporting
ALu	artemether-lumefantrine
AMC	average monthly consumption
API	active pharmaceutical ingredient
ART	anti-retroviral therapy
ARV	anti-retroviral
CARhs	Coordinated Assistance for Reproductive Health Supplies
CDC	U.S. Centers for Disease Control and Prevention
CMS	central medical store
CSP	Coordinated Supply Planning Group
DCP	decentralized procurement
DMPA	depot-medroxyprogesterone acetate
DoHS	Department of Health Services
DRC	Democratic Republic of the Congo
EID	early infant diagnosis
eLMIS	electronic logistics management information system
ESCP	emergency supply-chain preparedness
FASP	forecasting and supply planning
FP/RH	family planning/reproductive health
FWD	Family Welfare Division
FY	fiscal year
GAD	goods availability date
GDSN	Global Data Synchronization Network
GHSC-PSM	Global Health Supply Chain Program-Procurement and Supply Management project
GHSC-QA	Global Health Supply Chain Program-Quality Assurance project
GHSC-RTK	Global Health Supply Chain Program-Rapid Test Kit project
GLN	global location number
GFPVAN	Global Family Planning Visibility and Analytics Network
GTIN	global trade item number
IM	intramuscular
IUD	intrauterine device
JMS	Joint Medical Stores (Uganda)
KPI	key performance indicator
LLIN	long-lasting insecticide-treated net
LMIS	logistics management information system
LTA	long-term agreement
LZN	lamivudine/zidovudine/nevirapine
M&E	monitoring and evaluation
MCH	maternal and child health

MMD	multi-month dispensing
MNCH	maternal, newborn, and child health
MOH	Ministry of Health
MOS	months of stock
NMCP	National Malaria Control Program
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
PPE	personal protective equipment
PPMR	Procurement Planning and Monitoring Report
PPMRm	Procurement Planning and Monitoring Report-malaria
PQ	Prequalification
PrEP	pre-exposure prophylaxis
PRH	population and reproductive health
PSI	Population Services International
Q	quarter
QA	quality assurance
QC	quality control
RDC	regional distribution center
RDT	rapid diagnostic test
R&C	reagents and consumables
RFQ	request for quotation
RHSC	Reproductive Health Supplies Coalition
RMNCAH	reproductive, maternal, newborn, child and adolescent health
RO	requisition order
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
SSWG	Systems Strengthening Working Group
STG	Standard Treatment Guideline
TAF-ED	tenofovir alafenamide fumarate, emtricitabine, dolutegravir
TB	tuberculosis
TLD	tenofovir, lamivudine, dolutegravir
TO	task order
TPT	TB preventive therapy
TransIT	transportation information tool
UAV	unmanned aerial vehicle
UMPP	unusable medical and pharmaceutical products
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development

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 Quarter 3 (Q3) of Fiscal Year 2020 (FY 2020). We describe our work in providing life-saving medicines and other health commodities and building efficient, reliable, and cost-effective supply chains for delivering 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/reproductive-health (FP/RH), and the Agency's program in maternal and child health (MCH), which share the cost of the project. We also describe activities related to the novel coronavirus (COVID-19) response.

Mitigating Risk of Supply-Chain Interruptions Because of Coronavirus

In Q3 FY 2020, the impact of the COVID-19 pandemic was felt deeply across supply chains. The project ramped up its response to ensure continuity of critical health programs as countries around the world implemented restrictions on transportation and workplaces in efforts to contain the disease. Upstream closure of factories, offices, warehouses, ground transport companies, and canceled or restricted air, ocean, and ground travel were compounded by a downstream push to move more commodities to patients to avoid potential exposure. The project is focusing attention on China and India as the major worldwide sources for raw and intermediate pharmaceutical materials as well as finished pharmaceutical products (FPP) needed for health programs. Even in late June, despite some improvements in manufacturing and logistics the supply chain remained constrained because of lockdowns and export restrictions. The continued restrictions on travelers and reduced air freight capacity is impacting the project's ability to ship products from origin to destination.

GHSC-PSM Operating Principles in Addressing Coronavirus

- Identify alternative sources of supply and transportation to ensure the earliest possible delivery of needed supplies.
- Assess short-, medium-, and long-term risk and prepare a range of interventions to reduce the impact on country programs.
- Provide streamlined coordination across task orders to ensure supplier and country actions are efficient and effective.
- Ensure clear communication to country offices to address concerns and provide actionable steps for protecting country programs

The project's cross-functional COVID-19 coordination team monitors, manages, and mitigates, to the extent possible, the impact on supply chains and prepares briefing materials for USAID. In Q3, the project continued to review supply plan and inventory data and conduct prioritization exercises across task orders and across procurers to ensure urgent needs are met.

COVID-19 Response Activities

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

- Ventilator procurements: GHSC-PSM procured U.S.-sourced ventilators for Brazil, El Salvador, Ethiopia, Honduras, India, Indonesia, Pakistan, Russia, Slovakia, and South Africa, with additional funding expected for a total of 40 countries.

- Central and field support funding for supply chain for COVID-19 commodities, including general medical equipment and supplies, nonmedical supplies, and local supply of oxygen in sub Saharan Africa technical assistance and procurement.

In Q3 the project developed additional tools and guidance that in-country decision-makers can use to support post-COVID-19 recovery efforts at the last mile. GHSC-PSM created the Multi-Month Simulation (MuMS) tool so country teams can assess the feasibility of accelerating transition to three- or six-month scripting of anti-retrovirals (ARVs) as recommended by PEPFAR to reduce COVID-19 exposure among ART patients. The project also developed the COVID-19 Allocation Tool for Essential Medicines to help reduce lead time for procurements.

Also, the project released guidance on the impact of COVID-19 on maternal, newborn, and child health (MNCH) commodity supply, including recommendations to mitigate interruptions and delays, and continues to provide targeted support to project-supported countries during the pandemic

Examples of COVID-19-related logistical challenges in Q3:

- Shutdowns in India and China, and continued constraints and export restrictions led to backlogs for exported products, interrupting the supply of essential pharmaceuticals and affecting routine deliveries of HIV/AIDS and malaria commodities to populous countries like Nigeria. The project communicated routinely with suppliers and logistics providers to identify alternative sourcing and delivery options to reduce stockout risks. The project also worked with USAID/Washington and Missions to advocate with governments where necessary to facilitate smooth movement of commodities. In response to reduced air and ocean capacity in China, Europe, and India, the project worked with logistics providers to identify alternative delivery options, including charter flights and switching from ocean to air and vice versa.

- The project faced border shutdowns that restricted and complicated commodity deliveries. The project coordinated with logistics providers, country governments, and USAID Missions to identify alternate routes where necessary and to ensure transporters had the proper documentation and personal protective equipment (PPE) to travel.

Mitigation Efforts

Global

- Conducted a review of supply plan and inventory data and prioritization exercises across task orders and across procurers to ensure that urgent needs are met.
- Preordered and stockpiled key commodities.

Country-Level

- Used charter flights to deliver ARV and ACT commodities from India and the United Arab Emirates to Nigeria.
- Coordinated with third-party logistics (3PL) companies to arrange for containers to be stored in the 3PL 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.
- Encouraged GHSC-PSM field office staff to move commodities as close to service delivery points as possible and assess opportunities for supplementary storage.

- The COVID-19 shutdown caused a reduction in production capacity for a major malaria rapid diagnostic test (RDT) supplier in India. To mitigate this, GHSC-PSM shifted orders to a supplier in South Korea, collaborated with global RDT procurers to advocate for continued production among suppliers, and issued additional requests for quotation to ensure supply through the end of CY 2020.

- In-country travel restrictions affected the transport of QA laboratory samples to testing facilities, requiring the project to identify alternative means of transporting samples to mitigate testing delays, including use of private transportation companies.

- As with natural disasters, existing vehicle fleets typically used for in-country deliveries are being deployed to help respond to urgent deliveries of COVID-19 commodities. As such, this creates supply risks for other public health commodities. The project began working with in-country partners and 3PLs to secure alternative distribution options.

- Reduced cold chain capacity including containers and storage capacity at ports, as well as reduced flight capacity led to concerns of interruptions to the cold chain for ARV and lab products. The project monitored these changes closely and worked with manufacturers and logistics providers to ensure commodities were stored and transported properly.

- Project-supported countries experienced interruptions in supportive supervision for management of routine health commodities at facilities as well as PPE and COVID-19 commodities. Though some visits were canceled or delayed, the project implemented alternative supervision strategies where possible, such as telephone check-ins with facilities or combining supervision visits with deliveries.

Preventing Country- and Site-Level Shortages

- In **Malawi**, at the request of the Ministry of Health (MOH) and other partners, GHSC-PSM delivered $50,000 of commodities, including PPE, sanitary ware, and pharmaceuticals, to the Likoma Island testing center, one of 29 testing centers. The center had experienced delays in receiving commodity shipments because of its remote location and decreased ferry operations because of COVID-19.

- In **Nepal,** GHSC-PSM supported the government to complete an electronic logistics management information system (eLMIS) roll-out that had been delayed since November 2018, in less than three weeks. Using remote communication methods, the project updated the eLMIS for COVID-19 commodity tracking and coordinated with staff in 39 COVID-19 target facilities to install software and train users on the eLMIS. The project also created a COVID-19 dashboard within the eLMIS that the country's COVID-19 Crisis Management Committee is using for decision-making.

- in **Rwanda**, with the creation of a COVID-19 working group, GHSC-PSM, other in-country and international partners, and national government agencies have established weekly check-ins to monitor the availability of critical reproductive and maternal and child health commodities during the time of COVID-19, and attempt to mitigate potential risks to supply.

- In **Zambia,** the project used its stock redistribution tool to coordinate redistribution of commodities from well-stocked sites to those with supply risks, including 1,510 90-count bottles of TLD to help reduce the risk of stockout in Copperbelt and North-western provinces.

- As early as February 3, GHSC-PSM established points of contact with country offices and Missions to share information and understand urgency.

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 Q3 are provided below.

Procured more than $336 million in medicines and commodities in Q3.

Delivered more than $180 million in medicines and commodities.

Achieved **on-time delivery**[1] **(OTD) of 91 percent (74 percent COVID-impacted)** and **on-time, in-full delivery (OTIF) of 88 percent (79 percent COVID-impacted)**, and the backlog of late orders increased to 7 percent (see Exhibit 1).

Despite COVID, OTD and OTIF rates were strong for all health areas in Q3. OTD was 91 percent (74 percent COVID-impacted) and OTIF 88 percent (79 percent COVID-impacted) for the quarter, the fifth successive quarter that OTD has been above 90 percent and OTIF at 85 percent or above. OTD was 90 percent (72 percent COVID-impacted) for HIV; 88 percent (69 percent COVID-impacted) for malaria; 97 percent (90 percent COVID-impacted) for FP/RH; and 96 percent (89 percent COVID-impacted) for MNCH medicines and commodities, each of which exceeded the contract's 80 percent quarterly target. GHSC-PSM continues to conduct root-cause analysis of late deliveries and to refine procurement and supply-chain processes to continuously improve performance.

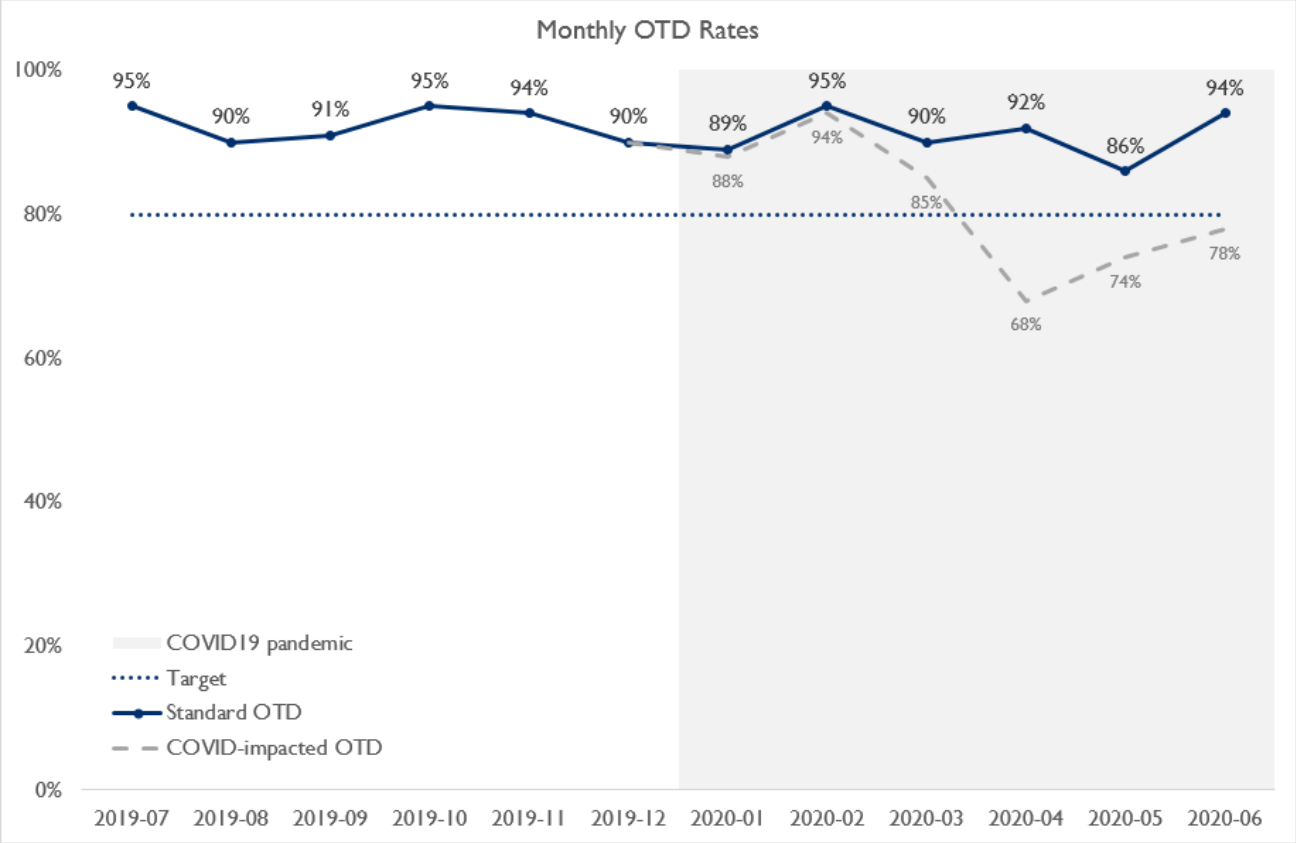
During the period of the COVID-19 pandemic, GHSC-PSM will present two versions of its usual OTD indicator. The first will be the "standard" version, calculated according to the indicator definition as laid out in the project's monitoring and evaluation plan and in accordance with all associated policies/standard operating procedures (SOPs). These policies and SOPs allow for USAID-approved adjustments to agreed delivery dates in the case of interruptions that are beyond the project's manageable control, including pandemic impacts. The "standard' version of OTD will therefore show the project's performance, controlling for impacts of COVID-19 and other external disruptions. The second calculation of OTD is the "COVID-19-impacted" version. This version follows the same rules and definitions as the standard indicator, but the "control" for pandemic impacts will not be used.

All pandemic-impacted line items will be assessed as on-time or not, according to the agreed delivery date at the time the order was approved. This version of the indicator will show the full impact of supplier and logistics delays because of manufacturing shutdowns, port and border closures, and other pandemic control measures. These 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. As indicated in the section above, GHSC-PSM continues to

[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.

monitor, manage and, to the extent possible, mitigate the impact of COVID-19 on the timely delivery of orders.

Exhibit 1. OTD July 2019–June 2020

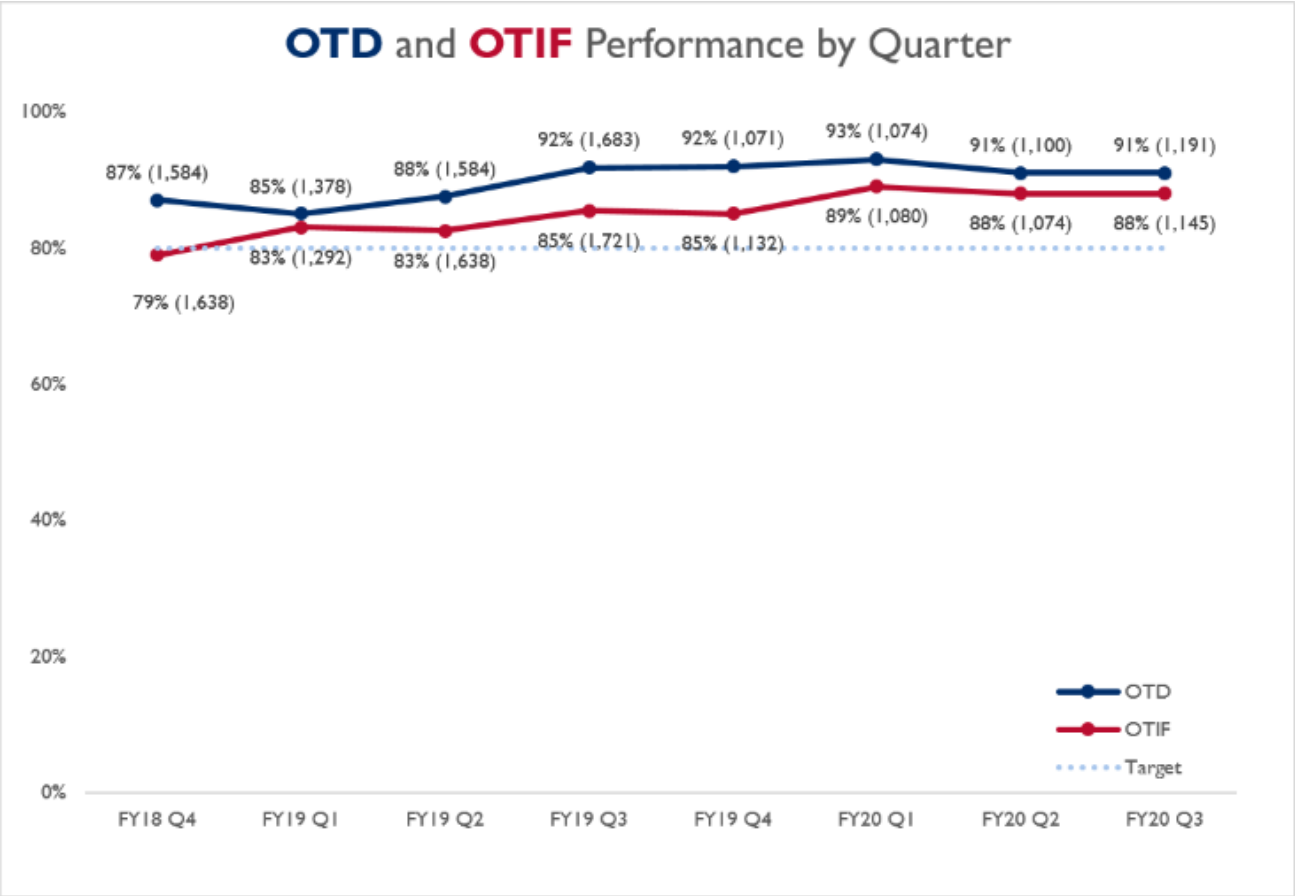


The project truly felt the impact of pandemic-related disruptions in Q3 FY 2020. (See Exhibit 2.) The initial impact in China primarily affected the supply of active pharmaceutical ingredients, key starting materials, and other raw materials. As the pandemic escalated into Q3, the number of impacted orders started to rise. In Q3, the three commodities most impacted by COVID-19-related delays included laboratory commodities, ACTs, and pediatric and adult ARVs (see Exhibit 2.)

Exhibit 2. Percentage of orders impacted by COVID-19 delays by tracer category

	Total Orders	**Impacted Percentage**
ACTs	46	8.70%
Adult ARV	214	3.74%
Laboratory	210	10.00%
Other Non-Pharma	210	0.95%
Other RTK	210	0.48%
Pediatric ARV	214	5.61%
TB HIV	132	0.76%

Exhibit 3. OTD and OTIF (sans-COVID-19) in Q3



Significant efforts were made in Q3 to stem the initial 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 U.S. Government's programs for HIV/AIDS, malaria, FP/RH, MNCH, and emerging health threats. We provide highlights of project achievements below.

HIV/AIDS

Mitigating the impact of COVID-19 on HIV/AIDS commodities. In Q3, GHSC-PSM increased touchpoints with suppliers and third-party logistics (3PLs) companies, accelerated goods availability dates (GADs) for all products, and converted several regional distribution center (RDC) orders for various HIV/AIDS commodities to direct-drop, resulting in expedited delivery to countries. By the end of Q3, GHSC-PSM suppliers had reactivated production with capacity ranging from 40 to 70 percent. For more information, see section B1, HIV/AIDS.

Scaling up multi-month dispensing (MMD). As a key priority for PEPFAR, especially after the onset of COVID-19, MMD packages for first-line treatment of tenofovir/lamivudine/dolutegravir (TLD) accounted for 83 percent of all quantities delivered by GHSC-PSM in Q3. Also, close and regular coordination and communication with in-country stakeholders on scenario planning for MMD rollout led to the delivery of 100,000 TLD 90 bottles to Eswatini in late June to avert an imminent stockout and any MMD transition delays. For more information, see section B1, HIV/AIDS.

Securing tuberculosis preventive therapy (TPT). In early May, GHSC-PSM awarded five isoniazid manufacturers to secure demand for TPT, which included planned quantities for Cameroon, the Democratic Republic of Congo, Lesotho, Nigeria, Tanzania, and Zambia. For more information. see section B1, HIV/AIDS.

GHSC-PSM has delivered enough anti-retroviral therapy to provide nearly **9.4 million patient-years of HIV treatment to date.**

This includes **4.7 million patient-years of TLD treatment delivered to date.**

Meeting HIV treatment goals. In Q3, GHSC-PSM delivered 908 thousand patient-years of adult ARV treatment to 13 countries, despite supply-chain interruptions and delays posed by COVID-19, with several key suppliers operating at reduced production capacity during extended periods of lockdown and air and ocean freight constraints. For more information, see section B1, HIV/AIDS.

Ensuring delivery of pediatric ARVs. The project worked with its sole source supplier for lopinavir/ritonavir 40/10mg granules to scale-up their capacity and work through a backlog of orders, which allowed GHSC-PSM to provide a continuous supply of medicine and mitigate stock-outs in country. For more information, see section B1, HIV/AIDS.

Saving costs on viral-load procurements. GHSC-PSM successfully negotiated lower prices for viral-load/early infant diagnosis reagents and consumables with three suppliers, continuing to generate significant savings of PEPFAR funds. In Q3, the cost-savings amounted to $6.2 million. For more information, see section B1, HIV/AIDS.

Malaria

GHSC-PSM works to help PMI reduce deaths from malaria and decrease morbidity from the disease. (See box.)

To date, GHSC-PSM has delivered enough anti-malarials to **treat 237 million infections.**

This includes **treatment for 10.2 million infections in Q3.**

On-time delivery. GHSC-PSM achieved consistently high OTD performance for malaria drugs and commodities in Q3—88 percent (69 percent COVID-impacted) for Q3. For more information, see section B2, Malaria.

Sourcing and procurement strategies. The impact of COVID-19 on upstream malaria commodity supply chains continued during Q3. GHSC-PSM conducted ongoing assessments to develop mitigation strategies for maintaining availability of critical products, responded to a major shift in the malaria rapid diagnostic test (mRDT) market, and collaborated with global partners to address urgency amid a constantly changing supply context for malaria commodities. The project is also moved forward with new and existing strategies to steer sourcing plans for FY 2021. For more information, see section B2, Malaria

Global collaboration on quality assurance. Because of quality assurance (QA) challenges resulting from COVID-19, the project continued to implement modified quality assurance / quality control (QA/QC) processes to help reduce lead times. The project continued to address concerns about poor quality management system processes with two long-lasting insecticide-treated net (LLIN) manufacturers and an RDT manufacturer, concluding one LLIN investigation. For more information. see section B2, Malaria

Distribution of LLINs. In Q3, GHSC-PSM distributed enough LLINs to protect nearly 8.8 million people in Angola, Burundi, Ethiopia, Liberia, Mali, Niger, Rwanda, Sierra Leone, Uganda, and the Republic of Zimbabwe. For more information, see section B2, Malaria.

Global standards. Q3 marked the deadline for Phase 3 compliance, requiring a GS1 compliant barcode at the secondary packaging level, which saw strong initial performance with 74 percent overall compliance established as of the June 30 deadline, exceeding the project's target of 50 percent. LLIN suppliers also demonstrated strong performance in meeting the Phase 1 requirements with 75 percent compliance in receiving global trade item number (GTIN) and global location number (GLN) data for the June 30 deadline. For more information, see section B2, Malaria.

Prioritization of orders and transfer of stock. In Liberia, the project and the National Malaria Control Program (NMCP) identified an imminent stockout risk of artemisinin-based combination therapy (ACTs), especially the adult formulation. GHSC-PSM, with PMI's approval, placed an emergency order that will be pulled from the available stock in GHSC-PSM's regional distribution center (RDC) and is expected to arrive in August 2020. In Lao People's Democratic Republic, because of ACTs and Primaquine that will expire by January 2021, as well as a budget shortage, PMI committed to filling the funding gap upon receiving an emergency request from the country's malaria program. See the Malaria section for full details. For more information, see section B2, Malaria.

Family Planning and Reproductive Health

GHSC-PSM's support for USAID's programs in voluntary family-planning/reproductive-health (FP/RH) achieved several major milestones in Q3. For more information, see section B3, Family Planning and Reproductive Health.

On-time delivery. GHSC-PSM delivered 97 percent (90 percent COVID-impacted) of FP/RH commodities on time in Q3. For more information, see section B3, Family Planning and Reproductive Health.

Collaboration with global stakeholders. In Q3, 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:

GHSC-PSM has delivered enough contraceptives to **provide 67 million couple-years of protection to date.**

This includes **4.4 million couple-years of protection** in Q3.

- Executing modification #1 to the Total Market Method Mix Dissemination Task Order awarded to IQVIA to update and disseminate total market analyses. This was aimed at enabling stakeholders to better understand the availability of contraceptive supplies in Kenya and South Africa to strengthen country health systems.

- Participating in a two-day virtual Hormonal Intrauterine System (IUS) Technical Consultation followed by a Hormonal IUS Access Group-Steering Committee call to discuss ongoing strategic donor initiatives to support increased access to hormonal IUS.

- Initiating the development of the Blue Lady Logo key initiatives web page to provide guidance and materials about the Blue Lady Logo and its approved use, and to allow stakeholders to report issues observed in the market through an easy-to-use reporting tool.

- Continuing to support the strategic development of the Global Family Planning Visibility and Analytics Network (GFPVAN) and beginning a new initiative with the United Nations Population Fund (UNFPA) to identify mechanisms to harmonize exchange of program commodity demand data.

- Receiving and processing 55 reports from 22 countries submitted to the Procurement Planning and Monitoring Report (PPMR) team as part of efforts to avert stock-outs and enhance supply planning.

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

Contraceptive security tracking. GHSC-PSM finalized its report on the 2019 Contraceptive Security Indicators Survey (CS Survey). In Q3 the project launched its new Key Initiatives landing page for the CS Survey on GHSupplyChain.org. The project also launched the updated online dashboard featuring the 2019 CS Survey results and the Contextual Measures, a set of secondary data that provide additional context to the survey indicators. For more information, see section B3, Family Planning and Reproductive Health.

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. In Q3, GHSC-PSM delivered over $1.7 million in MNCH drugs and commodities. For more information, see section B4, Maternal, Newborn, and Child Health.

Improving the availability of quality oxytocin. The project supported the governments of Ghana, Liberia, Malawi, and Mozambique to improve the availability of quality oxytocin in Q3, efforts that resulted in an upward price adjustment of quality-assured oxytocin reimbursement in Ghana. At the global level, the project co-authored a peer-reviewed journal article that documents the latest information on oxytocin quality risks and outlines cold chain and oxytocin management and manufacturing best practices. For more information, see section B4, Maternal, Newborn, and Child Health.

GHSC-PSM's advocacy efforts in **Ghana** resulted in **increased insurance reimbursement** for quality-assured oxytocin **by 420 percent, from 0.11 to 4.63 Ghanaian Cedi**. This is expected to encourage procurement and distribution of quality-assured oxytocin by regional medical stores.

Improving MNCH data availability and use. End-use verification (EUV) survey data collection and analysis on MNCH commodities continued in eight African countries, though many reports were delayed because of COVID-19 lockdowns. To address this, GHSC-PSM conducted technical assistance calls in Q3 to enrich EUV data analysis and interpretation within reports. The project surveyed 15 countries to gauge to what extent MNCH commodities are included in national LMISs and determine where support could be provided to improve MNCH data quality and use. For more information, see section B4, Maternal, Newborn, and Child Health.

Improving MNCH commodity management and availability. Mali and Liberia have acted on GHSC-PSM recommendations to improve availability of select quality newborn and child health commodities. In Q3, Mali conducted a quantification of the commodities and moved to dedicate resources to procure, manage, and track amoxicillin dispersible tablets (DT) and oral rehydration salts co-packaged with zinc. Liberia received a shipment of amoxicillin DT for treatment of childhood pneumonia, a first step

to integrating these commodities into Liberia's procurement and supply planning processes. For more information, see section B4, Maternal, Newborn, and Child Health.

Global MNCH leadership. GHSC-PSM is working with partners to update the global reproductive-health and MNCH commodity quantification guide, originally developed by the UN to help national governments estimate needed quantities of these commodities. The project also released guidance on the impact of COVID-19 on MNCH commodity supply, including recommendations to mitigate interruptions and delays, and continues to provide targeted support to project-supported countries during the pandemic. For more information, see section B4, Maternal, Newborn, and Child Health.

Other Emerging Health Threats

In Q3, GHSC-PSM delivered 160,000 bottles of mosquito repellent to Ecuador. For more information, see section B5, Other Emerging Health Threats.

Emergency supply-chain preparedness (ESCP). In Q3, GHSC-PSM conducted emergency supply-chain training for Dominican MOH staff. The project led other activities to support institutionalization of ESCP (beyond Zika response) in the Dominican Republic, including creating avenues for dedicated ESCP funding. GHSC-PSM also supported ESCP activities in Peru and several Caribbean countries. For more information, see section B5, Other Emerging Health Threats.

Strengthening Health Institutions

GHSC-PSM continues to manage 33 country or regional field offices. Supplemented by headquarters-based experts, these offices provide wide-ranging technical assistance to strengthen national health supply chains. Several years of investment in strengthening supply-chain systems are yielding important innovations and positive results on many fronts. Examples from Q3 include:

- In **Botswana**, a half-day kickoff workshop launched the emergency supply-chain (ESC) framework, with participants representing key stakeholders from human health, animal health and environmental health, such as the Ministry of Health and Wellness (MoHW), Ministry of Agricultural Development and Food Security – Animal Health, World Health Organization (WHO), World Organization for Animal Health, Ministry of Local Government and Rural Development – Environmental Health Department.

- Collected data from temperature and humidity data loggers installed in **Burkina Faso, Cameroon, Ghana, Guinea, Haiti, Mozambique, and Zimbabwe**.

- In **Eswatini**, GHSC-PSM introduced an innovative, time-saving solution for generating stock status reports at service delivery points that also greatly improves data consistency and visualization compared to the old approach. For example, an ARV stock status report that used to require a week to produce now takes less than 10 minutes.

- In **Mali**, GHSC-PSM launched an innovative, digital e-learning platform for OSPSANTE—a USAID-funded LMIS tool essential to the MOH's logistics data management system—with the first video: "Data entry in OSPSANTE." The platform helps overcome travel restrictions because of COVID-19, providing on-line training for Local Health Information System (SLIS) officers.

- Because of the COVID-19 pandemic, GHSC-PSM shifted to remote support to 13 countries to ensure countries meet their planned forecasting and supply planning (FASP) objectives, including support to the MOH in Ghana to forecast for COVID-19 commodities.

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

The pages that follow provide additional detail on strides GHSC-PSM has made in Q3 to ensure the continuous availability of life-saving drugs, medical supplies, and health commodities to the people who need them around the world.

Responding to the Midterm Review: Developing a Theory of Change

In Q3, the monitoring and evaluation (M&E) team facilitated a series of workshops aimed to help the project develop a theory of change (TOC). The objective of the TOC activity was twofold: to develop an explicit elaboration of how and why GHSC-PSM will achieve its stated project goal as well as to respond to an important recommendation from the Midterm Review (MTR) that the project should have a TOC. The TOC will establish a shared lexicon for articulating project technical approaches and how they lead to consistent availability and resilient supply chains. The activity began at the task order level with organizing a series of workshops with staff across the project. Starting at the task order level allowed TO-specific priorities to be highlighted to ensure each unique TO perspective was captured. Once each individual TOC drafts were completed, the M&E team worked with HSS to compile the TOCs, finding the natural points of overlap but still respecting the unique perspectives, into a single IDIQ-level theory of change. These TOCs will be presented to USAID for discussion in the coming months.

SECTION A

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) 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 life-saving health supplies reach those most in need. In Q3, the project procured commodities or provided TA to 61 countries (see Exhibit 4 on the following page).

A2. About This Report

We are pleased to present our performance report for fiscal year 2020 Q3 (April 1 through June 30, 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 April 1 through June 30, 2020 (quarterly indicators).

Given the size and complexity of GHSC-PSM, this report summarizes our primary efforts and achievements in Q3 and reflects only a fraction of the project's efforts each day to help people around the world live healthier lives.

Exhibit 4. Countries for which GHSC-PSM procured commodities (proc.) or provided technical assistance (TA) in Q3.

	Proc.	TA
AFRICA:		
Republic of Angola	●	●
Republic of Benin	●	
Republic of Botswana	●	●
Burkina Faso	●	●
Republic of Burundi	●	●
Republic of Cameroon	●	●
Republic of Côte d'Ivoire	●	
Democratic Republic of the Congo (DRC)	●	
Federal Democratic Republic of Ethiopia	●	●
Republic of Ghana	●	●
Republic of Guinea	●	●
Republic of Kenya	●	
Kingdom of Lesotho	●	●
Republic of Liberia	●	●
Republic of Madagascar	●	
Republic of Malawi	●	●
Republic of Mali	●	●
Republic of Mozambique	●	●
Republic of Namibia	●	●
Republic of the Niger	●	●
Federal Republic of Nigeria	●	●
Republic of Rwanda	●	●
Republic of Senegal	●	
Republic of Sierra Leone	●	●
Republic of South Africa	●	
Republic of South Sudan		●
Kingdom of Swaziland (Eswatini)	●	●
United Republic of Tanzania	●	●
Togolese Republic	●	
Republic of Uganda	●	●
Republic of Zambia	●	●
Republic of Zimbabwe	●	●

	Proc.	TA
ASIA:		
Islamic Republic of Afghanistan	●	
People's Republic of Bangladesh	●	
Kingdom of Cambodia	●	●
Republic of Indonesia		●
Lao People's Democratic Republic	●	●
Republic of the Union of Myanmar	●	●
Federal Democratic Republic of Nepal	●	●
Islamic Republic of Pakistan	●	●
Independent State of Papua New Guinea	●	
Kingdom of Thailand	●	●
Socialist Republic of Viet Nam		●
LATIN AMERICA & CARIBBEAN:		
Republic of Colombia	●	
Republic of Ecuador	●	
Republic of El Salvador	●	●
Republic of Guatemala	●	●
Republic of Haiti	●	●
Republic of Honduras	●	●
Republic of Panama	●	●
OTHER		
Ukraine	●	

SECTION B

PROGRESS BY HEALTH AREA

In this section, we summarize GHSC-PSM's support in Q3 for HIV/AIDS, malaria, family-planning and reproductive-health (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 **9.4 million patient-years of HIV treatment over the life of the project**, including **908 thousand patient-years of treatment in Q3**.

To date, GHSC-PSM has delivered more than **4.4 million bottles of tenofovir, lamivudine, dolutegravir (TLD)** to 13 countries, which would provide more than 4.7 million patient-years of treatment.

Multi-month dispensing packages of TLD first-line treatment accounted for **88 percent of all quantities delivered** in Q3.

A total **39 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 6.4 million trips in Q3** to the pharmacy and **20 million over the life of the project**.

GHSC-PSM brought **improved product visibility** into HIV commodities in **103 central and regional warehouses in 22 PEPFAR countries and 11,642 health facilities** in 11 PEPFAR countries.[2]

In Q3, 9 countries procured **2.8 million viral-load tests** to support scale-up of patient viral-load testing, while viral-load and early infant diagnosis contracts have generated **$6.2 million in savings** in Q3.

GHSC-PSM supports PEPFAR's goal of controlling the HIV/AIDS epidemic by procuring and delivering medicines and commodities[3] 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.

[2] Health facility data include only the months of April and May 2020. June data for all countries had not been received at the time of reporting.

[3] GHSC-PSM procured health commodities for the following countries: AFRICA: Botswana, Burkina Faso, Burundi, Cameroon, Côte d'Ivoire, DRC, Ethiopia, Ghana, Kingdom of Lesotho, Malawi, Mali, Mozambique, Namibia, Nigeria, Rwanda, Eswatini, Tanzania, Uganda, Zambia, Zimbabwe; LATIN AMERICA AND THE CARIBBEAN (LAC): Haiti; EUROPE AND EURASIA (EE): Ukraine.

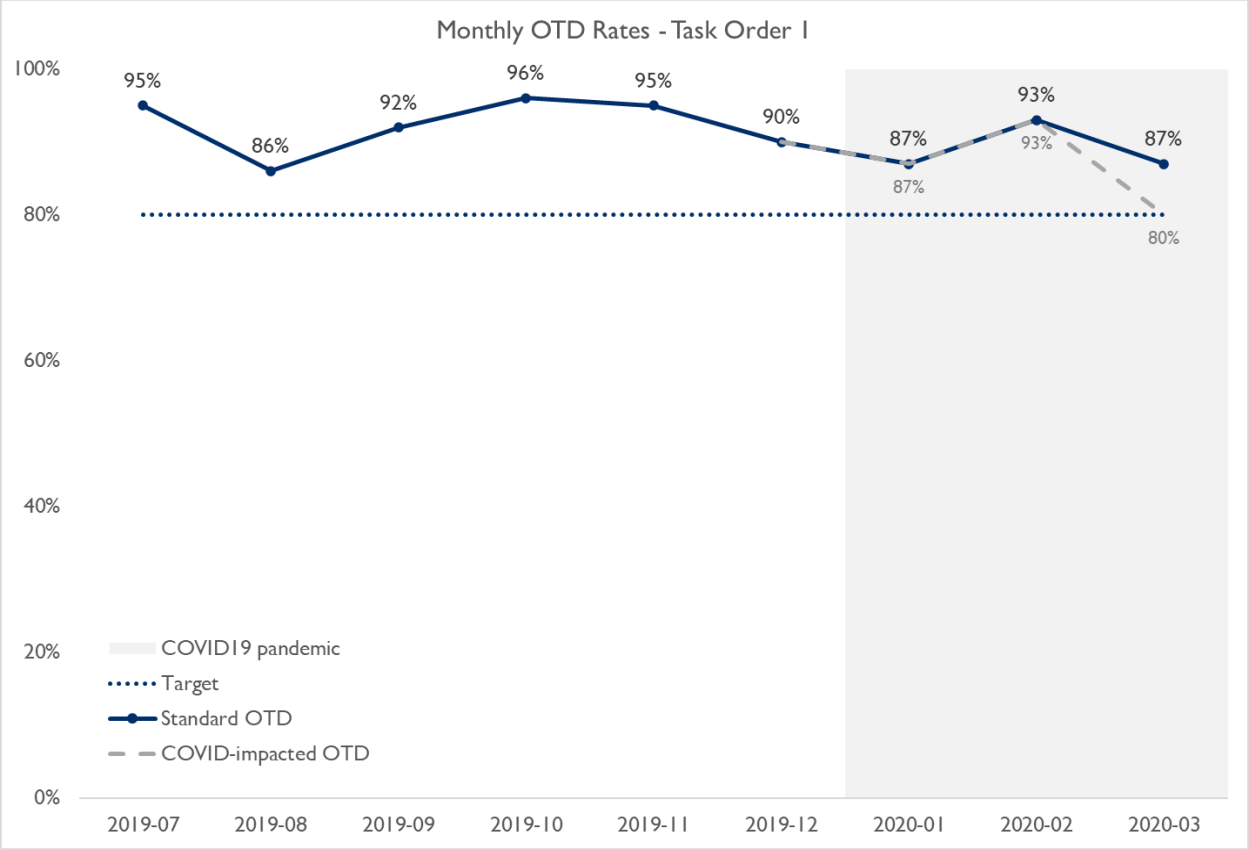
Impact of COVID-19 on HIV/AIDS Commodities

The pandemic gained a foothold in India at the beginning of Q3, severely impacting ARV, condom, and essential medicine manufacturers/wholesalers. All aspects of the Indian supply chain—from manufacturing plants, packaging suppliers, and local transporters to chambers of commerce and ports—were locked down for 14+ days, with continued extensions and some restrictions easing over the course of Q3. **GHSC-PSM mitigated supply risks by increasing touchpoints with suppliers and 3PL companies, accelerating goods availability dates (GADs) for all products as much as possible. The project also converted several RDC orders for various HIV/AIDS commodities to direct-drop for faster delivery to countries.**

GHSC-PSM supplier capacity improved week by week as government COVID-19 restrictions lessened. **By the end of Q3, suppliers had reactivated production, with capacity ranging from 40 to 70 percent.** Despite improvements in production, delays in obtaining product continued at the quality-assurance stage because of staffing restrictions. The increasing demand for TLD through ARV optimization has shifted suppliers' attention from legacy ARVs such as nevirapine and zidovudine-based regimens. Based on this shift, there were concerns around active pharmaceutical ingredients (APIs) and key starting materials (KSMs) coming from China have minimized even though logistical delays exist in importing the items to India. These factors affected on-time delivery (OTD) in Q3. (See Exhibit 5.)

As the arc of the pandemic expanded to Africa, logistics were significantly challenged as passenger flights, which are the primary source of air freight, were cancelled. Airport and seaport operations in origin and destination countries were significantly constrained. To mitigate such issues, GHSC-PSM used freighters and charters to move product to various destination countries. Border delays further compounded the project's ability to deliver to landlocked countries. For example, the back-up of long-haul trucks at the Kenya-Uganda border stretched up to 60 km, causing wait times of up to a week. GHSC-PSM continues to work cohesively, ensuring that in-country processes such as import waiver process and customs clearance can be expedited and products can be delivered to various destination locations to alleviate issues such as border delays. (See Exhibit 5.)

Exhibit 5. Monthly OTD rates, Task Order 1



HIV Commodities and COVID-19 Impacts Webinar

In early June, PEPFAR organized a virtual webinar on *HIV Commodity Availability in Light of COVID-19,* bringing together more than 100 participants from the supply-chain and clinical spheres. GHSC-PSM presented on the upstream and downstream impacts of COVID-19 on HIV commodity supply and highlighted key measures the project has taken thus far to mitigate supply disruptions. The GHSC-PSM team closed with recommendations on ways clinical and supply-chain partners can work collaboratively to monitor ARV stock availability and scale MMD effectively in the context of the pandemic.

Supporting PEPFAR's HIV Prevention Agenda

Pre-exposure prophylaxis

Daily, oral pre-exposure prophylaxis (PrEP) using the anti-retroviral medicines tenofovir/emtricitabine (TE) and tenofovir/lamivudine (TL) has been shown to dramatically reduce the risk of HIV infection in people who take it as directed. In preparing for the estimated scale-up of PrEP in the upcoming fiscal year, GHSC-PSM initiated restocking orders in the RDC for these products of almost 2 million packs of 30 tablets with a value of $8.7 million.

Prepositioning these supplies and staggering delivery schedules, enables the project to prevent potential demand shocks and supply shortages as countries initiate rapid PrEP scale-up.

Condoms

In Q3, GHSC-PSM began using a new order allocation tool for condom and personal lubricant orders. By automating the application of approved business rules that allocate individual order lines in accordance with contract awards, reducing the level of effort required and thus improving response times. GHSC-PSM also continued designing a male condom and lubricant sourcing event to establish long-term agreements through the life of the project, with the request for procurement scheduled to go live in Q4.

Commodities Procured for HIV/AIDS Programs

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

The project also continued to communicate with suppliers biweekly to gather information on the impacts of COVID-19 on manufacturing capacity and potential future issues, and to closely monitor current orders in production. GHSC-PSM facilitated communications between the Global Health Supply Chain-Quality Assurance (GHSC-QA) project and suppliers to develop a contingency strategy for sampling and testing, as the quality-assurance lab in Bangkok suffered from diminished capacity resulting from COVID-19.

Voluntary medical male circumcision kits

In Q3, all voluntary medical male circumcision (VMMC) activities were halted to limit in-person procedures and cut down on the spread of COVID-19.

HIV/tuberculosis prevention and treatment

Tuberculosis (TB) continues to be the leading cause of death among PLHIV, causing more than one-third of all AIDS-related deaths. To reduce the risk of active TB, the World Health Organization (WHO) recommends that PLHIV who are unlikely to have active TB should receive TB preventive treatment (TPT) as part of a comprehensive package of HIV care. TPT should also be given to those on antiretroviral treatment, to pregnant women, and to those who have previously been treated for TB, irrespective of the degree of immunosuppression, even if latent TB infection testing is unavailable.

TPT Treatment Options

- 6, 9, or up to 36 months of daily isoniazid
- 6–9 months of daily Q-TIB (FDC of isoniazid, B6, and cotrimoxazole)
- Weekly dose of rifapentine/isoniazid (3HP) for 3 months

In Q3, GHSC-PSM started placing orders with the sole supplier that manufactures rifapentine, however, all orders were then halted because of a quality-related incident where the presence of Nitrosamine was found, which requires further investigation by the supplier and GHSC-QA. GHSC-PSM also worked with USAID and GHSC-QA to monitor the progress of the quality-related review of the fixed-dose combination (FDC) before it becomes eligible to procure.

Despite rifapentine-based product delays, global demand still exceeds the current manufacturing capacity Considering this, in early May, GHSC-PSM awarded five isoniazid manufacturers to secure the remaining TPT demand. This demand includes planned quantities for the Republic of Cameroon, the Democratic Republic of the Congo (DRC), Kingdom of Lesotho, Federal Republic of Nigeria, United Republic of Tanzania, and Republic of Zambia, along with projected quantities for the upcoming fiscal year. GHSC-PSM continues to work with USAID to monitor the supply readiness of

rifapentine-based products, re-allocate upcoming inventory quantities, and ensure sufficient isoniazid supply to fill the supply gap caused by delays in rifapentine-based products.

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 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 (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.

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[4], the preferred first-line ARV. In Q3, **the project delivered 11.3M months of patient treatment to 12 countries, a 19 percent increase from Q2**. This was achieved despite the supply-chain interruptions and delays experienced by the project, with several key suppliers operating at reduced production capacity as noted above. The project has mitigated and limited the impact of the pandemic on product availability in country through planning, procurement, inventory management (facilitated by the project's RDC network) and intense coordination with supplier and logistics partners.

Scaling Up Supply of TLD

- To date, the project has delivered **57.9 million monthly treatments of TLD** to **22 countries**.
- This is enough to provide more than **4.8 million patient-years of TLD treatment**.

MMD packages for first-line treatment of TLD accounted for 83 percent of all quantities delivered in Q3. The project primarily delivered 90-count bottles of TLD, as well as 180-count bottles to Haiti and Nigeria. In Q3, GHSC-PSM developed and shared Version 1.0 of a Multi-Month Simulation (MuMS) Excel tool with country teams. The tool allowed for a rapid, high-level scenario planning to facilitate in-country conversations with local and international stakeholders on the feasibility of rapid MMD rollout.

To ensure close coordination with key stakeholders on TLD uptake, the project regularly shares data and facilitates technical coordination meetings. GHSC-PSM continued to host the First-Line ARV Transition, or FLAT, technical working group, ensuring alignment between GHSC-PSM and USAID on TLD demand, supply and delivery. In Q3, these meetings included scenario planning reviews for quick MMD rollout to either MMD3 or MMD6 based on supply plan data and information received from countries regarding their transition (for TLD only). Through this review mechanism, **the project delivered 100,000 TLD 90 bottles to Eswatini in late June** to avert an imminent stockout due to a delayed government order.

Legacy ARV drawdown

To support efficient transition to more effective treatment regimens (TLD), and minimize traces of less effective, first-line ARV regimens (legacy ARVs), GHSC-PSM collects, reviews and compiles monthly ARV

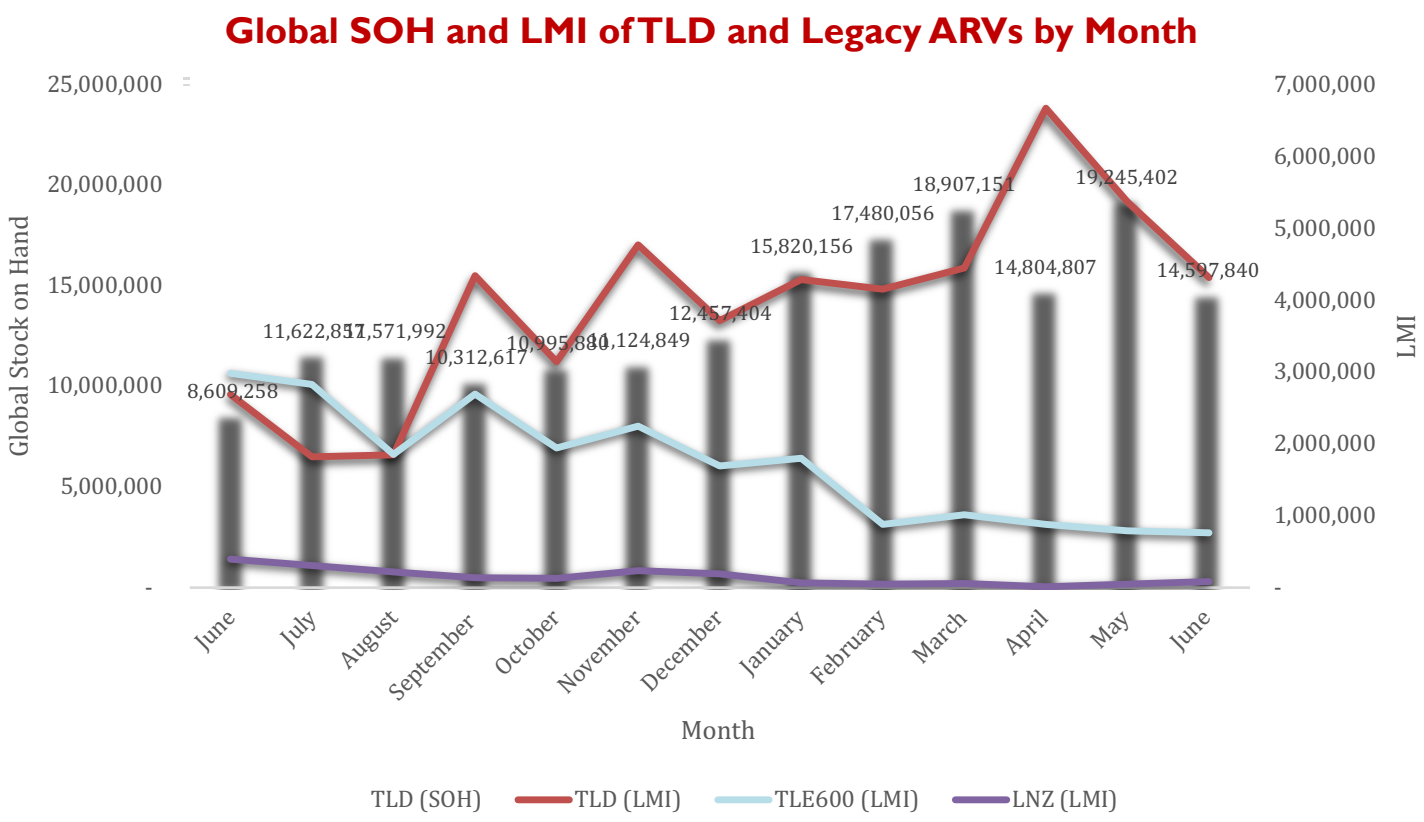
[4] The 22 countries for life of project through Q3 are: Botswana, Burkina Faso, Burundi, Cameroon, DRC, Cote D'Ivoire, Ethiopia, Haiti, Mozambique, Namibia, Nigeria, Panama, Peru, Rwanda, Eswatini (Swaziland), Tanzania, Togo, Uganda, Ukraine, Vietnam, Zambia, and Zimbabwe.

inventory data from 31 central and 72 regional warehouses in 22 countries through First-Line ARV Reporting and Evaluation, or FLARE, reports.

Per PEPFAR guidance, GHSC-PSM stopped procuring and more aggressively supported the transition of patients away from legacy ARVs containing nevirapine, such as lamivudine/zidovudine/nevirapine (LZN). GHSC-PSM aligned the 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 LNZ and TLE600 have decreased 89 percent and 65.8 percent, respectively, since January 2019. (See Exhibit 6.)

Exhibit 6. Drawdown of stock-on-hand and reduced consumption of LZN from January 2019 to June 2020[5]



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

Pediatric ARVs

GHSC-PSM continues to coordinate a biweekly pediatric ARV transition meeting with USAID that focuses on coordinating activities to support the transition away from nevirapine-based pediatric ART. Emphasis is

[5] Countries included in this analysis were Botswana, Burundi, Cameroon, Côte d'Ivoire, DRC, Eswatini, Ethiopia, Ghana, Haiti, the Kingdom of Lesotho, Mozambique, Namibia, Nigeria, Rwanda, Uganda, Vietnam, Zambia and Zimbabwe.

placed on analyzing the supply and global demand of commodities on the optimal pediatric ARV formulary and limited-use list.

In Q3, the sole source supplier for lopinavir/ritonavir (LPV/r) 40/10mg granules continued to scale-up their capacity and work through a backlog of GHSC-PSM orders, enabling the project to provide a continuous supply of medicine and mitigate stock-outs in country. Also, the US Food and Drug Administration (FDA) approved a new pediatric product, dolutegravir (DTG) 5mg, which is expected to be procured by at least one country in the future.

Key Pediatric Medicines Discussed During Pediatric ARV Transition Meetings

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

In Q3, GHSC-PSM coordinated with field offices and ministries of health in Nigeria and Zambia to convert orders of the adult formulation of LPV/r 200/50 to atazanavir/ritonavir (ATV/r) formulations. Nigeria converted 114,000 units and Zambia 108,000 units. Several benefits resulted from this effort:

- ATV/r offers a reduced pill burden of 1 tab/day as compared to 4 tabs/day for LPV/r
- ATV/r is on average $4.50 cheaper per bottle, resulting in nearly $1 million in cost-savings (along with freight savings)
- Recent studies have shown improved patient outcomes for ATV/r compared to LPV/r

Most importantly, this conversion frees up additional supplier capacity for LPV/r pediatric (100/25 mg). Since the adult and pediatric formulations share production lines, the reduction in demand for the adult formulation makes it easier for the project to ensure availability for children. GHSC-PSM continues to work with other countries to make this conversion.

Also, GHSC-PSM delivered a pediatric cold chain product—LPV/r 80/20 mg/mL solution—to Haiti, Eswatini, and Uganda in Q3. This took tremendous coordination with 3PLs and an in-country logistics partner to deliver the cold chain product without temperature deviations.

Supporting the Third 95: Viral-Load Testing

Viral-load awards and implementation

In Q3, GHSC-PSM continued to manage implementation of contract awards made to three manufacturers pursuant to the global viral-load (VL)/early infant diagnosis (EID) request for proposal (RFP). The project finalized reporting forms and a dashboard for ten key performance indicators (KPIs) and conducted performance management process orientation and training sessions with procurement and laboratory staff in project field offices that included Mozambique, Nigeria, Uganda, and Zambia. Together with USAID and the U.S. Centers for Disease Control and Prevention (CDC), GHSC-PSM developed a critical component that will enable collection and sharing of important laboratory instrument data on VL patient testing volumes in these countries. GHSC-PSM will continue working with the laboratory technical working groups in these countries to roll out and monitor this initiative.

On the procurement side, GHSC-PSM negotiated lower prices for VL/EID reagents and consumables with three suppliers, which continued to generate significant savings of PEPFAR funds. **In Q3, these cost-savings amounted to $6.2 million.** Overall, since the implementation of the new awards earlier in 2020, savings on applicable orders reached $12.2 million by the end of Q3.

Also, GHSC-PSM together with USAID started discussions with the Global Fund and UNDP on how to collaborate on extending the VL/EID procurement and laboratory service innovations and improvements to a larger set of African countries, beyond the initial six[6] that were the focus of the global VL/EID RFP.

Service and maintenance agreements

GHSC-PSM worked with a diagnostics manufacturer on introducing a new point-of-care platform for CD testing that will impact 50 clinical sites throughout Nigeria and make testing available for more than 50,000 patients. Signed in Q3, the agreement's all-inclusive costs will cover equipment leases, regular maintenance, training, and test kits.

Also, the project worked with in-country stakeholders on a plan to update the CD4 network, which will essentially allow for the replacement of aging instruments with newer devices and technology at an all-inclusive price.

Testing impacts and mitigation

COVID-19 has placed additional constraints on two main viral-load (VL) suppliers as manufacturers of VL/EID reagents have started production of COVID-19 tests, potentially impacting production and availability of VL/EID reagents and consumables. One of the suppliers could not secure flights to several destination locations. **GHSC-PSM worked diligently to mitigate these challenges through regular meetings with the suppliers to ensure uninterrupted supplies of VL commodities and in support of VL testing.** Also, the project is collaborating with vendors and recipient countries about availability versus priorities, to minimize stock-outs and the risk that all sites may have insufficient products to run the required tests.

In Q3, the project began monitoring VL/EID testing by collecting and analyzing monthly data from 16 countries. GHSC-PSM then compared actual testing consumption with the quantities of products procured to understand if there had been any interruption in testing because of COVID-19. The project will report to USAID on findings in Q4.

Expanding and improving laboratory quantification

In Q3, GHSC-PSM conducted biweekly calls with developers of ForLab and worked with them to upgrade the tool for forecasting of lab commodities. The newer version – ForLabPlus – which integrates multi-disease covering HIV and TB, now includes COVID-19. Since most laboratory commodities are also being used for COVID-19 testing, the advantage of ForLabPlus is that it can be used for quantification of multiple diseases, identifying equipment utilization rates for each disease area, and helping forecasters know what the true demand will be for different commodities to make more informed supply planning decisions. Furthermore, since it is a multi-method tool it can be used to compare outputs based on historical consumption, service and targets based demographic data.

Also, GHSC-PSM started virtual user-testing of Opti-Dx, which was developed in partnership with FIND and Llamasoft, and will be piloted in Malawi and Uganda in FY 2021. The objective of the tool is to increase patient access to HIV testing and testing for other diseases by using national data to create a geospatial module of a diagnostic network to improve visibility and optimization of these networks.

Stock Tracking, Oversight and Planning for HIV/AIDS

GHSC-PSM regularly carries out a variety of efforts to improve data visibility into and analysis of HIV commodity inventories at all levels of the supply chain. The project reviews inventory data on a monthly basis for more than 25 HIV medicines and commodities at central and regional warehouse levels in 22

[6] In addition to Mozambique, Nigeria, Uganda, and Zambia, GHSCPSM will begin working with Tanzania and Kenya in Q4.

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 Q3, through data collection and analysis at central and regional warehouses, GHSC-PSM identified 15 risks of HIV commodity stockouts in seven countries and quickly resolved them. Also, to better streamline data and improve data quality, the project standardized HIV product names across all countries. For example, Haiti and Zimbabwe report some HIV medicines by the number of pills instead of bottle counts. GHSC-PSM worked with both countries to standardize their values and reports in line with other countries for future analysis, saving time on data analysis and improving reporting times.

Responding to the Midterm Review: Developing a Theory of Change

The M&E team facilitated a workshop series for the HIV/AIDS team to develop a Theory of Change for the Task Order. The workshops also included representation from across the project, including Global Supply Chain, Health Systems Strengthening, and Communications, Learning, Analysis, and Evidence for Results teams. Participants agreed on an overarching goal, "To ensure an uninterrupted supply of commodities across the HIV continuum of care that accelerates epidemic control through country owned, data-drive, and patient-centered supply chains." The long-term outcomes that contribute to this goal focus on human resources, forecasting and procurement, end to end data visibility, stakeholder collaboration, and product availability at the last mile. This TOC is being used to inform an overarching TOC for the project that will be presented to USAID for discussion in Q4.

Country Support

The HIV task order funds supply-chain systems strengthening in 39 countries.

In **Namibia**, GHSC-PSM works closely with the Ministry of Health & Social Services (MoHSS) to improve access to ART care through decentralized services that are aimed at increasing access to ARVs, enhancing patient retention in care, and reducing work overload at high burden sites. One of these models—Nurse Initiated and Managed ART (NIMART)—is being implemented at more than 90 different sites, with each site linked to a main health facility. NIMART sites are often very remote and experience poor internet connectivity, which can result in weak data input and collection. To keep data synchronized between the main facilities and NIMART facilities, the project established the use of a USB flash drive with the Electronic Data Synchronization tool to allow data collectors a mechanism to collect data on each site visit.

To ensure sufficient central-level stock of TLD during the COVID-19 pandemic, GHSC-PSM facilitated the early arrival of two TLD shipments to **Vietnam** on behalf of the Vietnam Agency for HIV/AIDS Control (VAAC). A total of 40,000 boxes of TLD arrived in Vietnam in May 2020, two months earlier than planned, despite the national lockdown order in India, as well as the shortage of flights from India to Vietnam during this period. This timely support will help VAAC to continue scaling up ARV multi-month dispensing.

B2. Malaria

Delivered enough antimalarials to treat over **236.9 million infections**, including **10.2 million** in Q3.

A total of 30 countries procured malaria medicines and commodities, and **22 countries received health supply-chain systems strengthening** with malaria funding under the contract.

Supported distribution of LLINs to provide **protection from malaria for 7.8 million people** in Angola, Burundi, Ethiopia, Liberia, Mali, Niger, Rwanda, Sierra Leone, Uganda, and the Republic of Zimbabwe.

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 life-saving prevention and treatment medicines, rapid diagnostic tests (RDTs) and LLINs. The project offers partner countries new approaches to strategic planning, logistics, data visibility, analytics and capacity building. GHSC-PSM also provides technical guidance to strengthen global supply, demand, financing and the introduction of new malaria medicines and commodities.

Commodity Sourcing, Procurement and Delivery

GHSC-PSM's provision of malaria commodities in Q3 entailed strategic sourcing, procurement, QA, deliveries and support for transferring/redistributing stocks, as summarized below.

Strategic sourcing

In Q3, GHSC-PSM strategic sourcing of malaria commodities focused on:

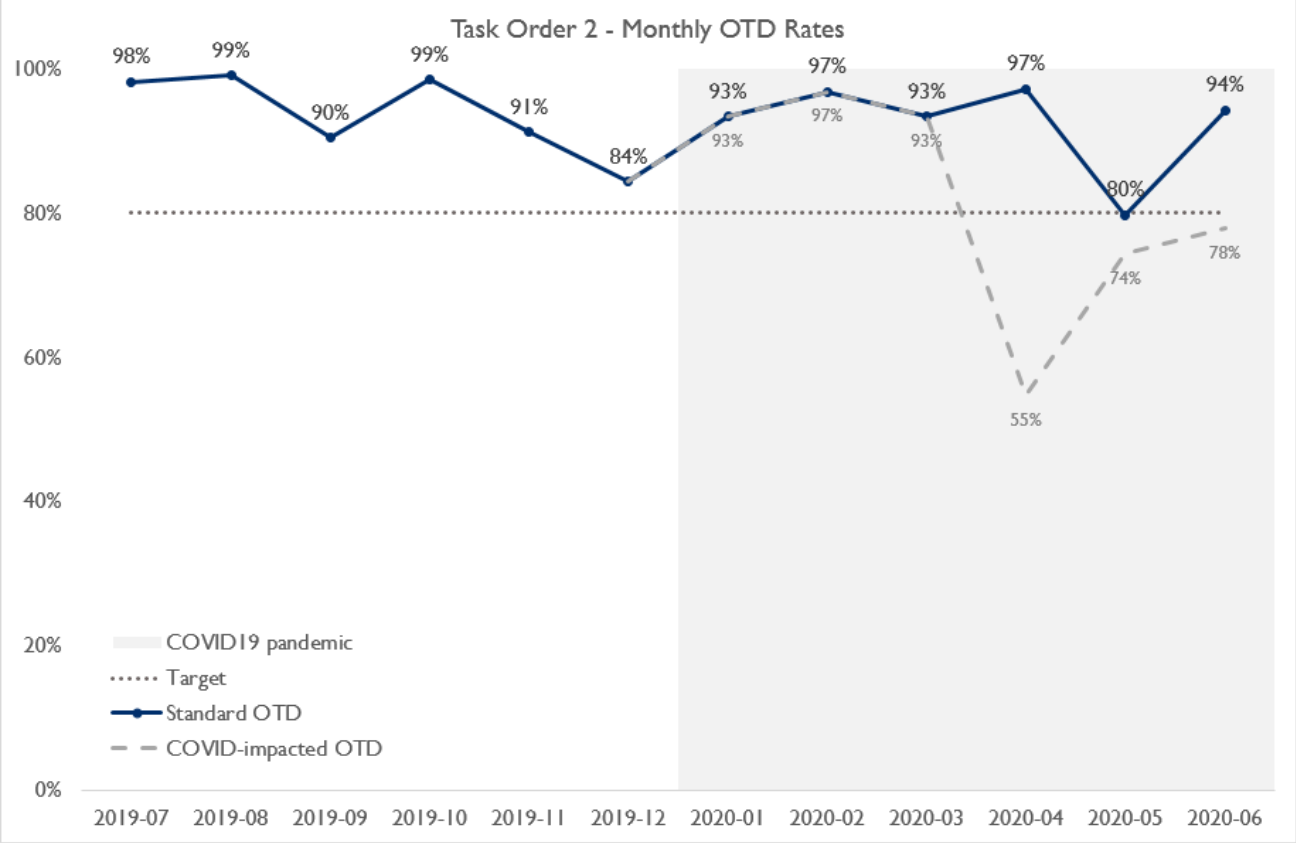
- ***Formulation of FY 2021 Sourcing Strategies.*** The project assesses each product category on an annual basis to determine means to leverage past successes and to identify opportunities to improve the existing sourcing strategy based on evolving market conditions and other factors. In Q3, the project continued to implement updated strategies for FY 2021, focusing on major categories, namely LLINs, pharmaceuticals, and RDTs. Following presentation to and approval by PMI of the proposed strategies, the Malaria Task Order issued tenders to eligible suppliers for RDTs, LLINs, and ACTs. The RDT tender focused on addressing the immediate need for calendar year (CY) 2020 because of unusual supply disruptions, largely related to COVID-19 (see full details below in this section). For FY 2021, the project will focus on assuring supply through mitigation of supply risk and greater efficiency in procurement processes. Tenders for LLINs and ACTs aim to inform allocations for all of FY 2021. GHSC-PSM expects to issue an RDT tender, which will be used to determine allocations for the remainder of expected FY 2021 demand, in Q1 FY 2021.

Procurement and deliveries

Since the start of the project, GHSC-PSM has procured malaria commodities[7] for 30 countries (all PMI countries, including two USAID-designated malaria countries). Over the life of the project, GHSC-PSM has procured $660 million of malaria medicines and commodities, including $73 million in Q3.

OTD and OTIF. GHSC-PSM achieved consistently high on-time delivery for malaria commodities in Q3, reaching 97 percent (55 percent COVID-impacted) in April, 80 percent (74 percent COVID-impacted) in May, 94 percent (78 percent COVID-impacted) in June, and 90 percent (69 percent COVID-impacted) for Q3. Also, GHSC-PSM achieved high on-time, in-full delivery (OTIF) for malaria commodities reaching 91 percent (91 percent COVID-impacted) in April, 79 percent (77 percent COVID-impacted) in May, 75 percent (71 percent COVID-impacted) in June, and 82 percent (80 percent COVID-impacted) for Q3.

Exhibit 7. Monthly OTD rates, Task Order 2



RDT Orders and Country Reallocation. In April 2020, one of the project's largest malaria RDT (mRDT) suppliers notified the project and other global procurers that their mRDT production lines would be reallocated to COVID-19 RDTs and that they would not accept orders for mRDTs after April 15, 2020. To respond to this shake-up to the market, the project took a three-step approach to mitigate country-level risk, which involved allocating existing supply based on country urgency, collaborating with global partners, and issuing a volume-based tender for additional supply through CY 2020.

[7] 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, South Sudan, Tanzania, Uganda, Zambia, Zimbabwe; ASIA: Burma, Cambodia, Laos, Kingdom of Thailand.

- To address short-term stockout risk and recognizing that the market would be constrained in the near term, GHSC-PSM created a "virtual stockpile" of available mRDTs by calculating all expected available stock for three months (through July 2020) that included orders not yet picked up and three months of future supply based on expected GADs. To allocate stock in accordance with greatest country need, the project collaborated with the Global Fund and United Nations Children's Fund (UNICEF) to assess stock status and stockout risk for all PMI-supported countries. The project then created a mathematical optimization model, designed to help prevent or shorten projected or existing stockouts, that was used to determine how the quantities from the virtual stockpile would be allocated to countries.

  Based on these analyses, the project allocated 31 million mRDTs, which are projected to prevent stockouts in seven countries. The re-allocation process was an extensive undertaking that involved cross-country and cross-IP collaboration, coordinating with suppliers, repackaging commodities, and adjusting logistics strategies. This exercise applied to Plasmodium falciparum (Pf) Histidine-Rich Protein-2 (HRP2)-based RDTs and to countries that had already placed orders.

- The project participated in three task forces that support the WHO-convened COVID-19 Work Stream 3 on malaria commodities, including an mRDT task force for COVID-19 that draws from the existing mRDT Procurement Taskforce. Based on the work of the COVID-19 mRDT Taskforce, GHSC-PSM collaborated closely with the Global Fund and UNICEF in Q3 to coordinate procurement and program implementation strategies in response to COVID-19. GHSC-PSM, the Global Fund and UNICEF met weekly to share information on country orders and urgent country stock status, to coordinate and prioritize activities to meet the most urgent need, and to demonstrate responsible action in response to shifting market dynamics.

- GHSC-PSM also collaborated with the Global Fund and UNICEF on an innovative volume-based tender strategy for mRDTs. The project hosted a virtual Supplier Summit led by the RDT Taskforce to demonstrate to mRDT suppliers the need for committed, long-term supplier partners and the remaining demand to be fulfilled in CY 2020. The tender requested that vendors quote their full capacity for three proposed GADs in CY 2020; proposals are currently under review. Based on forecasted demand and country urgency, the project will allocate orders to reserve as much capacity as possible through CY 2020. The project will transition back to the usual tender strategy in September for additional FY21 orders.

Pre-positioning Strategy for Artesunate Injectable

In May 2020, GHSC-PSM created a pre-positioning strategy for severe malaria commodities to ensure continuous supply of artesunate injectable despite severe market constraints. The artesunate injectable market is dual source, but because of a production shortage in early 2020, production capacity was significantly reduced, leaving global donors scrambling to place orders for production in the second half of CY 2020. To secure production slots, GHSC-PSM placed several large pre-positioning orders to secure capacity for requisition orders (ROs) with requested delivery through March 2021.

Using the prepositioning strategy, we were able to deliver commodities earlier than with a traditional fulfillment strategy. Based on current orders and estimates, GHSC-PSM's pre-positioned stock should cover the entirety of demand within scope. The project plans to reassess the strategy once the initial RO allocations are made and place new orders in anticipation of upcoming malaria operational plan (MOP) demand while market constraints persist.

Quality Assurance

In Q3 FY 2020, the project continued to adjust QA/QC activities to mitigate delays related to COVID-19 testing and shipping restrictions for samples and commodities. To determine where inspections could be reduced, the project took a risk-based approach that relied on assessing historical data by commodity type and introduced remote inspections for consignments that could not be inspected in-person. To expedite order shipments, the project implemented processes such as checklists that allowed suppliers to self-inspect commodities as soon as the product was completed. The project monitored the efficiency of allowing suppliers to self-inspect commodities throughout Q3 and found that this initiative was ineffective and, in fact, extended pick-up times for shipments and resulted in a higher percentage of inspection discrepancies. In Q4 the project will reinstate in-person and remote inspections.

GHSC-PSM maintained a high level of productivity in Q3 despite constraints posed by COVID-19, issuing 119 certificates of conformance (CoC) that ensured quality requirements were met and allowed commodities to be released for distribution. This was almost double the quantity of CoCs issued in Q2 (60).

The project also completed the review and prequalification of nine new pharmaceutical, RDT and LLIN products to expand the project's supplier pool and allow for greater flexibility and access to commodities amid COVID-19 constraints. The project also began onboarding a new LLIN testing lab to allow greater flexibility in the project pool for testing LLINs.

Quality Assurance Management System in use

In Q3, the Quality Assurance Management System (QAMS), which provides real-time malaria commodity QA data to inform planning and decision-making for shipments and other activities, was made fully operational. The project continues to refine and operationalize QA reason codes approved by PMI, and COVID-19-related reason codes and flags, to monitor and report delays related to QA/QC. The project also began back-entering QA data generated before instituting the QAMS system so that it will eventually include life of the project data. The QA data back-entry was completed in Q4 FY 2020.

Reduced testing cost-savings and key performance indicators

The project achieved an in-target QA lead time KPI of 100 percent excluding COVID-19 impacted orders, and 91.4 percent including COVID-19 impacted orders. Some of this performance can be attributed to the risk-based adjustments implemented for QA/QC activities. The project continued to implement the risk-based reduced testing protocol in Q3. The combination of the risk-based protocol and the risk-based adjustments made in response to COVID-19 yielded cost-savings of $64,164.79 in Q3.

Addressing challenges because of an LLIN manufacturer's quality issues

In Q3, GHSC-PSM concluded activities related to an LLIN manufacturer's quality issues. The project completed post-shipment testing of the LLINs that were part of the initial investigation, wherein an LLIN supplier used the incorrect binder to manufacture the LLINs and provided the results to PMI.

Also, GHSC-PSM investigated quality issues with another LLIN manufacturer that falsified two certificates of analysis and reported incorrect quantities of insecticide in two lots of LLINs. The project notified the World Health Organization (WHO) Prequalification (PQ) Programme, concluded the investigation, and gave a report to PMI.

GHSC-PSM addresses challenges because of an RDT manufacturer's quality issues

The project continued to investigate quality issues for an RDT supplier, finding that the issues resulted from weak QMS controls during the manufacturing process and qualification of products. GHSC-PSM provided recommendations to PMI to inform decisions on future use of the supplier and on alternative suppliers that could fill the gap while the current supplier addresses the concerns indicated in the WHO inspection report.

The project partnered with the Global Fund to begin developing a proposal to ensure safety and efficacy of future procurements. The project will provide the technical guidance to PMI to mitigate risk and impact to supply chains in the current constrained RDT market.

GHSC-PSM QA collaboration with global donors

The project continued to coordinate with the Global Fund on QA activities. PMI and the Global Fund engage the same manufacturers, use the same WHO guidance, and often experience similar supplier challenges. Representatives from both teams discussed QA/QC activities to mitigate COVID-19 restrictions, out-of-specification investigations, and other shared experiences. In Q3, the project and the Global Fund developed a proposal for quality requirements needed to re-engage an RDT supplier.

Global Standards and Advocacy

As of Q3, for pharmaceuticals, medical devices, sterile kits and reagents, suppliers are currently required to provide evidence of Phases 1, 2, and 3 capabilities (see Global Supply Chain Section C1a for details of requirements for each phase).

The table below (Exhibit 8) describe compliance for in-scope[8] malaria task order items as of June 30, 2020. While GHSC-PSM is nearing the supplier compliance target of 90 percent, several tracer categories continue to lag in confirming these capabilities. In Q4, the project will renew its focus on increasing engagement with those suppliers. Nevertheless, initial compliance on Phase 3 requirements as of the deadline of 30th June 2020 was strong, with 82 percent of malaria pharmaceuticals and RDTs meeting the secondary pack labeling requirement. This exceeded the target of 50 percent compliance at deadline and is a big win for countries who are seeking to leverage this data. (See Section C1 for details on compliance targets).

In the broader supplier effort to adopt the Global Data Synchronization Network (GDSN), there have been some delays in achieving synchronization of product master data across commodities and suppliers. Despite this, in Phase 2 the overall supplier compliance rate according to items successfully synced in the GDSN is 23 percent but malaria suppliers are outperforming them at 29 percent of items successfully synced in the GDSN, an increase of 15 points on compliance over the last quarter. Malaria suppliers continue to progress in this area, with 79 percent of the TO2 suppliers having secured a contract with a GDSN data pool, which represents an increase of 13 points over the last quarter. (See Section C1 for further detail on phases.) As the timeline between signing a contract and data synchronization can be lengthy for some suppliers, depending on preparedness and existing technical expertise, the number of suppliers with a signed GDSN contract is a strong indicator that growth in compliance should be realized in the coming months as suppliers work to load and synchronize their master data with GHSC-PSM.

Exhibit 8. Commodities meeting Phase I to Phase 3 compliance by tracer category as of Q3 FY 2020

Tracer Category	Phase 1 Compliance as of Q3 FY 2020 (December 2018)*	Phase 2 Compliance as of Q3 FY 2020 (December 2019)	Phase 3 Compliance as of Q3 FY 2020 (June 2020)
Malaria RDTs	88%	63%	88%
ACTs	94%	19%	95%

[8] In-scope commodities are defined as pharmaceuticals, medical devices, sterile kits, laboratory reagents, and LLINs are currently listed as saleable in the ARTMIS product catalog and have been purchased before. As of 30th June 2020, a total of 127 Malaria Task Order trade items are considered in-scope for this requirement. Please note that the number of items considered in-scope, and therefore compliance rates, will fluctuate quarter to quarter due to changes in active contracts, phasing out of unsaleable items, and introduction of new suppliers and trade items.

Severe Malaria Meds	57%	50%	71%
Sulfadoxine/Pyrimethamine (SP)	55%	18%	27%
SMC	75%	75%	100%
Other Pharma	0%	0%	0.00%
TO2 Total	**69%**	**29%**	**82%**
TO2 Targets	**90%**	**65%**	**50%**

** Each phase is independent of each other so compliance rates can vary.*

Strategic Engagement

In January 2020, GHSC-PSM published the *Recommended Identification, Capture, and Data Sharing Specifications for Long Lasting Insecticidal Nets* document, which includes a phased implementation timeline between 2020 and 2022.

Since publication of this document, GHSC-PSM has been closely coordinating with Global Fund's procurement agent for long-lasting insecticide-treated nets (LLINs), IDA Foundation, to take the next steps in supporting suppliers in implementation. In Q3, the TraceNet working group finalized an Attribute Guide for LLINs in collaboration with USAID, Global Fund, and IDA Foundation. The project is co-hosting an ongoing series of webinars, alongside GS1 and Global Fund's procurement agent, IDA Foundation, to educate and enable suppliers as they work toward compliance.

As the first TraceNet requirement deadline passed on June 30, LLINs exceeded their target of 50 percent for Phase 1 compliance with 89 percent compliance at the deadline. With strong engagement across the LLIN manufacturer supplier base, the compliance gap is expected to rapidly close between Q3 and Q4, with some companies requiring some additional time to secure and assign their global trade item numbers (GTINs) and global local numbers (GLNs).

Prioritizing Orders and Transferring Stock

In **Cameroon,** the project supported a stock-level analysis of LLINs at the regional level for routine distribution and proposed a redistribution plan to mitigate stockouts while waiting for pending MOP19 deliveries. Following the approval of the redistribution plan by the NMCP, GHSC-PSM organized supervision visits with the regional malaria program to target sites to determine where LLINs could be taken from and where they needed to be distributed. In the North region, 9,950 LLINs were redistributed from 19 sites to 33 sites facing stockouts. In the Far North region, 14,850 LLINs were redistributed from 62 sites to 54 facilities facing stockouts.

In **Lao People's Democratic Republic (PDR)**, because of ACTs and Primaquine that will expire by January 2021, as well as a budget shortfall, PMI committed to filling the funding gap upon receiving an emergency request from the country's malaria program. The project initiated a plan to fulfill the supply from an RDC to reduce the lead time. Also, because a major mRDT supplier announced its transition from malaria to the COVID-19 market at the time of ordering, an mRDT procurement was delayed, creating a risk of stockout before the end of CY 2020. In Q3, the project reallocated 50,000 RDTs from another country to Lao PDR and initiated a procurement from other suppliers for the rest of the required quantity. The project will closely monitor the progress of procurement and delivery to prevent stockout.

In **Liberia,** the project coordinated with the NMCP and county-level pharmacists to collect stock status data and share it with national supply-chain stakeholders. The data highlighted an imminent ACT stockout risk, especially the adult formulation. To address the national shortage, GHSC-PSM, with PMI's approval, placed an emergency order for 23,400 treatments of artemether lumefantrine (Alu) 6x4 and 18,210 treatments of ALu 6x3 to address the national shortfall. These commodities will be pulled from the available stock in the regional distribution center and are expected to arrive in August 2020.

In **Niger**, GHSC-PSM, in collaboration with the NMCP, reviewed the malaria supply plan on February 7, 2020. They identified a potential stockout of ACT and mRDTs in Q3. In Q2 and Q3, the NMCP, GHSC-PSM, and Global Fund worked to expedite existing orders and place emergency orders for both products. The project reallocated 167,500 packs of Alu 80/480 mg from another country and modified the mode of shipment from sea to air for other ACTs at risk of stockout (ALu 6x3, ALu 6x4). These actions made the products available in Niger on June 16, 2020, prevented a stockout, and the NMCP had enough stock for the distribution starting in July 2020.

In Q3, 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 government and donor 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 Q3:

- **Ghana:** The project found that a Ministry of Health (MOH)-funded shipment of ALu 6x3 expected in July will cause a significant overstock, as several Global Fund shipments are pending following the MOH shipment. The project recommended that the Global Fund postpone their delivery dates to prevent overstock and expiry.

- **Liberia:** ALu 6x2 was overstocked, with a short remaining shelf life while artesunate/amodiaquine (ASAQ) 50mg/135mg FDC 3 tabs was out of stock. The country decided to use ALu 6x2 as a substitute for the ASAQ while awaiting the delivery of a PMI shipment of ASAQ in August 2020.

- **Malawi:** Because of an imminent stockout risk of ALu 6x2 in Q3, the project expedited a PMI-funded shipment of ALu 6x2 by converting from ocean freight to air freight. The shipment is expected to arrive in July 2020, which will prevent a stockout.

LLIN Distribution Support

In Q3, many countries continued to deliver LLINs for routine distribution, and a few launched or continued large-scale LLIN distribution campaigns as a key malaria prevention strategy. However, many 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. In Q3, the project distributed 2.9 million LLINs through routine distribution and 1.1 million LLINs through mass distribution campaigns, enough to protect 7.8 million people in total. (See Exhibit 9.)

Exhibit 9. LLINs distributed in FY 2020 Q3

	Location	Number of LLINs
Routine Distribution	Global[9]	2,945,642
Mass Distribution[10]	Ethiopia	872,361
	Rwanda	130,068
	Total (routine + mass)	3,948,071

GHSC-PSM supported the following LLIN distribution activities:

- **Angola:** Distributed 84,050 LLINs in Uige province for routine distribution.
- **Burundi:** In collaboration with the NMCP and Population Services International (PSI), distributed 280,123 LLINs from the central warehouse to 46 health districts for routine distribution.
- **Ethiopia:** The mass distribution campaign was launched in Q2, with nearly 1.5 million LLINs distributed. In Q3, continuation of this activity was delayed because of competing measles and indoor residual spraying campaigns and the COVID-19 pandemic. To ensure a safe campaign, the MOH, in collaboration with the project, developed guidance for LLIN distribution in the context of COVID-19. The project supported the NMCP to orient 3,059 community-level campaign staff on mass LLIN distribution campaigns in the context of COVID-19. The project also procured and supplied personal protective equipment for the campaign to continue. In Q3, the GHSC-PSM delivered 872,361 LLINs to 34 *woredas* (districts) in Gambella and Benishangul-Gumuz regions. The project will report the final quantity of LLINs distributed in Q4.
- **Guinea**: Distributed 38,078 LLINs in the USG supported 19 health districts to pregnant women and new mothers.
- **Liberia:** Provided financial and 3PL support to transport 217,050 LLINs from the central medical store (CMS) to county depots and hospitals in 14 counties for routine distribution.
- **Mali**: In collaboration with the NMCP and PSI, distributed 675,934 LLINs to all health districts to support routine activities.
- **Niger**: Distributed 917,360 LLINs to all 72 districts using 3PLs for routine distribution.
- **Rwanda:** Distributed 130,068 LLINs in June in the remaining district of Gakenke, which had been interrupted in Q2 because of COVID-19. The NMCP changed the distribution approach to prevent COVID-19 infections by having community health workers distribute the LLINs to households instead of having beneficiaries come to distribution sites. Also, 169,128 standard LLINs were distributed from the Medical Procurement and Production Division to 84 health centers for routine distribution during vaccination services and antenatal care.
- **Sierra Leone:** Conducted routine distribution of 64,000 LLINs to the district level.
- **Uganda**: With GHSC-PSM support, the Joint Medical Store distributed 148,919 LLINs procured by GHSC-PSM to health facilities for routine distribution during antenatal clinics and vaccination services.

[9] The data is from Angola, Burundi, Guinea, Liberia, Mozambique, Niger, Rwanda, Sierra Leone and Zimbabwe.

[10] Niger and Sierra Leone also completed LLIN mass distribution in Q3, but have not finished compiling the data yet. In Q4, the M&E team will collect the annual LLIN mass distribution data from country offices.

- **Zimbabwe:** The project supported transportation to deliver 351,000 LLINs to health facilities to support routine and mass distribution.
- In addition to support with transport of LLINs, GHSC-PSM provided other types of distribution support in Q3: **Cameroon**: The project supported the regional level to analyze stock levels for LLINs for routine distribution and propose a redeployment plan to mitigate stockouts while waiting for a FY 2020 order to be fulfilled. Following the approval of the redeployment plan by the NMCP, GHSC-PSM worked with the regional malaria program and organized supervision visits to the sites to investigate and redeploy the LLINs. As a result, in the North Region, 9,950 LLINs were redeployed from 19 sites to 33 sites; and in the Far North Region, 14,859 LLINs were redeployed from 62 sites to 54 facilities. This activity prevented stockout of LLINs in 87 sites in the two PMI-supported regions.
- **Ethiopia:** GHSC-PSM, in collaboration with the NMCP, finalized an operational guideline and training materials for LLINs distribution and trained 3,059 community level campaign actors in the context of COVID-19. The project also supported the MOH in the estimation and procurement of personal protective equipment (PPE) required for LLIN distribution activities

Country Support

GHSC-PSM provided supply-chain systems strengthening support for malaria medicines and commodities in 22 countries in Q3.[11] Activities included:

Burundi

In 2019, Burundi updated the country's malaria standard treatment guidelines (STGs). The first-line treatment changed from artesunate/amodiaquine to artemether/lumefantrine and the second-line treatment medicine changed from quinine + clindamycin to dihydro-artémisinine + pipéraquine (DHA- PPQ). On June 4, GHSC-PSM provided logistical and technical support to the NMCP to conduct a meeting for the quantification sub-committee to review malaria commodity supply planning through CY 2020. A total of 15 participants representing the NMCP and partners attended. From June 29 to 30, GHSC-PSM provided logistic support to the NMCP to conduct a training on the new malaria STGs for 36 health care providers from health centers and hospitals in Mabayi district in Cibitoke Province. Participants at the supply planning meeting and training had access to handwashing stations, and both events provided seating with proper social distancing because of COVID-19.

Cameroon

In preparation for the seasonal malaria chemoprevention (SMC) campaign, in May 2020, the project coordinated with the Regional Funds for Health Promotion in PMI-supported regions (North and Far North regions) to deliver SPAQ, and to adjust the distribution plan for SMC 2020 using only stock-on-hand (SOH) for cycles 1 and 2. The project partnered with a 3PL transporter to distribute SPAQ to health areas in the PMI-supported regions. The project led the module on stock management, including tools for collecting and reporting supply-chain data, during the supervision approaches training for central and regional-level teams. In June, in collaboration with the Centre des Informations Sanitaires (CIS), NMCP, Impact Malaria and Measure Malaria, the project contributed to adding forms to the DHIS2 platform that will allow reporting of service statistics and logistics data during the SMC campaign.

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

Mali

In June, GHSC-PSM provided technical support to the NMCP and the MOH's Directorate of Pharmacy and Medicines in conducting a five-year (2020–2024) forecast and quarterly revision of malaria commodities, despite COVID-19 restrictions. This activity was carried out in strict compliance with the measures to combat COVID-19 by reducing the participants from 25 to 10 key participants and reducing the workshop period from 10 days to five days. However, before and during the workshop, the participants used various means of communication to consult with those that did not attend in person, if needed. At the end of the workshop, the group identified the quantities required for malaria products for the next five years, which will inform the MOH in planning for the new Global Fund grant.

Zambia

The project conducted an emergency distribution of available ACTs to prevent or minimize service delivery point (SDP)-level stockouts in anticipation of COVID-19 restrictions. This activity represented a collaborative effort and leveraged use of a PEPFAR-funded 3PL supported by GHSC-PSM.

Responding to the Midterm Review: Developing a Theory of Change

The project facilitated a workshop series to develop a theory of change for malaria supply chains. Participants agreed on an overarching goal: "To advance malaria elimination and eradication efforts by ensuring an uninterrupted supply of quality malaria commodities and strengthening resilient, well-informed end-to-end supply-chain systems." The long-term outcomes that contribute to this goal were focused on the areas of human resource, healthy and stable marketplaces, end-to-end data visibility, translation of global strategy to action at the country level, and product availability at the last mile. This TOC is being used to inform an overarching TOC for the project that will be presented to USAID for discussion in Q4.

B3. Family Planning and Reproductive Health

Delivered enough contraceptives to provide **67 million couple-years of protection** over the life of the project, including **4.4 million in FY 2020 Q3**.

Twenty countries procured FP/RH commodities,[12] and the project provided **health supply-chain systems-strengthening support** to **19 countries** with FP/RH funding.

The project **onboarded two additional generic suppliers of DMPA-IM** in Q3. The contracting of two new suppliers will allow GHSC-PSM **greater flexibility** to achieve strategic objectives and ensure continuous supply of quality-assured DMPA-IM for USAID priority countries.

Continued to successfully fulfill USAID-supported countries' orders in a timely manner, **achieving 97 percent (90 percent COVID-impacted) OTD** for the quarter overall.

Building on extensive coordination and support the project provides to existing community groups, Coordinated Assistance for Reproductive Health Supplies (CARhs) and Coordinated Supply Planning (CSP) Group, GHSC-PSM **played a major role in efforts to merge these two groups** into the Consensus Planning Group (CPG) under the GFPVAN. This was a culmination of three years of effort to advance the work of these two groups.

Participated in a series of **virtual workshops to develop a Theory of Change** for the task order. The goal for the framework states, "Ensured **sustainable access** to a continuous supply of quality-assured FP-RH products that is supported by data use and regulation that allows women to choose, obtain and use" their preferred method.

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

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. Below, GHSC-PSM provides examples of its work in these areas.

Challenges

In Q3, GHSC-PSM continued to implement core activities in the FP/RH portfolio despite several constraints limiting the ability to travel to advance initiatives, meet with staff from ministries of health, or hold workshops because of COVID-19 restrictions. GHSC-PSM worked with activity leads and country offices in implementing workarounds to ensure program continuity, such as conducting virtual workshops, switching to other communications methods, and maximizing the use of staff on the ground to advance certain activities. Nevertheless, some core activities were delayed. One of the lessons learned is that these alternative solutions have facilitated ongoing implementation of workplan activities; however, some activities are still impacted due inability to fully implement them in-country.

Commodity Sourcing and Procurement

Fulfilling Country Orders and On-Time Performance

GHSC-PSM continued to successfully fulfill USAID-supported countries' orders in a timely manner, achieving 97 percent (90 percent COVID-impacted) OTD for the quarter. This was achieved thanks to strong integration among supply-chain activities and functions, such as close monitoring of country-level supply plans, inventory levels, and other demand signals; a strong sourcing strategy fed by market intelligence; effective vendor management of the supplier base; close monitoring of the project's supply, central stock, and allocation of country orders (procurement and fulfillment functions), all while engaging and coordinating with the FP/RH community to ensure the project's performance is meeting countries' needs.

Commodities Procured for FP/RH Programs

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

Expanded DMPA-IM Supplier Base

Following the Sourcing Governance Board meeting held in January 2020, the FP/RH Task Order onboarded two additional generic suppliers of DMPA-IM in Q3. The contracting of two new suppliers will allow GHSC-PSM greater flexibility to achieve strategic objectives and ensure continuous supply of quality assured DMPA-IM for USAID priority countries. It is an important achievement that generic manufacturers can now propose quality-assured products. Their ramping up will be progressive, which will help to avoid straining their production, hence potentially quality. Also, Amendment 1 to GHSC-PSM's injectables solicitation (a new round) closed in May 2020; evaluation of bids is ongoing.

Implant Consumable Kits

GHSC-PSM began long-term contracts with two suppliers of implant consumable kits for the insertion and removal of contraceptive implants. This will give the project more flexibility in fulfilling country orders for this product.

IUD Contract Extensions

GHSC-PSM extended long-term agreements (LTAs) secured with IUD suppliers through the end of the project (November 2023) to facilitate the continuous supply of products across a pool of reliable suppliers. These extensions further GHSC-PSM's commitment to provide an uninterrupted supply to USAID priority countries. In Q4, the project will modify existing LTAs with oral contraceptive, implant, and standard days method suppliers to extend the period of performance through November 2023.

A Flexible and Agile Supply Chain in Response to COVID-19

Overall, the consistent nature of contraceptive demand and the production supply chain (vertically integrated) of FP/RH commodities made them less exposed to the impact of COVID-19.

However, the project's proactive approaches mitigated potential logistics disruptions related to COVID-19, including early release of distribution orders (DOs) from the RDC to mitigate extended shipping delays; detailed information from the manufacturers on the status of production; updated forecasts from countries and requests for earlier replenishment orders in anticipation of longer lead-times; leveraging supply agreements; and exploring new pre-positioning of stock (having a central stock of products), among others. By taking these steps, the project could limit the number of orders whose lead times and subsequent expected delivery dates were being heavily impacted by COVID-19.

Also, the project carried out the following activities:

- Participated regularly in several FP/RH fora to discuss the potential impact of COVID-19 with other key stakeholders, including donors, procurers, implementing partners, and Reproductive Health Supplies Coalition (RHSC). This included discussions with the Consensus Planning Group to identify and address potential disruptions along the supply chain (demand, logistics, production, etc.) in collaboration with the United Nations Population Fund (UNFPA) (CPG is described in more detail below).
- Conducted an updated funding gap analysis for FP/RH commodities focused on USAID-supported countries to identify countries potentially at risk if COVID-19 heavily impacts demand and supply.
- Developed scenario planning to potentially leverage the safety stock of oral contraceptives at the RDC to address potential demand fluctuations because of COVID-19. This has not led to any change in inventory strategy due to the unknown and hard-to-measure impact on FP/RH commodities.
- Developed a commodity risk profile of the DMPA-IM category, identifying the short-term risk triggered by COVID-19 and the associated risk-mitigation activities. This risk profile builds on the long-term sourcing and procurement strategy for this commodity category that the project put in place. This strategy was designed originally to minimize the short-term supply risks and efficiently position GHSC-PSM in the long term to secure an uninterrupted supply of DMPA-IM from quality-assured manufacturers and at competitive prices.

Collaboration with Global Stakeholders

In Q3, 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.

RHSC Systems Strengthening Working Group

GHSC-PSM officially transitioned from the role of chair of the RHSC Systems Strengthening Working Group (SSWG) in June following an open election after completing the maximum two terms (four years) in this role. The chair leads the RHSC agenda on systems strengthening, ensures proper participation of all partners in the discussions and is responsible for disseminating the body of knowledge gathered through the work of the Innovation Fund grants. Some key accomplishments from this tenure include:

- New SSWG strategy rolled out in FY 2019.
- Award of three Innovation Fund grants to working group members. The grants are awarded to organizations through a competitive process. The winners are those with innovative ideas contributing to the advancement of the FP supply chain issues.
- Popular and well-attended webinar series on supply-chain advocacy conducted in cooperation with the Advocacy and Accountability Working Group.
- Successful workshop for General Membership Meeting attendees to play the Beer Game, an interactive supply-chain game that demonstrates the constraints of supply-chain systems.

Dissemination of Total Market Method Mix Analyses

In April 2020, GHSC-PSM executed modification #1 to the Total Market Method Mix Dissemination Task Order awarded to IQVIA in March 2020 to update and disseminate total market analyses in FY 2018 and FY 2019. This was aimed at providing data to the South African government and stakeholders to understand and address method mix concerns in the aftermath of the (Evidence for Contraceptive Options in HIV Outcomes) ECHO trials. In Q3, IQVIA submitted drafts of two papers for publication by a peer-reviewed journal. In Q4, IQVIA will present the results of the Kenya and South Africa analyses to stakeholders in those countries as well as the Total Market Approach Working Group.

Pathways to Increasing Access to Hormonal IUS

In Q3 FY 2020, GHSC-PSM continued to support increased access to hormonal intrauterine system (IUS). In Q3, GHSC-PSM participated in a two-day virtual Hormonal IUS Technical Consultation followed by a Hormonal IUS Access Group-Steering Committee call to discuss ongoing strategic donor initiatives to support increased access to the product. GHSC-PSM also provided input to Zambia's National Hormonal IUS Introduction Strategy. Round 2 of GHSC-PSM's hormonal IUS solicitation closed in June 2020. and evaluation of bids is ongoing.

Blue Lady Logo Brand Strengthening

In Q3, GHSC-PSM began developing the Blue Lady Logo key initiatives web page to provide guidance and materials on the Blue Lady Logo and its approved use, and to allow stakeholders to report misuse of the Blue Lady logo observed in the market through an easy-to-use reporting tool. Also, in Q3, the project began discussions with key GHSC-PSM suppliers of combined oral contraceptives to ensure compliance with newly developed Blue Lady Logo brand guidelines to strengthen and protect the brand's integrity.

Enhancing Visibility of FP Supplies Data

GHSC-PSM continued to support the strategic development of the GFPVAN, the reproductive-health community's pioneering undertaking to increase supply-chain visibility and improve collaboration across stakeholders. In addition to supporting enhancement of the platform's functionality for users and development of a user dashboard to easily monitor stock levels, GHSC-PSM began a new initiative with UNFPA to identify mechanisms for harmonizing the exchange of program commodity demand data. This was aimed to increase responsiveness of their global supply chains, realize efficiencies, and increase completeness and timeliness of data.

Global Collaboration to Avert Stock-outs and Enhance Supply Planning

In Q3, GHSC-PSM's Procurement Planning and Monitoring Report (PPMR) team received and processed 55 reports from 22 countries. Based on data on stock imbalances in the PPMR, the project worked with the CARhs group to:

- Create nine new shipments for Angola, Benin, Burkina Faso, Madagascar, Mali, Mozambique, and Togo. Three of these were emergency orders managed by UNFPA; the six other shipments were delivered according to standard lead times.
- Expedite seven shipments to Guinea, Liberia, Madagascar, and Niger to prevent or mitigate stockouts.
- Postpone or cancel eight shipments to Benin, Burkina Faso, Liberia, and Mauritania to reduce or avoid overstock situations and prevent commodity expiries.
- Achieve five in-country product transfers among programs in Côte d'Ivoire, Madagascar, Tanzania, and Togo. As a result, FP programs could replenish their stocks and increase cross-program collaboration.

Impact Assessment of Covid-19

Drawing on the PPMR team's extensive contacts in-country, the team received and shared with USAID summary reports from 15 countries on the anticipated impact of COVID-19 on the supply chain for FP commodities. The project gave technical support and guidance to data providers on measures to mitigate impact, such as supply plan reviews and thorough needs assessments.

GHSC-PSM Supports FP/RH Community to Launch New Consensus Planning Group

Building on extensive coordination and support the project provides to existing community groups CARhs and CSP, GHSC-PSM played a major role in efforts to merge these two groups into the Consensus Planning Group under the GFPVAN. The work culminated after three years in the merger of CARhs and CSP into the CPG in May 2020 with the group using the GFPVAN platform to track and resolve country requests. This merger will increase efficiencies and impact of coordinated exceptions management and supply planning through streamlining communications with country programs and using a single platform to track resolution of items addressed by the group.

Recovery Strategies for Supply Chains in a Post-COVID-19 Environment

COVID-19 has significantly disrupted public health supply chains that distribute public health commodities at the last mile.

In Q3, GHSC-PSM initiated a new activity to develop guidelines and recommendations that in-country decision-makers can use to support post-COVID-19 recovery efforts at the last mile. Recommendations include inventory placement strategies, post-event inventory balancing at the last mile, risk-mitigation strategies to protect programmatic elements, and reduction of downtime to ensure positive patient and

client outcomes. Also, the project will support countries in applying these strategies for recovery and strengthening their resilience in this new environment.

Country Support

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

Nepal

GHSC-PSM is working closely with the Ministry of Health and Population (MoHP) Department of Health Services to monitor the impact of COVID-19 on country supply chains and logistics in Nepal. In Q3, the project supported the Management Division of the Department of Health Services (DoHS) in forecasting and supply planning as well as continuously monitoring the stock status of FP commodities at all levels of the supply chain.

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

The project assisted the Family Welfare Division (FWD), DoHS, to assess FP stock levels, and review inventory data to identify and respond to urgent needs and estimate quantities of FP products required for procurement. Nepal is sufficiently stocked with IUDs, CuT 380, and five-year implants, DMPA and oral contraceptive pills for FY 2021.

Close monitoring of and technical assistance in planning, forecasting, and supply planning (FASP), and distribution by the GHSC-PSM, MoHP, and other partners helped avert stockouts, despite the COVID-19 pandemic. GHSC-PSM reviewed the supply plan and inventory data to budget for 1.7 million cycles of oral contraceptive pills, about 1.2 million units of DMPA (UNFPA committed to provide 3 million units of DMPA in FY 2020, as per the request of FWD).

Pakistan

GHSC-PSM worked with Pakistan's government to update its LMIS by introducing chatbot technology—an artificial intelligence program that simulates human conversation and responds instantly to end-user queries 24 hours a day, 365 days a year. The end user simply clicks on the LMIS chatbox icon on the login page of the LMIS and will receive instant responses based on past queries. The system, aimed to help ensure rapid solutions and enable seamless operations, will be updated periodically.

Also, to improve efficiency and accuracy, the project introduced a barcode-enabled interface introduced in the LMIS following the addition of barcoding machines and scanners. With this update, one scan will auto populate the item, batch number, and manufacturer, increasing efficiency by up to 200 percent. Formerly, the end user needed to scan the barcode and then either separately scan the batch number or manually enter it into the system. The enhancement will help improve the record keeping, storage and warehousing, and dispensing process.

South Sudan

GHSC-PSM supported the population and reproductive-health (PRH) commodity quantification in coordination with the MOH and UNFPA during a remote workshop. The meetings were held over several weeks to ensure effective engagement from all stakeholders. GHSC-PSM involvement in this quantification served to increase the project's standing in South Sudan, as well as with UNFPA, the main procurement agent for PRH commodities in the country.

The Family Planning & Reproductive Health Theory of Change

In response to recommendations from the recently completed Midterm Review of the project, the M&E team facilitated a series of virtual workshops with the FP/RH team to develop a Theory of Change. The goal for the framework reads, "Ensured sustainable access to a continuous supply of quality-assured FP-RH products that is supported by data use and regulation that allows women to choose, obtain and use their preferred method." Within that goal, the team identified five long-term outcomes for change:

- Access and use of quality data that stakeholders along the contraceptive supply chain need to make informed decisions
- Increased access facilitated by strengthened governance for FP/RH commodities and supported by increased investment
- Access and availability of a range of FP/RH products improved at the last mile
- Motivated, competent workforce that is adequately resourced to be responsive to client demand
- Healthy marketplace established that ensures sustainable supply of FP/RH products

This TOC is being used to inform an overarching TOC for the project that will be presented to USAID for discussion in Q4.

Uganda

Procurement of generic Depot (IM) Medroxyprogesterone Acetate 150 mg/mL (1 mL) [PT Tunggal] [Triclofem] has improved the availability of injectable contraceptives in Uganda. Injectables are the most preferred method of modern family-planning among Ugandan women). The generic brand also has an added advantage of a shorter lead time of 12–14 weeks and is a tracer commodity.

GHSC-PSM has been procuring branded Depo-Provera from Pfizer since the project began; however, global demand and the manufacturer's inability to keep up constrained the supply. This resulted in lead times of up to 45 weeks and delayed deliveries.

The project worked closely with the MOH's Pharmacy Department and Reproductive Health Division to obtain formal approval to procure Triclofem. The National Drug Authority subsequently registered the drug. The procurement of the generic brand has continued to ensure the availability of this preferred method in country.

The availability of Depo-Provera at the facility level increased from 67 percent in May 2019 to 75 percent in May 2020. GHSC-PSM specifically contributed to 476,480 couple-cost years of protection through DMPA-IM issued to service delivery points from July 2019 to June 2020.

Zambia

In Zambia, GHSC-PSM convened the first virtual Family Planning Forecasting and Quantification Review Meeting with 36 partners from the MOH, UNFPA, Discover Health, eSCMIS, and others. The review meeting, which was previously held for three days, was successfully conducted in four hours because GHSC-PSM had requested that the partners' presentations be shared prior to the meeting. That way, participants could review them in advance and seek clarifications during the meeting.

Participants reviewed forecasts for 11 products. Ten out of 11 commodities maintained their forecasts and one product's (IUDs) forecast was adjusted upward. The upward forecast was based on a request made by FP/RH service providers, which are involved in demand creation and service provision for long-acting reversible contraceptive in the country. An increase in funding boosted their coverage as they target hard-to-reach areas where demand is higher

B4. Maternal, Newborn, and Child Health

Seven countries procured MNCH medicines and commodities and **19 countries received health supply-chain systems strengthening** with MNCH support in Q3.

By the end of Q3, the project had procured **$11.2 million in MNCH commodities over the life of the project, including $1.7 million in Q3**.

The project co-authored a peer-reviewed journal article that provides clear cold chain and manufacturing parameters and guidance **to improve the availability of quality oxytocin** for treatment and prevention of 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. GHSC-PSM focused on three key areas in Q3: improving the availability of quality oxytocin, strengthening country systems to support the availability of MNCH medicines and supplies in the time of COVID-19, and providing global technical leadership.

The MCH task order also worked with partners across the project to develop a **Theory of Change** (TOC) in Q3. Participants agreed on an overarching goal, "Strengthen country systems to procure and manage MNCH commodities, ensuring quality supply and improved health outcomes for women, newborns, and children." The long-term outcomes that contribute to this goal are: countries adopt evidence-based supply chain strategies to support supply chain actors managing quality MNCH products; increased global knowledge based on recommendations and policies to improve availability of MNCH commodities; and improved availability of MNCH commodities through targeted procurement, as appropriate. This TOC is being used to inform an overarching GHSC-PSM TOC in development for Q4.

Addressing COVID-19 challenges

In Q3, GHSC-PSM continued to implement core activities in the MCH portfolio despite several constraints related to the ability to travel to advance activities, meet with staff from Ministries of Health, or hold in-person workshops because of COVID-19 restrictions. Also, at the direction of USAID, GHSC-PSM diverted time expected to be spent on some FY 2020 core activities to analyze upstream and downstream impacts of COVID-19 on the management and availability of MNCH commodities. The project shared these analyses through global fora and is using them to inform the GHSC-PSM's MNCH work during the pandemic. The paused MCH core activities, described below, have since resumed and the project continues working with activity leads and country offices, where appropriate, to adjust to a more virtual environment and to reduce risks associated with in-person work.

Improving the Availability of Quality Oxytocin

Oxytocin, the recommended product for preventing and treating postpartum hemorrhage, is a heat-sensitive uterotonic that requires transport and storage under cold chain conditions. Storing oxytocin at room

temperature or higher can result in product degradation. Keeping oxytocin within a proper temperature range is a common challenge in many countries where cold chain infrastructure is limited. Given known quality issues with oxytocin, GHSC-PSM's MCH task order advocates at global and national levels to promote good storage practices for oxytocin.

In May 2020, the Journal of Pharmaceutical Policy and Practice published a peer-reviewed article entitled, "Oxytocin quality: evidence to support updated global recommendations on oxytocin for postpartum hemorrhage." GHSC-PSM led the authorship of this article in collaboration with WHO, UNFPA, the Promoting Quality Medicines Program, Concept Foundation, and Monash University; the article represents a successful global partnership for improved oxytocin quality. The article documents the latest information on oxytocin quality risks and outlines best practices and strategies for low- and middle-income countries. It is being disseminated to countries and partners that endeavor to improve oxytocin quality.

Oxytocin insurance reimbursement improvements in Ghana

Through the project's significant advocacy efforts, Ghana's National Health Insurance Authority adjusted the reimbursement price for oxytocin in early 2020 from 0.11 Ghanaian Cedi (GHS) to 4.63 GHS. The upward price adjustment is expected to encourage procurement and distribution of quality-assured oxytocin by regional medical stores in Ghana. Oxytocin is part of the benefit package of the National Health Insurance Scheme (NHIS), which exempts pregnant women from paying premiums for maternity-related services and supplies and ensures reimbursement when facilities provide those services. In 2019, GHSC-PSM compared NHIS reimbursement prices for oxytocin to those that are quality-assured from UN suppliers. The project found that NHIS reimbursement covered only 12 percent of the total cost of a quality-assured ampoule of oxytocin—which can challenge efforts to buy quality-assured oxytocin. If quality-assured oxytocin is procured by regional medical stores following the price adjustment, the chance is greater that clients will have access to safe and effective oxytocin at service delivery points.

Midwife Veronica Finu retrieves quality oxytocin from the fridge in her health facility in Adawso, Ghana. *Photo credit: GHSC-PSM/Bobby Neptune*

Improving MNCH Commodity Data Availability and Use

End-Use Verification (EUV) Survey

The EUV survey collects data on commodity availability, storage conditions, and factors that affect commodity availability at service delivery points. Typically, the EUV is implemented in countries where national logistics management information systems (LMIS) are either not available or do not include consistent data on commodities. Originally, the EUV was developed to collect data specifically on malaria commodities. However, GHSC-PSM has expanded the EUV to include MNCH and FP/RH commodities for better understanding stock levels and consumption, and ultimately improving availability of these products.

In FY 2020, the project has supported collection of data on MNCH commodities through EUV surveys in eight countries: Burkina Faso, Ethiopia, Ghana, Guinea, Liberia, Mali, Nigeria, and Zambia. Four of the countries conducted data collection in Q3. Because of the COVID-19 pandemic, EUV reports have been

delayed as lockdown measures prevented in-person data collection. In Q3, the project updated EUV questions on oxytocin storage conditions to better understand if and how oxytocin is being integrated into the cold chain system. GHSC-PSM also conducted calls with Burkina Faso, Ethiopia, Nigeria, and Zambia to provide EUV reporting guidance to enrich analysis and interpretation of the data within individual reports. The EUV calls will continue as countries finalize their reports.

Data use

Over the past several years, LMIS investments have increased in many countries, and data on MNCH commodity availability has expanded. Use of these data, however, has been limited, resulting in notable stockouts and stock imbalances of MNCH commodities. In Q3, GHSC-PSM carried out an online survey with its country office staff to collect data on LMIS attributes and data use. Respondents representing a total of 15 countries that receive MNCH funding (Burkina Faso, DRC, Ethiopia, Ghana, Guinea, Haiti, Liberia, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan, Rwanda, and Zambia) were targeted, and all 15 completed the survey. Survey results indicated that MNCH commodities—except for newborn resuscitation equipment—are broadly included in national LMISs. The results highlighted key areas for further strengthening, including improving data use in funding advocacy and quality assurance. Virtual capacity building activities with GHSC-PSM staff who routinely support MOHs and other supply chain agencies in USAID-supported countries will likely follow, with work spanning through September 2020.

Strengthening Systems to Improve Management of Quality-Assured MNCH Commodities

Addressing supply-chain barriers for newborn and child health commodities in Liberia's public-sector

Increasing global availability of amoxicillin dispersible tablets (DT), co-packaged oral rehydration salts (ORS) and zinc, and appropriate newborn resuscitation equipment has been identified as a crucial step to prevent child and newborn deaths. In Q3, GHSC-PSM in Liberia continued to support dissemination of the assessment findings regarding barriers to availability for these commodities (conducted in Q2) and advocate to the government and its partners to consider actions that may affect commodity availability. In addition to taking GHSC-PSM's suggestion to conduct quantification activities for the select newborn and child health commodities, the Family Health Division of the MOH has prioritized integration of amoxicillin DT and ORS+zinc into the Reproductive Health Program commodities list (as some maternal health commodities are already included). This designation would allow for increased dedicated resources for procurement and management of amoxicillin DT and ORS+zinc and add them to the data collection systems to monitor availability and consumption patterns. Also, the MOH will explore the use of standardized kits to supply essential newborn and child health commodities given exceedingly low reporting rates and high stock-out rates at the primary facility level.

Liberia recently received a shipment of amoxicillin DT for use in the national system and will work with its central medical stores and supply-chain management unit to ensure commodities are distributed and used by facilities to treat childhood pneumonia.

Global Technical Leadership

Updated MNCH commodity quantification guidance.

In Q3, GHSC-PSM provided suggested updates and revisions to the USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program on the global quantification resource for MNCH commodities, "Quantification of Health Commodities: RMNCH Supplement." Originally developed under the UN Commission of Life Saving Commodities for Women and Children, this resource helps national governments estimate needed quantities of reproductive-health and MNCH commodities. The revised supplement is tentatively scheduled for publication in Q4 of fiscal year 2020.

Technical support to countries in the context of COVID-19.
The COVID-19 pandemic has raised unprecedented pharmaceutical supply-chain challenges because of reduced manufacturing capacity in China and India and widespread restrictions on the movement of commodities. To understand the impact on the MNCH supply chain and begin to develop resources for USAID-supported countries, GHSC-PSM contacted suppliers and global procurement agents to collect high-level market information on MNCH products. GHSC-PSM compiled the information in *Trends and Observations: Maintaining maternal, newborn and child health commodity supply in the time of COVID-19.*

This document highlights production and logistics disruptions and potential mitigation strategies. Strategies recommended to national governments include (1) planning MNCH commodity procurement well in advance to account for longer lead times and other unanticipated delays and (2) planning for unforeseen internal disruptions that have the potential to impact MNCH commodity distribution and availability. To increase information exchange and collaborative learning among project-supported countries, GHSC-PSM convened a discussion series on supply-chain challenges and supply-chain management best practices during a pandemic. Through these discussions, GHSC-PSM field offices learned about strategies employed by other countries to promote availability of MNCH commodities. The series also spotlighted technical experts to share information on global product supply, forecasting, supply planning, inventory, warehousing, and distribution in the time of COVID-19.

GHSC-PSM shared highlights of the information collected on global product supply and observations from field offices on the status of in-country supply chains in a presentation to the UNICEF Supply Division and to the Maternal Health Supplies Caucus.

Procurement, Deliveries, and Systems Strengthening

GHSC-PSM supported procurement of MNCH commodities for five countries in Q3.[14] This includes a large procurement and delivery of 82 lines of essential medicines and consumables to DRC.
Through the technical activities described above, the project provided MNCH systems strengthening support to a total of 19 countries in Q3.[15].

[14] Countries that received procurement support: DRC, Liberia, Haiti, Mali, and Nigeria

[15] Countries that received systems strengthening support: AFRICA: Burkina Faso, Ethiopia, Ghana, Guinea, Liberia, Madagascar, Malawi, Mali, Mozambique, Nigeria, Rwanda, Zambia; LAC: El Salvador, Guatemala, Haiti, Honduras, and Panama; ASIA: Nepal, Pakistan

Rwandan MNCH and PRH COVID-19 Working Group

In Rwanda, GHSC-PSM and partners (including USAID and UNFPA) in the Sexual Reproductive Health Technical Working Group in Response to COVID-19 (SRHTWG-COVID19) began participating in weekly virtual meetings, starting in April 2020, to provide technical assistance for continuing reproductive, maternal, newborn, child and adolescent health (RMNCAH) services during the COVID-19 pandemic.

The meetings seek to address challenges likely to arise during this difficult period, such as lack of data to inform decision-making, lack of sufficient transport means for pregnant women to reach health facilities, and insufficient PPE in some health centers for health care providers.

Notable short-term results include:

- Regular check-ins with MOH and Rwanda Biomedical Center counterparts
- Prioritization of PPE procurement
- Regular monitoring of lifesaving RMNCAH commodities

The group has also highlighted opportunity areas for strengthening health supply-chain preparedness, service delivery, and availability of essential RMNCAH services at the health facility level. As a result, guidelines for health professionals are being developed and a rapid assessment is being carried out to determine what is happening on the ground during COVID-19.

B5. Other Emerging Health Threats

Delivered 160,000 bottles of repellent to Ecuador to protect individuals from Zika virus infection and avert microcephaly cases.

Distributed repellent and condoms to antenatal care facilities in Ecuador and El Salvador to ensure that pregnant women have access to Zika prevention commodities.

Conducted technical assistance activities in three countries and held a workshop for the Dominican government to build the capacity of health ministry supply-chain teams to **prepare for future outbreaks of infectious disease**.

Zika is an arbovirus and sexually transmitted infection that can cause severe birth defects when it infects women during pregnancy. GHSC-PSM is working with Ministries of Health across Latin American and the Caribbean to provide critical Zika diagnostic and prevention supplies. The project is also building resilient supply chains that are equipped to face the challenge of emerging public health threats when they arise.

Supporting the Zika Response

GHSC-PSM provides commodities used by health programs to help pregnant women throughout Latin America and the Caribbean to avoid contracting Zika. The project is equipping health ministries with male condoms and mosquito repellent and providing technical assistance to prevent Zika's spread.

In Q3, the project disseminated a lessons learned document summarizing key takeaways from the extensive technical assistance provided to countries to prepare for health emergencies. This national strengthening effort has served countries to properly respond during the recent COVID-19 pandemic.

Repellent

GHSC-PSM delivered 160,000 bottles of repellent to Ecuador in Q3. Handover of the commodities to the government is expected in early July 2020.

Emergency Supply-Chain Preparedness

Dominican Republic

In Q3, GHSC-PSM supported institutionalization of emergency supply-chain preparedness (ESCP) in the Dominican Republic. The project supported implementation of the following activities:

- Led development of a standard operating procedures manual that maps the processes required for a proactive and responsive emergency supply chain. This manual describes the timing, actions required, and people responsible for carrying out the needed steps to maintain the supply chain during a public health emergency. The manual standardizes ESCP processes related to people and personnel; supply planning; transportation and logistics; and transition from emergency to routine supply chain.
- Developed a monitoring checklist to determine the level of preparedness of the health supply chain, encourage steps to remain prepared to respond to an epidemic or health-related emergency, and

ensure that drugs and medical supplies are available and can reach the point of care in the most efficient way.

- Developed a Ministerial Resolution that orders creation of a national committee responsible for maintaining and managing the ESC in the country. The resolution appoints the personnel, financial resources, and infrastructure needed to carry out ESC process as described in the standard operating procedure (SOP) manual. The ministerial resolution ensures the continuity of the ESC within the MOH, regardless of changes in government administrations; an important contribution to the institutionalization of the ESC that enhances sustainability.
- Provided ESCP training for MOH personnel. At the request of the MOH, GHSC-PSM carried out two workshops to strengthen the knowledge of the ESC processes included in the SOP manual and disseminate and socialize the details of the ministerial resolution. Because of the COVID-19 pandemic, these workshops were held virtually for 31 MOH staff members.

Caribbean

GHSC-PSM is preparing for a virtual one-week ESCP workshop in the Caribbean that will engage participants across several countries to be confirmed in Q4. The workshop will begin in mid-August.

Peru

In Q3, GHSC-PSM continued conversations with the contacts in Peru around an adapted ESCP workshop to be delivered virtually in mid-August. The Peruvian government is eager to receive ESCP training and has confirmed its availability to attend.

SECTION C

PROGRESS BY OBJECTIVE

C1. Global Commodity Procurement and Logistics

Procured $336.2 million in health commodities. Procurement values have reached **$2.9 billion for the life of the project**.

Delivered 1,145 line-item orders in Q3, with a value of **$180 million**.

Delivered 91 percent (74 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 88 percent (79 percent COVID-impacted) on time and in full.**

Key challenges, mitigation, and lessons learned

In Q3, COVID-19 continued to impact all aspects of the global supply chain. Suppliers in India were challenged by reduced capacity, delays in receiving APIs and KSMs, shortages of packaging material, and lags in securing QA approval. Logistics continued to be impacted at origin and destination with passenger flights suspended across the globe and port offices working with minimal staff, which delayed clearance and the ability to process products for delivery. To mitigate these issues, GHSC-PSM prioritized and split orders where possible to ensure that demand was met across countries. GHSC-PSM contracted two charters to Nigeria (one from India and another from UAE) in May 2020 to alleviate reduced air capacity going into the country. (See Deliver/Return section below for more details).

In response to growing concerns involving the availability of mRDTs to meet current and near-future needs, due to multiple supply constraints imposed by COVID-19, the project took a three-step approach to mitigate country-level risk, which involved allocating existing supply based on country urgency, collaborating with global partners, and issuing a volume-based tender for additional supply through CY 2020. For additional details, see section B2, Malaria.

C1a. Global Supply Chain: Focused on Safe, Reliable, Continuous Supply

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

- Reduce response/cycle times, lead times, and transaction costs
- Increase on-time deliveries
- Balance price, delivery, and quality (i.e., achieve best value)

In Q3, the project maintained strong OTD and OTIF while operating within the context of the pandemic, continuing our focus on performance, and managing overall commodity and supply-chain costs. We did so by focusing on the following initiatives.

The Global Supply Chain at a Glance

- 64 countries served over the life of the project
- 2,169 products in the catalog provided by 215 suppliers
- Five international freight forwarders responsible for 7,141 shipping lanes

More Health Through Market Dynamics, Strategic Sourcing and Supplier Management

GHSC-PSM continues to work across the project and alongside external stakeholders to understand markets for the medicines and other health commodities that the project 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 Q3, GHSC-PSM continued to conduct market analysis, lead strategy development, pursue sourcing best practices, contribute to process improvements, lead negotiations, and continue proactive contract management with suppliers. The project continued to execute 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 response. See sections B1, B2, B3, B4, and Annex X for details.

Supplier Relationship Management

GHSC-PSM temporarily halted quarterly business reviews with 11 critical suppliers during Q3 as day-to-day operations shifted to managing COVID-19 impact. Instead, the project held weekly and monthly meetings with key suppliers with a focus on tactical operations to assess near-term impact because of regional shutdowns caused by COVID-19. Quarterly business reviews will resume in Q4.

Also, the project rolled out commodity and supplier risk profiles to systematically assess risk across all task orders for health commodities considered of high programmatic importance. The risk profiles, which combine commodity-specific procurement data analysis with qualitative supplier intelligence, are intended to inform short- to medium-term sourcing/allocation strategies. As the COVID-19 situation improves, this analysis will continue to evolve and be used to inform longer-term sourcing and supplier strategies.

RDC Operations during COVID

In Q3, each of the three RDC locations were affected at different times by the COVID-19 pandemic. The first was Belgium because of the quick spread of the virus in Europe. Flexibility allowed RDC operations to continue without incident, but product transport difficulties to and from the warehouse were the primary challenge. The RDCs in Dubai and South Africa were affected by COVID about a month later, in May 2020. Effective planning that focused on the health and safety of personnel and transportation workers minimized processing delays. Most problems at these locations were also because of difficulties securing transport.

In addition to the operational changes in the warehouses, to get ahead of anticipated transport challenges because of COVID, several countries requested quick delivery of products held in the RDCs, thus leading to a more rapid drawdown in the quantity of unallocated products held there. Because of requests by countries to deliver products earlier because of COVID-19, Q3 FY 2020 was the fifth-highest quarter in deliveries by value from RDCs with more than $55 million of products delivered during this period.

Decentralized Procurement

GHSC-PSM continues to pursue its strategy of decentralized procurement (DCP) that manages procurement of carefully selected goods and services through nine field offices. With DCP, the procurement specialist is closer to the recipient and to the authorized local and international suppliers. With these advantages over international procurement, DCP allows for more efficient coordination and processing of any changes in specifications, quantities, or delivery terms; reducing cycle time and bolstering on-time delivery. Commodities procured under DCP include laboratory commodities, viral-load, and EID in all nine countries and essential medicines in Zambia.

Decentralized procurement countries

Burundi
Ethiopia
Haiti
Mozambique
Nigeria
Rwanda
Uganda
Zambia
Zimbabwe

In Q3, the project continued to manage a high volume of orders (412) under DCP, with 91 percent OTD for the quarter; however, these orders faced challenges because of COVID-19, setting our COVID-impacted OTD at 74 percent. Examples of issues and solutions include:

- **Logistics.** Several international shipments managed under the DCP program were available at the vendor or manufacturer but could not be moved to their destination because of unavailability of flights or to lockdowns at points of origin or destination. The project looked at creative solutions such as charter flights and switching from airfreight to ocean, however some adjustments lead to increased freight costs or delayed delivery. Challenges related to cold chain and frozen shipments out of Europe also continued. Because of the high volume of commodities going into **Nigeria**, the program there was particularly impacted because of issues in origin and at destination countries. For **Mozambique**, where air shipments were severely restricted, the project sent some shipments to South Africa by air and then sent them on to Mozambique by road.
- **Personal protective equipment**. Production in China continued to be stalled and shipments of some non-COVID-19 specific personal protective equipment (PPE) (for ongoing health programs) delayed as manufacturers ramped up production-of PPE for COVID-19 response. Several countries implemented bans or added requirements for PPE exports. For products like examination gloves, the demand continued to exceed supply, negatively impacting price and availability.
- **Viral-load/EID supply**. Because two major suppliers of viral-load and EID test kits and consumables are also manufacturing COVID-19 test kits, supply has been limited. This situation particularly impacted the DCP program. GHSC-PSM continuously monitored stock status, had weekly calls with manufacturers to identify bottlenecks and agree on allocations to individual countries, and facilitated discussions with manufacturers, PEPFAR and USAID to keep all stakeholders informed.

Driving Performance with Analytics Tools

As part of the project's continual improvement processes, GHSC-PSM continues to strengthen existing tools to meet emerging needs and to design new tools to support innovations in operations. The project is heavily evaluating opportunities for machine learning, artificial intelligence, and robotic process automation to reduce manual intervention and redundancies to decrease cycle time and operational expenses. Recent updates that help the project better meet USAID's needs include the following:

Requisition order automation tool

The project piloted an RO automation tool focused on lab and decentralized procurement program commodities with the goal of reducing the number of days from RO clarification to initial RO approval for all products with long-term agreements and to automate sourcing decisions and remove the manual touchpoint. Data from the pilot are being used to evaluate the tool's impact on cycle time and operational cost reduction. Full release of the tool for use by all TOs is expected by the end of FY 2020.

Viral-load dashboard

As part of its move toward next-generation predictive analytics, GHSC-PSM began planning for a viral-load visual management platform. This dashboard will sync with vendor databases gathering data from "smart" viral-load machines at the field level regarding machine function, quantities of tests performed, etc. These data will provide critical insights for forecasting, visibility into service needs, and performance. The dashboard prototype will be presented to USAID in Q4.

Global Standards

In January 2018, GHSC-PSM implemented a new procurement requirement for suppliers of pharmaceuticals, medical devices, laboratory reagents, and sterile kits to identify and label their commodities in accordance with GS1 global standards for healthcare. The requirement also includes exchange of product master data through the GS1 GDSN. Beginning in January 2020, GHSC-PSM also implemented these requirements for suppliers of LLINs based on the recommendations stemming from the TraceNet Working Group. For more details, see section B2, Malaria.

To provide suppliers with the time needed to make necessary investments for compliance, the requirement has a phased implementation approach, with four phases being implemented between December 2018 and June 2022.

Supplier Compliance Metrics Development

In Q3, GHSC-PSM hosted a series of interactive sessions with contributors from USAID to develop a common definition of success, metrics, and targets for global standards supplier engagement.

The contributors agreed on the following definitions of success and corresponding metrics:

- Item coverage: The percentage of in-scope products that are GS1 compliant, disaggregated by product category, task order, and phase. A high proportion of items that demonstrate GS1 compliance indicates that the products available for procurement through GHSC-PSM are prepared to enable supply-chain participants to leverage global standards for enabling traceability.

- Order coverage: The percent of total order lines (delivery orders and POs) released for fulfillment in the past 12 months that are GS1 compliant, disaggregated by product category, task order, and phase. A high proportion of orders procured by GHSC-PSM demonstrating GS1 compliance indicates that the products procured through GHSC-PSM are prepared for further traceability initiatives. This metric will be reported annually, beginning Q1 FY 2021.

To ensure high-impact coverage, the item coverage targets are measured by item category, segmented into two groups, and structured to ramp up over time starting at the phase deadline. The groups are determined by the percent of spend in the last 12 months, with Group A comprising the top 95 percent of spend and Group B comprising the remaining 5 percent. The targets follow the table below, starting at 50 percent and 40 percent, respectively, and increasing until they reach a final 90 percent and 80 percent, respectively.

Timing	Group A (95% of spend)	Group B (5% of spend)
At phase deadline	50% compliance	40% compliance
6 months post-deadline	65% compliance	55% compliance
12 months post-deadline	80% compliance	70% compliance
18 months post deadline	90% compliance	80% compliance

Supplier Performance

For the global standards supplier requirement, two key groups need to be considered as the requirements for pharmaceuticals, medical devices, sterile kits, and reagents differ in timeline from the requirements for LLINs.

For pharmaceuticals, medical devices, sterile kits, and reagents, suppliers are currently required to provide evidence of the following capabilities:

- Phase 1: provide GTINs identifying trade items and levels of packaging; provide GLNs identifying their business entities and locations; label tertiary pack trade items with a barcode encoded with the GTIN, batch/lot, and expiration date.
- Phase 2: submit master data for trade items through the Global Data Synchronization Network (GDSN).
- Phase 3: label the secondary (or primary, in the case of cartonless packaging) pack trade item with a GS1 DataMatrix encoded with the GTIN, batch/lot, and expiration date.
- Phase 4: encode and include the serial number on the trade item datamatrix and homogenous trade item datamatrix or GS1-128 barcode; encode and include the SSCC in the GS1-128 barcode on the mixed or partial trade item and logistic unit
  *Phase 4 will not be a mandatory GS1 requirement until June 30, 2022

Exhibit 10. FY20 Q3 Trade Item Global Standards Compliance Rates by Phase

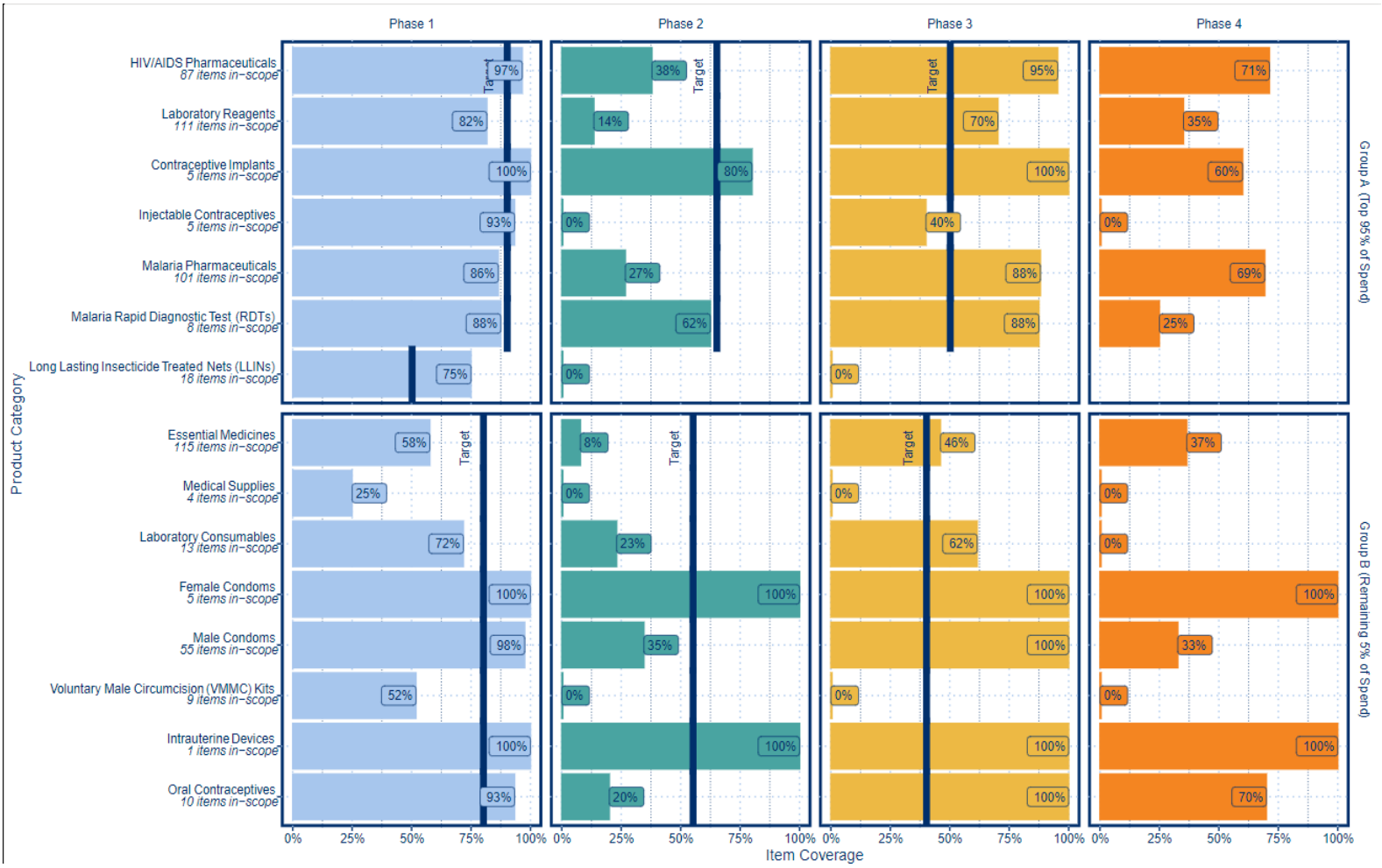
Commodity Subcategory	Phase 1 Compliance as of Q3 FY2020 (Mandatory as of December 2018)	Phase 2 Compliance as of Q3 FY2020 (Mandatory as of December 2019)	Phase 3 Compliance as of Q3 FY2020 (Mandatory as of June 2020)
TOI			
Female Condoms	100%	100%	100%
HIV/AIDS Pharmaceuticals	97%	38%	95%
Laboratory Consumables	72%	23%	62%
Laboratory Reagents	82%	14%	70%
Male Condoms	98%	35%	100%

VMMC Kits	52%	0%	0%
TO2			
Malaria Pharmaceuticals	86%	27%	81%
Malaria RDTs	88%	63%	88%
TO3			
Contraceptive Implants	100%	80%	100%
Injectable Contraceptives	93%	0%	40%
Intrauterine Devices	100%	100%	100%
Oral Contraceptives	93%	20%	100%
Cross Cutting			
Essential Medicines	57%	8%	46%
Medical Supplies	25%	0%	0%
Grand Total	**81%**	**23%**	**74%**

The charts below demonstrate supplier compliance for in-scope items as of June 30, 2020, against current targets. The project continues to see a positive trend in compliance across all four phases, including jumps from 69 percent to 81 percent compliance and 11 percent to 23 percent compliance for Phases 1 and 2, respectively, from last quarter. LLIN suppliers demonstrated strong performance in meeting Phase 1 requirements with 75 percent compliance in receiving GTIN and GLN data. Phase 3 compliance is also strong, with 74 percent overall compliance established as of the June 30 deadline, exceeding our target of 50 percent. The remaining gaps in Phases 1 and 3 compliance are largely driven by a lag in compliance from wholesalers, whose GS1 data collection process is often more complex, themselves having to engage multiple manufacturers for identification and labeling data; this is being actively addressed through a more frequent bi-weekly engagement cadence with each wholesaler and continuing to emphasize GS1 compliance as a driver in future award decisions.

The Phase 2 GDSN requirement compliance continues to lag in most product categories, largely because the GDSN concept was entirely new to all but two GHSC-PSM suppliers who already had existing GDSN contracts when the GHSC-PSM requirement was launched. There has been significant progress in supplier commitment to meeting the GDSN requirement, with 82 percent in-scope suppliers now having signed a data pool contract. However, the learning curve to synchronize data through the GDSN has been significant for some suppliers, and they are still in the process of working internally and with their data pools to aggregate and load their product master data onto the platform. As this is sometimes a lengthy process, the

number of suppliers with a signed GDSN contract is a strong indicator that significant growth in compliance should be realized soon as suppliers complete that work.



Quality assurance

GHSC-PSM continues to collaborate with GHSC-QA for quality assurance (QA) and quality control (QC) for Task Orders 1, 3, and 4 to maintain communication flow, identify areas of mutual concern and solutions, and ensure QA requirements are incorporated into GHSC-PSM systems, as applicable. In Q3, the project:

- Maintained frequent, standardized communication including weekly meetings with GHSC-QA staff for timely and effective implementation of QA/QC requirements.
- Continued to manage product quality incidents (40+ reported in Q3) related to non-conformance with specified standards/requirements, product complaints or concerns raised by GHSC-PSM customers, product performance issues such as recalls (two recalls reported in Q3) or safety notifications reported by suppliers/manufacturer/regulatory authorities, temperature excursions during storage and/or transport, and/or potential product damage notices during storage and/or transport. GHSC-PSM ensured these incidents were reported per applicable SOPs through the incident management system (AssurX).
- In collaboration with GHSC-QA, continued to provide QA support to COVID-19-related activities.

As the process leader of the recall/market withdrawal SOPs, the project drafted this SOP that is in the final approval stage. This SOP will optimize GHSC-QA and GHSC-PSM's collaboration and the overall recall response process, as well as manage other crises that may have potential direct/indirect impact on procuring quality products.

QA for malaria commodities

In Q3, the project continued to adjust QA/QC activities to mitigate delays because of COVID-19 related testing and shipping restrictions for samples and commodities. The project completed the review and prequalification of nine new pharmaceutical, RDT, and LLIN products to expand the project's supplier pool and to allow for greater flexibility and access to commodities amid COVID-19 constraints. GHSC-PSM also continued to collaborate with global donors on QA activities. See section B2, Malaria, for additional details.

Deliver/Return

Impacts of COVID-19 on freight and logistics

In Q3, deliveries faced a shipping environment defined by unprecedented COVID-19 shutdowns. The project adapted to unforeseen shifts in the marketplace and worked closely with the 3PLs to find solutions to ensure continuous reliable supply.

- **Origin challenges.** Q3 brought challenges to shipments out of Europe and India. Import/export activities came almost to a halt as air freight capacity dissipated when passenger flights were cancelled. Country-wide lockdowns in India were renewed through Q3, severely impacting intra-state/long-haul trucking to ports of departure. Inter-country trucking suffered delays, and air and ocean backlogs led to congestion in and out of ports in addition to lack of truck and driver availability. Europe's policies had less of an impact on truck movement; some border crossings were impaired, and movement was slower because of limited driver availability. In Africa, trucking across borders to inland countries was hampered by officials' interpretations of vague quarantine and testing requirements that then morphed into arduous testing processes once initiated. Uganda, at one point, had trucks backed up across multiple lanes as far as 60km back into Kenya.
- **Air freight.** When international travel bans began in Europe around March 14, flight capacity dropped sharply. Airlines either cancelled 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 were having a major impact. As the only available flights were freighters or charter, prices quickly escalated well above previous market prices, depending on destination.
- **Ocean freight.** The ocean industry implemented a quick disciplined approach to vessel scheduling to maintain viable capacity so the need for cargo vessels fell, and many sailings were cancelled. Ocean shipments, faced with the many "blank," i.e., canceled sailings, had longer lead times, but also required rigorous efforts to identify solutions to reefer container shortages in India. Globally, maritime crews were not allowed to disembark at ports because of potential COVID-19, highlighting an unseen challenge in the industry, and many ships were not permitted to dock because of country policies, leading to some port delays.

Cold chain challenges.

Airlines became increasingly risk averse to moving frozen and cold chain products, making it nearly impossible to find flights for frozen reagents that need to be stored at –20C and re-iced every two days. GHSC-PSM weighed risks: fly cargo and risk high storage costs and damage to temperature-sensitive reagents if booked flights were cancelled or wait for certain schedules and risk the possibility of weeks or months without flight capacity from Europe to Africa. GHSC-PSM and the 3PLs assessed these risks on a

consignment-by-consignment basis to identify the most appropriate solution. In some cases, this meant "white-glove" management and development of creative solutions as the 3PLs leveraged their relationships with airlines.

Securing Charter Flights to Overcome Flight Shortages and Avoid Stock-outs

When the international airfreight market collapsed because of COVID-19, GHSC-PSM recognized that several HIV/AIDS and malaria commodities for Nigeria urgently needed to be shipped because of cargo backlogs in India that would be exacerbated by limited flights and a planned ARV campaign in Nigeria. The project identified two charter flights to deliver ACTs and ARVs to Nigeria. In April, the project conducted a bidding process to identify the logistics provider, which used one 777 aircraft outfitted as a freighter and one 777 passenger plane with available belly space.

To achieve this, the project needed to overcome various challenges, including continuously changing freight prices, collecting cargo from four suppliers (three for ARVs and one for ACTs) during the government lockdown in India, obtaining special approval to waive clean reports of inspection and analysis requirements, and adhering to Nigeria's quarantine restrictions. The project watched the market closely until identifying a company that could accept our cargo despite price fluctuations. To collect cargo from multiple suppliers, 3PLs worked with local governments to obtain intra-state approvals and permits, and staged commodities in locations where the cargo could be easily consolidated for transport to the airport.

In early May, the project completed one charter flight shipment from India to Nigeria with 352 pallets of HIV/AIDs and malaria commodities—combining HIV/AIDS and Malaria commodities for the first time in project history—and one charter flight shipment from the RDC in the UAE to Nigeria with 113 pallets of HIV/AIDS commodities. The shipments were completed within a month, with both flights arriving on the same day, leading to quick clearance and delivery.

Hybrid Solutions to Mozambique Border Closures

In early April, Mozambique shut down all borders because of the pandemic apart from one land border connecting to South Africa for cargo only. With limitations on the movement of persons and goods, this caused a scarcity of direct flights into the country.

Despite the limitations on shipments, GHSC-PSM worked diligently to find a workaround that would ensure the delivery of goods and identified space on an air freight cargo flight from Mumbai, India, to Johannesburg, South Africa. Upon arrival in Johannesburg, the cargo was moved in dedicated bonded trucks to Mozambique for final delivery through the Lebombo/Ressano Garcia Border Post between South Africa and Mozambique, the only border open for cargo movement. The project also used trucks for the land shipments of FP/RH commodities originating in South Africa.

By taking advantage of more frequent flights into South Africa, the project secured cheaper flight costs and faster delivery. For land shipments that used more than one truck, the project requested advance customs clearance that helped to reduce the wait time at the border.

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:

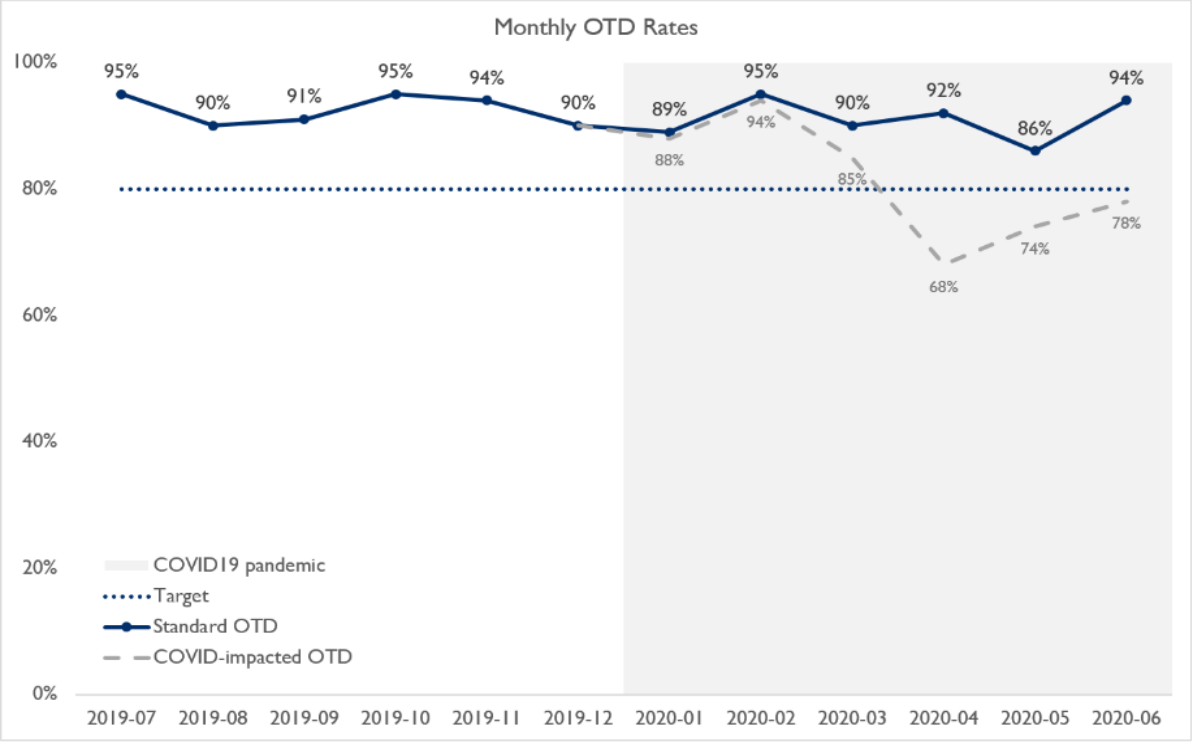
- OTD is the number of on-time deliveries as a percentage of expected deliveries in the period.
- OTIF reflects the number of on-time deliveries as a percentage of all actual deliveries in the period.

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

In Q3, GHSC-PSM OTD was 91 percent (74 percent COVID-impacted) and OTIF 88 percent (79 percent COVID-impacted) for the quarter, the fourth successive quarter that OTD has been above 90 percent and OTIF at 85 percent or above. (See Exhibits 11 and 12.)

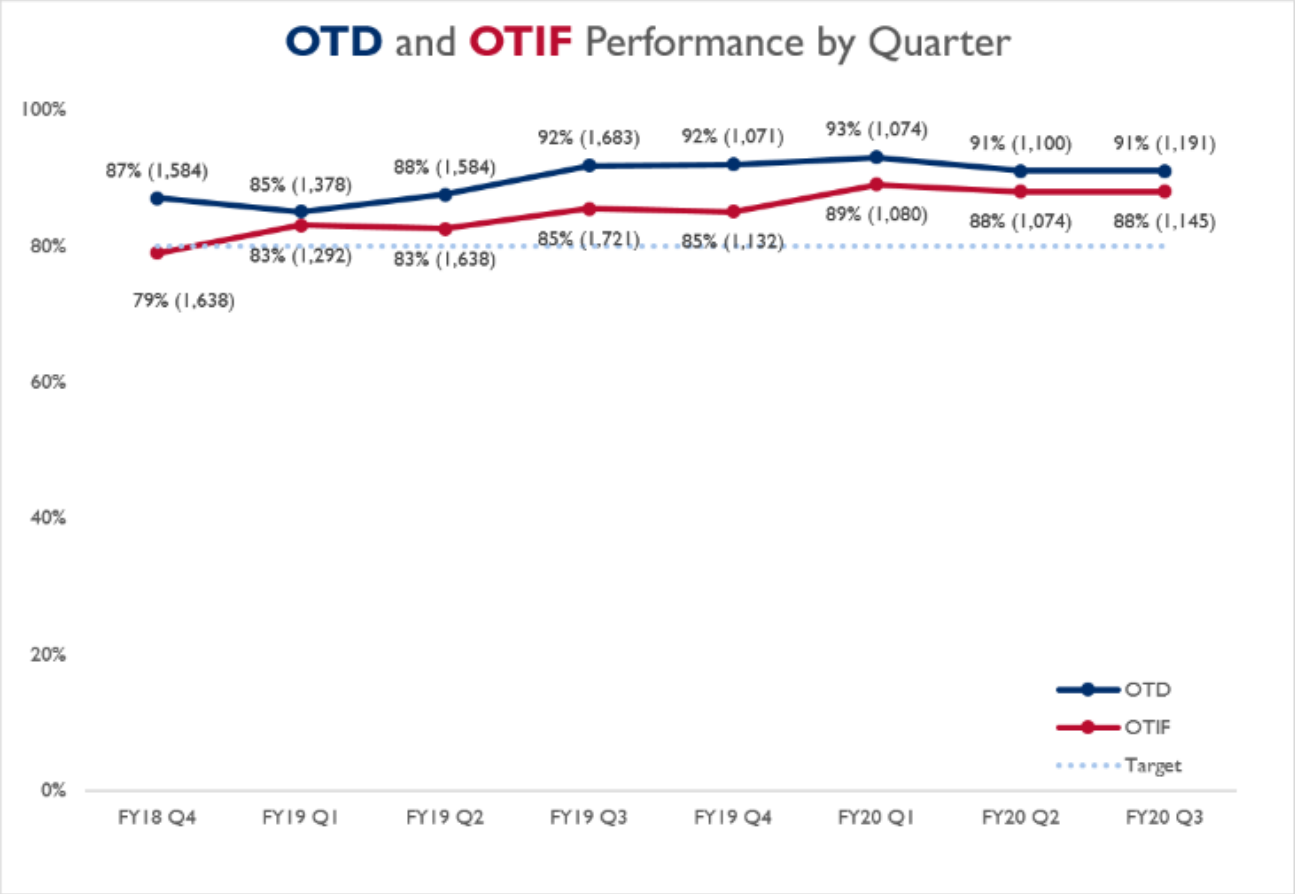
As mentioned in the Executive Summary, during the period of the COVID-19 pandemic, GHSC-PSM is presenting two versions of its usual OTD indicator. The first will be the "standard" version, calculated according to the indicator definition as laid out in the project's monitoring and evaluation plan and in accordance with all associated policies. 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 to demonstrate the impact of COVID-19 on GHSC-PSM shipments.

Exhibit 11. July 2019 through June 2020 monthly OTD



While pandemic-related disruptions began to arise in December 2019, impacts on deliveries in Q2 FY 2020 were comparatively limited. Orders planned for delivery in January and February were largely in later stages of manufacturer fulfillment and could proceed to deliver on-time. However, as the pandemic escalated into Q3, the number of impacted orders started to rise. In Q3, the three commodities most impacted by COVID-19-related delays included laboratory commodities, ACTs, and pediatric and adult ARVs.

Exhibit 12: OTD and OTIF (sans-COVID) over the last eight quarters



C2. Systems-Strengthening Technical Assistance

Assisted 39 countries with health supply-chain systems strengthening.

Provided **technical feedback on 152 supply plans** to strengthen national supply planning capabilities.

Published a new guidance document, "Stronger Together: Preparing supply chains for what's next with COVID-19 response."

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 field 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. Each supply chain should be managed by supply-chain professionals dedicated to quality improvement, and, where possible, develop strategies to outsource functions to accountable private-sector providers.

Different health areas fund supply-chain systems-strengthening assistance in each country. The costs are proportionally shared across health task orders (HIV/AIDS, malaria, FP/RH, and MNCH). Cost-sharing formulas are reviewed annually to verify that each health area's share of the total cost for technical assistance remains equitable. Systems-strengthening efforts associated with health area-specific activities (e.g., LLIN distribution for malaria or viral-load scale-up for HIV) are supported entirely by the relevant health area.

C2a. Activities and Achievements

The project strengthens health supply-chain systems by bringing tailored assistance to yield important achievements and results. Following are highlights of where and how GHSC-PSM applied health supply-chain systems-strengthening approaches in specific countries in Q3.

Warehousing and Distribution

GHSC-PSM continues to improve warehousing and distribution systems through 33 field offices. Interventions aim to improve data-driven decision-making across the supply chain, optimize warehouse networks, and increase efficiencies in warehousing and distribution operations. GHSC-PSM launched remote support to Ghana for activity-based costing (ABC) and remote installation of the TransIT application in Lesotho and Zambia.

- ***Activity-based costing.*** In Uganda, GHSC-PSM continues to support the Joint Medical Stores (JMS) in viewing revenue streams and costs for privately and publicly funded commodities. The JMS operations team has become proficient at analyzing their labor report, which helps identify gaps in staffing, determine the correct number of employees for each task and labor category, and identify areas to focus on for evaluations and improvement. In Ghana, GHSC-PSM began working with the Supplies, Stores, and Drug Management Division to identify potential warehouses to launch capacity building for ABC. In Lesotho, ABC continues to demonstrate its value; the National Drug Service Organization celebrated more than three years of improved financial performance and reduced order cycle times.
- ***Temperature and humidity monitoring in the supply chain.*** GHSC-PSM continues to collect data from temperature and humidity data loggers installed in Burkina Faso, Cameroon, Ghana, Guinea, Haiti, Mozambique, and Zimbabwe. In Ghana, based on the demonstrated value of previously installed temperature loggers in two regions, GHSC-PSM procured additional devices for warehouses and delivery trucks in two more regions for anticipated installation in July 2020. Following installation of temperature sensors in all of Zimbabwe's National Pharmaceutical Company (NatPharm) regional warehouses in March 2020, GHSC-PSM began helping the organization to read reports and continuously monitor and remedy temperature excursions. Because of COVID-19, the project began transitioning to remote training to continue installation activities in Burkina Faso and Mozambique.
- ***Transportation information tool (TransIT).*** GHSC-PSM and USAID continued transitioning TransIT to an open-source product by the fall of 2020. TransIT is an electronic tool that transmits real-time proof of delivery to health facilities. The United Nations Foundation's Digital Impact

Alliance is helping with the initiative. Also, GHSC-PSM is working with stakeholders, such as NatPharm in Zimbabwe, to highlight areas to streamline reporting and implement user-friendly systems to continuously improve service.

In **Senegal**, GHSC-PSM included capacity-building initiatives in the contract with a local parastatal organization for warehousing services. While managing the contract, GHSC-PSM will monitor key performance indicators, and provide needed support to build the capacity of the organization to achieve a high level of service. GHSC-PSM also helped develop improved requests for quotations (RFQs) and contracts for warehousing and distribution in **Malawi** and **Nigeria**. These modified RFQs aim to provide more measurable metrics to evaluate performance, thereby increasing accountability and performance of third-party logistics providers.

Workforce Development

GHSC-PSM strengthens public health supply-chain workforces through the project's field 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 in Q3 to Ethiopia (initiated distance-learning discussion), Rwanda (see below), and Zimbabwe (SOP development).

In **Guinea**, GHSC-PSM signed a memorandum of understanding (MOU) with the National Directorate of Pharmacy and Medicines. The MOU formalized a partnership with the University Gamal Abdel Nasser of Conakry (UGANC) and the University Kofi Annan of Guinea for the administration of a training course to current and future supply-chain managers. The MOU with UGANC documents how the training will be implemented at the nation's highest institution of learning. GHSC-PSM also supported an agreement on the approach for implementing a certificate training for fifth-year pharmacy students and a bachelor's degree at UGANC. The delivery of both pre-service and in-service trainings aims to strengthen the teaching and research competencies of the two higher institutions of learning in supply-chain management of public health commodities at the national, regional, and district levels.

In **Mali**, GHSC-PSM launched an innovative, e-learning platform for OSPSANTE—a USAID-funded LMIS tool essential to the MOH's logistics data management system—with the first video: "Data entry in OSPSANTE."[16] The platform helps overcome travel restrictions because of COVID-19, providing online training for Local Health Information System (SLIS) officers. The tutorials will be available at any time for users to quickly and easily learn their role in keeping data up to date in OSPSANdTE. In addition to anticipated cost reduction for training, the new program can be updated more quickly with new information, eliminates travel time for training, is less disruptive to workflow than in-person training, and is available to an unlimited number of participants. It also more effectively addresses the issue of high turnover of staff in the Bamako region and elsewhere. OSPSANTE facilitates collection and data analysis for HIV/AIDS, malaria, FP/RH, and MNCH commodities.

In **Rwanda**, a GHSC-PSM analysis found promising results for "Inspirational Supply Chain Management (SCM) Leadership and Change Management," a training program from November 2019 for key staff and leadership of the Bureau des Formations Médicales Agréées du RWANDA (BUFMAR). Two key measures of SCM quality improvement—use of the electronic logistics management information system and data accuracy[17]—showed measurable improvement at eight of 10 district hospitals. In another key measure,

[16] https://www.youtube.com/watch?v=i3WglbsK5Wk&feature=youtu.be

[17] The average data accuracy increased from 44 percent in February to 81 percent in March 2020.

BUFMAR's order fill rate increased from 45 to 55 percent, leading to improved access to medicines for patients. The 27 course participants included 14 staff from BUFMAR, two members of the BUFMAR board, and 11 director generals of district hospitals who work closely with BUFMAR. The course aimed to increase capacity and improve performance of BUFMAR staff to ensure reliable supply of pharmaceutical commodities and medical equipment and to foster better coordination among participants after completing the course.

Management Information Systems

GHSC-PSM strengthened supply-chain management information systems through 33 field offices and provided remote support to Angola, Eswatini, Guinea, and Thailand in Q3. These countries are at different stages of developing end-to-end data visibility, with data-driven mechanisms to support evidence-based decision-making.

In **Pakistan**, as an enhancement to the currently deployed LMIS,[18] GHSC-PSM introduced a chatbot technology,[19] a computer program that simulates human conversation and responds to end-user queries using artificial intelligence. This program allows users to receive an instant response to queries at any time. The LMIS chatbot icon is on the login page of LMIS for global access. Answers to questions are based on a database developed from past queries and will be updated periodically. GHSC-PSM also introduced a barcode-enabled interface to LMIS that increases efficiency up to 200 percent. One scan auto-populates items, batch number, and manufacturer, whereas the existing system required the user to scan the item barcode and then either separately scan the batch number or manually enter it into the system. The new interface supports accuracy and efficiency in record keeping, storage, warehousing, and dispensing.

Global Standards and Traceability

GHSC-PSM is supporting 16 countries to implement and use GS1 for product identification, location identification, and product master data. Adoption of global standards helps countries to reduce costs, enhance efficiency, facilitate recalls, decrease falsification and counterfeit products and improve the availability of health commodities in their public-health supply chains.

GHSC-PSM published "Human Resources for Traceability Implementation: Tools for Establishing Your Implementation Team" to support capacity building for traceability in USAID-supported countries.[20] This new resource includes tools to help implement traceability strategies, including:

- A notional organizational diagram
- Primary responsibilities and required skill set for the roles identified in the notional organizational diagram
- Detailed job descriptions for traceability project manager, regulatory specialist, and supply chain master data management specialist

Because of COVID-19 travel restrictions, GHSC-PSM provided remote support to Ghana, Malawi, Nigeria, Pakistan, Rwanda, Uganda, and Zambia. The project supported **Ghana** in preparing for a pre-traceability workshop meeting with the government, **Nigeria** to further refine the donor-funded national

[18] www.lmis.gov.pk

[19] http://lmis.gov.pk/bot/index.php

[20] http://ghsupplychain.org/GlobalStandardsRoleDescriptions

traceability strategy, and, in **Uganda**, to prepare JMS for its impending automatic identification data capture (AIDC) implementation.

In **Malawi**, GHSC-PSM established a routine monthly meeting with the MOH's Health Technical Support Services (HTSS), Central Medical Stores Trust (CMST), Pharmaceutical Medicines Regulatory Authority (PMRA), USAID, and VillageReach to advance commitment to and discussions around implementation of global standards. The group reviewed the Malawi Supply Chain Master Plan to document gaps in the existing legal frameworks that hinder implementation of GS1 in the public health supply chain and identified actions to address those gaps and support implementation in the next several months.

In **Rwanda**, GHSC-PSM established a monthly meeting with Rwanda FDA and MOH to sustain momentum on regulatory and governance activities related to GS1. Review of the model traceability regulation and AIDC specification—previously developed by GHSC-PSM—continued following a process that channels these documents through the formal regulatory process. GHSC-PSM also supported the Rwanda FDA in drafting an initial Product and Location Master Data Sharing Guideline for suppliers to share master data for the upcoming National Product Catalogue.

Support to the Rwanda Food and Drug Administration continued despite COVID-19. *Photo credit: GHSC-PSM*

In **Zambia**, GHSC-PSM supported two key activities: Master Data Management (MDM) and a Policy Framework. For the MDM, the project helped document the functional and technical requirements for policies that will enforce use of global standards and for a governance structure to manage product master data. The requirements-gathering exercise included analysis of existing product master files and in-depth interviews with CDC and USAID implementing partners and all relevant Zambia Government agencies, including the Electronic Supply Chain Management Information System program, Medical Stores Limited, MOH, and the Zambia Medicine Regulatory Authority (ZAMRA). The purpose of the MDM is to establish a robust product master data program through a National Product Catalogue. Through ongoing remote support to ZAMRA, the project helped develop new regulations to enable adoption of a unique identifier for all commodities on the market. Product identification and labelling will help Zambia prepare for the integration of all supply-chain systems and barcoding in the public health sector.

Laboratory Networks

GHSC-PSM continues to provide forecasting and supply planning support for laboratory products in 16 countries. By providing training on standard tools, such as ForLabPlus, GHSC-PSM helps quantification staff build local capacity and reduce reliance on external consultants.

Robust laboratory networks are essential to continuing diagnostic service for ongoing health programs and for COVID testing. The project provided remote support to laboratory programs in Burundi, Eswatini, Ghana, Liberia, Malawi, Nigeria, and Pakistan. Notable activities include:

- Reviewed and provided feedback to **Burundi** on a national laboratory strategic plan for 2020–2024 that will be updated in Q4.

- Assisted **Eswatini and Nigeria** in conducting laboratory quantifications.
- Reviewed a proposal and provided technical specifications to **Pakistan** to support the procurement of Biosafety Level 3 equipment for four mobile Biosafety Level III laboratories for COVID-19 response.

In **Liberia,** GHSC-PSM remotely reviewed and validated quantification for viral-load, EID, and other products that had been prepared by the MOH and other stakeholders. GHSC-PSM presented the ForLabPlus template to the MOH to use in collecting historical data for future quantification and training.

Thirteen countries provided viral-load and early-infant diagnosis monitoring data for April 2020 that were shared with the CDC and USAID at a viral-load strategic meeting. The process of monitoring the performance of these tests will continue every month to mitigate any risk of not attaining national targets because of the COVID-19 pandemic.

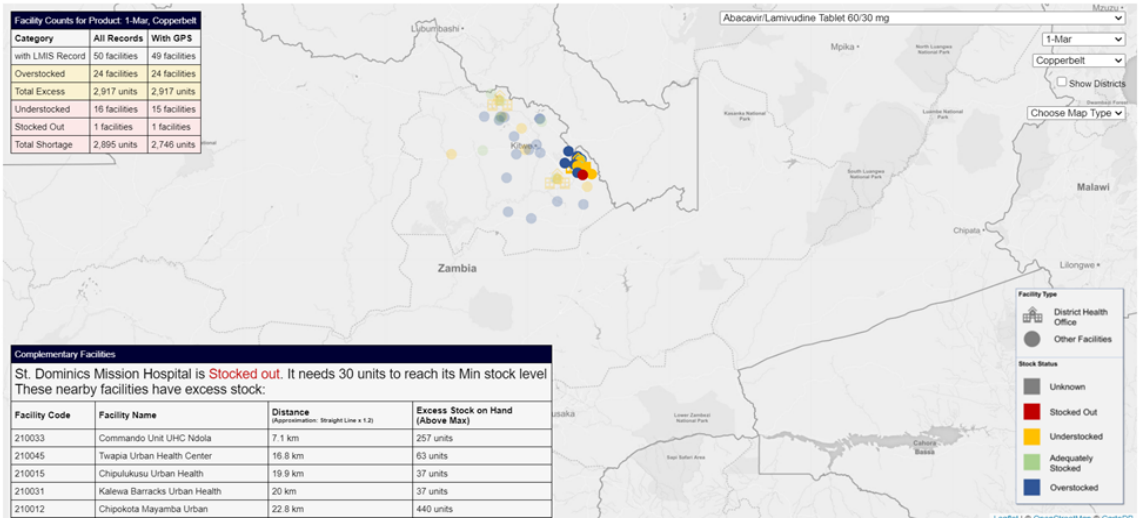
Advanced Analytics

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

In **Eswatini,** the GHSC-PSM country office introduced an innovative, time-saving solution for generating stock status reports at SDPs that also greatly improves data consistency and visualization compared to the old approach. For example, an ARV stock status report that used to require a week to produce now takes less than 10 minutes. This new process extracts stock status data from the central medical store's Commodity Tracking

	DETERMINE HIV 1/2			UNI-GOLD HIV KIT, 25T		
Name of Facility	SOH	AMC	MOS	SOH	AMC	MOS
Hhohho	2	4	0.5	1	4	0.3
Ngwenya Wellness	2	4	0.5	1	4	0.3
Lubombo	1	0	0.0	0		0.0
Tambuti Estate Clinic	1	0	0.0	0		0.0
Manzini	13	15	0.9	5	11	0.5
Cana Clinic	2	4	0.5	1	3	0.3
Phocweni Army Barracks	11	11	1.0	4	8	0.5
Grand Total	**16**	**19**	**0.8**	**6**	**15**	**0.4**

An automated stock status report for HIV rapid test kits in Eswatini.



Automated with GIS coordinates and maps, Zambia's stock redistribution tool helps identify and mitigate supply risks through redistribution of available stock.

System and imports it into STATA, a statistical package that automatically calculates average monthly consumption (AMC) and months of stock (MOS). An automated quality-assurance process checks for data outliers and inconsistencies in stock on hand, AMC, and MOS. The transformed and quality-assured data are then loaded into an automated tool that produces health-program-specific stock status reports. As a next step, GHSC-PSM will build capacity of the CMS's data management unit to generate and disseminate these program-specific reports monthly to all stakeholders to enhance stock status decision-making at the SDP level.

In **Zambia**, GHSC-PSM adapted to COVID-19 travel restrictions to ensure a reliable supply of public health commodities, including TLD and TLE, the two first-line ARV regimens. The project used its customized stock redistribution tool to coordinate redistribution of commodities from well-stocked sites to those with supply risks, including 1,510 90-count bottles of TLD to help reduce the risk of stockout in Copperbelt and North-western provinces. The tool, which draws data from the country's LMIS, shows stock status at sites and includes a built-in geographical information system and mapping function that show distances between facilities to support planning for deliveries. It enables the Zambia project office to determine the facility-level stock status for each commodity and advise the MOH on how to redistribute commodities from well-stocked facilities to those with supply risks within a small geographical area, such as a district. In addition to using the stock redistribution tool, GHSC-PSM also shifted to full-time remote supportive supervision of MOH provincial and district supervisors and some SDP staff to continue monitoring of logistics systems and stock availability. The project used telephone, email, and WhatsApp video calls to communicate regularly with MOH staff to troubleshoot lack of reporting, errors in data, or other issues. Where internet connectivity at SDPs prevented direct support and delayed some corrective actions, the project worked through provincial and district supervisors to fill the gaps in communication.

Forecasting and Supply Planning

GHSC-PSM continues to provide forecasting and supply planning support in 33 countries to help institutionalize processes so countries move from relying on external technical support to developing their own fully integrated FASP capabilities as part of the journey to self-reliance.

Because of the COVID-19 pandemic, GHSC-PSM shifted to remote support to ensure countries meet their planned FASP objectives, including support to the MOH in **Ghana** to forecast for COVID-19 commodities. The project developed the Multi-Month Simulation (MuMS) tool to help countries accelerate multi-month dispensing (MMD), following PEPFAR guidance to help lower the risk to patients of contracting COVID-19 by reducing the number of trips to pharmacies and the number of patients in health facilities. All PEPFAR-supported countries received MuMS to enable data-driven conversations between supply chain and clinical partners about the feasibility of accelerating MMD. The project also held a FASP discussion with 15 countries to share MNCH trends, observations, and risk mitigations strategies related to COVID-19.[21]

In **Botswana,** GHSC-PSM remotely facilitated a four-day bi-annual forecasting and supply planning workshop covering ARVs, TB preventive therapy (TPT), pre-exposure prophylaxis (PrEP), and sexual and reproductive-health. Following COVID-19 guidelines, 15 representatives from the CMS, MoHW, USAID, and other partners attended in person. The workshop generated a three-year commodity forecast and two-year supply plan for CMS to use for maintaining a reliable supply of public health commodities.

Staff from **Burma**, **Cambodia**, **Laos**, and **Thailand** learned—through remote training—supply planning principles and how to use the PipeLine tool. Also, the field offices created their first malaria supply plan

[21] https://www.ghsupplychain.org/trends-and-observations-maintaining-maternal-newborn-and-child-health-commodity-supply-time-covid

databases, uploaded data, and planned new shipments to meet the PMI requirement that all countries must submit quarterly supply plan updates.

In **Liberia**, GHSC-PSM supported remote quantification workshops for HIV/AIDS and malaria commodities, supporting the country with their application for Global Fund grants for procurement of these commodities.

In **Mali,** the annual health commodity quantification workshop took place in line with COVID-19 safety measures. To keep the number of participants under the maximum of 50 allowed by the government, the four technical working groups (TWGs) for HIV/AIDS, malaria, FPRH and MNCH selected ten representatives each to attend. Before the event, through multiple consultations and conference calls, each of the TWGs conducted weeks of advance work and data review to prepare their representatives. At the event in June, participants received two masks every day, and supplies of disinfectant gel, soap and water promoted hand washing. Breakout group leaders monitored compliance with COVID-19 social distancing measures. GHSC-PSM provided technical and financial support for the workshop.

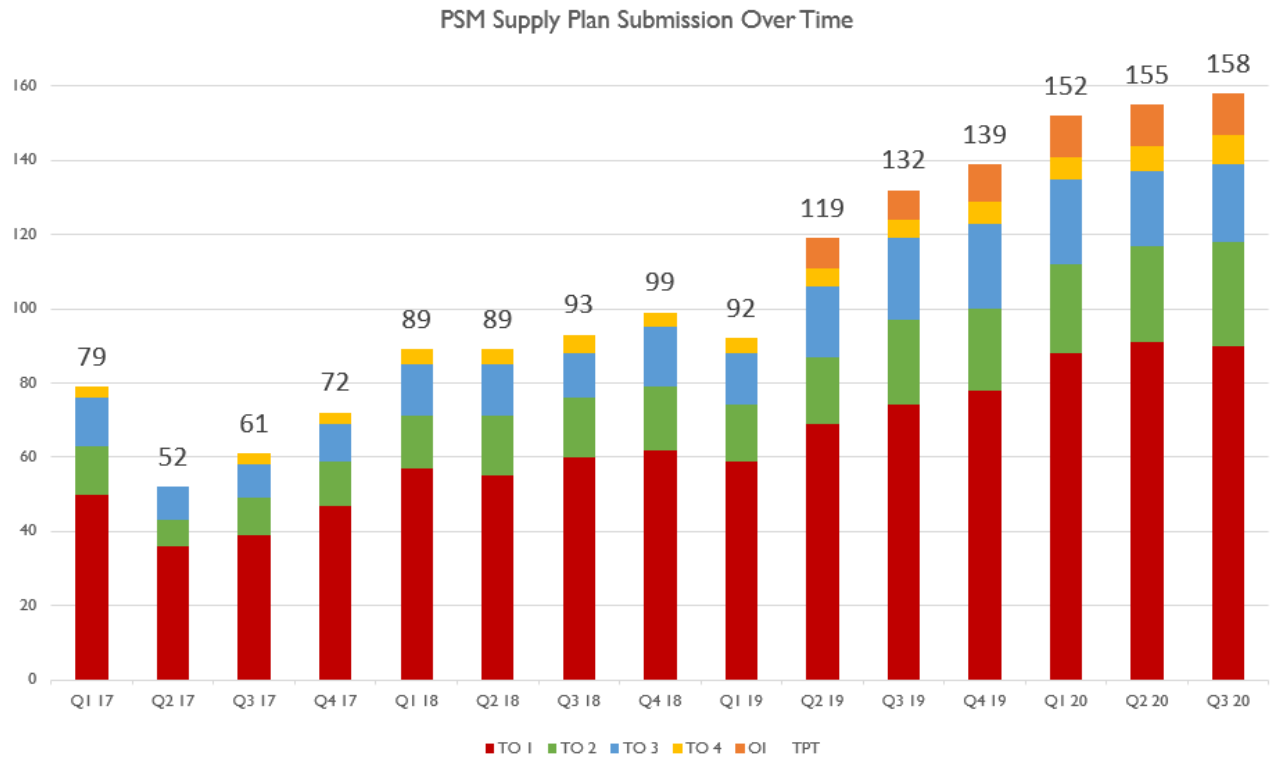
USAID Mali posted about the annual health commodity product quantification workshop on Twitter. *Photo credit: GHSC-PSM*

In **Rwanda**, the MOH and GHSC-PSM partnered to leverage the existing internet infrastructure and applications to conduct a supply plan review while complying with restrictions on travel and meetings with large groups. A WhatsApp group brought together key quantification committee members, acting as a virtual forum for providing direction on actions to take, discussing challenges, and finding solutions. For detailed discussions and for the final supply plan review exercise, the team convened virtual meetings to determine the desired delivery dates for future commodity shipments supporting the HIV/AIDS, malaria, FP/RH and MNCH programs.

Supply plans

Country programs continued to update and submit supply plans. Because of the worsening COVID-19 pandemic, and through a specific request from the HIV/AIDS task order, GHSC-PSM asked country offices submit their ARV, RTK, laboratory commodity, and TPT supply plans off cycle by May 15 to help streamline identification and mitigation of potential supply disruptions. Countries then had to submit once again June 15 for their regular submission cycle. Despite the increased number of data requests and challenges related to COVID-19 lockdowns, the total number of submissions was higher than the number received during the previous submission, for the sixth quarter in a row, as shown in Exhibit 13.

Exhibit 13. GHSC-PSM supply plan submissions over time



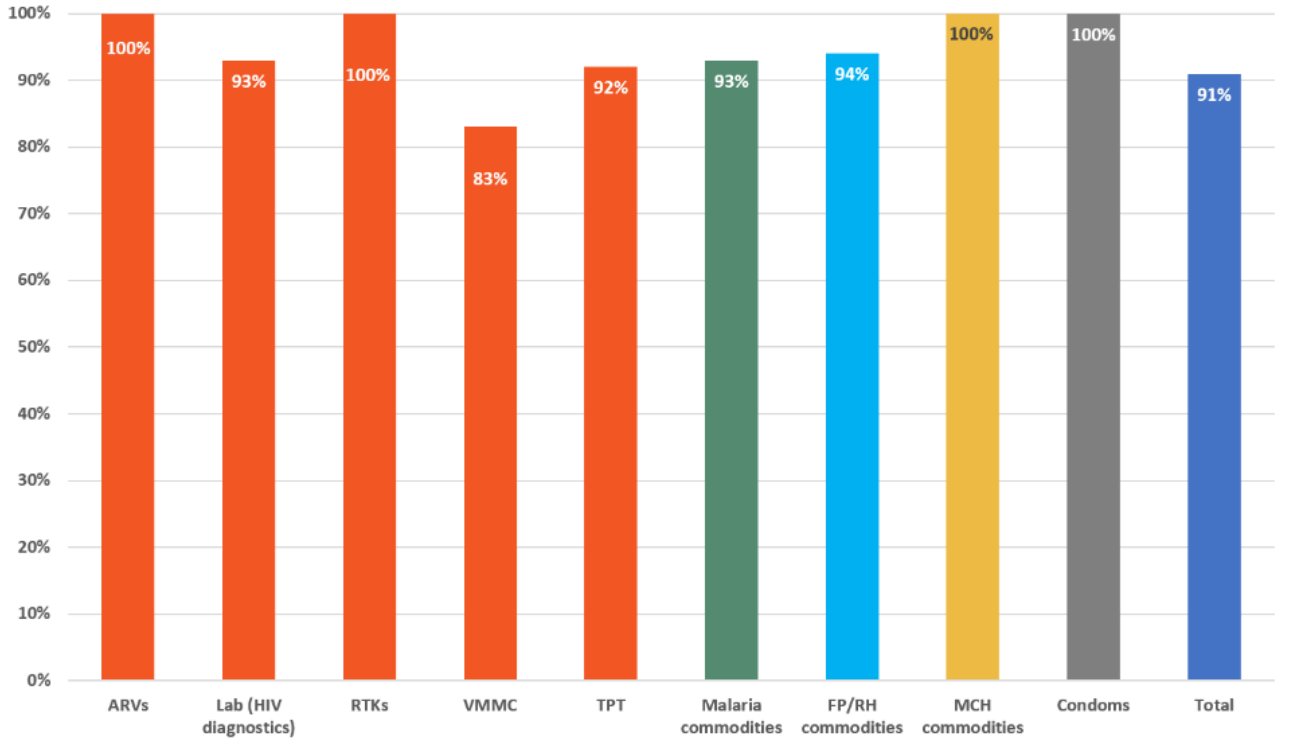
C2b. Project Performance

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 field offices to explore with in-country stakeholders.

Quarterly Supply Plan Updates

Exhibit 14 shows the percentage of countries conducting quarterly supply plan updates, a key indicator that is critical to ensuring procurements are planned well and advance so that adequate stock levels can be maintained across the supply chain. Placing orders well in advance is especially important because of delays in supply for some commodities because of the COVID-19 pandemic.

Exhibit 14. Percentage of Required Supply Plans Submitted During Q3 by Commodity Group



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. Countries develop and submit to GHSC-PSM supply plans for up to nine commodity groups. Supply plans are the source of country-level procurements, based on projections of consumption and inventory. For Q3, GHSC-PSM received 158 supply plans. Out of 148 expected Priority 1 supply plans, 141 were submitted from 37 countries.[22]

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 field 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. Due to COVID-19 travel and other public health restrictions, the number of individuals trained in Q3 was unusually low, with a total of 610 trainees (216 women and 394 men).

[22] Some supply plans that GHSC-PSM receives are not required because GHSC-PSM does not have a presence in the country or because GHSC-PSM does not procure the items covered by those plans. These additional plans nonetheless provide the project with insight on the market size and scope for various commodities and can be shared with global stakeholders.

Most trainings were cross-cutting, meaning they addressed topics relevant to multiple health areas. By funding source, 43 percent were trained with HIV/AIDS funding; 21 percent with malaria funding; 21 percent with FP/RH funding; and 15 percent with MNCH funding. Trainings focused on warehousing and inventory management, LMIS, governance and finance, transportation and distribution, and human resources capacity development.

C3. Global Collaboration

Participating in the Global Logistics Continuity Working Group focused on a global logistics network for humanitarian goods to identify options for moving global health products if commercial freight is not available.

In May, presented to UNICEF and the Maternal Health Supplies Caucus on project learning about the global supply of MNCH commodities and impacts on in-country MNCH supply chains because of COVID-19.

Participating on three task forces that support the WHO-convened COVID-19 Work Stream 3 on malaria commodities.

GHSC-PSM's global collaboration in Q3 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 requires us to collaborate with many global and local partners to ensure the availability of medicines and health commodities. By integrating our work across health sectors and sharing information, resources, activities and capabilities, we can achieve together what we could never achieve alone.

Strategic Engagement

As described throughout this report, GHSC-PSM engages actively with other global players to promote the availability of medicines and commodities. We do so by providing supply-chain expertise to important global fora, working with global partners to allocate scarce supply, promoting harmonization of standards and practices, and working to manage commodity stock information as a global good. Our contributions are recapped below.

Global Standards and Traceability

- In conjunction with USAID, GHSC-PSM has begun discussions with Global Fund and UNDP on plans to expand the viral-load/early infant diagnosis procurement and laboratory service improvements to more African countries. See section B1, HIV/AIDS, for additional details.
- GHSC-PSM continued to support the strategic development of the GFPVAN. In addition to supporting enhancement of the platform's functionality for users and development of a user dashboard to easily monitor stock levels, GHSC-PSM began a new initiative with UNFPA to identify mechanisms to harmonize exchange of program commodity demand data.

Supply-Chain Collaboration in Global Fora

GHSC-PSM represents the supply-chain point of view in key global meetings to ensure donors and governments consider the supply chain in program planning. This assists them in gaining timely access to the commodities their programs need. Participating in these meetings also helps GHSC-PSM to stay current with emerging trends and requirements so we are ready to respond to global health commodity needs. Specifically, in Q3, as described in Sections B1 through C1, GHSC-PSM conducted the following activities:

- Supported efforts to mitigate impact of COVID-19 on malaria commodities, including participating in three malaria commodity taskforces: Pharma Task Force, mRDT Task Force, and IRS/ITN Task Force. GHSC-PSM also hosted a global mRDT Supplier Summit on behalf of the RDT Task Force and met weekly with Global Fund and UNICEF to coordinate regarding mRDTs (see additional details in section B2, Malaria).
- GHSC-PSM shared highlights of information collected on global product supply and observations from field offices on the status of in-country supply chains in the context of COVID-19 in a presentation in May to the UNICEF Supply Division and to the Maternal Health Supplies Caucus. The information came from a discussion series the project had convened on supply-chain challenges and supply-chain management best practices during a pandemic. GHSC-PSM field offices learned about strategies employed by other countries to promote availability of MNCH commodities. The discussions aimed to boost information exchange and collaborative learning among project-supported countries.

The project participated regularly in several FP/RH fora to discuss the potential impact of COVID-19 with other key stakeholders; conducted an updated funding gap analysis for FP/RH commodities focused on USAID-supported countries to identify countries potentially at risk; developed scenario planning to potentially leverage the safety stock of oral contraceptives at the RDC; and developed a commodity risk profile of the DMPA-IM category, identifying the short-term risk. For more information, see section B3, Family Planning and Reproductive Health.

- Officially transitioned from the role of chair of the RHSC SSWG in June following an open election after completing the maximum two terms (four years) in this role. For more information, see section B3, Family Planning and Reproductive Health.
- Continued to coordinate with the Global Fund on QA activities. PMI and the Global Fund engage the same manufacturers, use the same WHO guidance, and often experience similar supplier challenges. See section B2, Malaria, for full details.
- Continued to participate in the TraceNet Working Group, which is chaired by USAID and Global Fund representatives. In Q3, the working group finalized the Attribute Guide for LLINs in collaboration with USAID, the Global Fund, and the IDA Foundation. For additional details, see section B2, Malaria.

Collaboration with Other USAID GHSC Projects

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

In particular, GHSC-PSM continues to collaborate with GHSC-QA to maintain communication flow, identify areas of mutual concern and solutions, and ensure QA requirements are incorporated into GHSC-PSM systems, as applicable.

- GHSC-PSM is working with the GHSC-QA project to develop a contingency strategy for sampling and testing. See additional details in section B1, HIV/AIDS.

- The project worked with GHSC-QA and USAID in Q3 to monitor the progress on the quality-related review of the fixed-dose combination of isoniazid, B6, and cotrimoxazole for TB preventive therapy. See section B1, HIV/AIDS, for additional details.

- In collaboration with GHSC-QA, continued to provide QA support to COVID-19-related activities. Developed standard operating procedures to optimize GSHC-QA and GHSC-PSM's collaboration for recalls/market withdrawal. See additional details in Annex A.

Annex A. COVID-19 Response

Procured respiratory and cardiac supplies, **including 100 ventilators**, for intensive care units in Italy

Issued 32 ROs and 59 POs for ventilators in **less than four days** in June 2020

Identified a supplier; **procured and delivered** 50 ventilators to South Africa in **less than one week**

In December 2019, China alerted the WHO to a new type of coronavirus, identified in the city of Wuhan, that causes pneumonia-like symptoms. This coronavirus has since been officially designated Sars-CoV-2. Because of the rapid global spread of COVID-19, cities and countries around the world implemented restrictions on transportation and workplaces to contain the spread of the disease. GHSC-PSM began monitoring the COVID-19 impact in January 2020, with true effects on project operations, procurement, and logistics apparent in Q3.

The project's routine activities faced manufacturing and logistics challenges and delays because of lockdowns; delayed raw and intermediate materials; export restrictions; and backlogs at seaports, airports, and land borders in origin and destination countries. Manufacturing and logistics services are facing cost hikes because of rising global demand. Also, some manufacturers were compelled to shift production from routine products to pandemic-related PPE, diagnostic tests, and pharmaceuticals, which restricted their capacity for routine production.

Also, the U.S. government, through USAID, requested GHSC-PSM's support for new procurement activities to support global COVID-19 response.

Central Funding and Field Support Funding

Sourcing Strategy

In May 2020, GHSC-PSM received funding for the COVID-19 response, to be used by 18 eligible countries to procure from a list of 332 products. As of June 1, GHSC-PSM issued RFQs for two categories of commodities:

1) 252 medical equipment and supplies
2) 60 pharmaceutical products

The project aimed to secure fixed pricing with suppliers for both categories and to establish a contracting mechanism for ordering that could accommodate uncertain demand from countries receiving COVID-19 funding. The project released one RFQ for each category to establish fixed-price schedules with relevant suppliers.

- ***Medical Equipment and Supplies***: The project conducted a global sourcing event with a combined international focus and a local focus in DCP countries receiving COVID-19 funding. The strategy was designed to leverage the existing supplier base with proven quality-assurance capabilities to source in a dynamic and volatile market. The project released an RFQ in May 2020 for

GHSC-QA-qualified and certified lab wholesalers that held basic ordering agreements (BOAs) and awarded new fixed-price schedules to four suppliers in June. GHSC-PSM released a separate RFQ for the same 237 commodities in May 2020 to vendors in four countries to allow for decentralized order management in those countries. The goal for both RFQs was to lock in fixed pricing for 90 days with a short list of suppliers, and to execute procurements against those contracts while reducing order fulfillment time.

- ***Sourcing Strategy***: The primary goal of the COVID-19 sourcing strategy is to reduce order fulfillment time to include order processing cycle time as well as product availability lead time. The project released an RFQ for COVID-19 essential medicines in June 2020. Fixed-price contracts were fully executed in early July with seven GHSC-approved essential medicines wholesalers. These fixed-price schedules include 57 universal products (available to all countries) and 41 products for specific countries based on registration authorization. The primary goal of the COVID-19 sourcing strategy is to reduce order fulfillment time to include order processing cycle time as well as product availability lead time.

Essential Medicines Allocation Tool

In June 2020, to facilitate these procurements and shorten the allocation portion of the lead time, the project began developing a COVID-19 Allocation Tool for EM. The project used an existing VMMC allocation tool as a starting point, and incorporated the customizations needed to respond to time-sensitive COVID-19 EM demand.

This new, Excel-based tool allows users to quickly select suppliers and allocate purchase orders using order data from the project's existing ARTMIS software and matching it with the supplier contract data, taking in numerous considerations to select the best-value supplier. These considerations include meeting the countries' importation requirements, ability to meet the requested delivery dates (RDDs) and minimum order quantities, price, shelf life requirements, and supplier past performance. The tool allows the project to confirm availability with all suppliers that submitted a quote for a particular product when an order comes in. It also has the capacity to send out supplier confirmations, enter in responses, and finalize the selected supplier.

Italy Procurement

In Q3, GHSC-PSM worked with the U.S. Embassy in Rome to coordinate with Government of Italy stakeholders to define product specifications for U.S. government assistance to the people of Italy. This included a one-time procurement of patient monitors, syringe pumps, echocardiography machines, defibrillators, continuous positive air pressure (CPAP) and non-invasive ventilation (NIV) helmets, and beds for intensive care units, as well as a one-time procurement of 100 ventilators.

Market Research

The project is conducting market research on rapid-deploying field intensive care units (ICUs), local supply of oxygen in sub-Saharan Africa, COVID-19 treatment such as remdesivir, and landscaping studies of COVID-19 diagnostics availability.

Ventilator Procurement

On May 4, GHSC-PSM received a request from USAID to procure ventilators for South Africa's COVID-19 response. On May 11, barely one week later, 50 ventilators were delivered to Johannesburg. This rapid pace of procurement represented a supply-chain victory for GHSC-PSM, which mobilized all available resources, including additional staff from within the project, to speed up a process that can take up to several months to complete in non-pandemic times. The project was directed by USAID to contract with a U.S. supplier, obtained and packaged the ventilators, secured documentation and export waivers, booked flights, and saw the ventilators arrive on the ground to a warm welcome from the U.S. Ambassador to South Africa Lana Marks in just seven days.

U.S. Ambassador to South Africa Lana Marks welcomes the first shipment of ventilators on May 11, 2020.
credit: GHSC-PSM

In total in Q3, GHSC-PSM received $185 million in U.S. Government funding for sole-source procurement of ventilators from three U.S suppliers to nearly 40 recipient countries to support efforts against COVID-19. The priority countries, USG guidance, and country requirements needed to complete these shipments are modified continuously, creating a dynamic and challenging procurement and logistics environment. In June, USAID facilitated the approval of 73 requisition orders (ROs), enabling GHSC-PSM to execute 130 purchase orders (POs). Thirty-two of these ROs were approved in four days, from June 26 to 29, with a total of 59 POs fully executed within the same time frame. To keep stakeholders informed of the status of procurement and shipping GHSC-PSM developed a sophisticated dashboard providing a high- level overview of the fulfilment, funding and distribution status.

Exhibit 15. Ventilator Dashboard: Fulfillment View (August 5, 2020)

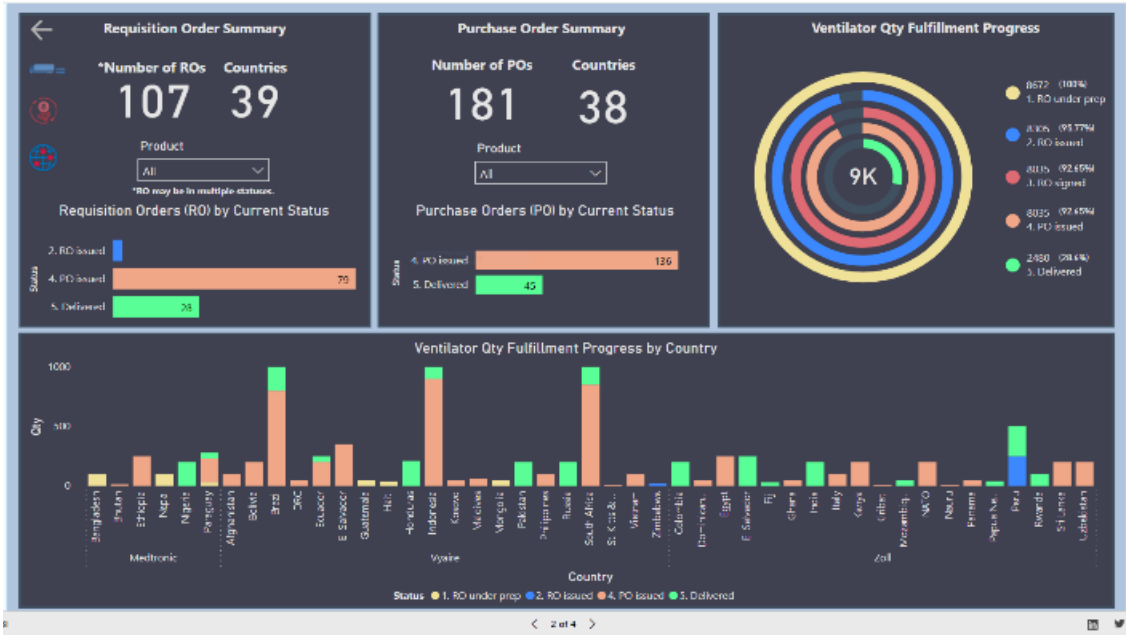


Exhibit 16. Ventilator Recipient Countries in Q3

Afghanistan	Republic of Kosovo
Australia	Malawi
Barbados	Maldives
Bolivia	Mozambique
Brazil	Nauru
Colombia	Nigeria
Democratic Republic of the Congo (DRC)	Pakistan
Dominican Republic	Papua New Guinea
Ecuador	Paraguay
Egypt	Peru
El Salvador	Philippines
Ethiopia	Russian Federation
Fiji	Rwanda
Ghana	Saint Kitts and Nevis
Honduras	Sierra Leone
India	South Africa
Indonesia	Sri Lanka
Italy	Uzbekistan
Kenya	Vietnam
Kiribati	

Shipping Challenges

The impact of COVID-19 on the air industry—particularly the availability of wide versus narrow-bodied aircraft—created significant challenges for shipping ventilators. GHSC-PSM closely tracked flight availability and identified creative shipment routes and combinations of air and truck transport to ensure commodities arrived by established deadlines.

Securing the proper dangerous goods documentation required for shipping the lithium ion batteries included in the ventilators also posed a challenge. Strict regulations required that a dangerous goods specialist pack and label the cargo at the supplier and a set of detailed documentation for the 3PL to book passage with the carrier. Passenger planes will not carry cargo with lithium ion batteries, and many cargo aircraft-only carriers would not accept external lithium batteries, resulting in severely limited carrier options for these commodities. In one case, the project needed to require a 3PL to use a separate company to verify the dangerous goods before shipment. The project worked with 3PLs and air carriers to assess and identify best available and cost-efficient flight options.

The project required diplomatic clearance at destination, which necessitated a designated consignee (e.g., the U.S. Embassy or MOH) and the associated documentation, particularly in-country product registration and an import duty waiver. Project staff worked tirelessly to coordinate with ministries of health, the U.S. Embassies, Missions, U.S.-based suppliers, and in-country supplier representatives in obtaining these documents in a timely manner to facilitate the prompt delivery of these commodities.

In Q3, GHSC-PSM collaborated with the U.S. Department of Defense and, through USAID, with the U.S. National Security Council (NSC) to complete deliveries to:

1. South Africa (tranche 1): arrived May 11 from Palm Springs, CA to Johannesburg, SA in five days

2. Russia (tranche 1): arrived May 21 from Palm Springs, CA to March Air Force Base, CA in one day
3. El Salvador: arrived May 26 from Chelmsford, MA to San Salvador in five days
4. Russia (tranche 2): arrived June 4 from Palm Springs, CA to March Air Force Base, CA in one day
5. India: Arrived June 16 from Chelmsford, MA to Delhi in three days
6. Peru: Arrived June 23 from Chelmsford, MA to Lima in four days
7. Brazil: arrived June 25 from Wichita, KS to São Paulo within 10 days
8. Honduras: Arrived June 26 from Wichita, KS to San Pedro in four days

Health Systems Strengthening: COVID-19 and Emergency Preparedness and Response

The project typically sends home office-based staff from the US to provide in-person, hands-on support for a variety of activities. Local travel restrictions, limitations on the number of people who can gather, and other public health precautions required changes to planned activities carried out by country program offices. To mitigate this, the project converted many short-term and long-term technical assistance activities to virtual platforms to ensure that programs continue to operate and meet their expected milestones. Where lack of internet connectivity impedes implementation of some activities—such as supportive supervision at health facilities—country offices are finding ways to deliver these services safely.

GHSC-PSM also published a new guidance document, "Stronger together: Preparing supply chains for what's next with COVID-19 response." This document[23] provides actions that public health supply chains can take now to avoid challenges in warehousing and distribution, cold chain, kitting operations, waste disposal, and more.

This section describes activities to continue delivering on the project's health systems strengthening goals and obligations.


USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM
Procurement and Supply Management

STRONGER TOGETHER

Preparing supply chains for what's next with COVID-19 response

Congratulations! In the face of an unprecedented global pandemic, you acted quickly to prepare your countries and your communities for COVID-19 and ensure that other public health programs can continue to operate. You and your colleagues are working on – or have already – completed tasks like moving health commodities closer to health facilities, optimizing storage space at all levels of the supply chain, using containers as temporary storage, integrating COVID-19 commodities into your logistics management information systems, and much more.

Situations like COVID-19 tend to reveal and amplify weaknesses in existing supply chain systems, providing the opportunity to strengthen those systems for both short-term and long-term bene t.

Now is the time to begin long-term planning with all supply chain partners. For the next unknown number of months, your public health supply chain will operate in ways that we typically try to avoid. To prepare for COVID, we've created an arti cial wave of commodities from the central level all the way down to local depots and health facilities. In many countries, central medical stores are looking unusually empty while storage facilities down the supply chain are bursting at the seams.

As you await new deliveries – many of which are delayed – from China, Europe, India and elsewhere, you are probably concerned about the possibility of shortages and even stockout of some commodities at some health facilities.

Eventually, we may see waves of supply to meet pent-up demand, at times in small quantities and at other times in potentially overwhelming volumes that could stress your supply chain systems. If this happens, the key to your success will be in working closely with all partners to ensure that every level of your supply chain is prepared to handle the waves of commodities heading your way.

Expanded warehousing and distribution capacity
Normal warehousing and distribution capacity
Supply situations during COVID-19

Consider the following advice and actions to support scenario planning for potential adverse events and development of strategies to mitigate them. You will already have thought of many of these, and some may not apply to your situation. Take what's useful and disregard the rest:

GATHER AND USE DATA TO DRIVE STRATEGY

In uncertain times, quality data is essential for e ective response. Lags in data can compound the challenge of data use, and understanding what data to use and what to ignore can also be di cult. Consider the following advice and actions:

- Focus on leading indicators to determine anomalies in consumption at sites. For example, test kit consumption is a leading indicator for pharmaceuticals for treatment.
- Contact a random sampling of health facilities to understand changes in patient behavior that can impact demand. Are patients staying away from health facilities out of fear of COVID-19, and how is that impacting consumption? Are patients switching family planning methods to reduce frequency of visits? Which commodities are being dispensed through multi-month prescriptions that were not before?
- Focus on things that don't look right. For example, does your distribution data align with what you're seeing in physical inventory and distribution?
- Detect anomalies (data points that are outside of the norm, such as interruptions in deliveries from suppliers) and focus on them rather than data that appear normal. GHSC-PSM has developed open-source anomaly detectors that can be quickly adapted for use. Contact us at PSMHISOperations@ghsc-psm.org for more information.

SUPPORT EQUAL DISTRIBUTION OF COMMODITIES AT HEALTH FACILITIES

To help avoid shortages and stockout at health facilities due to global supply interruptions, consider the following actions:

- Prepare now to closely monitor supplies at health facilities and identify those with shortages and those with excess supply.
- Make improvements or necessary changes to logistics management information systems and processes.
- Increase the frequency and lower the quantity of deliveries of central stock to better manage an equal supply while stock levels are limited.

USAID PEPFAR

The newest COVID-19 guidance document.

[23] https://www.ghsupplychain.org/sites/default/files/2020-06/COVID_guidance_Preparing_for_whats_next.pdf

Pivoting to meet our in-country commitments

- In **Botswana,** a half-day kickoff workshop launched the emergency supply chain (ESC) framework, with participants representing key stakeholders from human health, animal health, and environmental health, such as the Ministry of Health and Wellness (MoHW), Ministry of Agricultural Development and Food Security—Animal Health, World Health Organization (WHO), World Organization for Animal Health, and the Ministry of Local Government and Rural Development—Environmental Health Department. To abide by COVID-19 regulations, GHSC-PSM facilitated the workshop remotely from the home office in the United States. Some participants attended in person in Botswana while others attended remotely.

Botswana's ESC kickoff workshop was facilitated remotely from the United States. *Photo credit: Ditihalo Mmusi*

- In **Burkina Faso**, GHSC-PSM supported the COVID-19 Logistics Commission by launching a database that provides all partners information about donations, distributions, stock levels, and gaps in supply. The project also supported the Commission in configuring COVID-19 logistics data reporting tools in the country's OneHealth platform, trained 59 commodity stock managers at COVID-19 treatment sites to use the platform, and procured 100 computer tablets for sites to report logistical data.
- In **Burma,** because of COVID-19 challenges, the project delayed plans to fully scale-up the eLMIS for all central, regional, and township medical stores with m-Supply software. However, to ensure data visibility for COVID-19 commodities, the project established eLMIS systems in June 2020 at seven central medical stores of the Department of Public Health and the Department of Medical Services of the Ministry of Health and Sports (MoHS), in collaboration with UNFPA, WHO, and Zenith Technical Research Institute. GHSC-PSM also quickly developed a web-based data collection system using Kobo toolbox—an open-source suite of tools for field data collection in challenging environments—to get real-time data for COVID-19 at the township level. With Kobo, users can report easily with mobile phones, tablets, and computers. Dashboards enable real-item data visualization to review aggregated stock information.
- In **Ethiopia**, GHSC-PSM conducted and presented a baseline assessment on emergency supply-chain operations (warehousing, inventory management, and distribution) at the Ethiopia Public Health Institute (EPHI) to support COVID-19 response. Based on the findings, an ESC technical working group was formed to spearhead logistics operations. To aid procurement of COVID-19 commodities, the project supported a quantification exercise for COVID-19 supplies and clearance and inventory of the COVID-19 donations from various sources. To facilitate distribution throughout Ethiopia, GHSC-PSM supported stock monitoring, analysis, and reporting; helped develop distribution protocols for COVID-19 supplies; conducted COVID-19 logistics supportive supervision to regional emergency operation centers; and supported last-mile delivery to regions that reported gaps in supply.

- In **Ghana**, the Global Fund Logistics Support Program and GHSC-PSM helped strengthen inventory management and information flow at the Temporary Central Medical Stores (TCMS) in response to the COVID-19 pandemic. Project staff provided hands-on support to augment the human resource capacity at the TCMS to document and track the receipts and supply of COVID-19 response essential supplies using the Ghana Integrated Logistics Management Information System (GhiLMIS). GHSC-PSM also worked with the TCMS to develop a daily and weekly stock status report on COVID-19 supplies to inform decision-making by the national response team.
- Also in **Ghana,** GHSC-PSM supported Ghana Health Service and the MOH to integrate the distribution of COVID-19 essential supplies through existing distribution channels to regions and health facilities. GHSC-PSM also worked with government partners to explore other channels for the distribution of COVID-19 supplies to complement the existing channels.

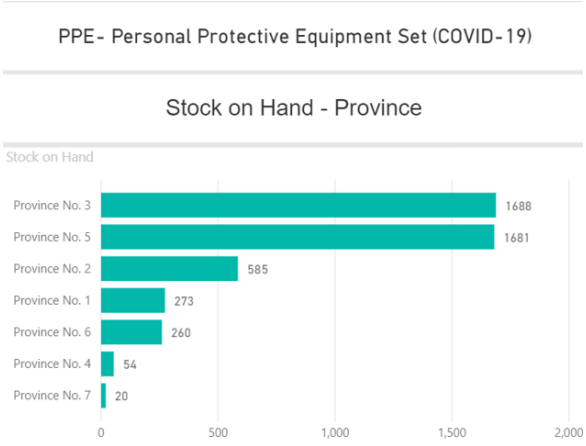
In Burma, to support eLMIS implementation, GHSC-PSM provided on-the job training for users, carefully following COVID-19 safety guidelines. *Photo credit: GHSC-PSM*

- In **Malawi,** at the request of the MOH, GHSC-PSM seconded a technical assistant to the Health Technical Support Services Department to help coordinate COVID-19 response efforts and supported the MOH and other partners (including CHAI and UNICEF), on the quantification of COVID-19 commodities. GHSC-PSM ordered COVID-19 commodities valued at $1.5 million—including equipment, pharmaceuticals, PPE, and sanitary products. The project began modifying service agreements with private-sector warehousing and distribution service providers to allow them to store and distribute COVID-19 commodities. To enhance visibility into COVID-19 supplies stocked at health facilities, GHSC-PSM modified the USAID-supported Open Logistics Management Information System (OpenLMIS) to include tracking of COVID-19 commodities.
- Also in **Malawi**, at the request of the MOH and other partners, GHSC-PSM delivered $50,000 of commodities, including PPE, sanitary ware, and pharmaceuticals, to the Likoma Island testing center, one of 29 testing centers. The center had experienced delays in receiving commodity shipments because of its remote location and decreased ferry operations because of COVID-19.

Management Information Systems

To support COVID-19 pandemic response, country programs continue to evaluate the local electronic logistics management information system (eLMIS) to support changes in operations. The project aims to:

- Support health systems to mitigate the impact of the COVID-19 pandemic on health commodity supply-chain operations.
- Help USAID-supported countries adapt their eLMIS to integrate COVID-19 commodities, including reporting and tracking of logistics data.



This dashboard from Nepal's revised eLMIS is one of several that support COVID-19 response.

Ghana, Malawi, Nepal, and **Pakistan** have adapted their eLMIS to manage COVID-19 programs. Key features incorporated into each eLMIS vary depending on the country's needs and can include product management, stock and inventory management, requisition and reporting, training, surveillance information management, key performance indicators, and reports and dashboards. GHSC-PSM drafted and shared guidance on "Leveraging eLMIS Platforms for COVID-19 Programs," with all project country programs that provides lessons learned from these three countries to support USAID Missions and government partners to adapt their eLMIS for COVID-19 response.[24]

[24] For a copy of the report, contact HSS_MIS_HQ@ghsc-psm.org

Current Reporting Period

2020-Q3

GLOBAL HEALTH SUPPLY CHAIN PROGRAM

Procurement and Supply Management

Global Supply Chain M&E Indicator Performance

FY2020 Quarter 3, April - June 2020

Delivery Impact to Date

Number of ACT treatments delivered

236,979,167

Number of Couple Years Protection delivered

67,479,904

Person-years of ARV treatment delivered

9,387,529

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 2020 Key Performance Overview - IDIQ

		FY 2020 Q1	FY 2020 Q2	FY 2020 Q3	FY 2020 Q4	FY 2020
Reporting Period (Quarter) Start Date		10/01/19	01/01/20	04/01/20	07/01/20	10/01/19
Reporting Period (Quarter) End Date		12/31/19	03/31/20	06/30/20	09/30/20	09/30/20
Global Supply Chain						
A1a.	Percentage of line items delivered on time and in full, within the minimum delivery window	89%	88%	88%		
A1b.	Percentage of line items delivered on time, within the minimum delivery window	93%	91%	91%		
A3.	Cycle time (average) – # days per shipment	228	255	252		
A4.	Inventory turns (average number of times inventory cycles through GHSC-PSM-controlled global facilities) – ratio	*Annual Indicator*				
A5.	Total landed cost (logistics costs)	12.5%		*Semiannual Indicator*		
A13.	Percentage of batches of product showing nonconformity (out of specification percentage)	1.2%	3.6%	0.0%		

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 - IDIQ

			FY 2020 Q1	FY 2020 Q2	FY 2020 Q3	FY 2020 Q4	FY 2020
Reporting Period (Quarter) Start Date			10/01/19	01/01/20	04/01/20	07/01/20	10/01/19
Reporting Period (Quarter) End Date			12/31/19	03/31/20	06/30/20	09/30/20	09/30/20
In-Country							
B1.	Stockout rate at SDPs		16.9%	17.3%	18.9%		
B2.	Percentage of stock status observations in storage sites where commodities are stocked according to plan, by level in supply system		24.1%	20.2%	21.3%		
B3.	SDP reporting rate to the logistics management information system (LMIS)		76.5%	84.1%	75.6%		
C1.	Number of people trained – #	TO-Specific Trainings Combined	935	1,148	358		
		Cross-TO Trainings	731	650	243		
		All Trainings (TO-Specific & Cross-TO)	1,666	1,798	606		

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 FY20 Target	Task Order 1 – HIV/AIDS					Task Order 2 - Malaria					Task Order 3 – PRH					Task Order 4 – MNCH				
			FY20 Target	2019 Q4	2020 Q1	2020 Q2	2020 Q3	FY20 Target	2019 Q4	2020 Q1	2020 Q2	2020 Q3	FY20 Target	2019 Q4	2020 Q1	2020 Q2	2020 Q3	FY20 Target	2019 Q4	2020 Q1	2020 Q2	2020 Q3
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%	83% 878	90% 879	85% 744	89% 816	80%	91% 205	87% 147	92% 238	82% 168	80%	85% 40	86% 51	95% 66	93% 74	80%	89% 9	100 % 3	100 % 26	89% 87
A1b	Percentage of line items delivered on time within the minimum delivery window (*Total number of ADDs in the quarter*)	80%	80%	91% 817	94% 872	89% 767	90% 866	80%	97% 207	91% 147	94% 247	88% 168	80%	94% 36	89% 54	98% 60	97% 78	80%	91% 11	100 % 1	100 % 26	96% 79
A3	Cycle time (average) – days per line item delivered	225	213	217	201	208	210	295	322	372	389	346	RDC: 263 DD: 268	RDC 381 DD: 237	RDC 268 DD: 280	RDC 229 DD: 220	RDC 280 DD: 239	206	219	306	354	457
A4	Inventory turns – ratio	NA	4	6.6	Annual			4	3.9	Annual			3	1.4	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 FY20 Target	Task Order 1 – HIV/AIDS					Task Order 2 - Malaria					Task Order 3 – PRH					Task Order 4 – MNCH				
			FY20 Target	2019 Q4	2020 Q1	2020 Q2	2020 Q3	FY20 Target	2019 Q4	2020 Q1	2020 Q2	2020 Q3	FY20 Target	2019 Q4	2020 Q1	2020 Q2	2020 Q3	FY20 Target	2019 Q4	2020 Q1	2020 Q2	2020 Q3
A5	Total landed cost (logistics costs)	16.5%	9.8%	8.4%	7.2%		Semi annual	33.8%	34.7 %	28.5%		Semi annual	15.2%	14.4 %	13.2%		Semi annual	30.0%	36.2 %	63.2%		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	NA	NA	5%	10%	NA	NA	NA	7%	3%	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	78%	77%	83%	82%	77%	70%	71%	74%	83%	83%	78%	83%	83%	82%	84%	NA	*No inventory held*			
A10	Percentage of product procured using a framework contract (framework contract percentage)	NA	83%	87%	91%	86%	92%	73%	57%	37%	79%	71%	95%	100 %	100 %	100 %	100 %	75%	100 %	57%	100 %	100 %
A16	Percentage of backlogged line	<5%	<5%	0.4%	0.8%	2.6%	6.4%	<5%	0.5%	0.7%	0.9%	5.1%	<5%	0.4%	0.0%	0.0%	0.9%	<5%	0%	0.0%	0.0%	4.2%

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				
		FY20 Target	2019 Q4	2020 Q1	2020 Q2	2020 Q3
A2	Percentage of QA processes completed within the total estimated QA lead times	80%	100%	94%	87%	91%
A13	Percentage of batches of product for which the final result is showing nonconformity (out of specification percentage)	<1%	0.0%	1.2%	3.6%	0.0%
A14b	Average vendor rating score – QA labs	NA	85%	90%	80%	86%
A15	Percentage of QA investigation reports submitted within 30 calendar days of outcome determination (QA investigation report submission)	90%	50%	80%		Semiannual
Indicator		Crosscutting				
A14a	Average vendor rating score – Suppliers	NA	71%	80%	77%	83%
A14c	Average vendor rating score – Freight Forwarders	NA	84%	85%	85%	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			
		2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3
In-country Context, Performance, and Sustainability																					
B1	Stockout rate at SDPs	9%	10%	11%	12%	12%	16%	20%	23%	19%	20%	18%	19%	NA				NA			
B2	Percentage of stock status observations in storage sites where commodities are stocked according to plan, by level in supply system	36%	31%	29%	29%	22%	23%	17%	15%	15%	19%	16%	22%	NA				NA			
B3	SDP reporting rate to the logistics management information system (LMIS)	87%	81%	85%	87%	73%	81%	86%	81%	82%	78%	84%	69%	74%	64%	81%	74%	NA			
B4	Average rating of in-country data confidence at the central, subnational, and SDP levels – (0-9 scale)	5.7	Annual			7.0	Annual			6.4	Annual			6.7	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			
		2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3
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		75%	Annual			72%	Annual			69%	Annual			67%	Annual			NA		
B11	Percentage of leadership positions in supply chain management that are held by women		NA				NA				NA				NA				31%	Annual	

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			
		2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3
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	6	3	3	8	1	0	2	1	1	2	1	0	0	0	2	2	8	6	3	13
C2	Number of people trained	1246	192	578	249	379	711	217	73	324	32	240	12	11	0	113	29	6930	731	650	243
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			
		2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3
In-country Context, Performance, and Sustainability																					
C8	Number of global advocacy engagements in support of improved availability of essential health commodities	0	3		Semi annual	1	5			7	6			3	1			5		7	
C10	Percentage of GHSC-PSM-procured or supported molecular instruments that remained functional during the reporting period	76%	79%	77%	80%	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

2020-Q3

A1a. On-time, In-Full Delivery

Task Order	Total # of Line Items Delivered	OTIF	OTIF Target
TO1	816	89%	80%
TO2	168	82%	80%
TO3	74	93%	80%
TO4	87	89%	80%
Total	**1,145**	**88%**	**80%**

A1b. On-time Delivery

Task Order	Total # of Line Items with ADDs in the quarter	OTD	OTD Target
TO1	866	90%	80%
TO2	168	88%	80%
TO3	78	97%	80%
TO4	79	96%	80%
Total	**1,191**	**91%**	**80%**

A16. Backlog Percentage

Task Order	Total # of line items with ADDs in the last 12 months	Backlog	Backlog target
TO1	3,530	6.4%	5%
TO2	804	5.1%	5%
TO3	227	0.9%	5%
TO4	120	4.2%	5%
Total	**4,681**	**5.8%**	**5%**

Analysis

On the standard definitions of top-line delivery indicators, Task Order 1 performance has remained strong, at 89 percent OTIF and 90 percent OTD. This performance is calculated based on the standard definitions for these indicators, per the IDIQ Monitoring and Evaluation Plan and the approved reason code procedures to adjust for delivery disruptions outside the project's manageable control. This includes pandemic-related delays. For versions of these indicators unadjusted for pandemic delays, please see the main narrative of this report.

The standard backlog indicator measures the share of line items that remain undelivered at the end of the quarter. It illustrates some of the impacts from the pandemic; the backlog rate here has increased largely due to delayed line items initially planned for June deliveries. As suppliers and 3PLs are delayed due to pandemic restrictions, an increase in the backlog of undelivered line items is expected.

On the standard definitions of top-line delivery indicators, Task Order 2 performance has remained above the target, at 82 percent OTIF and 88 percent OTD. This performance is calculated based on the standard definitions for these indicators, per the IDIQ Monitoring and Evaluation Plan and the approved reason code procedures to adjust for delivery disruptions outside the project's manageable control. This includes pandemic-related delays. For versions of these indicators unadjusted for pandemic delays, please see the main narrative of this report. While Q2 deliveries were largely unaffected by COVID9, TO2 saw an increased rate of pandemic-related impacts in Q3.

The standard backlog indicator measures the share of line items that remain undelivered at the end of the quarter. It illustrates some of the impacts from the pandemic; the backlog rate here has increased largely due to delayed line items initially planned for June deliveries. As suppliers and 3PLs are delayed due to pandemic restrictions, an increase in the backlog of undelivered line items is expected.

On the standard definitions of top-line delivery indicators, Task Order 3 performance has remained very strong, at 93 percent OTIF and 97 percent OTD. This performance is calculated based on the standard definitions for these indicators, per the IDIQ Monitoring and Evaluation Plan and the approved reason code procedures to adjust for delivery disruptions outside the project's manageable control. This includes pandemic-related delays. GHSC-PSM has begun calculating versions of these metrics that illustrate COVID-related impacts more clearly, available in the main narrative of this report. For family planning items, however, the pandemic has not yet had a deep negative impact on deliveries. Even in COVID-impacted metrics,TO3 performed above the 80 percent target this quarter. This may be due to the fact that TO3 uses the RDC for a greater proportion of their orders, which eliminates the risk of pandemic-related supplier delays for orders fulfilled from stock. However, for inbound orders needed to replenish the RDCs and for direct drop fulfillments, risks of supplier delays remain. The team continues to closely monitor the situation.

The standard backlog indicator measures the share of line items that remain undelivered at the end of the quarter. An increase this quarter, while smaller for TO3 than for other task orders, illustrates some of the impacts from the pandemic. The backlog rate here has increased due to delayed line items initially planned for June deliveries. As suppliers and 3PLs are delayed due to pandemic restrictions, an increase in the backlog of undelivered line items is expected.

This quarter, the project made a significant volume of maternal, newborn, and child health deliveries to the Democratic Republic of Congo. On the standard definitions of top-line delivery indicators, Task Order 4 performance remained above the target, at 89 percent OTIF and 96 percent OTD. This performance is calculated based on the standard definitions for these indicators, per the IDIQ Monitoring and Evaluation Plan and the approved reason code procedures to adjust for delivery disruptions outside the project's manageable control. This includes pandemic-related delays. GHSC-PSM has begun calculating versions of these metrics that illustrate COVID-related impacts more clearly, available in the main narrative of this report. For MNCH items, however, the standard and COVID-impacted versions of these indicators have tracked closely together so far. This may be due to the typical long time horizons for delivery to TO4's main destination, DRC, which has meant that many shipments were already in progress as the pandemic unfolded. More significant impacts may be to come; the team is closely monitoring the situation.

The standard backlog indicator measures the share of line items that remain undelivered at the end of the quarter. It illustrates some of the impacts from the pandemic; the backlog rate here has increased largely due to delayed line items initially planned for May and June deliveries As suppliers and 3PLs are delayed due to pandemic restrictions an increase in the backlog of undelivered line items is expected

Delivery Performance

Current Reporting Period

2020-Q3

Task Order	A1a. OTIF rate: OTIF	A1a. OTIF rate: Total # of Line Items Delivered	A1b. OTD rate: OTD	A1b. OTD rate: Total # of Line Items with ADDs in the quarter	A16. Backlog percentage: Backlog	A16. Backlog percentage: Total # of line items with ADDs in the last 12 months
TO1	**89%**	**816**	**90%**	**866**	**6.4%**	**3,530**
Adult ARV	87%	94			0.8%	385
Condoms	71%	24			1.5%	130
COVID19	100%	42			38.0%	79
Food and WASH					0.0%	1
HIV RTK					0.0%	2
Laboratory	89%	469			8.3%	1,965
Other Non-Pharma	86%	37			3.4%	327
Other Pharma	92%	24			1.1%	188
Other RTK	71%	7			0.0%	17
Pediatric ARV	91%	66			3.6%	277
TB HIV	94%	34			1.4%	71
Vehicles and Other Equipment	100%	2	91%	847	33.3%	3
VMMC	88%	17	84%	19	2.4%	85
TO2	**82%**	**168**	**88%**	**168**	**5.1%**	**804**
ACTs	91%	47	98%	43	0.0%	252
Laboratory	74%	46	74%	46	8.9%	203
LLINs	87%	15	76%	17	2.8%	108
mRDTs	78%	18	88%	17	4.6%	65
Other Non-Pharma	80%	5	100%	4	13.7%	51
Other Pharma					0.0%	6
Severe Malaria Meds	82%	11	100%	11	10.0%	60
SMC	75%	24	96%	26	11.4%	35
SP	100%	2	100%	4	0.0%	24

Task Order	A1a. OTIF rate: OTIF	A1a. OTIF rate: Total # of Line Items Delivered	A1b. OTD rate: OTD	A1b. OTD rate: Total # of Line Items with ADDs in the quarter	A16. Backlog percentage: Backlog	A16. Backlog percentage: Total # of line items with ADDs in the last 12 months
TO3	**93%**	**74**	**97%**	**78**	**0.9%**	**227**
Combined Oral Contraceptives	82%	11	82%	11	0.0%	49
Copper-Bearing Intrauterine Devices	100%	2	100%	2	0.0%	6
Emergency Oral Contraceptives	100%	10	100%	10	8.3%	12
Implantable Contraceptives	100%	13	100%	13	0.0%	53
Injectable Contraceptives	89%	28	100%	31	1.5%	67
Other Non-Pharma	100%	3	100%	3	0.0%	7
Progestin Only Pills	100%	4	100%	5	0.0%	26
Standard Days Method	100%	3	100%	3	0.0%	7
TO4	**89%**	**87**	**96%**	**79**	**4.2%**	**120**
Laboratory	23%	13	100%	7	0.0%	8
Other Non-Pharma			0%	2	22.2%	9
Other Pharma	100%	74	100%	69	2.0%	101
Other RTK			0%	1	50.0%	2

Data notes

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

Quarterly indicator targets are effective beginning FY2018 Q4.

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

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

Cycle Time Performance

Current Reporting Period

2020-Q3

A3. Average overall cycle time

Task Order	# of line items delivered	Average Cycle Time	Cycle time target
TO1	816	210	216
TO2	168	346	295
TO3	74	263	
TO4	87	457	206
Total	**1145**	**252**	**228**

A3. Average overall cycle time (with TO3 Targets)

Task Order	# of line items delivered	Average Cycle Time	Cycle time target
TO3	**74**	**263**	
Direct drop fulfillment	30	239	275
Warehouse fulfillment	44	280	275

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

Task Order Analysis

TO1	Cycle time for HIV commodities has remained relatively consistent for several quarters, both on end-to-end measurements and for individual process segments. Overall performance averaged at 210 days in Q3, below the target of 216 days. For direct drop fulfillments, there were some small reductions in early stage clarifications and sourcing segments, as well as manufacture time. For warehouse fulfillments, cycle times rose due to longer DO processing time. (While detailed hold data are not yet available, holds are common during this stage of fulfillment; DOs tend to be validated and approved in roughly the same timeframes as POs, but are then held for longer periods when they do not yet need to be prepared for delivery.) While pandemic-related delays did not result in longer cycle times for Q3 deliveries, the project is continuing to monitor this. Longer manufacture, pick up, and deliver segment times are expected as delayed line items are delivered in future quarters. (Please note that cycle times for the pick up and deliver segments exclude any deliveries shipped under C and D Incoterms. These deliveries are handled by suppliers, meaning that pick up dates are not relevant or available, and pick up/deliver segments cannot be calculated. Due to the large line item volume of these types of orders for TO1, the pick up and deliver segment data reported for TO1 direct drops represents only about 54 percent of all TO1 direct drops).
TO2	Average cycle time for malaria line items fell by more than 50 days this quarter, averaging 346 days. This was due mainly to reductions in manufacturing time, as well as decreases in USAID approval time and PO/DO processing time. (Note that lengthy USAID approval times in previous orders were driven by large line-item outlier orders for DRC). Longer times to deliver is consistent with the greater use of ocean shipping, which accounted for 61 percent of malaria deliveries this quarter. Average cycle time for quality assurance was 41 days, a decrease from the previous period (53 days).
TO3	Average cycle time for family planning items fulfilled from the RDC rose this quarter, to 280 days. Longer cycle times were observed in the clarifications, DO processing, and deliver segments. Lengthy cycle times included outliers from Mozambique, Nigeria, and Senegal, all of which placed orders more than a year in advance, yielding long end-to-end cycles. These orders also had long planning and DO processing times, which is typical of hold and dwell patterns for orders placed with long lead times. Direct drop cycle time also rose slightly, while remaining under the target. Cycle time variations--both longer and shorter--were observed for many segments. This is due mainly to a high proportion of direct drop line items delivered to DRC (more than 60 percent) which tends to have inconsistent and often lengthy cycle times. Lengthy average pick up time, in particular, was due to long waiver lead times for emergency oral contraceptives delivered to DRC, compounded by a pandemic-related lockdown in India and reduced shipping capacity.
TO4	Cycle times for maternal, newborn, and child health commodities spiked this quarter. The volume of deliveries more than tripled from the previous quarter, with nearly all destined for DRC. One shipment containing several laboratory line items was held by customs in DRC for more than 16 months due to a labeling issue, causing excessive cycle times in the delivery segment. The supplier agreed to re-supply these items with correct labeling, and GHSC-PSM updated our internal country profile to flag this requirement up front in the procurement process.

Data notes

Quarterly indicator targets are effective beginning FY2018 Q4.

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.

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.

Cycle Time Performance

Current Reporting Period

2020-Q3

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

Fulfillment Channel	Direct Drop Fulfillment			Warehouse Fulfillment			Total
Task Order	Air	Land	Sea	Air	Land	Sea	
TO1	**208**	**188**	**272**	**303**	**228**	**218**	**210**
Adult ARV	273	114	275	229	201	238	**258**
Condoms	194		317			230	**267**
COVID19	19						**19**
Laboratory	206	187	323				**198**
Other Non-Pharma	237	198	329				**209**
Other Pharma	509	208	260		234		**300**
Other RTK	222		225				**223**
Pediatric ARV	281		287	361	271	181	**289**
TB HIV	225		272	273		170	**234**
Vehicles and Other Equipment		193					**193**
VMMC	175		215				**212**
TO2	**318**	**228**	**399**	**183**		**197**	**346**
ACTs	263	326	486	129			**337**
Laboratory	365	130	472				**460**
LLINs			299				**299**
mRDTs	543		261				**386**
Other Non-Pharma			396				**396**
Severe Malaria Meds	266		229				**236**
SMC	259			186		197	**190**
SP	168		316				**242**
TO3	**249**		**213**	**222**	**459**	**291**	**263**
Combined Oral Contraceptives			406	267		316	**311**
Copper-Bearing Intrauterine Devices				158		208	**183**
Emergency Oral Contraceptives	287						**287**
Implantable Contraceptives	214			219			**215**
Injectable Contraceptives			197	225	459	299	**287**
Other Non-Pharma			170				**170**
Progestin Only Pills				175		223	**199**
Standard Days Method	228						**228**

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

Fulfillment Channel	Direct Drop Fulfillment		Total
Product Category	Air	Sea	
Laboratory	432	802	**773**
Other Pharma		402	**402**
Total	**432**	**457**	**457**

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

Quarterly indicator targets are effective beginning FY2018 Q4.

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	**64**	**7**	**40**		**73**	**38**	**60**
TO1	48	4	45		72	31	28
TO2		16	18		71	56	93
TO3	30	4	31	132			46
TO4	118	17	39		92	26	164
Warehouse fulfillment	**88**	**4**	**78**	**44**			**39**
TO1	56	5	114	39			41
TO2		1	6	46			25
TO3		4	61	50			46
Total	**67**	**6**	**44**	**92**			**57**

Quality Assurance Performance (TO2 only)

Current Reporting Period

2020-Q3

A2. QA processes completed within required lead times

Task Order	Total # of QA processes completed	% QA Processes On Time	A2 Target
TO2	**116**	**91%**	**80%**
ACTs	54	93%	80%
LLINs	16	100%	80%
mRDTs	15	100%	80%
Other Pharma	1	100%	80%
Severe Malaria Meds	16	88%	80%
SMC	4	100%	80%
SP	10	60%	80%

A13. Out-of-specification percentage

Task Order	Total # of batches tested	Out-of-specification percentage	A13 Target
TO2	**260**	**0.0%**	**1%**
ACTs	46	0.0%	1%
LLINs	9	0.0%	1%
mRDTs	52	0.0%	1%
Other Pharma	0		1%
Severe Malaria Meds	67	0.0%	1%
SMC	44	0.0%	1%
SP	42	0.0%	1%

A15. QA investigation report submission

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

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.

Ref	Analysis
A02	Performance for TO2 lab vendors remained strong during this period, with 91 percent of QA processes completed within the required lead times. This performance reflects proactive adjustments made to QA/QC activities at the beginning of the quarter to mitigate COVID19-related restrictions. The most significant of these adjustments was to implement randomization based on risk, determined by historical testing data and commodity type. This approach allowed the project to mitigate pandemic impact while also accommodating a surge in testing volume--only 10 out of 116 consignments were delayed due to COVID19 disruptions. (With COVID-impacted items excluded, vendor performance to required lead time was 100 percent).
A13	The project returned to a typical level of out-of-specification findings this quarter , with no new findings in April-June.
A14b	Performance for QA lab vendors remained high this quarter, at 86 percent. There were some declines in responsiveness and completeness of documentation, but improvements in service and invoice accuracy. Reliability, or the timely provision of completed test reports, was rated at 100 percent this quarter. This is in part due to the application of pandemic delay codes. These codes allow the 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. Even in the context of a strict pandemic lock-down, one lab provider stood out this quarter for accommodating a high volume of testing while maintaining impressive on-time results and strong performance across other scorecard components.

Warehouse Performance and Product Losses

Current Reporting Period

2020-Q3

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

Task Order	Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
TO2	Niger	Damage	ACTs	$66	$4,262,777	0.00%
TO1	Vietnam	Damage	Adult ARVs	$100	$142,471,997	0.00%
TO1	Nigeria	Damage	ARVs	$119,855	$18,112,783	0.66%
TO1	Zambia	Damage	ARVs	$38,506	$1,861,136	2.07%
TO3	RDC	Damage	Combined oral contraceptives	$106	$3,572,195	0.00%
TO2	Malawi	Damage	Other Non-pharma	$62	$3,761,219	0.00%
TO1	RDC	Damage	Other Pharma	$1,093	$26,698,659	0.00%
TO1	Haiti	Damage	Pediatric ARVs	$65	$4,377,587	0.00%
TO1	RDC	Damage	Pediatric ARVs	$55	$51,746,475	0.00%
TO2	RDC	Damage	SMC	$1,964	$4,330,685	0.05%
TO2	RDC	Expiry	ACTs	$769	$67,360	1.14%
TO1	RDC	Expiry	Adult ARVs	$120	$11,264,280	0.00%
TO3	RDC	Expiry	NA	$0	$7,380,128	0.00%
TO1	RDC	Expiry	VMMC kits	$4,695	$11,264,280	0.04%
TO2	Uganda	Missing product	mRDTs	$1,388	$26,192,091	0.01%

A8. Shelf life remaining

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

Ref	Analysis
A08	Overall shelf life remaining for family planning items was 84 percent, which is consistent with performance over the last several quarters.
A08	Shelf life remaining for HIV items fell slightly this quarter, to 77 percent, as large quantities of new TLD 90-tablet stock prepositioned in Q2 awaits outbound shipment.
A08	Shelf life remaining for items in the ACT stockpile remained consistent this quarter, at 83 percent.
C07a	The project had a small expiry of ACTs at the RDC. These products were already damaged and slated for destruction.
C07a	The project had limited expiries of adult ARVs and legacy VMMC kits this quarter. In both cases, quantities were small and did not represent a significant loss for these product categories or the HIV program overall.
C07a	There was no expiry of family planning products this quarter.
C07b	The most common forms of product loss continue to be damage or discrepancies that occur during transit through the global supply chain, which affect relatively small proportions of GHSC-PSM's order volume. These types of losses are typical for large supply chain operations. In one larger incident, a 3PL transporting HIV/AIDS commodities to Zambia experienced a road accident, which resulted in water damage to about two thousand units of ARVs. The loss represents only 2 percent of the value of HIV commodities delivered to Zambia in the quarter and is expected to be reimbursed by the 3PL.

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

2020-Q3

A10. Framework contract percentage

Task Order	Procurement total	Framework contract percentage	Framework contract target
TO1	$249,912,295	92%	85%
TO2	$73,217,133	71%	85%
TO3	$12,684,220	100%	95%
TO4	$337,117	100%	75%
Total	**$336,150,765**	**88%**	**NA**

A10. Product-level detail

Task Order	Framework contract percentage	Procurement total
TO1	**92%**	**$249,912,295**
Adult ARV	99%	$150,625,189
Condoms	100%	$4,200,500
COVID19	98%	$30,288,967
Laboratory	63%	$40,486,930
Other Non-Pharma	5%	$1,774,307
Other Pharma	88%	$4,675,626
Other RTK	0%	$128,325
Pediatric ARV	100%	$9,855,116
TB HIV	100%	$2,337,461
Vehicles and Other Equipment	0%	$161,696
VMMC	100%	$5,378,178
TO2	**71%**	**$73,217,133**
ACTs	100%	$12,805,841
Laboratory	100%	$325,675
LLINs	49%	$41,479,928
mRDTs	100%	$1,180,536
Severe Malaria Meds	100%	$6,093,912
SMC	100%	$9,653,592
SP	100%	$1,677,650

A10. Product-level detail

Task Order	Framework contract percentage	Procurement total
TO3	**100%**	**$12,684,220**
Combined Oral Contraceptives	100%	$2,392,453
Copper-Bearing Intrauterine Devices	100%	$34,170
Emergency Oral Contraceptives	100%	$50,504
Implantable Contraceptives	100%	$6,250,222
Injectable Contraceptives	100%	$3,797,294
Other Non-Pharma	100%	$49,050
Other RTK	0%	$17,280
Progestin Only Pills	100%	$68,256
Standard Days Method	100%	$24,990
TO4	**100%**	**$337,117**
Other Pharma	100%	$337,117

Analysis

Procurements for maternal, newborn, and child health commodities were minimal this quarter, comprising essential medicine items for which GHSC-PSM maintains basic ordering agreements with wholesalers. Procurements included magnesium sulphate for Mali, and essential medicines for Haiti as follows: Benzathine Penicillin G 2.4 MU Powder Vial; Clotrimazole 500 mg Vaginal Tablet w/ Applicator; Cotrimoxazole 240 mg/5 mL Suspension; Ferrous Sulfate/Folic Acid 200/0.4 mg Coated Tablet; Metronidazole 200 mg/5 mL Powder for Suspension; Metronidazole 5 mg/mL Infusion Bottle; Oxytocin 10 IU/mL (1 mL) Ampoule; Paracetamol 120 mg/5 mL Suspension; Paracetamol 500 mg Tablet; and Tetracycline 1% Ophthalmic Ointment.

TO3 continues to procure all items under framework contracts, per the sourcing strategy for these commodities.

Use of framework contracts fell for malaria items in Q3, related to LLIN procurements. All malaria pharma products and mRDTs continue to make use of framework contracts, as they have for a long time, while LLINs make use of a mix of framework and non-framework agreements. The procurement mix is roughly in line with Q2, with about half of nets procured under IDIQ contracts. The drop in the overall framework contracting rate is due to the fact that LLINs made up a greater share of procurements this quarter (57 percent in Q3 compared to 45 percent in Q2), causing non-framework LLINs to offset framework pharmaceuticals and mRDTs to a greater degree. Additional LLIN framework agreements were finalized this quarter, and performance on this indicator is expected to climb.

Use of framework contracts reached its highest level yet by share of product value, at 92 percent. This was driven by large procurements of TLD 90-tablet bottles, for which GHSC-PSM maintains IDIQ contracts. Framework procurement of lab items also continued its steady increase, rising from 51 percent in Q2 to 62 percent in Q3.

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	**4.8%**	**168**
ACTs	2.1%	47
Laboratory	0.0%	46
SMC	4.2%	24
mRDTs	16.7%	18
LLINs	0.0%	15
Severe Malaria Meds	9.1%	11
Other Non-Pharma	0.0%	5
SP	100.0%	2
TO3	**2.7%**	**74**
Injectable Contraceptives	0.0%	28
Implantable Contraceptives	0.0%	13
Combined Oral Contraceptives	18.2%	11
Emergency Oral Contraceptives	0.0%	10
Progestin Only Pills	0.0%	4
Other Non-Pharma	0.0%	3
Standard Days Method	0.0%	3
Copper-Bearing Intrauterine Devices	0.0%	2
Total	**4.1%**	**242**

Analysis

The need for registration waivers to import family planning items fell this quarter, to just 2.7 percent of line items. This included two shipments of combined oral contraceptives from two different vendors, one of which is planning to submit for registration in the country. 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.

Registration waivers were used for just under five percent of line items delivered in Q3. The waivers were applied across product categories, including RDTs, ACTs, SP, SPAQ, and severe malaria medicines, and were spread across five different countries.

Supply Plan Submissions

Current Reporting Period

2020-Q3

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	20	95%	85%
FP commodities	20	95%	90%
Lab (HIV diagnostics)	16	81%	90%
Malaria commodities	29	97%	80%
RTKs	18	100%	90%
TPT	13	92%	
VMMC	6	83%	80%
Total	**142**		

Analysis

Supply plan submissions for family planning commodities and condoms remained strong this quarter, with 100 percent of supply plans submitted for FP and just one plan missing for condoms.

Submission rates for HIV supply plans have remained strong across product groups, with 100 percent submissions on ARVs and RTKs and just one missing plan each from condoms, VMMC, and TPT. All of these categories achieved their submission targets, which have increased this quarter for ARVs, RTKs, and VMMC. For lab commodities, supply plans were not submitted for three countries.

Malaria supply plans submissions rose to their highest level yet, at 97 percent. The project was missing just one submission, from a non-field office country.

Supply Plan and Forecast Performance

Current Reporting Period

2020-Q3

A6a. Supply plan error - HIV Products

Product Category	Supply plan/ forecast error	Supply plan/ forecast bias	4-quarter error	Annual APE Target	4-quarter bias
Adult ARV	22%	1%	10%	26%	6%
Condoms	31%	10%	13%	32%	9%
Laboratory	25%	11%	24%	28%	24%
Pediatric ARV	41%	-13%	12%	26%	-1%

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	101%	-101%	91%	35%	-91%
mRDTs	137%	-137%	48%	35%	-48%

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%	6%	30%	6%
Copper-bearing Intrauterine Devices	43%	-43%	20%	30%	20%
Implantable Contraceptives	10%	-10%	8%	30%	8%
Injectable Contraceptives	2%	-2%	7%	30%	7%
Progestin Only Pills	0%	0%	11%	30%	-11%

Analysis

Supply plan variance for ACTs continues to be driven by reduced ordering of ASAQ. Countries are reducing or eliminating their ASAQ procurements, but are not always updating their supply plans to reflect this. TO2 is looking into potential options for technical assistance to address this. Supply plan performance for AL on its own is much stronger, at only 8 percent error this quarter.

Supply plan error for mRDTs spiked this quarter, following major disruptions in the market over the last several months. The project halted orders from key supplier following a Notice of Concern issued by the World Health Organization. Another supplier signaled that it was planning to exit the market (although it ultimately did not), and the third was heavily impacted by the COVID19 pandemic. As a result, mRDT order across the project had to be split, reallocated, and re-sourced to ensure the most equitable distribution of a limited supply across many country needs. These splits and reallocations resulted in significant variance compared to supply plans prepared earlier this year.

Supply plan error for adult ARVs grew this quarter, rising from 4 percent to 16 percent due to some under-ordering compared to supply plans. Under-ordering this quarter had counteracted over-ordering in previous quarters, yielding a reduction in error on the rolling four-quarter metric. Supply plan error for pediatric ARVs also grew slightly this quarter, with supply plans falling short of actual orders by 23 percent. As with adult ARVs, under-ordering this quarter after a few quarters of over-ordering brought down the rolling metric, to 17 percent error.

Orders for lab products were elevated compared to supply plans, resulting in a supply plan error rate of 35 percent. Performance over the last four quarters is better, at only 12 percent variance, due to better performance in earlier quarters and some under-ordering compared to supply plans in Q2.

Family planning commodities continue a strong run of relatively low variance in most product categories, with injectables and oral contraceptives at or approaching 0 percent error this quarter. Implants and copper-bearing IUDs were overforecasted due to order cancellations. The project is continuing to communicate to countries that shortages of one-rod implants will be a long-term constraint, and to work with social marketing organizations to encourage sufficient lead times for order placement and cancellations.

Condom orders exceeded forecasted quantities by 34 percent this quarter, with several countries placing orders with lead times of less than three months prior to the requested delivery date. The Plan, FASP, and NFO teams continue to work together to promote order placement within standard lead times and with realistic requested delivery dates.

Vendor Performance

Current Reporting Period

2020-Q3

A14a-c. Average vendor rating score

Vendor Type	Average vendor rating
Commodity Supplier	83%
Freight Forwarder	73%
QA Lab	86%

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?	97%	48%	46%
2 - Responsiveness	Does the lab provide prompt response after receipt of GHSC-PSM request for testing	81%	15%	12%
3 - Completeness of Documentation	Frequency of modification to Certificates of Analysis (CoA)	71%	18%	12%
4 - Invoice Accuracy	Submitted invoices for routing testing adhere to set IDIQ pricing	81%	10%	8%
5 - Service	Adherence to other terms and conditions, not related to reliability, responsiveness, completeness, and cost (Qualitative)	73%	10%	7%
Total			**100%**	**86%**

Analysis

Supplier OTIF increased this quarter, rising to 83 percent. It should be noted that the standard calculation methodology for supplier OTIF includes the use of supply delay (SD) codes, similar to the reason codes used for the project's main OTIF and OTD indicators. These SD codes indicate a delay or other impact beyond a supplier's manageable control, which is not counted against the supplier's performance. About 24 percent of line items with committed goods availability dates in this quarter experienced a COVID19-related delay. For the purposes of supplier performance monitoring, these items are counted as on-time and included in the 83 percent supplier OTIF result.

Performance for QA lab vendors remained high this quarter, at 86 percent. There were some declines in responsiveness and completeness of documentation, but improvements in service and invoice accuracy. Reliability, or the timely provision of completed test reports, was rated at 100 percent this quarter. This is in part due to the application of pandemic delay codes. These codes allow the 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. Even in the context of a strict pandemic lock-down, one lab provider stood out this quarter for accommodating a high volume of testing while maintaining impressive on-time results and strong performance across other scorecard components.

An overall freight forwarder vendor rating cannot reported this quarter. One component of the scorecard, customer service, is assessed based on qualitative feedback surveys, which are time consuming for both the project and 3PLs to meaningfully complete. Given the increased demands on both the GHSC-PSM Deliver/Return team and the 3PLs during the pandemic, the surveys were deprioritized this quarter. Without this data, performance cannot be fully assessed. However, data from other aspects of the scorecard is available. In the categories of EDI status performance, on-time performance, on-time spot quote turnaround, booking timeliness, and rate of deliveries without non-conformance reports (NCRs), freight forwarder performance has remained strong, with achievement greater than 85 percent on each criteria. Performance in invoicing accuracy and delivery reliability against ETAs has declined, due to pandemic-related disruptions. On invoicing in particular, increased use of spot tendering for air shipments has required changes to invoicing processes, which have led to inaccuracies. Delays in receiving receipts and other supporting documents have also led to reduced timeliness and completeness.

Data notes

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

Complete Quarterly Results (TO1)

Reporting Period

2020-Q3

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

Task Order	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months	Framework contract percentage	Procurement total
TO1	**89%**	**816**	**90%**	**866**	**6.4%**	**3,530**	**92%**	**$249,912,295**
Adult ARV	87%	94			0.8%	385	99%	$150,625,189
Condoms	71%	24			1.5%	130	100%	$4,200,500
COVID19	100%	42			38.0%	79	98%	$30,288,967
Food and WASH					0.0%	1		
HIV RTK					0.0%	2		
Laboratory	89%	469			8.3%	1,965	63%	$40,486,930
Other Non-Pharma	86%	37			3.4%	327	5%	$1,774,307
Other Pharma	92%	24			1.1%	188	88%	$4,675,626
Other RTK	71%	7			0.0%	17	0%	$128,325
Pediatric ARV	91%	66			3.6%	277	100%	$9,855,116
TB HIV	94%	34			1.4%	71	100%	$2,337,461
Vehicles and Other Equipment	100%	2	91%	847	33.3%	3	0%	$161,696
VMMC	88%	17	84%	19	2.4%	85	100%	$5,378,178
Total	**89%**	**816**	**90%**	**866**	**6.4%**	**3,530**	**92%**	**$249,912,295**

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	16%	-16%	15%	15%
Laboratory	35%	35%	12%	12%
Pediatric ARV	23%	-23%	17%	17%
A6b - Forecast Error				
Condoms	34%	34%	2%	2%

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
ARVs	100%	20
Condoms	95%	20
Lab (HIV diagnostics)	81%	16
RTKs	100%	18
VMMC	83%	6

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment			Warehouse Fulfillment			Total
Task Order	Air	Land	Sea	Air	Land	Sea	
TO1	**208**	**188**	**272**	**303**	**228**	**218**	**210**
Adult ARV	273	114	275	229	201	238	**258**
Condoms	194		317			230	**267**
COVID19	19						**19**
Laboratory	206	187	323				**198**
Other Non-Pharma	237	198	329				**209**
Other Pharma	509	208	260		234		**300**
Other RTK	222		225				**223**
Pediatric ARV	281		287	361	271	181	**289**
TB HIV	225		272	273		170	**234**
Vehicles and Other Equipment		193					**193**
VMMC	175		215				**212**
Total	**208**	**188**	**272**	**303**	**228**	**218**	**210**

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

Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
Vietnam	Damage	Adult ARVs	$100	$142,471,997	0.00%
Nigeria	Damage	ARVs	$119,855	$18,112,783	0.66%
Zambia	Damage	ARVs	$38,506	$1,861,136	2.07%
RDC	Damage	Other Pharma	$1,093	$26,698,659	0.00%
Haiti	Damage	Pediatric ARVs	$65	$4,377,587	0.00%
RDC	Damage	Pediatric ARVs	$55	$51,746,475	0.00%
RDC	Expiry	Adult ARVs	$120	$11,264,280	0.00%
RDC	Expiry	VMMC kits	$4,695	$11,264,280	0.04%

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
77%	$26,229,531

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	83%
Freight Forwarder	73%

Complete Quarterly Results (TO2)

Reporting Period

2020-Q3

	A1a. OTIF rate		A1b. OTD rate		A16. Backlog		A7. Waiver percentage		A10. Framework contracting		A2. QA processes on time		A13 Out-of-spec		A15. QA reports	
Task Order	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months	Temporary registration waiver percentage	Total # of line items delivered	Framework contract percentage	Procurement total	% QA Processes On Time	Total # of QA processes completed	Out-of-specification percentage	Total # of batches tested	Report submissions	# of reports due
TO2	**82%**	**168**	**88%**	**168**	**5.1%**	**804**	**4.8%**	**168**	**71%**	**$73,217,133**	**91%**	**116**	**0.0%**	**260**		
ACTs	91%	47	98%	43	0.0%	252	2.1%	47	100%	$12,805,841	93%	54	0.0%	46		
Laboratory	74%	46	74%	46	8.9%	203	0.0%	46	100%	$325,675						
LLINs	87%	15	76%	17	2.8%	108	0.0%	15	49%	$41,479,928	100%	16	0.0%	9		
mRDTs	78%	18	88%	17	4.6%	65	16.7%	18	100%	$1,180,536	100%	15	0.0%	52		
Other Non-Pharma	80%	5	100%	4	13.7%	51	0.0%	5								
Other Pharma					0.0%	6					100%	1		0		
Severe Malaria Meds	82%	11	100%	11	10.0%	60	9.1%	11	100%	$6,093,912	88%	16	0.0%	67		
SMC	75%	24	96%	26	11.4%	35	4.2%	24	100%	$9,653,592	100%	4	0.0%	44		
SP	100%	2	100%	4	0.0%	24	100.0%	2	100%	$1,677,650	60%	10	0.0%	42		
Total	**82%**	**168**	**88%**	**168**	**5.1%**	**804**	**4.8%**	**168**	**71%**	**$73,217,133**	**91%**	**116**	**0.0%**	**260**		

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment			Warehouse Fulfillment		**Total**
Task Order	Air	Land	Sea	Air	Sea	
TO2	**318**	**228**	**399**	**183**	**197**	**346**
ACTs	263	326	486	129		**337**
Laboratory	365	130	472			**460**
LLINs			299			**299**
mRDTs	543		261			**386**
Other Non-Pharma			396			**396**
Severe Malaria Meds	266		229			**236**
SMC	259			186	197	**190**
SP	168		316			**242**
Total	**318**	**228**	**399**	**183**	**197**	**346**

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	83%
Freight Forwarder	73%

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

Country	Type of Loss	Product Group	Loss Value	Loss Denominator	% Loss
Niger	Damage	ACTs	$66	$4,262,777	0.00%
Malawi	Damage	Other Non-pharma	$62	$3,761,219	0.00%
RDC	Damage	SMC	$1,964	$4,330,685	0.05%
RDC	Expiry	ACTs	$769	$67,360	1.14%
Uganda	Missing product	mRDTs	$1,388	$26,192,091	0.01%

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	101%	-101%	91%	-91%
mRDTs	137%	-137%	48%	-48%

B6. Quarterly supply plan submissions

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

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
83%	$155,918

A14. Average vendor rating - QA labs

Average vendor rating
242%

Complete Quarterly Results (TO3)

Reporting Period

2020-Q3

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

Task Order	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months	Framework contract percentage	Procurement total
TO3	**93%**	**74**	**97%**	**78**	**0.9%**	**227**	**100%**	**$12,684,220**
Combined Oral Contraceptives	82%	11	82%	11	0.0%	49	100%	$2,392,453
Copper-Bearing Intrauterine Devices	100%	2	100%	2	0.0%	6	100%	$34,170
Emergency Oral Contraceptives	100%	10	100%	10	8.3%	12	100%	$50,504
Implantable Contraceptives	100%	13	100%	13	0.0%	53	100%	$6,250,222
Injectable Contraceptives	89%	28	100%	31	1.5%	67	100%	$3,797,294
Other Non-Pharma	100%	3	100%	3	0.0%	7	100%	$49,050
Other RTK							0%	$17,280
Progestin Only Pills	100%	4	100%	5	0.0%	26	100%	$68,256
Standard Days Method	100%	3	100%	3	0.0%	7	100%	$24,990
Total	**93%**	**74**	**97%**	**78**	**0.9%**	**227**	**100%**	**$12,684,220**

A7. Temporary Waiver Percentage

Task Order	Temporary registration waiver percentage	Total # of line items delivered
TO3	**2.7%**	**74**
Combined Oral Contraceptives	18.2%	11
Copper-Bearing Intrauterine Devices	0.0%	2
Emergency Oral Contraceptives	0.0%	10
Implantable Contraceptives	0.0%	13
Injectable Contraceptives	0.0%	28
Other Non-Pharma	0.0%	3
Progestin Only Pills	0.0%	4
Standard Days Method	0.0%	3
Total	**2.7%**	**74**

A3. Cycle time (average)

Fulfillment Channel	Direct Drop Fulfillment			Warehouse Fulfillment			**Total**
Task Order	Air	Sea		Air	Land	Sea	
TO3	**249**	**213**		**222**	**459**	**291**	**263**
Combined Oral Contraceptives		406		267		316	**311**
Copper-Bearing Intrauterine Devices				158		208	**183**
Emergency Oral Contraceptives	287						**287**
Implantable Contraceptives	214			219			**215**
Injectable Contraceptives		197		225	459	299	**287**
Other Non-Pharma		170					**170**
Progestin Only Pills				175		223	**199**
Standard Days Method	228						**228**
Total	**249**	**213**		**222**	**459**	**291**	**263**

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	Combined oral contraceptives	$106	$3,572,195	0.00%
RDC	Expiry	NA	$0	$7,380,128	0.00%

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%	6%	6%
Condoms	34%	34%	2%	2%
Copper-bearing Intrauterine Devices	43%	-43%	20%	20%
Implantable Contraceptives	10%	-10%	8%	8%
Injectable Contraceptives	2%	-2%	7%	7%
Progestin Only Pills	0%	0%	11%	-11%

B6. Quarterly supply plan submissions

Product Group	Supply plan submission rate	# of supply plans required
Condoms	95%	20
FP commodities	95%	20

A8. Shelf life remaining

% Shelf Life Remaining	Inventory Balance
84%	$7,063,766

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	83%
Freight Forwarder	73%

Complete Quarterly Results (TO4)

Reporting Period

2020-Q3

	A1a. OTIF rate		A1b. OTD rate		A16. Backlog perentage		A10. Framework contracting
Task Order	OTIF	Total # of Line Items Delivered	OTD	Total # of Line Items with ADDs in the quarter	Backlog	Total # of line items with ADDs in the last 12 months	Framework contract percentage	Procurement total
TO4	**89%**	**87**	**96%**	**79**	**4.2%**	**120**	**100%**	**$337,117**
Laboratory	23%	13	100%	7	0.0%	8		
Other Non-Pharma			0%	2	22.2%	9		
Other Pharma	100%	74	100%	69	2.0%	101	100%	$337,117
Other RTK			0%	1	50.0%	2		
Total	**89%**	**87**	**96%**	**79**	**4.2%**	**120**	**100%**	**$337,117**

Crosscutting indicators

A14. Average vendor ratings

Vendor Type	Average vendor rating
Commodity Supplier	83%
Freight Forwarder	73%

A3. Cycle time (average)

Task Order	Direct Drop Fulfillment	**Total**
TO4	**457**	**457**
Laboratory	773	**773**
Other Pharma	402	**402**
Total	**457**	**457**

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.