SIAPS Quarterly Report

Project Year 6, Quarter 2

January-March 2017

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About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

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ACRONYMS AND ABBREVIATIONS

AAH	Action Against Hunger
ACT	artemisinin-based combination therapy
AIDS	acquired immunodeficiency syndrome
AMI	Amazon Malaria Initiative
AMR	antimicrobial resistance
APTS	Auditable Pharmaceutical Transactions and Services (Ethiopia)
ART	antiretroviral therapy
ARV	antiretroviral
CAMEBU	Central Essential Medication Purchasing Agency (Burundi)
CDC	US Centers for Disease Control and Prevention
CECOMA	Central Medical Stores (Angola)
CENAME	National Essential Drugs Procurement Center (Cameroon)
CHAI	Clinton Health Access Initiative
CMS	central medicine store
CNLS	AIDS Control Program (Cameroon)
CRMS	Continuous Results Monitoring System
DGFP	Directorate General of Family Planning (Bangladesh)
DIGEMID	General Directorate of Drugs and Medical Supplies (Peru)
DNME	National Directorate of Medicines and Equipment (Angola)
DPML	Department of Pharmacy, Medicines, and Laboratory (Burundi)
DRA	drug regulation authority
DRC	Democratic Republic of the Congo
DRS	Direction Régionale de la santé
DTC	Drug and Therapeutics Committee
EDT	Electronic Dispensing Tool
EHRIG	Ethiopian Hospital Reform Implementation Guideline
EMF	Emergency Medicines Fund
EUV	end-use verification (survey)
FDA	US Food and Drug Administration
FMHACA	Food, Medicines and Health Care Administration and Control Authority (Ethiopia)
FP	family planning
FY	fiscal year
GDF	Global Drug Facility
Global Fund	Global Fund to Fight AIDS, Tuberculosis and Malaria
HCW	healthcare worker
HIV	human immunodeficiency virus
HPD	Hospital Pharmacy Department
IMCI	Integrated Management of Childhood Illness
JSI	John Snow, Inc.
LMIS	Logistics Management Information System
M&E	monitoring and evaluation
MCH	maternal and child health
MDG	Millennium Development Goal
MDR	multidrug resistant

MNCH	maternal, neonatal, and child health
MOH	Ministry of Health
MOHFW	Ministry of Health and Family Welfare
MOHSS	Ministry of Health and Social Services
MSH	Management Sciences for Health
NDoH	National Department of Health
NHTC	National Health Training Centre (Namibia)
NMCP	national malaria control program
NMRC	Namibia Medicines Regulatory Council
NTP	national TB program
PAHO	Pan American Health Organization
PEP	post-exposure phophylaxis
PEPFAR	US President's Emergency Plan for AIDS Relief
PFSA	Pharmaceutical Fund and Supply Agency (Ethiopia)
PMI	President's Malaria Initiative
PMIS	pharmaceutical management information system
PMTCT	prevention of mother-to-child transmission
PNILP	national malaria control program (Burundi)
PNLP	national malaria control program (Guinea)
PNLS	national AIDS control program (DRC and Togo)
PNME	Program for Essential Medicines (Angola)
PPMRc	procurement planning and monitoring report for contraceptives
PPMRm	procurement planning and monitoring report for malaria
PSI	Population Services Inc.
PSM	procurement and supply management
PTCs	Pharmaceutical and Therapeutics Committees
PV	pharmacovigilance
RDT	rapid diagnostic test
SCMS	Supply Chain Management System (project)
SIAPS	Systems for Improved Access to Pharmaceutical Services
SOP	standard operating procedure
SPS	Strengthening Pharmaceutical Systems [Program]
STG	standard treatment guideline
SUGEMI	national pharmaceutical management system (Dominican Republic)
TB	tuberculosis
TIPC	Therapeutics Information and Pharmacovigilance Center (Namibia)
TOR	terms of reference
TOT	training of trainers
UCDC	Ukrainian Center for Disease Control
UNAM	University of Namibia
UNCoLSC	UN Commission on Life-Saving Commodities
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
WAHO	West Africa Health Organization
WHO	World Health Organization
XDR-TB	extensively drug-resistant tuberculosis

INTRODUCTION

The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program, awarded by USAID in September 2011, strengthens the management of essential medicines and health supplies so that more people can access the health care they need. Now in its sixth year, SIAPS works with local counterparts and partners in 21 countries, and 2 regional programs in, Latin America and West Africa. SIAPS takes a comprehensive approach to improving pharmaceutical systems: enhancing countries' capacity to procure and distribute high-quality medicines and health technologies, while working with local partners to develop strong systems for pharmaceutical financing, human resources, governance, information, service delivery, and pharmacovigilance. By promoting local ownership of wide-ranging initiatives, stronger, more sustainable health systems overall are fostered.

The program's five result areas are as follows:

- Intermediate Result 1: Pharmaceutical sector governance strengthened
- Intermediate Result 2: Capacity for pharmaceutical supply management and services increased and enhanced
- Intermediate Result 3: Information for decision-making challenge in the pharmaceutical sector addressed
- Intermediate Result 4: Financing strategies and mechanisms strengthened to improve access to medicines
- Intermediate Result 5: Pharmaceutical services improved to achieve desired health outcomes

This report presents highlights of SIAPS's activities organized both by intermediate result area, representing multiple countries where we work, as well as by our global, regional, and country portfolios for the January through March 2017 period.

SELECT PROGRESS TOWARD RESULT AREAS

Intermediate Result 1. Pharmaceutical sector governance strengthened

The SIAPS approach to improving governance focuses on assisting countries in establishing policies and legislation that are supported by rule of law; organizational structures that can exercise appropriate decision making, authority, and oversight; transparent, ethical, and accountable systems and processes that are based on best practice norms and guidelines; and human resource management systems that promote effective performance and ethical practices. One of SIAPS' primary strategies for improving governance in the pharmaceutical sector is to strengthen regulatory systems that ensure the safety, quality, and efficacy of medicines by regulating pharmaceutical products, establishments, professionals, and practices. SIAPS provides support to national medicines regulatory authorities to build their technical capacity; adopt standards that are harmonized with relevant international and regional regulatory standards; reform processes to make them more efficient and transparent; and upgrade information management systems for improved transparency, oversight, and accountability to enable timely access to medicines and other health supplies.

Policy, Legislation, and Contractual Agreements

In **Ukraine**, a national essential medicines list (NEML) that is intended to be used nationwide as the sole list for public procurement was approved by the Cabinet of Ministers on March 16, 2017, and is expected to go into effect on July 1, 2017. This is a landmark achievement in a country that, until now, has had multiple, non-harmonized lists of medicines available. Also in this reporting period, SIAPS helped finalize the standard operating procedures (SOPs) for the NEML expert committee. The NEML, the decree, and the SOPs that regulate and guide the medicine selection process are anticipated to help to make procurements less vulnerable to duplication, inefficiencies, and even conflicts of interest. The Government of Ukraine is also interested in setting up a reimbursement system that utilizes the NEML, and SIAPS has been assisting the Ministries of Health, Finance, and Economics review key considerations for its design and implementation. Amendments to the decrees on reimbursement and price regulation, including those suggested by SIAPS, were passed through the Cabinet of Ministers and published on March 25, 2017.

This quarter, technical assistance from SIAPS enabled the national medicines regulatory authority (DNPL) in **Guinea** to make significant progress toward finalizing the draft document that will be used to formulate the new pharmacy bill to replace the current outdated legislation. Enlisting the support of an international legal expert, SIAPS helped the national committee mandated by the DNPL to revise the pharmacy law hold a two-day workshop to discuss and validate the draft document with the Directorate of Pharmacy and Medicines (DNPM) and other stakeholders and experts. In addition to facilitating the workshop and helping the committee to revise the document to incorporate inputs, the international legal expert also met with the legal advisor from the Ministry of Justice to discuss considerations that need to be addressed in the bill to ensure that it conforms to Guinean law and the penal code. The bill is expected to be drafted

and submitted to the Ministry of Health (MOH) by the end of April for review and endorsement. Once approved, the bill will be presented to the National Assembly for adoption.

In **Benin**, SIAPS has been assisting the Department of Pharmacy, Medicines, and Laboratory (DPMED) in the MOH review and revise the legal status of the zonal depots for pharmaceuticals and medical supplies and clarify their roles and responsibilities with respect to national supply chain management. In this reporting period, SIAPS helped the DPMED convene a workshop to review and validate the draft document that sets out the proposed legal status and incorporate inputs from participants. The legal status document, which gives zonal depots more autonomy to enable more efficient operations, in addition to clarifying their roles and responsibilities, has now been submitted to the MOH for endorsement.

Standards, Guidelines, and Procedures

SIAPS country teams worked with partners and counterparts to revise, finalize, and implement a number of guidelines, lists, and SOPs that provide the foundation for good governance and better practices in pharmaceutical systems in this reporting period. Some examples are listed below.

- In **Swaziland**, guidelines and policy documents for the import and export of pharmaceutical products, which were developed by the pharmaceutical importation and exportation committee with support from SIAPS, were finalized, gazetted, and uploaded onto the MOH website. SIAPS also helped to get the guidelines endorsed by the Swaziland Revenue Authority as part of efforts to facilitate collaboration across agencies in strengthening importation procedures in the country.
- The drug management handbook for health extension workers in **Ethiopia** was finalized prior to close-out of the country project office. The English and Amharic versions of the manual, which SIAPS helped update to include reproductive, maternal, newborn, and child health (RMNCH) products and other medicines for use at the health-post level, are ready for printing. In addition, Afan Oromo and Tigrigna language versions have been prepared and submitted to the federal MOH. The RMNCH formulary updated with assistance from SIAPS was also finalized in this reporting period. In addition, the SIAPS team also helped develop and finalize a job aid to guide use of the emergency contraceptive pill.
- **Guinea's** MOH endorsed the 17th edition of Guinea's NEML, which was finalized with assistance from SIAPS in this reporting period.

Transparency and Accountability

Bangladesh has introduced the e-Government Procurement (e-GP) system as part of efforts to enhance transparency and promote good governance in public procurement. SIAPS is providing technical assistance in building capacity and supporting implementation of the electronic system. In this reporting period, SIAPS helped the Central Medical Stores Depot process two procurement packages through the e-GP system.

Coordination, Partnership, and Advocacy

In this reporting period, SIAPS supported coordination efforts in several countries to promote more informed decision making, foster transparency and accountability, streamline supply chain management and service delivery, and improve the efficiency of planning, allocation, and mobilization of government and donor resources. Some examples are given below.

- At the request of the USAID Mission in **Guinea**, SIAPS supported the 19th assembly of the Association Africaine des Centrales d'Achat des Medicaments Essentiels, March 1-4, 2017. The assembly brought together representatives from 21 central medical stores to share best practices and discuss interventions to address common challenges.
- Also in this reporting period, SIAPS helped the national malaria control program of **Guinea** organize a two-day workshop with stakeholders to update the supply plan for malaria commodities. As a result of this meeting, donors identified critical actions for each of them to take to avert supply interruptions for selected commodities.
- In **Bangladesh**, SIAPS facilitated the sixth meeting of the supply chain coordination forum, which brings together partners to resolve procurement and logistics issues to accelerate timely procurement through the Central Medical Stores Depot.
- SIAPS supported a national workshop in **Mali,** which brought together all stakeholders, including technical partners involved in the country's supply chain, to review and validate data and assumptions used to quantify essential medicines needs for the cost recovery program.

Strategic Planning

To prepare for the review and revision of **Swaziland's** national pharmaceutical strategic plan, SIAPS is supporting an end-term evaluation of the existing plan for 2012-2016. The task team designated to lead the evaluation held its first meeting with support from SIAPS, which also serves as the secretariat of the task team. The task team drafted the action plan for the evaluation, which will be completed in the next quarter.

In **Benin**, SIAPS supported the MOH's Department of Pharmacy, Medicines, and Laboratory to cost the five-year strategic plan for supply chain management (2016-2010), which has been developed with technical assistance from SIAPS.

Regulatory Systems Strengthening

During the quarter, SIAPS continued its efforts to improve access to essential life-saving medicines in **Namibia** by ensuring timely registration of tenofovir/emtricitabine (TDF/FTC)-based antiretroviral (ARV) formulations (Truvada®) for pre-exposure prophylaxis (PrEP) of HIV to make it available for PrEP as per the recommendations of the fifth edition of the Namibian HIV Treatment Guidelines. SIAPS advocated to the Namibia Medicines Regulatory Council (NMRC) for early adoption and uptake of a TDF/FTC-based ARV formulation in Namibia. As a result, an application submitted by a pharmaceutical company to NMRC in October 2016 for the licensure of a generic version of this fixed-dose combination is now being reviewed by the NMRC; they will decide whether to license the product at its meeting in May 2017. SIAPS also

supported the NMRC to continue reconfiguring its product registration information system, Pharmadex, for deployment on the web, which will facilitate online processing of applications for registration. To ensure effective implementation of the system, SIAPS trained six NMRC staff members on the use of Pharmadex. The tool is expected to be ready for use by pharmaceutical company applicants in the next quarter.

SIAPS continued to support the implementation of Pharmadex in Mozambique, Bangladesh, and Ethiopia.

- In **Mozambique**, SIAPS and the MOH held a workshop to launch Pharmadex and the Pharmacy Department's official website for pharmaceutical companies, MOH partners, and other stakeholders, including civil society. SIAPS also worked with the Pharmacy Department to critically evaluate usage of Pharmadex in this quarter compared to the previous quarter to monitor implementation progress and identify and address barriers to use.

- In September 2016, the regulatory authority in **Ethiopia** began implementing the web-based Medicines Registration Information System, a country-specific version of Pharmadex developed and launched with SIAPS assistance. Since then, the submission of applications and the issuing of marketing authorization certificates have been moved online, and applicants can track the progress of their applications in the review process through the system. As of this reporting period, all applications are being submitted online and processed electronically, including applications for new products, variations, and renewals as well as product purchase orders. The system has made the management of medicine registration more efficient and transparent.

- SIAPS and the Directorate General of Drug Administration (DGDA) in **Bangladesh** continued to tailor and test the software for Pharmadex, which is nearly finalized. The system is expected to be fully operational in April 2017.

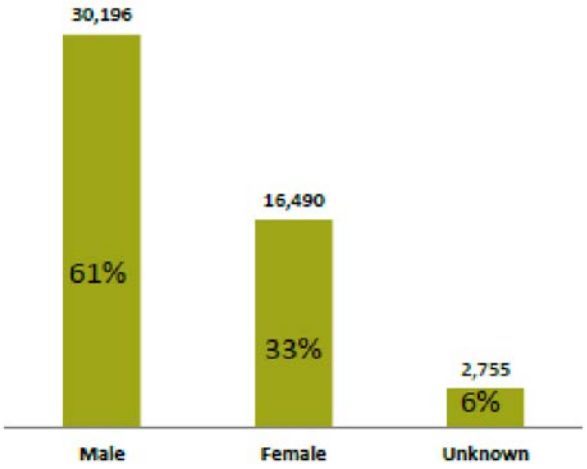
In **Swaziland** this quarter, SIAPS assisted the Chief Pharmacist's Office and the pharmaceutical importation and exportation committee in finalizing and issuing policy and guidelines on the import and export of pharmaceutical products. In addition, SIAPS helped enlist the support of the Swaziland Revenue Authority in the implementation of importation procedures and planning for the designation of ports of entry for pharmaceuticals and licensure of importers based on specific requirements. These steps will help Swaziland more effectively monitor and ensure the quality of medicines that enter the country. In addition, SIAPS helped the Chief Pharmacist's Office develop and disseminate a notice calling for the registration of retail pharmacies as part of the implementation of the Medicines and Related Substances Control Act of 2016, which establishes the Medicines Regulatory Authority as the entity responsible for regulating pharmaceutical products, including the establishments that sell and dispense them. Registering retail pharmacies will help the new regulatory authority more effectively monitor them and their quality standards.

SIAPS continued to work with the DGDA in **Bangladesh** to complete the agency's five-year strategic plan for strengthening the regulatory system and achieving a higher level of performance. The draft plan was updated on the basis of the decisions and agreements reached at

the stakeholder meeting held at the end of last quarter and then distributed to all major stakeholders for review and comment. The strategic plan is expected to be reviewed and finalized at another stakeholder workshop scheduled for early in the next quarter.

Intermediate Result 2. Capacity for Pharmaceutical Supply Management and Services Increased and Enhanced

Lack of qualified pharmaceutical professionals, institutions for pharmaceutical training, and updated curricula are challenges faced by resource-constrained countries. SIAPS collaborates with stakeholders to assess their capacity to manage pharmaceuticals at all levels, identifies areas for improvement, and develops interventions to strengthen the system and build capacity. To date, SIAPS has trained over 49,400 professionals from 22 countries in several areas of pharmaceutical management–33 % female and 61% male (see figure for details).

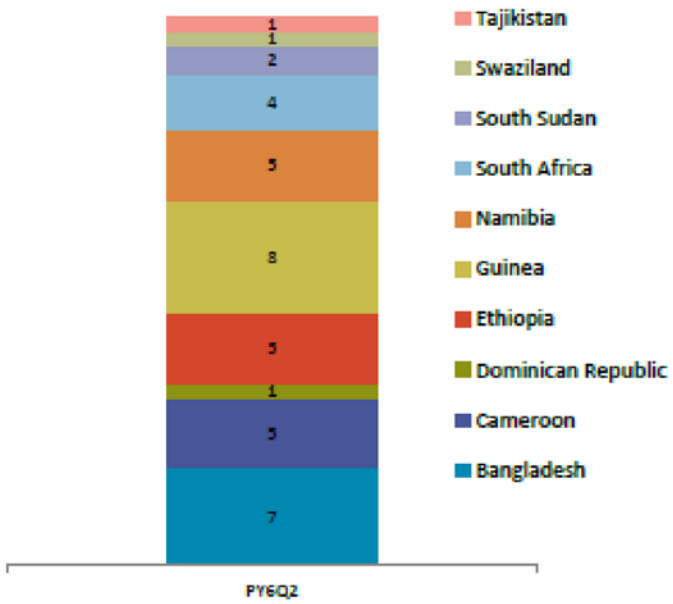


Pre-service training

SIAPS **Dominican Republic** participated in the closing session of the 2nd Certified Course (diploma) on Rational Use of Medicines. The students presented seven medicine use studies as the final product of the course. SIAPS is planning to sponsor a limited number of registration fees for a third course and a fourth course on pharmaceutical management upon the program extension until the end of 2017.

In-service training

To date, 10 countries have developed or revised 39 in-service health professional training curricula with SIAPS assistance (see figure for details).



The third phase of rolling out standard uniform inventory management tools for the **Bangladesh's** Directorate General Health Services (DGHS) extended to 11 districts. As part of the process, a 2-day basic logistics management training was conducted for 412 health officials from the 11 districts. In total, the system is functioning in 31 districts. DGHS high officials attended the training as a resource to motivate local-level health mangers. SIAPS technical advisors in the field will provide assistance to ensure completion of the post-training action plans.

Supportive supervision and mentoring

In January, SIAPS/**Benin** participated in a joint field visit to conduct supportive supervision of Ebola commodity management in three hospitals in Cozo, Bassila, and Saba, and one Ebola treatment center in the departmental hospital of Zou-Collines. The purpose of the visit was to assess Ebola products that would be needed to respond to outbreaks and follow up on the implementation of recommended actions from previous supportive supervision. Based on the field visit and onsite observations, recommendations were made, including preparing reports to document any donated Ebola products and using stock cards to document all transactions made on Ebola products to ensure traceability.

In February and March 2017, SIAPS/**Namibia** supported the annual service quality assessments to 12 clinics, 16 health centers, and 35 district and referral hospitals. During the on-site technical assistance, the teams mentored and trained more than 70 health care workers on SIAPS implemented tools (EDT, the electronic stock card [FESC], and the PMIS). The teams also provided technical assistance on report development and submission, validated pharmaceutical service information, and guided facility staff on data quality improvements. The findings from service quality assessments will enable SIAPS to target technical assistance to the Ministry of Health and Social services (MOHSS) based on evidence from the data and will allow managers at MOHSS to make evidence-based decisions in managing pharmaceutical services.

Also, during the supportive supervision visits, SIAPS conducted a comprehensive assessment of FESC use and challenges and provided on-the-job technical assistance to pharmacy staff at 37 sites for continued and efficient use of FESC.

In **Guinea**, the national malaria control program (PNLP), in collaboration with its partners, organized biannual supportive supervision visits (SSVs) to all eight administrative regions of the country. SSVs provide an opportunity for open dialogue between the central and peripheral levels and an ideal framework for strengthening the skills of health personnel and monitoring malaria control and prevention activities within health facilities. SIAPS provided technical and financial support to PNLP to carry out supervision in the PMI-supported regions of Labe, Boke, and Conakry. Overall, more than 80% of health facilities were adequately stocked with malaria products; inventory management tools were available and up-to-date in more than 73%; and recommendations were formulated for identified areas requiring improvement.

SIAPS/**Swaziland** has provided support to ART sites to improve pharmaceutical service through supportive supervision on pharmaceutical inventory management, good dispensing practices, counseling of patients on ARV/TB treatment, and monitoring of ADRs to improve adherence of patients to treatment. During this quarter, SIAPS provided supportive supervision to 10 out of the 16 target health facilities (Raleigh Fitkin Memorial Hospital, National TB Hospital, AIDS Healthcare Foundation–Lamvelase Clinic, Mankayane Government Hospital, Mbabane Government Hospital, Piggs Peak Government Hospital, Dvokolwako Health Centre, Mkhuzweni Health Centre, Lubombo Government Hospital, and Baylor Clinic-Center of Excellence).

During the routine supportive supervision, 19 pharmacy personnel (8 pharmacists and 11 pharmacy technicians) were mentored on pharmaceutical and supply chain management of HIV/TB. Following the visits, there was a general improvement in recording transactions (receipts and issues) in stock cards, monthly physical stock count, and monthly consumptions. Those health facilities that were still not recording monthly consumptions were mentored on the importance of recording this information. There was a stock out of co-trimoxazole 960 mg tablets in all health facilities visited.

From January 30 to February 17, SIAPS supported the National AIDS Control Program of **Togo** (PNLS) in conducting quarterly supervision on the use of the EDT. A team of two trainers and one EDT user visited five ART sites to build capacity of EDT users and also assess the quality of data. Each of the five ART sites was visited three times (once a week during the three consecutive weeks of the visits). The supervision team assessed quality of data by using two indicators—the concordance between the EDT record and physician prescription with regard to patient number, regimen, type of treatment, drugs, and the concordance between physical stock and theoretical stock. Significant progress has been made in regard to the second indicator where, in the past, some ART sites did not meet the 100% of concordance; each of the five sites demonstrated 100% of concordance between physical stock and theoretical stock.

Institutional Capacity Building

SIAPS/**Bangladesh** facilitated sub-national procurement workshop for the district level procuring entities in 7 regions. During the workshop it was identified that most of the local level procurement is done without following the government's procurement rules for using public fund. SIAPS customized the sub-national procurement guidelines and facilitated the training for sub-national procurement entities so that governments' rules and regulation are followed.

Tools for capacity building

SIAPS/**Bangladesh** provided an orientation session for the Directorate General Family Planning (DGFP) field-level staff in 27 selected sub-districts on the impact of the service delivery point (SDP) dashboard module in DGFP logistics management information systems; 1,662 field staff (1,230 female and 432 male) attended the orientation. The SDP module focuses on the effective management of commodities to ensure availability of all the major contraceptives and prevent stock-out at the last mile.

In January and February 2017, SIAPS/**Mali** supported the MOH's Department of Pharmacy and Medicines and the National Center for Disease Control to organize training sessions on the effective management of commodities of health programs. The objective of the trainings was to strengthen the skills of the working groups of the different programs on the newly developed modules included in the electronic portal OSPSANTE. Central-level staff, members of the civil society, and staff from USAID and NGO partners participated in the trainings; 9 members (5 female and 4 male) of the Nutrition Technical Group, 11 members (3 female and 8 male) of the HIV Technical Group, and 10 members (1 female and 9 male) of the Ebola Technical Group.

The Namibia Medicines Regulatory Council (NMRC) under MOHSS is improving its medicine registration system to ensure the safety and efficacy of medicines and to strengthen the potential for the exportation of medicines. SIAPS/**Namibia** trained six NMRC staff on the in-house implementation of the web-based registration system (Pharmadex) before it is opened up for use by external pharmaceutical companies.

SIAPS/**Guinea** supported the Directorate of Family Planning (DNPM) to train approximately 470 staff from health facilities in 7 of the 8 regions of Guinea. This represents 89% of the targeted number of health professionals to be trained on the integrated Logistics Management Information System (LMIS) manual. Using adult learning theories, participants were trained on using the SOPs manual to integrate the LMIS and corresponding forms to order, monitor, and manage health commodities. Health facilities with trained staff started submitting their monthly LMIS reports using the integrated reporting forms in February 2017.

Intermediate Result 3. Utilization of information for decision making increased

SIAPS' approach to management information systems is to harmonize and integrate the collection and presentation of accurate, quality pharmaceutical and other commodities data in a timely and consistent manner. This data is intended to assist decision makers and health workers

at all levels of a country's health system make evidence-based decisions, manage health and laboratory commodities and pharmaceutical services, and measure, monitor, and evaluate progress. SIAPS' approach includes careful assessment of interventions related to information systems to determine the feasibility and long-term effect of their implementation; striving to find the best solution to address health-related data collection, processing, reporting, and decision-making challenges; and supporting country ownership and sustainability. SIAPS' pharmaceutical management information tools, such as RxSolution, Pharmadex, e-TB Manager, QuanTB, OSP-SANTE, OSPSIDA, Electronic Dispensing Tool (EDT), the Pharmacovigilance Data Collection and Analysis Tool, and the recently launched Pharmacovigilance Monitoring System, support both product and patient information. The demand for these tools in SIAPS and non-SIAPS countries keeps growing, and SIAPS is working with various partners to expand the use of these tools.

Data use

In **Guinea**, SIAPS supported the National Malaria Program (PNLP) in organizing a two-day workshop with stakeholders to review and update the supply plan for malaria commodities. Participants reviewed and validated inventory, consumption, and shipment data collected from the Central Medical Store (PCG), health facilities, and donor procurement agents, respectively. Participants updated the supply plan database using collated and validated data. Resulting actionable changes, with responsibilities for different actions needed, to ensure the optimal supply of malaria commodities were developed and communicated to both USAID/PMI and Catholic Relief Services. These included expedited deliveries of artemether and sulfadoxine/ pyrimethamine (SP) to avert potential stock-outs at the central level. Based on this request, 6,667 boxes of SP (12 months of stock) were delivered at the end of March 2017, and delivery of 65,600 vials of artemether is expected to arrive in country by the end of April 2017.

Data collection, aggregation, and analysis on the use of family planning (FP) services and contraceptive products in all health facilities in Guinea revealed that the contraceptive prevalence rate for quarter 4 of 2016 was 13.2%; 19.7% of health facilities registered a stock-out of 3 or more consecutive days over the 12 months of 2016, and over 90% used stock cards for managing FP commodities.

In **Namibia**, through the annual service quality assessment and support visits, SIAPS supported the Ministry of Health and Social Services (MOHSS) in data validation between the Electronic Patient Monitoring System and EDT to determine the discrepancies in the numbers of ART patients in the two systems. Results generated will be analyzed to provide baselines and justification for investigations into the reasons for data gaps in the two systems.

Information collected through the Continuous Results Monitoring and Support System (CRMS) process in **Sierra Leone** informed decisions regarding the retrieval and controlled disposal of expired medicines accumulated at the peripheral health units. CRMS data was also used as a source for the quantification process and the subsequent determination of procurement items and quantities.

Within the **West Africa regional portfolio (WARP),** the National AIDS Control Program (PNLS) of Togo, with support from SIAPS, input shipment data into OSPSIDA to analyze the status of the supply pipeline. The review of the pipeline showed a high probability of stock-out of two key products, tenofovir-lamivudine-efavirenz (used by at least 70% of patients on treatment) and abacavir-lamivudine. Based on the evidence provided by OSPSIDA, PNLS requested an urgent delivery. The requested products were delivered and distributed to care and treatment sites, preventing treatment interruption for the majority of patients.

In **Mali**, as part of the technical assistance to improve decision making, SIAPS provided support to the MOH through the Directorate of Pharmacy and Medicines, the PNLP, and the Central Medical Store for the preparation and submission of the procurement planning and monitoring report for malaria (PPMRm) and procurement planning and monitoring report for contraceptives (PPMRc). Logistics data were collected, including data on stock status, shipments, and receptions of malaria and FP products.

Based on the collected logistic data, several recommendations were made for both the malaria and FP programs, most importantly to:

- Expedite deliveries of several antimalarial commodities from the Global Fund/PSI, USAID to avoid impending stock-outs at the central level.
- Develop strategies to boost the use of the overstocked female condom and CycleBeads, to avoid wastage as a product of expiries.

Data Quality

The MOHSS, with support from SIAPS, has implemented strategies aimed at strengthening ART pharmaceutical systems in **Namibia**. Strategies implemented include strengthening stock, patient, and data management for ART services using the EDT and Facility Electronic Stock Card (FESC), strengthening the Pharmacy Management Information System (PMIS), developing and implementing standard operating procedures and treatment guidelines, and strengthening the functioning of therapeutic committees. SIAPS provided technical assistance to 12 clinics, 16 health centers, and 35 district and referral hospitals in February and March 2017. Over 70 health care workers were mentored and trained on SIAPS implemented tools (EDT, FESC, and PMIS) including generation and submission of reports, validation of pharmaceutical service information, and data quality improvements.

WARP reported that in Togo, from January 30 to February 17, a team of two trainers and one EDT user conducted supervision of the five ART sites to build capacity of EDT users and also assess the quality of data. The supervision team assessed quality of data by using two indicators: the concordance between EDT records and physician prescriptions with regard to patient number, regimen, type of treatment, and drugs, and the accuracy of stock records, as assessed during a physical inventory conducted the day of the site visit and the review of stock on hand information in EDT the day of the site visit. All five sites showed 100% concordance between EDT records and physician prescriptions. Significant progress has been made in regard to the second indicator. During this supervision, each of the five sites demonstrated 100% accuracy between physical stock and the stock registered on EDT.

Information System Design and Collaboration

In **Swaziland**, the SIAPS-supported e-LMIS remains the primary tool for managing logistics data for ART/TB, sexual and reproductive health (SRH), malaria, and laboratory. It is currently implemented at the central medical store, the laboratory warehouse, and six laboratory sites. The MOH, requested upgrades to the e-LMIS including linkage with other health systems, such as a new warehouse management system (WMS). In the quarter, two meetings were held with CMS management to review considerations for the integration of the WMS and e-LMIS. It is envisaged that linkage between the two systems will improve data quality, reduce data collection/entry burdens, reduce data duplication, support monitoring and evaluation, and enhance decision making for distribution of commodities. SIAPS also assisted in the development of a Microsoft Access database to pilot the e-LMIS tool in managing distribution and monitoring consumption of narcotic drugs at the central and facility levels.

SIAPS' support to **Guinea**'s PCG helped launch the SAGE Enterprise Resource Planning software at the end of January 2017. This helped PCG move from a manual system toward using the SAGE software to support daily procurement, stock management, distribution, sales, accounting, and payroll operations. SIAPS worked with both the PCG and the SAGE expert to validate physical inventory, approve the beginning balance, address transition issues, and provide additional on-the-job training before loading the data into the live system.

Additionally, during PY6Q2 the roll-out of the paper-based LMIS was completed in seven of eight administrative regions in Guinea. In total, 470 supply chain staff members were trained on the LMIS, out of a targeted 523 (89%).

In **Namibia**, SIAPS supported the MOHSS in implementing a pharmaceutical services dashboard to aggregate information from SIAPS-implemented tools including EDT, FESC, and PMIS. Reports from these tools are represented on the dashboard in easy-to-interpret charts and tables, streamlining the process of evidence-based decision making for MOHSS managers.

MEASURE Evaluation conducted an external assessment of the e-TB Manager (e-TBM) system in **Bangladesh** to determine the quality, current functionality, and utilization of data for clinical management of drug-susceptible TB and MDR-TB patients nationwide. Based on the findings presented by USAID, MEASURE Evaluation and SIAPS representatives to the Directorate General of Health Service, the director general made three key decisions:

- Stopping further roll-out of e-TBM, due to DGHS moving to adopt DHIS2
- Maintaining existing e-TBM sites to ensure that capturing high-quality data is not disrupted during the transition to DHIS2
- Building interoperability between e-TBM and DHIS2 to migrate TB summary data to DHIS2

Additionally, SIAPS mapped out the entire health information architecture for this integration and successfully completed the data transfer of the quarterly TB report from e-TBM to DHIS2.

Intermediate Result 4. Financing Strategies and Mechanisms Strengthened to Improve Access to Medicines

The SIAPS approach for strengthening financing strategies and mechanisms for improved access to medicines encourages proper use of existing financial resources, advocating for greater resource mobilization, and reducing monetary barriers prohibiting access to medicines by those most in need. During this quarter, SIAPS supported countries by working to identify pharmaceutical funding gaps and advocating for the redistribution of stock. By fostering collaborative relationships among partners, SIAPS continued to strengthen countries' quantification plans for medicine procurements from the Global Fund and other funders.

Mobilizing Additional Financial Resources

In **Bangladesh**, SIAPS participated in the seventh Global Fund Joint Monitoring Mission of the National Tuberculosis Program (NTP). SIAPS demonstrated the electronic TB patient management system before the mission. In previous quarters, SIAPS conducted quantification exercises and analyses of first- and second-line TB drugs by using QuanTB for the NTP. This quarter, NTP submitted an order for first- and second-line TB drugs to the Global Fund.

In **Mali**, SIAPS assists in collecting key information on stock status, deliveries, and distribution of malaria and family planning commodities. In collaboration with the Ministry of Health (MOH), this information is compiled into the procurement planning and monitoring report for malaria (PPMRm) and procurement planning and monitoring report for contraceptives (PPMRc). On the basis of the analyses this quarter, SIAPS recommended that the Global Fund, USAID, and PSI accelerate the transfer of arthemeter-lumefantrine (AL) treatments to the Pharmacie Populaire du Mali and delivery of planned procurements of AL, family planning commodities, and rapid diagnostic test kits to avoid stock-outs.

In **Sierra Leone**, SIAPS, along with other stakeholders, contributed to the approval of the 2017 quantification of free health care supplies. Data from SIAPS' continuous results monitoring and support system (CRMS) was used as one of the sources to inform the quantification. Illustrating the multitude of partners involved in mobilizing resources to meet the need for pharmaceutical products in Sierra Leone, DFID has funded the purchase cost of the commodities and UNICEF is leading the procurement process.

As fiscal constraints threatened commodity security in **Swaziland**, SIAPS facilitated the transfer of stock between warehouses to cover commodity shortages as plans for the procurement of additional supplies were addressed. At the facility level, stock-outs of certain essential medicines and shortages of co-trimoxazole were reported. In addition, at the national level, there was a shortage of isoniazid 300 mg tablets. SIAPS also assisted the Central Medical Store (CMS) in adjusting supply plans based on the amount of funding disbursed by the Ministry of Finance. The level of funding released to CMS for the procurement of medicines was under the amount initially requested within the fourth quarter FY 2016/17 supply plan.

Intermediate Result 5a: Supply Chain Management

During the second quarter of PY6, SIAPS supported capacity building through formal training, mentoring, and supportive supervision for strengthening supply chain management systems. SIAPS supported quantification and stock status updates of health commodities to identify funding gaps, inform procurement and distribution plans, and mitigate stock-outs and expiry of products. In partnership with government stakeholders and other partners, SIAPS provided critical technical assistance to improve processes and systems pertaining to product selection, quantification, procurement, warehousing, distribution, and inventory management.

SIAPS/**Bangladesh** worked alongside government agencies to continue the introduction of inventory management solutions and facilitated multiple procurement and supply chain workshops. SIAPS introduced standard inventory management tools and conducted on-the-job skills training in 11 additional districts in collaboration with the Directorate General of Health Services (DGHS). In partnership with the Directorate General of Family Planning (DGFP), SIAPS provided orientations to 1,667 field-level staff from 27 sub-districts on the impact of the service delivery point dashboard module and their critical contributions to the overall DGFP LMIS. A total of 15 DGFP stores and 3 DGHS health facilities were assisted this quarter in pharmaceutical waste management, which resulted in the recovery of 7,580 cubic feet of storage space.

In seven regions of Bangladesh, SIAPS capacitated district-level procurement entities by customizing sub-national procurement guidelines and facilitating trainings. This effort is expected to change the non-uniform and irregular procurement practices, identified and discussed during the training, which are not in line with the Government of Bangladesh's procurement rules and regulations; transparency will be improved effective and efficient use of limited resources will be increases. SIAPS coordinated the sixth meeting of the Supply Chain Coordination Forum in March 2017, at which time emphasis was placed on resolving procurement and logistics challenges to ensure timely procurement and distribution of further supply needs.

In **Mali**, SIAPS assisted the Pharmacie Populaire du Mali (PPM) in quantification of essential medicines, including data validation at the regional levels. SIAPS presented findings and assumptions of this quantification to stakeholders at a national workshop on Mali's supply chain. In addition to monitoring stock availability, SIAPS provided support to La Direction de la Pharmacie et de Medicament in submitting procurement planning and monitoring report for malaria (PPMRm) and procurement planning and monitoring report for contraceptives (PPMRc) using data collected from OSPSANTE on stock status from the central and facility levels. Recommendations were made to the Global Fund, USAID, and PSI to accelerate the in-country delivery and transfer of specific pharmaceutical products from storage facilities to the PPM.

In partnership with the National Tuberculosis Program in the **Philippines**, SIAPS contributed to the validation of procurement orders placed during quarters 1 and 2 of 2017. The validation ensured that the program's latest procurement orders are in line with programmatic targets for the management of DR-TB as the iDOTS program is expanded and the shorter standard

treatment regimen is adopted. SIAPS' support to the quantification exercise will continue next quarter as procurement orders for the last two quarters of 2017 are finalized.

In **Sierra Leone**, SIAPS provided technical assistance to the Directorate of Drugs and Medical Supplies (DDMS) in reverse supply management, quantification, and warehousing. It also continued to implement continuous results monitoring and support system (CRMS) throughout the country. A national guideline was drafted to institutionalize the practice of returning batches of expired medicines from peripheral health facilities to the district level and subsequently to the central level for proper disposal. Through the support of SIAPS and other stakeholders, the 2017 quantification of free health care supplies was approved. Data from SIAPS-supported CRMS was used as one of the sources to inform the quantification. While DFID funded the purchase of the commodities, the procurement is being conducted by UNCIEF, and SIAPS is working with DDMS, DFID, UNICEF, and other partners to ensure timely availability of these essential health commodities in adequate quantities. In this quarter, the second cycle of CRMS was conducted at five additional districts. This increases the cumulative number of districts covered so far to 10 accounting for 860 (69%) health facilities out of the 1,241 in the country.

As part of the targeted response to gaps identified during CRMS supervision visits, warehousing improvement activities have been started in many districts of Sierra Leone So far, 50 health facilities have been assessed (11 in Bombali, 8 in Port Loko, 11 in Tonkolili, 16 in Western Area, and 4 in Kenema). Installations of secured and improved storage capacities were completed in three facilities in Western Area by the end of quarter 2. This has been highly appreciated by districts and health facilities as innovative, timely, and cost effective, especially because it used local carpenters. Throughout this process, district health teams were supported and encouraged to reorganize the shelving of products and update stock cards as needed.

With the introduction of the HIV Test and Start initiative in **Swaziland**, SIAPS has placed great emphasis on the importance of monitoring stock levels of tracer ARVs and laboratory commodities in its collaboration with the Swaziland National AIDS Program and the Central Medical Stores. In this quarter, there were no stock-outs of these commodities reported at the facility or central level. There is currently four to six months stock of rapid HIV diagnostic kits within the national pipeline. Additionally, SIAPS provided supportive supervision in areas such as pharmaceutical inventory management at 10 of the 16 target health facilities. During the supportive supervision visits, 8 pharmacists and 11 pharmacy technicians received mentorship on pharmaceutical and supply chain management of HIV and TB commodities, including recording transactions on stock cards and conducting monthly physical stock counts and determining consumption.

Intermediate Result 5b. Pharmaceutical Services Improved to Achieve Desired Health Outcomes

SIAPS improves pharmaceutical services by using a holistic approach that ensures that patients receive medicines optimized to their clinical needs in doses that meet their individual requirements for an adequate time and at the lowest cost to them and their community. During this quarter, SIAPS provided support to countries through various technical areas and strategies,

including PV, RMU, essential medicines lists (EMLs), formularies, STGs, AMR, DTCs, medicine use reviews, and treatment adherence.

Pharmacovigilance

In **Bangladesh**, the Adverse Drug Reaction Monitoring (ADRM) Cell and SIAPS organized joint visits to public hospitals to promote PV awareness. During this quarter, the ADRM Cell also evaluated 54 ADR reports out of 150 reports submitted by hospitals and pharmaceutical companies. In addition, the ADRM Cell decided to coordinate with national health programs such as the TB program to include their ADR reports in the PV program.

In **Ethiopia,** SIAPS carried out face-to-face discussions on adverse drug event (ADE) monitoring with 116 health providers at three health facilities in Addis Ababa. During this quarter, the National Pharmacovigilance Center received 214 ADE reports from 36 health facilities. SIAPS assisted in distributing 120 ADE report forms, 120 newsletters, and 150 allergy cards to health facilities and helped prepare the 17th PV newsletter.

SIAPS worked with the Food, Medicines, and Health Care Administration and Control Authority (FMHACA) branch office experts and regional regulatory and EPI coordinators to carry out two rounds of assessments on the Adverse Event Monitoring Following Immunization (AEFI) Surveillance System at the Amhara and Oromia Regions by using a semi-structured questionnaire. A consultative meeting on the AEFI Surveillance System was also held in which 38 participants from 11 regional health bureaus and regulatory authorities attended. In addition, a fatal adverse event was observed in a child who was vaccinated with the measles vaccine at Oromia Region Boset Wereda. Causality assessment was performed for the adverse event.

In the **Philippines**, SIAPS has successfully deployed the Pharmacovigilance Monitoring System (PViMS) in the Department of Health (DOH) IT infrastructure. PViMS is also being implemented as the national active drug safety monitoring and management (ADSM) database for the Philippines. SIAPS has oriented 195 participants in four regions (6, 10, 4A, and 5) on PViMS. SIAPS has reviewed selected nine-month treatment regime (9MTR) data and provided technical advice for 9MTR data quality improvement in preparation to its migration in PViMS. SIAPS also provided technical guidance to the Lung Center of the Philippines–National Center for Pulmonary Research in reporting serious bedaquiline ADEs to the Global Drug Facility. In addition, SIAPS supported DOH-Pharmaceutical Division (PD) by providing technical inputs in the development of the administrative order on PV and by working with DOH-PD to finalize the PViMS user manual.

In **Swaziland**, SIAPS facilitated inclusion of ADR monitoring and reporting in the National AIDS Program reporting mechanisms to improve reporting rates. The next steps are to engage a data clerk to assist in capturing the ADR reports to facilitate more efficient decisions regarding patient safety. The national database of ADRs will be referenced when the country embarks on updating the national HIV treatment guidelines in the next quarter.

Rational Medicine Use

In **Namibia,** during the annual pharmaceutical supportive supervision visits and service quality assessments, SIAPS supported the MOHSS in mentoring more than 70 pharmacy staff on their role in monitoring and promoting RMU through medicine and therapeutics committees.

In **Swaziland**, SIAPS continued to support the National TB Control Program (NTCP) in the implementation of bedaquiline for the management of MDR- and XDR-TB patients by contributing to the revision of informed consent SOPs and monitoring patient safety. SIAPS participates in the bedaquiline clinical access program expert committee meetings for the selection and monitoring of patients on bedaquiline. SIAPS also supported NTCP by contributing to the development of the short-course MDR-TB regimen guidelines and training health professionals on these guidelines. The short-course TB regimen seeks to reduce the length of MDR-TB treatment and to use a combination of medicines that are more tolerable, more effective, and less expensive, thus enhancing RMU and treatment outcomes.

In **Uzbekistan**, with SIAPS support, an anti-TB drug use review was conducted in ten oblasts to promote optimal medication therapy according to the national treatment guidelines and to prevent errors and minimize adverse effects to patients associated with the second-line treatment; 914 MDR-TB patient cards were reviewed.

STGs, EMLs, and Formularies

In **Ethiopia,** the final editorial work for the medicines formulary was completed, and SIAPS supported the printing of 4,000 copies. FMHACA has taken responsibility for distribution of the printed formulary to health facilities as part of the cost sharing scheme.

In **Guinea**, SIAPS worked with Direction Nationale de la Pharmacie et du Medicament to finalize the National Essential Medicines List (NEML) and secured the minister of health's endorsement. Printing of the NEML is ongoing and will be followed by dissemination and training of prescribers and dispensers in all health facilities on its use.

In **Ukraine,** SIAPS continued to support the MOH to finalize the EML. During this quarter, the SOPs for the EML Expert Committee were finalized. Public discussion of the EML has been completed, and the comments and suggestions were incorporated. The final EML was approved by the Cabinet of Ministers on March 16 and published on March 25. The new EML will be effective as of July 1, 2017.

AMR and Infection Prevention and Control

In **Namibia**, SIAPS is providing technical assistance to the National Strategic and Technical Advisory Group in conducting a situational analysis of strategies to combat AMR in Namibia. The situational analysis will be used to determine gaps and guide actions for multi-sectoral containment of AMR in Namibia.

In **Sierra Leone**, SIAPS used the opportunity of launching DTCs to advocate AMR containment and to get the government's AMR agenda to the forefront. SIAPS provided necessary technical support to stakeholders regarding a national strategic plan on AMR, the development of which is being spearheaded by the Pharmacy Board. This resulted in a national AMR call-to-action meeting that has now moved to the development of a national strategic plan; progress toward this will be presented to the World Health Assembly in coming May.

In **Swaziland**, SIAPS is supporting the MOH in the development of a national AMR containment strategic plan. The task team, led by the Office of the Chief Pharmacist, has drafted the strategic plan which is currently under review. It is anticipated that it will be finalized at the end of April. The final document will be presented by the minister of health at the World Health Assembly in May.

As reported in previous quarters, SIAPS worked with the Ecumenical Pharmaceutical Network (EPN) to support the implementation of three AMR- and infection control-related projects by the Zimbabwe Association of Church-related Hospitals (ZACH), Gertrude's Children's Hospital (GCH) in Kenya, and the Christian Health Association of Malawi (CHAM). The final drafts of the reports were submitted by ZACH, GCH, and CHAM. Both EPN and SIAPS reviewed the draft and worked with the EPN member organizations to finalize them as final reports.

The editorial group reviewed the final draft "Building Coalitions for Containing Antimicrobial Resistance: A Guide" and it is now with the SIAPS technical staff to address editorial comments. SIAPS also worked further to finalize the manuscript to submit to a peer-reviewed publication based on the experiences of both SIAPS and SIAPS' predecessor programs in building coalitions to combat AMR. Both these documents will be sent to USAID for review in the next quarter.

Drug and Therapeutics Committees

In **Mozambique**, SIAPS has been supporting the Hospital Pharmacy Department (HPD) to build hospital DTCs' capacity in medicine use studies. In this quarter, SIAPS helped HPD assess in one general hospital how other complementary activities such as medicine use evaluation, improving ADR reporting and analysis, managing medicines formulary, and treatment adherence as well as process mapping and improvement can be implemented. SIAPS is helping develop tools to support the above activities, including a therapeutic adherence survey tool, another tool to conduct drug use evaluation at hospitals, and tools for process mapping and improvement (queue time, patient satisfaction).

In **Sierra Leone**, SIAPS supported the Ministry of Health and Sanitation (MOHS) to establish DTCs in four tertiary hospitals. This was followed by a national launch of DTCs by the MOHS. Rolling out established DTCs has commenced in another five.

Treatment Adherence

In **Namibia,** SIAPS continued to provide technical assistance to the MOHSS for implementing ART adherence and retention interventions. SIAPS followed up on the Short Message System (SMS) reminder implementation at 10 ART sites. Key findings from the preliminary analysis of

data indicate that the intensity of SMS messages sent to patients on ART correlates well with patient on-time pill pick-up for those patients enrolled. The SMS reminder gateway has been acquired, which will reduce challenges faced with test versions.

In **Namibia**, SIAPS also enhanced the EDT to capture community-based ART (CBART) dispensing data in collaboration with MOHSS partners to support the scale-up of the CBART approach to ART service delivery. CBART is one of the strategies proposed in the differentiated care model to manage stable ART patients at high-volume ART sites; 55 groups were created in the EDT with about 657 ART patients who met criteria for implementation of CBART. SIAPS provided technical assistance to MOHSS and partners in the development of SOPs for the management of ART patients accessing ARV medicines through the CBART initiative.

CROSS BUREAU

Objective 1: Strengthen pharmaceutical sector governance

SIAPS continued work on developing two technical briefs that describe strategies for improving governance in pharmaceutical systems in low- and middle-income countries (LMICs) and provide case study examples and lessons learned. One of the underlying causes of poor functioning of committees that make crucial decisions about selection, procurement, distribution, and use of pharmaceutical products is the absence of or weak terms of reference (TORs). In this reporting period, SIAPS finalized a brief that provides guidance and a template for developing or updating TORs for any committee making decisions or providing oversight in the pharmaceutical sector. The brief, which provides three case examples of its use in South Africa and summarizes experiences and lessons learned, is now being edited. SIAPS also continued work on drafting a second brief that will provide case study examples of SIAPS support to countries to enhance accountability, reduce wastage, and improve efficiencies in pharmaceutical systems.

In 2015, SIAPS published the Good Governance in the Management of Medicines course through the Global Health eLearning (GHeL) Center with support from the Knowledge for Health (K4Health) Project. As of March 31, 2017, the course has been successfully completed by 251 learners from 56 countries.

Constraints to Progress

SIAPS' support to the WHO Good Governance for Medicines Program activities to finalize the updated transparency and accountability tool is pending WHO piloting of the tool (which has been delayed into the first half of 2017) and preparation of a draft conflict of ethics guidance.

Objective 2: Capacity for pharmaceutical management and services increased and enhanced

SIAPS completed another draft of the M&E framework that is being developed with the New Partnership for African Development Agency (NEPAD) to measure the performance of the Regional Centers of Regulatory Excellence (RCOREs) designated by the African Medicines Regulatory Harmonization (AMRH) Program. An internal review earlier in the quarter determined that the number of indicators needed to be significantly reduced. NEPAD received the revised draft and will review it next quarter. SIAPS will produce the final draft of the framework based on NEPAD's feedback, after which NEPAD will assume responsibility for piloting the materials with a sample of RCOREs and then conducting a workshop with all of the RCOREs to finalize them.

Also during the quarter, SIAPS participated in an AMRH partners workshop organized by the World Bank and NEPAD in Midrand, South Africa, on February 8-9, 2017, to re-examine the strategic vision for medicines regulatory harmonization on the African continent. The meeting addressed the emergence of new partners and new technical areas within the AMRH program and the need to incorporate and coordinate with them within the strategy. The dynamics among

the different players also call for a revised governance framework for AMRH that clarifies roles and aligns with wider partnerships, global initiatives, and other continental governance structures.

Objective 3: Information for decision-making challenges addressed in the pharmaceutical sector

In this quarter, SIAPS focused efforts on finalizing preparations for the piloting of the pharmaceutical system strengthening metrics and for consultations with external expert reviewers on the selected components, elements, and indicators. Recognizing that the health systems literature, specifically with regard to resilience, is still emerging, SIAPS conducted a targeted literature review to finalize the set of system attribute indicators (for performance and resilience) for piloting. SIAPS reviewed five health systems performance frameworks and the recent health systems literature on resilience concepts and its measurement, and verified that the relevant key domains and sub-domains of health systems performance and resilience were accounted for in the metrics selected for piloting.

The data collection tool for the pilot activity is being finalized. The tool incorporates the prepared indicator reference sheets and includes assessment questions for data collection to score and assess each indicator. SIAPS HQ staff are still working to finalize the composition of data collection teams in pilot countries.

Constraints to Progress

Following the development of the indicator reference sheets, a large number of assessment questions were developed to collect data for calculating scores on each indicator. The set of assessment questions as a whole was quite large, due to the number of desired disaggregation categories for each data point and for the level of detail included. This prompted the assessment team to re-evaluate the assessment questions to make the data collection for the pilot more manageable and prioritize the data that was required as opposed to what would be nice to have. This process took some time and has prompted a round of revision to the data collection tool, as well as the indicator reference sheets.

Objective 4: Strengthened financing strategies and approaches

In this reporting quarter, SIAPS developed a matrix to map a list of policy questions and appropriate indicators, with respective potential data sources and methodologies. Through this matrix, SIAPS also captured those indicators for which the Systems for Health Accounts (SHA) framework and/or selected countries' National Health Accounts (NHAs) have previous documented reporting experiences. These proposed indicators are currently being examined by a team of reviewers. In the next quarter, SIAPS will develop an outline for the pharmaceutical expenditure tracking guide, finalize the indicators, and initiate the development of the first draft of the guide.

During this quarter, the final version of the universal health coverage (UHC) policy paper was submitted to the USAID AoR team for review. The paper addresses UHC challenges in relation

to the pharmaceutical system components of products and services; policy, laws, and governance; regulatory systems; financing; human resources; information; and innovation, research, and development. Using the UHC policy paper as a foundation, the next step is to produce an e-learning video using animations to advocate for the importance of addressing issues related to pharmaceutical system strengthening when implementing UHC programs.

Objective 5: Quality of pharmaceutical products and services improved

As reported in previous quarters, SIAPS worked with the Ecumenical Pharmaceutical Network (EPN) to support the implementation of three AMR-related projects by the Zimbabwe Association of Church-related Hospitals (ZACH), Gertrude's Children's Hospital (GCH) in Kenya, and the Christian Health Association of Malawi (CHAM). The final drafts of the reports were submitted by ZACH, GCH, and CHAM. Both EPN and SIAPS reviewed the draft and worked with the EPN member organizations to finalize them as final reports.

The editorial group reviewed the final draft "Building Coalitions for Containing Antimicrobial Resistance: A Guide" and it is now with the SIAPS technical staff to address editorial comments. SIAPS also worked further to finalize the manuscript to submit to a peer-reviewed publication, based on the experiences of both SIAPS and SIAPS' predecessor programs in building coalitions to combat AMR. Both these documents will be sent to USAID for review in the next quarter.

As part of efforts to document work in pharmaceutical services, SIAPS finalized the revision of a technical highlight on the role of DTC in promoting RMU. It will be sent to the editorial group in the next quarter for finalization and publication.

SIAPS was in the process of revising and updating the Regulatory System Assessment Tool (RSAT) when it was informed that WHO was in the final stages of developing the Global Benchmarking Tool (GBT) to replace the agency's previous regulatory assessment tool published in 1998. Following several consultations with WHO about possible ways for RSAT to complement GBT, SIAPS decided to significantly reduce the scope of its planned revision of RSAT to avoid duplicating GBT and potentially undermining the shift in RSS toward a coordinated approach with standard metrics. SIAPS is now in the process of finalizing the original version of RSAT, which had not undergone a formal edit prior to its use. The tool will include instructions, assessment questions, a data collection tool and indicators, as it did originally. Although a finalized version of RSAT will be made available, it is expected that its use will be limited to special circumstances where a particular user deems GBT to be inappropriate or insufficient for their intended purpose. SIAPS made progress this quarter on the final revision of assessment questions in RSAT, which will be finalized next quarter. Also this quarter, SIAPS developed a two-page overview of this activity, including SIAPS' contribution to WHO's GBT.

Partner Contributions

With SIAPS support, EPN administered the grants for the three AMR-related projects conducted by ZACH, GCH, and CHAZ.

Objective 6: Contribute to the generation of new knowledge and dissemination of evidence-based approaches and best practices

According to Google Analytics, the WHO Essential Medicines and Health Products Information Portal (EMP) saw a modest increase in the number of new visitors it attracted from last quarter (79%) to this quarter (81%). Traffic was similar to last quarter; 79% came from organic searches via Google, Bing, and Yahoo and 77% of visitors accessed the website directly.

This quarter, a draft scope of work for the development of a sustainability plan for the EMP was developed. This will serve for discussion with WHO as the key beneficiary of this consultancy. The scope will be refined accordingly and will be used to recruit a consultant to carry out the information gathering and development of the plan.

Also this quarter, SIAPS began working on the activity to collate case studies of sustained improvements in pharmaceutical systems. SIAPS finalized language for the global call with inputs from project leadership, developed a draft-scoring rubric for submitted case studies, and identified a consultant to start the design of the microsite and submission form for global call case studies.

Regarding the Health Systems Assessment Approach (HSAA) manual revision, in this quarter, SIAPS had additional revisions to the module on medical products, vaccines, and technologies (module 4 in section 3 of the HSAA manual). The updated revisions to this module have been submitted to the Health, Finance, and Governance Project for finalization and publishing.

Partner Contributions

WHO continues to support the EMP Information Portal activity through their inputs into the sustainability plan, as well as their management of the EMP itself.

East African Community Medicines Regulation and Harmonization Program Portfolio

The East African Community (EAC) is a regional intergovernmental economic organization of six partner states: Republic of Tanzania (mainland Tanzania and Zanzibar), Uganda, Kenya, Rwanda, Burundi, and South Sudan, with its headquarters located in Arusha, Tanzania. The EAC-Medicines Regulatory Harmonization (MRH) Program is part of the African Medicines Regulatory Harmonization (AMRH) initiative.

Objective 1: Support the development and implementation of harmonized PV requirements, guidelines, procedures, and practices for the regulation of medicines, health products, and technologies in the EAC region

During the quarter, SIAPS collaborated with the EAC secretariat, PV Expert Working Group, and AMRH partners to execute a baseline of the PV systems in most EAC member states (all but South Sudan), undertake data analysis, and disseminate the assessment findings.

Specifically, the EAC PV experts used the harmonized EAC PV assessment tools, which were adapted with technical assistance from SIAPS from the SPS/Indicator-based Pharmacovigilance Assessment Tool and WHO PV indicators. The PV experts also used the SIAPS-supported data management tool. During the baseline assessment, SIAPS also provided technical assistance to the data management process.

Additionally, SIAPS supported a high-level EAC PV stakeholders meeting in Nairobi, Kenya, from March 21-23, 2017 to disseminate, review, and discuss the baseline assessments' findings. The findings will inform the development of a business plan for strengthening PV in the EAC region. The immediate next steps agreed upon during this meeting are for the EAC secretariat and the PV regional experts to prioritize and cost regional- and country-level activities on the basis of the assessment findings, which will then be incorporated into the business plan that will be developed under NEPAD's leadership with inputs from partners, including SIAPS.

GLOBAL PROGRAMS

Maternal, Newborn, and Child Health

Goal: Ensure the availability of quality medicines and supplies and effective pharmaceutical services to reduce maternal, newborn, and child mortality

Overall Quarterly Progress

The SIAPS Maternal, Newborn, and Child Health (MNCH) portfolio continued to contribute to ensuring the availability of quality medicines and supplies and effective pharmaceutical services to reduce maternal, newborn, and child mortality. During this quarter, SIAPS remained engaged at the global level by participating in key working groups and initiatives to enhance the dialogue on the importance of pharmaceutical management of MNCH medicines and supplies. SIAPS took the lead on organizing a session on strong systems to ensure commodity availability and use at the community level for the Institutionalizing Community Health Conference March 27–29. During the session, SIAPS presented a general overview to define a pharmaceutical system and explain why strengthening it is important for community health services; representatives from Ethiopia and Malawi presented their country experiences. Discussion from the session led to a recognition of key challenges facing many countries at the community level and recommendations to address them.

SIAPS also presented a webinar on the RMNCH quantification supplement developed by the Maternal Health technical resource team (TRT) of the UNCoLSC and an update on the status of chlorhexidine introduction in Afghanistan and Democratic Republic of Congo (DRC) for the chlorhexidine working group, and it continues to chair the supply chain management subgroup of the CCM taskforce.

Finally, SIAPS finalized an article on the review of current pharmaceutical management policies and systems that affect access to essential MNCH medicines and supplies. The article was approved by the Countdown's Working Group on Health Systems and Policies and will be submitted to *BMC Health Services Research*.

Objective 1: Global awareness of the importance of pharmaceutical management for MNCH medicines and supplies increased

The SIAPS MNCH portfolio continued to be engaged at the global level by participating in regular meetings of the Maternal Health Supplies (MHS) Caucus of the Reproductive Health Supplies Coalition; the Supply Chain Management (SCM) subgroup of the CCM taskforce; and the maternal health, newborn injectable antibiotics, and chlorhexidine TRTs of the UN Commission. Among other contributions:

- SIAPS presented a webinar on the RMNCH quantification supplement developed by the Maternal Health TRT and organized by the MHS caucus.
- During the chlorhexidine working group's quarterly meeting, SIAPS presented on the status of chlorhexidine introduction in Afghanistan and DRC.

- SIAPS chaired the March SCM subgroup meeting of the CCM taskforce, during which nutrition commodity supply chain challenges were discussed

During the next quarter, SIAPS will participate in the CCM taskforce consultation to determine the roles of the subgroups as the taskforce becomes a Child Health taskforce and expands its focus beyond community case management in response to the USAID mapping of Global Leadership in Child Health.

SIAPS organized a session on strong systems to ensure commodity availability and use at the community level for the Institutionalizing Community Health Conference March 27–29 in South Africa. During the session, SIAPS presented a general overview to define a pharmaceutical system and explain why strengthening it is important for community health services using country examples. SIAPS also coordinated presentations on USAID-funded activities in Ethiopia to strengthen the pharmaceutical system and on Malawi's experience in scaling up C-stock, an mHealth community-level information system. Key points from the session included:

- Commodities are often overlooked in community health planning and institutionalizing.
- Ministry of Health leadership and country ownership are crucial to coordinate. donor/implementing partner investments to strengthen the pharmaceutical supply system.
- There is a noticeable evolution of innovative supply chains for community case management interventions, from pilots to mainstreaming within the national system.
- Data availability and visibility are only useful if there is a mechanism to ensure that the data are utilized.
- Linking LMIS data to program data (HMIS) at all levels and particularly at the community level should be explored where possible, although this is challenging.
- Distributing commodities to community health workers is a challenge and practical mechanisms are needed to distribute commodities.

During the discussion session, it was recommended that all key stakeholders, including actors from the pharmaceutical system, be involved in the planning and implementation of community health. Efforts must also be made to strengthen the whole pharmaceutical system rather than focusing on management of commodities at the community level and to integrate community-focused interventions within the national supply chain strengthening strategy/pharmaceutical supply strategy or masterplan.

Objective 2: Guidance and tools for improving pharmaceutical management for MNCH developed and disseminated

The final draft of an article was sent to the Countdown Health Systems and Policies Working Group chairs for final review and approval for submission for publication. The authors signed off on the draft paper at the end of the quarter, and it will be submitted to *BMC Health Services Research*. During the next quarter, SIAPS will guide the journal article through publication and finalize it as a SIAPS document.

During this quarter, SIAPS collected data on mapping financial flows in Bangladesh**.** SIAPS worked with the local consultant to complete the data collection, and a presentation was made to

the USAID/Bangladesh Mission on the initial assessment findings. SIAPS also finalized the results of the assessment and submitted a presentation to the USAID/Washington MCH team, which will be given early next quarter. SIAPS is drafting the country report for Bangladesh and finalizing country reports for Nepal, Uganda, and Kenya. SIAPS also developed an outline for the summary presentation that consolidated the findings from all four countries and has shared it with USAID for comment. During the next quarter, SIAPS will finalize the Bangladesh, Uganda, Kenya, and Nepal financial flows report and the summary presentation.

Objective 3: Evidence base for effective strategies to improve access to MNCH pharmaceuticals and services increased

SIAPS explored the possibility of including MCH commodities in the pharmacovigilance systems being set up in Bangladesh with SIAPS in-country support for the financial flows activity. SIAPS met with a professor in the Pediatric Department at Bangabandhu Sheikh Mujib Medical University to present this activity and the proposed process and to solicit input and secure buy-in for the potential new activity under the MNCH Core on the pharmacovigilance system for MNCH medicines. Based on these meetings in Bangladesh, a draft concept note has been developed and shared with the SIAPS/Bangladesh team for input. During the next quarter, the team will develop training materials and train heath care providers on the reporting system in the pilot sites.

TB Core

Goal: Ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve global TB goals

Overall Quarter Progress

This quarter was marked by the continued wrap-up of activities in anticipation of project close-out. SIAPS finalized a number of activities and deliverables this quarter. SIAPS continued its review of the impact of implementing QuanTB and related SIAPS technical assistance in 12 countries—Bangladesh, Democratic Republic of the Congo (DRC), Kenya, Myanmar, Nigeria, the Philippines, South Sudan, Tajikistan, Tanzania, Uganda, Zambia, and Zimbabwe—to determine key achievements, experiences, and perspectives of in-country and global beneficiaries of the tool and challenges and lessons learned from implementing the intervention. Continuing to improve pharmaceutical services and access to TB products to achieve the End TB strategy, SIAPS finalized an economic impact of TB medicine stock-out analysis conducted in conjunction with the Kenya NTP this quarter. The report was approved by the Kenya NTP and is undergoing editorial review and dissemination.

Continuing to serve as a leader in pharmaceutical best practices and promoting improved utilization of information for TB-control decision making, SIAPS produced two manuscripts for publication in peer-reviewed journals this quarter. Both manuscripts were approved and are in-print.

Following an analysis of QuanTB downloads, the tool has achieved unprecedented reach and serves as a legacy of SIAPS' innovation in improving access to medicines for TB control. QuanTB has been downloaded almost 2,150 times in 135 different countries, almost 70% of all countries in the world.

Strengthening pharmaceutical systems to help End TB, SIAPS marked World TB Day this year by producing a new infographic on introducing new TB medicines in five countries: a progress report and look at the impact SIAPS has made in expanding access to lifesaving treatment.

SIAPS also produced a slideshow on rolling out bedaquiline and how it has been introduced in low- and middle-income countries. To mark the occasion, SIAPS released four new blog posts on how private medicine vendors can help fight drug-resistant TB, improving patient safety and building stronger systems in Georgia, launching Pharmacovigilance Monitoring System (PViMS) in the Philippines to improve data for decision making, and strengthening pharmaceutical systems while introducing new medicines and regimens.

Objective 1: Ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve global TB goals

This quarter, SIAPS staff prepared several abstracts for submission to the 48th Union World Conference on Lung Health to be held in Guadalajara, Mexico, October 11-14th, 2017.

Objective 2: Capacity for TB pharmaceutical supply management and services increased and enhanced

This quarter, the SIAPS team finalized the updating of videos according to QuanTB version 4, revisions for units 1, 4, 5, and 6 of module 2 by using Articulate Storyline. These recordings have been provided to the eCourse developer for editing and customization according to LeaderNet specification. Because of challenges in platform continuity due to funding uncertainties in LeaderNet, SIAPS staff provided guidance to the MSH leadership team about viable hosting solutions for the eCourse. By the end of quarter 2, SIAPS received notification that the course can continue to be hosted on LeaderNet and activities were resumed. Next quarter, it is planned that the course will be uploaded to the platform, testing completed, and the eCourse published. SIAPS also plans to launch a marketing campaign next quarter and monitor uptake of the course and troubleshoot as needed.

Constraints to Progress

During this quarter, SIAPS continued to experience delays in finalizing eCourse development (uploading to LeaderNet and launching the eCourse) due to longer-term funding uncertainties for MSH's platform, LeaderNet.

Objective 3: Improved utilization of information for TB-control decision making

By the end of quarter 2, there were 153 unique downloads of QuanTB alone from the SIAPS website, bringing the total number of unique downloads to 2,143 since the tool's inception. Because of funding constraints, additional modifications to e-TB Manager 3.0 were halted. The current version 3.0 fully implements the new case management module, mobile support, indicator generators, and offline mode. e-TB Manager use remains high and the platform is currently operating in 10 countries.

The Ukraine-focused paper on e-TB Manager user experience and results thereof has been accepted for publication in the *European Respiratory Journal Open Research*. This paper documents the background and process of implementing e-TB Manager, transaction statistics, extent of e-TB Manager nationwide scale-up, and survey results stratified by various user characteristics. This publication is co-authored with Ukraine's director of the Public Health Center overseeing TB programs and is testament to the legacy of SIAPS' years of support.

Similarly, a nine-country paper focused on e-TB Manager user experience analysis with results thereof has been accepted for publication in the *International Journal of Medical Informatics.* This paper builds on the seminal work done to evaluate the impact of e-TB Manager as a digital health tool in strengthening countries' information systems and its contribution to WHO's End TB strategy. After review of PDF proofs, the paper is currently in production and will likely be available online for dissemination in April 2017.

Drafting of the e-TB Manager end-of-project report is in progress with various country summaries and lessons learned.

Constraints to Progress

- The Ukraine paper has not yet been published and is scheduled for April 2017. Proofs will need to be reviewed, edited, and finalized prior to publication and dissemination.

Objective 5: Improved pharmaceutical services and access to TB products to achieve TB goals

This quarter, SIAPS provided technical assistance and quantification training to Ghana on the use of QuanTB to two females from the TB program. The NTP had downloaded QuanTB from our website and when SIAPS staff was there for another activity, they provided orientation on the tool, introduced version 4.0, and discussed major system issues related to supply chain management, data management, and quantification. SIAPS continued to give troubleshooting assistance to GDF colleagues on different aspects of QuanTB use during the last quarter.

During this quarter, the Kenya study on the economic impact of stock-outs was approved by the NTP and the report was completed and sent for editing.

This quarter, the SIAPS TB regional technical advisor for South Sudan and Zambia drafted the reports for the two countries and shared them with the home office for review and feedback. The two drafts were then revised to incorporate home office feedback and then finalized. Field advisors provided their feedback on the Tajikistan and Zimbabwe reports, and the reports were revised to incorporate the feedback and finalized. The online survey data was analyzed and the results combined with the country in-depth survey results and compiled into the global impact report.

Partner Contributions

- The evaluation was conducted in collaboration with in-country beneficiaries (NTP counterparts) and global TB partners (GDF/Stop TB, Global Fund, KNCV Eli Lili Project).
- In-country NTP beneficiaries participated in in-depth interviews and completed country beneficiary experience and satisfaction surveys.
- Global partners completed global partner experience and satisfaction surveys.

Constraints to Progress

- Staff attrition

TB Add-On

Objective 5: Improved pharmaceutical services and access to TB products to achieve TB goals

Kenya

This was the final quarter for regional technical assistance in Kenya, as the project prepares for close-out. SIAPS staff, as a key partner of procurement and supply management (PSM), was involved in planning and implementation of a mid-term program review in February/March 2017. This quarter, SIAPS continued to provide technical assistance to improve forecasting and supply planning in Kenya by using QuanTB and an early warning system. On a monthly basis, the SIAPS regional advisor reviewed the forecasts and supply plans to adjust for updated, enrolled patient numbers, stock on hand, and expiry dates. As a result, Kenya had more timely, accurate, and reliable quantification data to use for decision making compared to quantification before using QuanTB and SIAPS technical assistance.

South Sudan

Regional technical assistance concluded this quarter in South Sudan.

Zambia

SIAPS provided technical assistance and support on PSM strengthening as part of the WHO program review team. Recommendations on improving management of the TB medicine supply chain were made and shared with the NTP. Key interventions will form part of the national strategic plan 2017-2022 currently being drafted. This was the final quarter of SIAPS regional technical assistance for Zambia.

Nigeria

This quarter, SIAPS provided technical assistance in terms of quantification, forecasting, supply planning, the transition plan and drug management, active drug safety monitoring (aDSM), and pharmacovigilance (PV) for introduction of the new shorter course DR-TB regimen. The SIAPS regional advisor led the process of pipeline monitoring using QuanTB and made a presentation from the dashboard and graphs produced with the tool to mitigate stock-outs or wastage. SIAPS supported the process of introducing new drugs and regimens for pediatric DR-TB. During quarter 2, SIAPS built capacity of health care providers, supervisors, and laboratory staff from the North East (Bornu, Yobe) on commodity and patient management in DR-TB. SIAPS staff facilitated training on pharmaceutical care and LMIS of DR-TB commodities and participated in other meetings on PSM and a DR-TB program review meeting in Lagos State. This was the final quarter of regional technical assistance in Nigeria for TB Core.

Partner Contributions

Nigeria

NTP/KNCV-Challenge TB/WHO/other partners financed a training of trainers for the shorter regimen. NTP has tracked procurement of new drugs and the shorter treatment regimen for DR-TB, which are due to arrive April 2017. Challenge TB/NTP/ WHO/SIAPS have developed a road map for the shorter regimen.

TB Core Rapid Response

Goal: Provide technical support to the bedaquiline implementation program for TB new-medicines pharmacovigilance

Overall Quarter Progress

Georgia

This quarter, the routine programmatic implementation of bedaquiline (Bdq) along with delamanid (Dlm) was steady compared to previous periods. Based on drug susceptibility data and the patient eligibility criteria, it was estimated that, on average, approximately 8-10 patients should be enrolled on new TB drugs on a monthly basis in Georgia. Within the reporting period, 42 new patients were enrolled on new TB treatment, 22 on Bdq and 20 on Dlm.

As of March 31, 2017, 353 patients were enrolled on new treatment regimens in Georgia:

- 268 patients were enrolled on Bdq, of which 20 were through compassionate use
- 85 patients were enrolled on Dlm, of which 12 were through compassionate use
- 237 are still on treatment

SIAPS has continued to provide technical assistance for active drug safety monitoring and management (aDSM), and 82 serious adverse events (SAEs) have been reported to date. Approximately 15% of patients have developed at least one SAE. SAE recognition and reporting have greatly increased in-country following SIAPS-supported trainings, and 40 SAE terms were reported in September 2016 to March 2017, compared to just 37 SAE terms reported from April 2015 to September 2016. Health care providers in Georgia have become more sensitized to adverse events that, before training, would have been missed and underreported. The post-training implementation period of aDSM has revealed that routine support and supportive supervision is being requested by doctors upon completing the SAE forms before reporting to the PV committee. SIAPS technical assistance has identified the most frequent areas of support requested from health care providers, which includes correctly choosing the appropriate SAE term and assessing causality when there is a concomitant treatment for some co-morbidities.

Philippines

This quarter, 84 patients were enrolled in Bdq treatment in the Philippines. The Philippines continues to steadily enroll patients on new treatment. As of quarter 2, nine SAEs were reported.

Kenya

SIAPS staff relayed Kenya's concerns about having the proper infrastructure and platform for patients prior to using Bdq in-country. However, the country has now decided to start enrolling patients on new medicines and regimens. Kenya has begun to increase enrollment on Bdq, Dlm, and the short-course regimen treatments. As of the end of quarter 2, four patients have begun Bdq treatment in Kenya. An order for Bdq and Dlm has been placed with the GDF by the

country. SIAPS will continue to support the country in implementation, enrollment, monitoring adverse events, and reporting SAEs.

Uganda

There are 20 patients enrolled as of March 2017 in Uganda. One patient decided not to participate even though he was eligible for Bdq. The next shipment of Bdq arrived in Uganda, but there have been delays at the port and SIAPS and the USAID-funded and MSH-led Uganda Health Supply Chain project is working with the NTP on expediting this process. The delay at the port is due to the in-country process and SIAPS has little control over this. The country ordered the Bdq before the implementation process began, and the stock expired in March. There have been conversations with Track TB and the NTP acknowledging the financial ramifications of having expired drugs, and the NTP does not expect to have a similar situation in the future. SIAPS continues to provide technical assistance to Uganda to meet requirements for recording and reporting SAEs.

Swaziland

As of March 2017, there have been 127 patients treated with Bdq in Swaziland. There is an ongoing effort by SIAPS and the National PV Unit to work with the NTP in the reporting of adverse events and SAEs. Current challenges include a need for improvement in adverse event and SAE reporting at the health facility level.

Pharmacovigilance Monitoring System (PViMS)

An updated release of PViMS was deployed in Georgia. The Georgia NTP continues to enter data into the system. Once all data has been entered, SIAPS will provide technical assistance to analyze the data. This quarter, SIAPS also provided a refresher tutorial on data entry for new functions in the software. PViMS was deployed in the Philippines this month. Data from the ongoing nine-month treatment regimen study will be entered first, followed by Bdq study data, then facility-level data. SIAPS' vendor continues to address minor fixes to the generic PViMS system. Once all fixes have been addressed, the user guide, trainer guide, and system documentation will be finalized for the non-customized PViMS generic system.

New Medicines and Regimens eCourse

During this quarter, SIAPS continued to experience delays in finalizing the eCourse development (uploading to LeaderNet and launching the eCourse) due to longer-term funding uncertainties for MSH's platform, LeaderNet.

Partner Contributions

Georgia

The Global Fund's tuberculosis program is providing important support to the Georgian TB program in many ways. All second-line drugs essential to construct an adequate treatment

regimen for MDR-TB patients are being provided. Dlm has already been ordered using Global Fund money through the GDF in July 2016. Equipment, cartridges, reagents, and consumables for the diagnosis and treatment effectiveness monitoring of MDR-TB patients is being provided. The Global Fund is supporting a "mobile consilium" approach that allows rapid roll-out of new TB drugs at the regional and district levels. The Global Fund is supporting salaries of consultants to ensure adequate treatment adherence of MDR-TB patients. They are also supporting a cash incentive scheme for compliant MDR-TB patients. Video- based DOT (VOT) and a mobile ambulatory unit are being supported to ensure that a patient-centered approach to treatment becomes fully functional. Transportation costs for patients to attend daily DOT are also being supported.

The MSF–France program in Georgia is actively involved in the overall new drug implementation process. Their doctors are part of the MDR-TB consilium that discusses cases twice per week at the NTP. They also participate in reporting SAEs to the NTP.

Constraints to Progress

New Medicines and Regimens eCourse

- Funding uncertainties for LeaderNet, the platform that SIAPS planned to use to host the course.

REGIONAL PROGRAMS

LAC AMI

Goal: By the end of 2016, AMI countries will have institutionalized national and regional mechanisms to ensure a continuous supply of antimalarials as the key malaria control strategy, particularly in low-incidence locations and areas at risk for the emergence of ACT-resistant pathogens.

Overall Quarter Progress

All technical activities were concluded by the end of FY16 (December 2016). Regular AMI steering committee meetings to coordinate with partners and counterparts have not been conducted since April 2016. By the end of January 2017, USD $100,000 remained in the pipeline. USAID/LAC agreed to the implementation of selected technical assistance interventions in Peru, Colombia, and Brazil if requested by national counterparts.

West Africa Regional

Goal: Facilitate the availability of quality pharmaceutical products, particularly those related to HIV and AIDS, to achieve high-level desirable health outcomes in target West Africa countries.

Overall Quarter Progress

SIAPS provided technical support to the National AIDS Control Program (PNLS) of Togo to update OSPSIDA and use its reports for decision making during monthly procurement and supply management committee meetings. With SIAPS support, stock-outs of tenefovir-lamivudine-effavirenz, which is used by 70% of patients on antiretroviral treatment, were prevented.

SIAPS supported the PNLS to conduct quarterly supervision on the use of the Electronic Dispensing Tool (EDT) in the five sites where the software is installed and prepare for the nationwide roll out of the EDT. Supervision showed significant progress in regard to the quality of data in the EDT.

Objective 1: Increase the use of pharmaceutical management information for decision making at the national and regional levels

With support from SIAPS, Togo's PNLS entered shipment data into OSPSIDA to allow for a thorough analysis of the pipeline. When reviewing OSPSIDA reports, SIAPS and the PNLS noted that there would be stock-outs of two key products—tenefovir-lamivudine-effavirenz and abacavir-lamivudine—if orders were delivered as initially scheduled. Based on OSPSIDA data, the PNLS requested urgent delivery from the supplier, and products were delivered and distributed to care and treatment sites as quickly as possible to prevent treatment interruption to the majority of patients.

From January 30 to February 17, 2017, a team of two trainers and one EDT user conducted supervision of the five antiretroviral treatment sites to build the capacity of EDT users and assess the quality of data.

Each of the five antiretroviral treatment sites was visited once a week during the three consecutive weeks during which overall supportive supervision was conducted.

The supervision team assessed the quality of data using two indicators: the concordance between the EDT record and physician prescriptions with regard to patient number, regimen, type of treatment, and medicines and the concordance between physical stock (physical inventory conducted the day of the site visit) and theoretical stock (stock on hand in the EDT on the day of the site visit).

During the first supervision, all five sites showed 100% concordance. Significant progress has been made in regard to the second indicator; in the past, some antiretroviral treatment sites did

not meet 100% concordance. During this supervision, all five sites demonstrated 100% concordance between physical and theoretical stock.

Objective 3: Enhance capacity for pharmaceutical supply management

SIAPS and the PNLS discussed the upcoming revision of quantification of HIV and AIDS products and agreed to organize a workshop at the end of May 2017.

COUNTRY PROGRAMS

Bangladesh

Goal: Improved availability of quality pharmaceuticals and effective pharmaceutical services to contribute to achieving desired health outcomes

Overall Quarter Progress

A presidential order, effective March 16, 2017, restructured the Ministry of Health and Family Welfare (MOHFW) into two divisions: A Health Services Division and a Medical Education and Family Welfare Division. SIAPS is waiting for newly posted officials in these divisions to align its work in the MOHFW, particularly its activities with the Procurement and Logistics Management Cell (PLMC). SIAPS' strong advocacy of the Directorate General of Health Services (DGHS) increased the priority medicine reporting rate to 90% as of January 2017 through the use of an electronic logistics management information system (eLMIS) and DHIS2, which ultimately helps in making procurement and supply chain decisions at the policy level.

The Logistics Coordination Forum (LCF) meeting with Government of Bangladesh entities and donors determined that SIAPS technical assistance for strengthening the procurement process and pre-shipment inspection for the MOHFW will continue.

SIAPS oriented 1,662 Directorate General of Family Planning (DGFP) field-level staffs in 27 subdistricts to understand the impact of the service delivery point (SDP) dashboard module in the DGFP LMIS. SIAPS technical advisors provided technical assistance on a condemnation process that recovered 7,580 cubic feet of space from 15 DGFP stores.

SIAPS participated in the Joint Monitoring Mission (JMM) by the Global Fund and the National TB Control Program (NTP) and showcased e-TB Manager (e-TBM), an electronic TB patient recording and reporting system. SIAPS worked with the NTP and other partners to finalize the NTP's National Strategic Plan as part of the recommendation from the mission.

SIAPS introduced a warehouse inventory management system (WIMS) in the central TB warehouse in Shyamoli to ensure quality TB medicine storage. For institutionalization, SIAPS trained NTP warehouse staff on the system this quarter.

SIAPS is working with the DGHS and NTP to link e-TBM and DHIS2 so that TB data are available in DHIS2, as per the national requirement.

However, a routine follow-up of e-TBM site performance showed that 59% of sites were maintaining the data quality standard during the first quarter of 2017 compared to 75% in the last quarter of 2016. Some upazila health complexes are not functioning well because of logistical issues, such as modem refill, which were brought to the NTP's attention for immediate action. A follow-up analysis showed that nearly 100% (n=488) of sites were maintaining the high data quality standard for completeness and accuracy in February 2017 and of these, 99.5% (n=486)

had uploaded reports on time—an increase of 11.4 percentage points over September 2016 (88.1%) (https://scmpbd.org/index.php/lmis-report/upazila-f7b-timeliness-completeness). The stock-out rate for contraceptives at the SDP level was 0.7% as of February 2017 (www.scmpbd.org). The DGFP met its target for the Reproductive Health Supply Coalition (RHSC) by reaching a stock-out rate of 1%.

SIAPS is in the final stages of launching Pharmadex, a country-specific online medicine registration system. The system is expected to launch in April 2017. SIAPS worked with Directorate General of Drug Administration (DGDA) and other key stakeholders to draft the DGDA's five-year strategic plan to become a functional National Regulatory Authority. SIAPS also provided technical assistance to the DGDA to promote pharmacovigilance (PV) in the country. During this quarter, the Adverse Drug Reaction Monitoring (ADRM) cell evaluated 54 reports from hospitals and pharmaceutical companies out of 150 that had been submitted.

Objective 1: Supply chain management systems of the MOHFW and component procuring entities strengthened

The MOHFW's PLMC requested that the Engineering Staff College of Bangladesh develop a database for the Government of Bangladesh and train participants on procurement and supply chain management. The PLMC also developed a database for the DGHS to track the condemnation process countrywide.

SIAPS provided 11 written technical expert opinions on different procurement issues to improve the procurement process and maintain government rules and procedures.

SIAPS assisted Central Medical Stores Depot (CMSD) officials in translating knowledge into action to implement the electronic Government Purchase (e-GP) system. The CMSD has already completed the desk implementation of one package for e-GP in FY2016–17, and another package is in the process of being implemented for the same fiscal year. SIAPS continued its technical support in bid documents, contract management, and review panels, among other areas, to enable effective procurement management by the CMSD. Of the 32 procurement packages under the Government's budget, bids opened for 6 and invitations for bids were issued for 22. SIAPS used business intelligence to orient district-level health managers, clinicians, procuring entities, and line directors on the use of the MOHFW-approved Table of Organization and Equipment (TOE) and price guide. The Director General of the DGHS agreed to convene the orientation through a video conference call.

SIAPS advocated the Director, Management Information Systems, of the DGHS to issue a notification to the six civil surgeons who completed the recent eLMIS training in six districts, which emphasized monthly reporting on priority MNCH medicines in DHIS2. As a result, the average reporting rate into DHIS2 exceeded 90% as of January 2017.

SIAPS uses the eLMIS as part of its national and local advocacy efforts. The UNFPA partnered with SIAPS to advocate for tracking key MNCH commodities such as oxytocin, misoprostol, and magnesium sulfate. The community-based health care project of the MOHFW praised the system and agreed to use it in its project to monitor the disbursement linked indicators. SIAPS field-

based technical advisors attended district and upazila monthly coordination meeting and presented a scope of work to further improving the quality of data in DHIS2. Civil surgeons and community health care providers were eager to improve the reporting rate.

SIAPS facilitated subnational procurement workshops for district-level procuring entities in seven regions. The major finding from this workshop is that most local procurement does not follow any Government procurement rules for using public funds. SIAPS customized the subnational procurement guidelines and facilitated training for subnational procurement entities so that Government rules and regulations are followed. Participants recommended translating the subnational procurement guideline into Bangla, introducing e-GP in the manual, and extending the training to five days.

An LCF meeting was held in February with key Government entities and donors. Several important decisions were made:

- A procurement plan would be prepared with technical assistance from SIAPS
- The selection process for a pre-shipment inspection firm will be conducted with technical assistance from SIAPS
- The procurement process for Government funding will be initiated, and a contract will be signed if funds become available
- The DGFP will write a letter to the deputy directors of each district to accelerate the condemnation process
- Actions will be taken to avoid implant stock-outs

The DGFP will try to introduce second-generation contraceptive items within the next two years SIAPS presented at a workshop organized by the DGFP in January to conceptualize harmonization when quantifying bidders. The existing qualification criteria have been revised to ensure that qualified bidders could be eligible for procurement of items.

The third phase of the roll out standard uniform inventory management tools for the DGHS extended the program to an additional 11 districts during this quarter. As part of the process, a two-day basic logistics management training was conducted for 412 health officials from 11 districts. The system is now functioning in 31 districts. DGHS officials also attended the training to motivate local-level health mangers. To ensure the use of the standard system, SIAPS technical advisors in the field will provide necessary assistance and ensure timely completion of a post-training action plan.

Timely initiatives and appropriate interventions in the family planning program by SIAPS and other stakeholders reduced unmet needs for family planning products and increased the contraceptive prevalence rate. A growing body of literature indicates that contraceptive availability at service delivery points (SDPs) is associated with higher contraceptive use. To maintain this progress, a range of safe and high-quality contraceptives at SDPs must be available. This requires an efficient logistics management information system that provides real-time information on the availability of commodities and allows managers to react quickly and efficiently to avoid stock-outs and plan for accurate procurement and distribution.

During this quarter, SIAPS oriented all DGFP field-level staff in 27 selected subdistricts on the impact of the SDP dashboard module in DGFP logistics management information systems. The dashboard module focuses on effective and efficient management of commodities to ensure the availability of all major contraceptives and to prevent stock-outs at the last mile of delivery. A total of 1,662 participants (74% female) attended the orientation session.

During this quarter, SIAPS technical advisors provided assistance in 15 DGFP stores and three DGHS health facilities to condemn unusable and obsolete items. As a result, 7,580 cubic feet of space in sub-district stores and hospitals was recovered.

SIAPS facilitated the sixth meeting of the supply chain coordination forum on March 13. The meeting emphasized resolving procurement and logistics issues to accelerate timely procurement under the CMSD.

The Global Fund, the NTP, and other key stakeholders performed the seventh Joint Monitoring Mission (JMM) in 2017 to evaluate TB program performance in the country. SIAPS engaged with the mission and facilitated the team to demonstrate the electronic TB patient management system. A key recommendation made by the seventh JMM was to prepare the 2018–2022 National Strategic Plan because the current Global Fund project will end in 2017.

SIAPS has arranged two consecutive meetings with Challenge TB staff and TB stakeholders to redesign the e-TB Manger portal data entry procedure for effective and efficient use for quality data reporting. SIAPS also arranged a meeting with USAID to share the updated electronic recording and reporting system.

SIAPS facilitated a two-day "Training Workshop on WIMS" (Warehouse Inventory Management System) on December 21–22, 2016, for 18 NTP officials. The workshop included interactive discussions, data input and analysis, live demonstrations, and practical exercise on the tool. A detail user guide was given to each participant as a reference document.

A procurement and supply management working committee meeting was held on December 29, 2016, to discuss the upcoming order of first- and second-line medicines as well as other procurement and supply management issues. By using QuanTB with technical support from SIAPS, the NTP successfully submitted an order for first- and second-line TB medicines to the Global Drug Facility on February 8, 2017.

Partner Contributions

- DGHS officials from the divisional and district levels attended in the basic logistics management training as resources.
- Civil surgeons from four districts provided their conference rooms for the basic logistics management training.

Constraints to progress

- Some storekeepers and statisticians have had challenges with logging into DHIS2. These are

being addressed on a one-on-one basis
- Due to funding constraints from the NTP, functionality of 206 e-TBM sites is restricted due to limited internet access.
- The timely availability of DR-TB projections has been a challenge. The projection or future estimation of DR-TB data is largely dependent on plans for initiating and scaling up the newly adopted shorter MDR treatment.
- The NTP is in the process of securing first-line medicine procurement for the country.

Objective 2: Systems for evidence-based decision making established

USAID asked SIAPS to work with the DGFP to update the existing forecasting exercise from 2017–2021 to optimize a data-driven procurement system and minimize losses through expiry by overstocking. SIAPS also engaged a national consultant to project national contraceptive requirements for next five years (2017–2021) to ensure the commodity security. This will help the MOHFW and DGFP plan a long-term procurement cycle and mobilize the necessary financing. SIAPS also took part in the 2017 Bangladesh Health Facility Survey.

After a successful pilot implementation of the electronic Asset Management System (eAMS) in the MoulviBazar district hospital, SIAPS assessed the readiness of another three district hospitals (Manikganj, Jhenaidah, and Sirajganj) using defined criteria (organizational, financial, technical/technological and behavioral aspects) to introduce the eAMS.

USAID funded MEASURE Evaluation to conduct an external assessment of the e-TB Manager system in Bangladesh to determine data quality, functionality, and utilization of data for clinical management of drug-susceptible TB and multidrug-resistant TB patients nationwide. As part of the assessment, USAID representatives, MEASURE Evaluation, and SIAPS met the Director General of the DGHS to share the initial findings. Three decisions were made:

1) Stop further roll-out of e-TBM because the DGHS is moving toward adoption of DHIS2
2) Maintain the existing e-TBM sites to ensure that high-quality data are being captured and managed
3) Build the interoperability of e-TBM and DHIS2 to flow TB summary data into DHIS2

SIAPS mapped the entire health information architecture for this integration and successfully completed the data flow of quarterly TB reports from e-TB Manager into DHIS2. SIAPS also agreed to assist the DGHS/NTP in strengthening the national TB MIS through DHIS2 and e-TB Manager to populate the national indicators to present to donors and policy makers.

SIAPS prepared a guidance document on measurement of TB indicators using e-TB Manager. This document offers a wide selection of indicators relevant to the TB program in Bangladesh. Meanwhile, SIAPS continues to assist the Routine Health Information System (RHIS) team in updating and testing the data posting mechanism from the RHIS server to DHIS2.

SIAPS updated an easy-to-understand dashboard for eLMIS/DGHS that will facilitate data for decision making. Based on the official request from SIAPS, the MOHFW/DGHS allocated 350 GB (200 GB for the database and 150 GB for data back-up) for the root directory of the supply

chain management portal at the DGHS data center, which hosts the server. This transition increases the credibility of the SIAPS approach and interventions and generates examples of country ownership for other partners.

Partner Contributions

- WHO, NTP, BRAC, DGHS, DGFP, WB, UNFPA, Global Fund, JSI, Save the Children, and the Damien Foundation are working together in the fields of TB; family planning; and maternal, newborn, and child health.

Constraints to Progress

- Delayed uptake of e-TBM

Objective 3: Pharmaceutical regulatory systems strengthened

SIAPS worked with the headquarters team to effectively deploy Pharmadex and adopt common technical document-based medicine dossier submissions in the DGDA. SIAPS' technical team addressed all clarifications requested by the headquarters team, such as testing Pharmadex; preparing the user manual according to the present system; and revising the standard operating procedures, marketing authorization letter template, sample request letter template, review letter template, and DGDA address. SIAPS continuously tested the system and communicated with headquarters and developers to ensure the smooth operation of the first version of Pharmadex, which was deployed at the DGDA. In April 2017, Pharmadex will be implemented for the test registration process at pharmaceuticals companies as well as the DGDA. There will be hands-on training for applicants and DGDA officials.

SIAPS has finished designing the DGDA web portal to present post-marketing surveillance data for improving data use and promoting governance. SIAPS is also working with the DGDA to set up the network-attached server and data center to host the DGDA portal and Pharmadex to ensure the security of sensitive data. Two workshops were arranged to get feedback from the DGDA and stakeholders. A strategic plan and a one-year action plan will be developed to supplement the working process. The strategic plan is expected to align with relevant elements within the framework of the MOHFW's third Health, Nutrition and Population sector-wide program, which was completed in December 2016, and the fourth program, which will run through June 2021. Both plans (the one-year action plan for 2017 and the five-year strategic plan through 2021) have been drafted and reviewed by partners. The final drafts will be shared with partners in April 2017.

SIAPS has been providing technical assistance to the DGDA on Good Manufacturing Practice (GMP). Consultants have been hired to provide both basic and advanced training on GMP to all Dhaka-based and field officials. Additional trainings are planned for April 2017 for senior DGDA officials on advanced GMP with a mock industry inspection.

With SIAPS technical assistance, the ADRM cell has been making significant progress in strengthening its adverse event reporting system. As a part of the activities, SIAPS and the

ADRM cell organized joint visits to public hospitals to promote PV awareness. The cell also made an agreement with national health programs, such as the National Tuberculosis Program and Adverse Events Following Immunization, to include these ADR reports in the PV program. A technical subcommittee meeting will be arranging by the ADRM cell in April 2017.

Partner Contributions

The DGDA organized the PV training.

Constraints to Progress

Competing priorities for DGDA senior officials

Benin

Goal: Ensure the availability of quality products and effective pharmaceutical service delivery for better health outcomes

Overall Quarter Progress

SIAPS supported the Ministry of Health's Department of Pharmacy, Medicines, and Laboratory (DPMED) to estimate the cost of the five-year (2016–2020) strategic plan for supply chain management, which was developed with technical assistance from SIAPS.

SIAPS also supported the DPMED to review and clarify the legal status of zonal depots (DRZ) of pharmaceuticals and medical supplies to make them more autonomous and efficient for the storage and distribution of essential medicines and medical supplies.

Objective 1: Enhance the capacity of Benin's MOH for effective pharmaceutical systems management

Following the development and validation of the supply chain strategic plan, SIAPS worked closely with various entities of the Ministry of Health of Benin at the central and decentralized levels to review the targets for each activity, discuss implementation strategies for each activity and their cost implications, and assess all resources needed for each implementation. Based on this, SIAPS developed a budget template and collected information on unit cost. A meeting was held with the DPMED to review assumptions and agree to a final cost of USD $62,633,541 for the strategic plan.

SIAPS worked closely with the DPMED to organize a stakeholder workshop to review the legal status document drafted by the DPMED with SIAPS technical assistance. Participants at this workshop provided input on the legal status and validated the document at the plenary session. Following the validation workshop, SIAPS supported the DPMED to finalize the document and submit it to the Ministry of Health for endorsement. The new legal status outlines roles and responsibilities of the DRZ of pharmaceuticals and medical supplies in regard to national supply chain management and gives more autonomy to the DRZ to operate efficiently.

Benin Ebola Portfolio

Goal: To ensure the availability, accessibility, and rational use of effective, safe, and high-quality Ebola-related medicines and equipment at affordable prices by strengthening the national pharmaceutical management system

Overall Quarter Progress

SIAPS supported the Ministry of Health (MOH)'s Department of Pharmacy, Medicines, and Laboratory (DPMED) to organize a workshop to validate the quantification of Ebola and other hemorrhagic fever medicines and medical supplies.

SIAPS supported the MoH's Directorate of Public Health (Direction Nationale de la Sante Publique [DNSP]) and DPMED to conduct quarterly supportive supervision of warehouses and health facilities that are managing Ebola and other hemorrhagic products across the country.

SIAPS attended a meeting of USAID partners working on the Ebola response to discuss key accomplishments since the intervention began and any future technical assistance that will be required.

SIAPS supported the DPMED and DNSP to conduct rapid assessment of the logistics management information system (LMIS) of Ebola products in preparation for the Ebola logistics system design.

Objective 1: Enhance the capacity of Benin's MOH for effective pharmaceutical systems management

SIAPS supported the DPMED and DNSP to organize a two-day workshop to validate the forecast of Ebola and other hemorrhagic fever products and to collect all required data to develop supply plans for these commodities. The workshop was held February 21–22, 2017, at the Freedom Palace Hotel, Porto-Novo. Participants represented various entities within the MoH that were engaged in the Ebola response, as well as key donors and partners, such as the World Health Organization, which is leading the Ebola response in Benin. The workshop was led by SIAPS and participants agreed on assumptions made, services statistics, morbidity data, and the quantity of commodities needed for a one-month outbreak. Several recommendations were made, including adding a few lab reagents used to diagnose hemorrhagic fever that were missing from the standard list of Ebola products, removing a small number of items from the standard list, and replacing some products.

SIAPS participated in a joint field visit to conduct supportive supervision of Ebola commodity management in health zones. The field visit took place January 23–28, 2017, in three hospitals in Cozo, Bassila, and Saba and one Ebola treatment center in the departmental hospital of Zou-Collines. The purpose of the field visit was to assess Ebola products that would be needed to respond to any outbreak and to implement recommended actions from previous supportive supervision, such as reinforcement of LMIS data collection and transmission. Based on the field visit and onsite observations, recommendations were made, including preparing reports to

document any donated Ebola products and using stock cards to document all transactions made on Ebola products to ensure traceability.

SIAPS participated in the two-day quarterly coordination meeting at the Hotel les Oliviers de Porto-Novo February 1–2, 2017. The objective of this workshop was to discuss 2016 achievements and Ebola activities planned for 2017.

In preparation for the LMIS design, a rapid situation analysis was conducted with technical assistance from SIAPS. A questionnaire was administered to people involved in managing Ebola and other viral hemorrhagic fevers products at the central, departmental, and health zone levels. The questionnaire was developed in close collaboration with the DMED and DNSP. The overall objective of this analysis was to propose solutions to strengthen the LMIS of Ebola products in Benin.

SIAPS also provided technical assistance to the MoH's Department of Planning and Strategic Information (Direction de la Prospective et de la Plannification), which is leading DHIS2 implementation in Benin, to start integrating Ebola products into the DHIS2 based on an agreed-upon list of Ebola products developed by SIAPS in partnership with other Ebola response stakeholders.

Dominican Republic

Goal: Increase the availability of critical medicines and diagnostic materials, including those for HIV, AIDS, and tuberculosis, by implementing elements of the SUGEMI system and building the capacity of national counterparts to effectively and efficiently operate the integrated system

Overall Quarter Progress

The SUGEMI pharmaceutical management system continued to operate as expected during this quarter, with the majority of health facilities reporting their data and receiving feedback. In December 2016, SUGEMI's national bulletin reported that adult ARV availability in health facilities remains high (100%), as does the availability of essential medicines used at the primary health level (71%). SIAPS received additional resources from USAID/Dominican Republic to extend its technical assistance through April 2017.

Objective 1: Pharmaceutical sector governance strengthened

During the previous quarter, SIAPS finalized the guideline for the quantification and programming of medicines and supplies. This guideline will facilitate future programming exercises without the need for external technical assistance. During this quarter, SIAPS tested the electronic tools to prevent any problems during the 2017 estimation of needs and programming exercises. During the next quarter, SIAPS will support regional and national pharmaceutical units on the rollout of the 2017 programing exercise.

SIAPS supported the development of regional SUGEMI bulletins as a tool to decentralize decision making on distribution and programing for procurement. During the next quarter, the development of these bulletins will be managed by the regional health services with little or no SIAPS support.

Objective 2: Capacity for pharmaceutical supply management and services increased and enhanced

SIAPS supported a rapid assessment of progress made in the implementation of SUGEMI at regional health services. This included warehousing conditions and practices and the implementation of SUGEMI standard operating procedures. Based on the results, SIAPS supported on-site trainings and workshops to retrain personnel and develop improvement plans. During the next quarter, SIAPS will monitor the implementation of the improvement plans through a set of indicators developed for this purpose. A report will be distributed to all regional health services (RHSs).

SIAPS participated in the closing session of the second certified course (diploma) on rational use of medicines. The students presented seven medicine use studies as the final product of the course. During the next quarter, if SIAPS is extended to the end of 2017, SIAPS will use USAID mission resources to sponsor a limited number of registration fees for a third certified course on

rational use of medicines and a fourth course on pharmaceutical management. SIAPS consultants will also coach university professors as needed.

Partner Contributions

The certified course on rational use of medicines is being implemented in partnership with the Universidad Central del Este.

Objective 4: Improved allocation of resources for procurement and pharmaceutical management-related operations

By the end of 2016, the Ministry of Finance assigned all necessary resources for the procurement of ARVs and diagnostic materials for 2018. Lobbying activities supported by SIAPS contributed to this achievement. During this quarter, SIAPS participated in an Abt/UNAIDS workshop to analyze potential opportunities to improve the efficiency of the national response to HIV/AIDS. This experience provided valuable input for the discussions.

Objective 5: Pharmaceutical services improved to achieve desired health outcomes

During this quarter, SIAPS participated in meetings with technicians and authorities of the maternal and child health and TB programs to agree on a road map for the integration of family planning commodities and second-line TB medicines into SUGEMI. These programs, in coordination with national and regional pharmaceutical units, will manage the transfer process.

During this quarter, SIAPS continued supporting the transfer of ARVs to regional health services, including RHS Enriquillo (SRS 4) and Cibao Occidental (SRS 8). During the next quarter, the transfer will be completed in SRS Metropolitan y Cibao Oriental o Nordeste (SRS 3). Before the end of 2017, the transfer will be completed to all RHSs.

SIAPS developed a tool to monitor the number of disease control programs fully integrated in the unified systems and other indicators accounting for progress in implementing SUGEMI. During the next quarter, SIAPS will support the collection of data and provide feedback to the national and regional pharmaceutical units.

During this quarter, SIAPS supported the pharmaceutical management components in the nine health facilities implementing the HIV/AIDS Test and Start Strategy. Monitoring rounds conducted on February and March 2017 accounted for an improvement in pharmaceutical management practices and availability of ARVs.

Ethiopia

Goal: Strengthen pharmaceutical systems to ensure access to quality pharmacy services that will lead to improved health outcomes

Overall Quarter Progress

The SIAPS/Ethiopia program began on December 12, 2011, following the launch of the global program. SIAPS has made significant contributions to the pharmaceutical system strengthening efforts in Ethiopia over the past five years. The program in Ethiopia officially came to a close on March 31, 2017, with the closing of the field office.

Over the life of the project, SIAPS partnered with key Ethiopian institutions, including the Federal Ministry of Health (FMOH); Food, Medicines and Health Care Administration and Control Authority (FMHACA); Pharmaceutical Fund and Supply Agency (PFSA); regional health bureaus (RHBs); universities; and the Ethiopian Pharmaceutical Association to strengthen the pharmaceutical system to ensure access to medicines and quality pharmaceutical services and improve health outcomes.

The celebration of achievements of SIAPS and the transition to close out in the regions began with half-day meetings in Hawassa, the capital of SNNPR, and Addis Ababa on January 14 and 17, 2017, respectively. More than 30 professionals from the top management and technical staff of RHBs, PFSA, FMHACA, health facilities, and university teaching hospitals attended. The main purpose of the meetings was to transfer key SIAPS activities to the RHBs and hand over a compilation of relevant documents. During the meetings, five years of joint interventions, achievements, and success in the regions were presented, and detailed discussions took place on the continuity of the activities, challenges, and recommendations for the sustainability of key programmatic activities that contributed to improvements in the quality of pharmacy services in the regions. SIAPS recognized the contributions and thanked representatives from the regional PFSA, FMHACA, and health facilities for their collaboration in jointly implementing interventions and achieving program, USAID, and Government of Ethiopia goals. In recognition of the success in improving the quality of pharmacy services in the regions, the RHBs awarded a certificate to SIAPS and expressed their appreciation.

SIAPS/Ethiopia held its closing event on March 17, 2017, in Addis Ababa. Representatives from partner government and nongovernmental organizations, USAID, universities, professional associations, and health facilities attended the event and expressed appreciation for the systems strengthening work SIAPS has done in Ethiopia. The Country Program Director presented an in-depth look at the successes and achievements of SIAPS entitled *Reflections on Building Resilient Pharmaceutical Systems in Ethiopia.* The presentation emphasized how listening to the needs of government institutions and partner organizations has been critical to the successes of SIAPS in developing local solutions to resolve challenges and bottlenecks in the pharmaceutical sector.

USAID noted the importance of the innovations that SIAPS implemented to strengthen pharmaceutical systems, increase access to medicines, and created a shift in mindset and service to being patient centered. SIAPS distributed key documents as part of the close out event,

including the end of project report; a booklet entitled, "Changing Systems to Change Lives: A Collection of Success Stories"; and "Building Resilient Pharmaceutical Systems", which presented selected interventions and results that demonstrate SIAPS innovations in pharmaceutical system strengthening in Ethiopia. In concluding the event, SIAPS awarded certificates of appreciation to stakeholder and partner institutions in recognition of their collaboration and valuable contributions during the SIAPS program in Ethiopia.

Objective 1: Pharmaceutical sector governance strengthened

As part of SIAPS's support to improving the medicine registration system, the FMHACA implemented the Medicines Registration Information System in September 2016. Since then, the online submissions of applications, tracking of progress, and issuance of market authorization certificates electronically have become possible. All applications are currently submitted online and processed electronically. As of December 2016, 222 registration applications had been received and processed, of which 158 (71%) were new applications, 43 (19%) were variations, and 21 (10%) were renewals. In addition, 321 purchase order applications were received online, of which 219 (68%) were approved and others were still being processed. This is transforming the efficiency and transparency of medicine registration in Ethiopia because an application is submitted online and the client can follow the status remotely without having to visit the FMHACA. A plan for transferring the system and documents to the FMHACA was developed. The software transfer agreement was developed and submitted to the FMHACA for review. Once the agreement is finalized, the final transfer of software and materials will be concluded.

During the reporting period, a number of documents were finalized and printed for use in the FMOH health system. Final editorial work on the medicines formulary was completed after receiving feedback from the National Drug Advisory Committee and a pediatrician. The FMHACA approved printing the formulary, and SIAPS supported the printing of 4,000 copies. Per the initial commitment, the FMHACA will distribute the printed formulary to health facilities as part of the cost sharing scheme.

The development of the Health Extension Worker Medicines Management Handbook was a significant achievement; it is a key document that enjoys broad support from the FMOH and RHBs. Final review of the English version of the handbook by members of the task force at the FMOH was completed, and both the English and Amharic versions were finalized. Five thousand copies of each version were printed. Translation of the handbook into Afan Oromo and Tigrigna has been completed, and final versions have been submitted to the FMOH. An agreement was reached that the FMOH will fund the printing and distribution of these translations.

In addition, a job aid on emergency contraceptive pills (ECPs) was developed, reviewed, and formatted and 4,000 copies have been printed.

Partner Contributions

- FMHACA and FMOH staff were actively engaged in monitoring the progress of these efforts.
- The FMOH agreed to fund printing and distribution of the HEW Medicines Management Handbook in Afan Oromo and Tigrigna.

Constraints to Progress

- The MRIS software transfer agreement was submitted to the FMHACA for its review. FMHACA legal counsel is reviewing the agreement, but it is not clear how long the process will take.

Objective 2: Pharmacy services at facility level improved

During this quarter, face-to-face discussions on adverse event monitoring were carried out at three health facilities in Addis Ababa and attended by 116 health providers. In addition, 214 adverse drug event (ADE) reports from 36 health facilities were received by the National Pharmacovigilance Center during the reporting period.

Pharmacovigilance tools and documents, including 120 ADE report forms, 120 newsletters, and 150 allergy cards, were distributed to health facilities. The 17th pharmacovigilance newsletter was also prepared.

Two rounds of assessments on the Adverse Event Monitoring Following Immunization (AEFI) surveillance system were carried out in the Amhara and Oromia regions using a semi-structured questionnaire. FMHACA branch office experts and regional regulatory and EPI coordinators were involved in conducting the assessment.

A consultative meeting with the 11 RHBs and regulatory authorities on the AEFI surveillance system was held, and 38 participants attended. Each region developed an AEFI system establishment action plan.

In addition, a causality assessment on a severe adverse event was conducted in the Boset woreda of the Oromia region, where a 10-year-old female child died following a measles vaccination.

During this period, as a part of the transition of the program, other activities, including APTS, were transitioned to the follow on GHSC-PSM project.

Guinea

Goal: Improve the availability of quality pharmaceutical commodities and efficient pharmaceutical services to achieve desired health outcomes

Overall Quarter Progress

The major highlight from this quarter is the endorsement of the National Essential Medicines List (NEML) by the Minister of Health. This revision and update of the 2013 version of the NEML was completed by the *Direction Nationale de la Pharmacie et du Medicament* (DNPM) with technical and financial support from SIAPS.

During this quarter, SIAPS's support to the DNPM continued and focused on finalizing the draft of the revised pharmacy law. SIAPS recruited an international legal expert who held working sessions with the DNPM and other stakeholders, including experts from US Pharmacopoeia/Promoting the Quality of Medicines (USP/PQM), and facilitated the process that led to the validation of different sections of the document as well as the inclusion of additional legal considerations deemed fundamental for conformity to the Guinean Law and Penal Code.

At the request of USAID/Guinea, SIAPS supported the organization of the nineteenth assembly of the "*Association Africaine des Centrales d'Achat des Medicaments Essentiels*" (ACAME) March 1–4, 2017. This association brings together 21 Central Medical Stores (CMSs) from member states and aims to improve their performance to ensure geographic and financial accessibility of quality assured essential medicines.

During this quarter, SIAPS supported the Programme National de Lutte contre le Paludisme (PNLP) to organize a two-day stakeholder workshop with the *Pharmacie Centrale de la Guinee* (PCG), Catholic Relief Services (CRS), DNPM, and STOP Palu to review and update the supply plan of malaria commodities. The results helped inform the procurement plans executed by donors' procuring agents while recommending critical actions to avert supply interruptions for identified malaria commodities with stock imbalances.

Objective 1: Pharmaceutical sector governance strengthened

SIAPS supported the MoH through the DNPM to revise Law #L94/012/CTRN on pharmaceutical legislation. This law required a revision because it was old and did not reflect the current challenges faced by the pharmaceutical sector, the internationalization of the pharmacy standards and best practices, or the globalization of the pharmaceutical industry. A national committee was set up by the DNPM for this revision. For more than one year, the emergence of the Ebola epidemic plus internal problems at the DNPM impacted the commission's ability to effectively complete the revision process on time. Despite this, the committee had already drafted a five-section document that needed to be revised with input from international legal experts. SIAPS therefore recruited an international consultant who worked with DNPM and other stakeholders to complete the revision process. The different sections to be included in the revised law—health products, pharmacy act, pharmaceutical inspection, and control and penalties—were discussed and validated by the DNPM and stakeholders during a two-day

workshop facilitated by the SIAPS consultant. While in country, the SIAPS consultant also met with the Legal Adviser of the Ministry of Justice to discuss the legal considerations to include in the document to conform to Guinean law. The progress made to date will allow the draft law to be finalized and submitted to the Minister of Health's office before the end of April 2017 for review and endorsement.

As a member of the organizing committee of the nineteenth assembly of the ACAME, SIAPS provided technical support in the selection of themes to be presented, topics and speakers, and logistical and financial support throughout the three-day workshop. The main theme of this assembly was "*20 years after their creation, what strategies should Central Medical Stores adopt to increase the availability and access to quality essential medicines?*" Overall, 320 participants from 20 member countries participated in this assembly, including experts from UN agencies (WHO, UNICEF, UNFPA); international donors (USAID, Global Fund, GDF); and INGOs (SIAPS, European Union/Projet d'Appui a la Sante – EU/PASA). The assembly topics allowed sharing of best practices while providing an opportunity for ACAME members to learn about strategic interventions to address the challenges they face most often. Conclusions drawn from the assembly aim to position CMSs as high-performing and trusted entities that are capable of delivering on their key mandate of supporting health services delivery through uninterrupted commodity provision.

Partner Contributions

- USP/PQM provided technical and financial support for the workshop with the DNPM and stakeholders and contributed throughout the process.
- UNFPA, EU/PASA, CRS, and WHO contributed technically and financially to the ACAME assembly.

Constraints to Progress

- There have been delays by the DNPM to finalize the revision of the pharmacy law. However, during a meeting of the Minister of Health, USAID, and SIAPS in March 2017, the Minister highlighted the need to finalize the pharmacy law before the end of April 2017. This has helped speed up the process.

Objective 2: Capacity for pharmaceutical supply management and services increased and enhanced

During this quarter, SIAPS supported the PNLP to organize a two-day workshop with relevant stakeholders to review and update the supply plan of malaria commodities. Participants reviewed and validated inventory, consumption, and shipment data collected from the PCG, health facilities, and donor procurement agents, respectively. Participants updated the Pipeline database using the collated and validated data. Actionable changes, with responsibilities for different actions needed, to ensure an optimal supply of malaria commodities were developed and communicated to both USAID/PMI and CRS (GF Principal Recipients). These included expedited deliveries of artemether injectable and sulfadoxine/pyrimethamine (SP) by PMI to avert potential stock-outs at the central level. Accordingly, 6,667 boxes of SP (12 months of

consumption) were delivered by the end of March 2017. Delivery of 65,600 vials of artemether is expected before April 15, 2017.

SIAPS also supported the PNLP to conduct monthly meetings of the PSM technical working group (TWG). Using inventory data at the end of each month and average consumption data, the TWG conducted an evaluation of stock and supply levels for malaria commodities to identify potential supply problems and solutions to mitigate stock-outs and expiries. The stock status analysis revealed that stock levels for AL 6x1 and 6x2 tablets were lower than desired, particularly at a time when the PNLP was switching from ASAQ to AL tablets in treating uncomplicated malaria in all health facilities. Efforts from CRS and USAID/PMI to prevent a supply shortage allowed for early delivery of 148,048 and 185,000 treatments, respectively, in February 2017.

Objective 3: Pharmaceutical management information available and used for decision making

As part of the follow-up to the implementation of malaria control and prevention activities in Guinea at the peripheral level, the PNLP and its partners organized biannual supportive supervision visits to all eight administrative regions of the country. This supervision provides an opportunity for open dialogue between the central and peripheral levels and an ideal framework for strengthening the skills of health personnel and monitoring malaria control and prevention activities within health facilities, including prevention, case management, and pharmaceutical management. SIAPS provided technical and financial support to the PNLP to carry out supervision in the PMI-supported regions of Labe, Boke, and Conakry. Overall, more than 80% of health facilities were adequately stocked with malaria products, and inventory management tools were available and up to date in more than 73% of facilities. Recommendations were formulated for identified areas requiring improvement, including proper storage of expired products and conservation of inventory management tools.

Partner Contributions

- CRS provided technical and financial support for supervision visits to health facilities within Global Fund-supported regions.
- SIAPS coordinated with STOP Palu to support supervision in PMI-supported regions.

Objective 5: Pharmaceutical services improved to achieve desired health outcomes

As part of the quarterly performance review of the family planning (FP) program activities, the DNPM and the *Direction Nationale de la Santé Familiale et Nutrition* organized the collection of routine indicator data on the use of FP services and contraceptive products in all health facilities in Guinea for quarter 4 of 2017. Data collection was carried out by a team of surveyors in all health facilities in mid-January 2017, followed by data aggregation and analysis using a database developed by SIAPS. Data from this assessment showed that the contraceptive prevalence rate for quarter 4 of 2016 was 13.2%, 19.7% of health facilities registered a stock out of three or more consecutive days over the 12 months of 2016, and more than 90% of facilities used stock cards for managing FP commodities. The results from this survey will help inform future

activities at the regional and peripheral levels to allow real-time identification and correction of the identified contraceptive commodity management issues.

At the request of the MOH Inspection and the DNPM, SIAPS provided support to map private pharmacies in the region of Conakry. The purpose of this activity is to support regulating the pharmaceutical sector with the ultimate goal of ensuring that private pharmacies render better health services to the population than currently provided. SIAPS's support extended to defining the methodology, collecting data on existing private pharmacies and their locations, and designing the questionnaire. The results showed that there are 302 private pharmacies (Matam: 25, Ratoma: 138, Matoto: 76, Kaloum: 31, Dixinn: 32). Next steps will include administering the questionnaire in these 302 pharmacies. The resulting analysis will help develop the geographical information system mapping of private pharmacies for the region of Conakry while highlighting their performance in complying with the regulation of pharmacies in terms of human resources, availability of drugs on the National Essential Medicines list, and infrastructure.

SIAPS has been supporting the DNPM to revise and update the NEML. This process started early in 2016 with the organization of review workshops at the regional level, which included health professionals from selected health facilities from various regions. SIAPS then facilitated consultation meetings with experts from different domains at the central level, followed by a validation workshop held in Conakry in December 2016. During this quarter, SIAPS worked with the DNPM to finalize the document and secured the Minister of Health's endorsement. Printing of the NEML is under way and will be followed by dissemination and training of prescribers and dispensers in all health facilities on the NEML starting in April 2017.

Partner Contributions

- UNFPA contributed to the analysis and validation of the FP/reproductive health data collected from health facilities.
- WHO participated in working sessions with the DNPM to validate the final version of the document prior to editing and printing.

Guinea Ebola Portfolio

Goal: Ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes

Overall Quarter Progress

During this quarter, SIAPS held a high-level coordination meeting with the Minister of Health and USAID. This meeting aimed to update the Minister on the progress of logistics management information system (LMIS) activities, including the establishment of the Logistics Management Unit (LMU) and the implementation of the paper-based LMIS and eLMIS.

The project's support to the Pharmacie Centrale de la Guinee (PCG) helped launch the SAGE Enterprise Resource Planning (ERP) software at the end of January 2017. This helped the PCG move from a manual system to the SAGE software to support daily procurement, stock management, distribution, sales, accounting, and payroll operations.

The support to pharmaceutical management information allowed significant progress to be made. SIAPS' support to the *Direction Nationale de la Pharmacie et du Medicament* (DNPM) enabled the roll out of the paper-based LMIS in seven the eight administrative regions of Guinea. In total, 470 supply chain staff members were trained out of a targeted 523 (89%).

Objective 1: Pharmaceutical sector governance strengthened

Support around the establishment of the LMU continued during this quarter. The LMU manager and logistics officers, who joined SIAPS in March and January 2017, respectively, have started to provide support in LMIS data collection and report aggregation using paper-based forms at the district and regional levels in the Conakry and Labe regions.

At the coordination meeting, SIAPS informed the Minister of Health of the accomplishment of key benchmarks, including finalizing and validating the terms of reference of the LMU; finalizing the draft of the Ministerial Order establishing the LMU; renting a temporary, fully equipped LMU office; and staffing the LMU, including a coordinator and five logistics officers. The Minister committed to helping find office space for the LMU and nominating LMU staff. However, he suggested that SIAPS work with the DNPL to finalize the draft Ministerial Order (article) and identify candidates to fill the 11 defined positions for the LMU.

Objective 2: Capacity for pharmaceutical supply management and services increased and enhanced

In preparation for the SAGE L100i7 go live, SIAPS supported the PCG to conduct a stock count of all pharmaceutical products stored at the PCG main warehouse in Conakry and all six regional depots. In addition, SIAPS assisted the PCG to analyze and validate master data (e.g., item base data, finance data, employee base data) prior to uploading the master file into the live system. Additional training on the SAGE L100i7 modules was done for 10 warehouse personnel from the Guinee-maritime depot and the depot's coordination unit.

To support the PCG, SIAPS completed the final stage of the SAGE ERP implementation, which led to the go live of the system. SIAPS worked with both the PCG and the SAGE expert to validate physical inventory; approve the beginning balance; address any transition issues (e.g., IT, connectivity); and provide additional on-the-job training before loading the data into the live system. All users were then allowed to work on the SAGE system using real-time data, such as procurements, stock and order management, sales, and accounting and payroll.

During this reporting period, SIAPS increased its technical assistance to PCG staff to allow them to autonomously use the SAGE software to support daily procurement, stock management, distribution, sales, accounting, and payroll operations. SIAPS also held a meeting with the PCG leadership team to assess progress of the SAGE implementation. This meeting helped to review and identify solutions for challenges affecting optimal use of the SAGE system, including power outages, internet connectivity, and user adherence. The PCG leadership team committed to issuing an instructional letter to enforce mandatory use of SAGE L100 i7 by all personnel in all PCG departments. For regional depots that have had issues using SAGE due to poor internet connectivity, the meeting recommended that the PCG follow up with Catholic Relief Services (CRS) to ensure expedited implementation of the physical interconnection before the end of April 2017. To address power outages, SIAPS worked with the PCG to conduct a needs assessment for an alternative power supply using solar panels.

Partner Contributions

- CRS funded the SAGE project at the PCG through the procurement of IT infrastructure for interconnection at five of the six PCG regional depots.
- European Union/*Projet d'Appui a la Sante* funded the SAGE project at the PCG through the procurement of IT infrastructure for interconnection of one PCG regional depot.

Constraints to Progress

- The SAGE system deployment in PCG regional depots has been slower than anticipated due to problems with a constant power supply and poor internet connectivity. SIAPS is working with the PCG on solutions to overcome these challenges.

Objective 3: Pharmaceutical management information available and used for decision making

During this quarter, SIAPS worked with the DNPM to initiate printing of the integrated standard operating procedures manual, LMIS tools, and training materials to support the roll-out of trainings to prefectures and health facilities. Additional copies of the materials were printed to support LMIS data reporting for the first 6 to 12 months of implementation. SIAPS also held a meeting with the DNPM focal person to review the roll-out plan of the paper-based LMIS and make any necessary adjustments, taking into account other conflicting activities in the field, such as immunization campaigns.

SIAPS supported the DNPM to train more than 470 staff from health facilities in seven of the eight regions of Guinea. This represents 89% of the targeted number of health professionals to be trained on the integrated LMIS manual. Using adult learning theories, participants were trained on the use of the standard operating procedures manual to integrate the LMIS and corresponding forms to order, monitor, and manage health commodities. Health facilities with trained staff started submitting their monthly LMIS reports using the integrated reporting forms in February 2017.

Regarding eLMIS implementation, through discussions with the USAID/Guinea Mission, it was agreed to revise the scope of work for the subcontract with JSI to narrow it down to those activities that can be accomplished within the time remaining before SIAPS closes. The revised scope of work has been submitted to the USAID/Washington Agreement Officer for approval.

Constraints to Progress

- The MOH's multiple agendas and conflicting priorities delayed the training of LMIS users. Activities such as immunization campaigns led to the adjournment of the LMIS trainings in the regions of Boke and Kankan.

Objective 4: Pharmaceutical services improved to achieve desired health outcomes

During this quarter, SIAPS conducted a physical inventory of infection and prevention and control (IPC) commodities in all health facilities and collected consumption data for the past three months. Three high-level indicators were identified in collaboration with USAID: status of expired products, status of stock-outs, and difference between dispensed quantity and number of patients treated. The last indicator was desirable but not collected due to time and budget constraints. Information from 477 health facilities (441 health centers and 36 hospitals) on 12 tracer IPC commodities showed that:

- The stock-out rate for tracer IPC commodities was 45%, with Ringer's Lactate at 80%, followed by glucose IV fluid and oral rehydration salts (ORS) at 77% and 68%, respectively. Findings showed that product availability was higher in the Ebola-affected regions (e.g., N'zerekore, Conakry) than in non-affected regions (e.g., Kankan).

- The average expiry rate of tracer IPC commodities was 21%. The highest rates of expiry were found in calcium hypochlorite (95%) and chlorine (concentrated) (75%), followed by ORS at 41% and glucose IV fluid at 35%; these high rates were due, in part, to having received large quantities of donations. The remaining eight tracer products had expiry rates of 4% or less.

SIAPS is working with the *Agence Nationale de Securite Sanitaire* and PCG to develop a distribution plan detailing which health facilities will be resupplied for the next three months (April–June 2017).

Mali

Goal: Ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes

Overall Quarter Progress

Objective 1: Pharmaceutical sector governance strengthened

Regarding governance, SIAPS has supported the Regional Directorates of Health (DRS) to organize quarterly coordination meetings with local and district actors on the management of essential medicines and inputs of health programs in the five regions and the District of Bamako.

These meetings have been carried out with the participation of the socio-health teams of the 50 health districts under the leadership of the regional health directors; also involved are the focal points of health programs in the regions, including HIV, nutrition, and Ebola; pharmacists (regional, hospital, and district levels); the directors of hospitals and the local department of the Central Medical Stores (PPM); physician heads of districts or their representatives; district warehouse managers; the responsible in-charges of health management information; the representatives of the Federation Regionale des Associations de Sante Communautaire (FERASCOM); and other technical and financial partners at the regional level.

The purpose of these meetings was to analyze the December 2016 logistics data and address the status of supply chain management. Participants discussed the quality of the data in terms of reliability, timeliness, and completeness and also problems related to the supply chain of essential medicines for the programs, bottlenecks to overcome, key findings/recommendations, and other issues identified during supervisions and coaching visits as well as corrective measures to be taken.

In term of results, validated logistics data available on the medicine tracers for priority programs (malaria, contraceptives, HIV, tuberculosis, and mother/child) and other medicines (follow-up of the schema Directeur d'approvisionnement et de distribution des medicamants essentiels) represent an overall rate of 82.7%. The percentage of recommendations from previous quarterly meetings that have been implemented was approximately 36%.

The main recommendations were:

- Harmonize the nutrition paper-based Logistics Management Information System (LMIS) forms
- Organize a training workshop on nutrition, HIV, and Ebola modules of OSPSANTE and a training session for entering historical data for regional and district actors
- Put in place a working committee at the level of each health district for the monthly analysis of the logistics data of OSPSANTE for decision making
- Implement targeted coaching for districts having difficulties in the registration and entry of data into OSPSANTE

- Train sales depot (depot de vente) managers and technical district directors who have not been trained yet on the paper-based LMIS

During the reporting period, SIAPS provided support to the PPM for the quantification of essential medicines for cost recovery. Over several weeks, data were collected, analyzed, and validated in each region. The organization and consolidation of the data collected at the regional level took approximately two weeks. The assumptions formulated by the technical team were submitted on February 20 during a national workshop to validate data and assumptions of quantification. This workshop brought together all the stakeholders involved in the Malian supply chain, including technical partners.

Recommendations

- Take into account the updated national essential medicines list
- Contribute to the promotion of traditional, improved medicines (Balembo)
- Ensure the permanent availability of certain products (antirabies vaccine, antivenom serum, anticancer medicine)
- Integrate the health product needs of the northern regions (Timbuktu, Taoudéni, Ménaka Kidal)

Partner Contributions

- All the above partners contributed to identifying bottlenecks and solutions
- The DRS of Kayes, Koulikoro, Sikasso, Ségou, Mopti, and Bamako organized the meetings
- The 50 health districts participated, as did NGO partners
- The PPM organized the quantification in collaboration with the Directorate of Pharmacy and Medicine (Direction de la Pharmacie et du Medicament (DPM))
- The DRS of Kayes, Koulikoro, Sikasso, Ségou, Mopti, Bamako, Gao, and Timbuktu; pharmacists at national hospitals; donors; NGO partners; and other key stakeholders participated in the workshop to review the hypotheses and validate the results

Constraints to progress

The main challenges in supporting pharmaceutical governance are attributed to:

- Inadequate follow-up of recommendations made at previous meetings
- Inadequate analysis and availability of high-quality data
- Lack of a framework for coordinating actors in the supply chain at the district level
- Submission of incomplete data used for quantification of essential medicines
- Using Excel to quantify essential medicines

Objective 2: Capacity for pharmaceutical supply management and services increased and enhanced

To enhance the country's human resource and institutional capacities, SIAPS supported the MOH in organizing several activities necessary for the deployment of OSPSANTE:

Interoperability between OSPSANTE and DHIS2

To avoid the double entry of data into two different platforms, SIAPS discussed key issues with representatives of several stakeholders in the supply chain and the health information system. The objective was to obtain a better understanding and a clear vision of the options that would result in interoperability between the OPSANTE and DHIS2 systems. Thus, at a meeting on March 1, USAID, MEASURE, and SIAPS discussed selection of a mechanism for data exchange between the two systems. On March 9, a consensus meeting on interoperability took place, attended by SIAPS, DPM, and MEASURE, which is responsible for the implementation of DHIS2 in Mali.

On March 10, the National Technical Committee for the implementation of DHIS2 gave its recommendation that DHIS2 be used as a platform for HMIS and LMIS data entry. To better understand the financial and technical implications of this interoperability and be better informed, the Technical Committee expressed its desire that an orientation workshop be held.

SIAPS has provided support to the DRS and the 50 districts for the entry (and publication) of logistics data into OSPSANTE and for the analysis of reports and feedback to the different districts. Each month, a restricted group set up at the regional level organizes a working session on the data entered into OSPSANTE and provides feedback to the health districts through correspondence signed by the regional director of health. The analysis of the various reports has helped redeploy stock in certain localities; for example, in the region of Sikasso, 5,500 vials of artesunate 60 mg injectable were redistributed from the hospital to the health districts in Koutiala, Bougouni, and Sikasso. This monitoring has also allowed some institutions to avoid stock-outs of products.

The activities this quarter supported the PPM objective in its Strategic Plan 2015/2019 to better fulfil its mission of supply, storage, and distribution of essential medicines.

Activities of the WIB and the Warehouse Management System

Progress on construction of the foundation for the warehouse-in-a-box (WIB) in Bamako:

- Registration with the Direction Generale des marches Publiques (DGMP)
- PPM has sent a notification letter to EA BTP, a local business, that they have been selected to build the foundation; the company is now waiting for an order of service from the PPM to start the work

Progress on selecting a local company to build the foundation of the WIB in the regions of Kayes, Koulikoro and Mopti:

- The record of appeal of offer (DAO) was published with the 11 preliminary companies
- The evaluation committee wrote a screening report of 11 local companies interested in doing the work
- The screening report was sent to the DGMP and has been validated

- The request for bid from 3 firms selected from the 11 screened has been developed and validated by the DGMP

During the quarter, meetings were held with a consultant regarding technical support of the PPM. The following activities were carried out:

- Discussions with the representative of SAGE in Mali on modules that can be adapted to the WIB and implementation of SAGE at the PPM
- A regular meeting of the Steering Committee of the WIB projects on February 7; the selection process for companies for the WIBs in Bamako and the regions was reviewed
- Field visit to the proposed site for the PPM regional stores in Mopti

Partner Contributions

- All the above partners contributed to identifying bottlenecks and solutions
- USAID, DPM, MEASURE Evaluation, and the DHIS2 Technical Committee participated in discussions
- DRS followed-up on OSPSANTE, the publication of reports entered by the regional pharmacists, and the monthly analysis of the logistics data
- Health districts were responsible for the completion of data (family planning, malaria medicines, and maternal, newborn, and child health products)

Constraints to Progress

- Collaboration of all involved partners is required for interoperability between DHIS2 and OSPSANTE
- Quality of data entered into OSPSANTE and the follow-up of the entered data by the districts and DRS were uneven and can affect resulting information used for decision making
- Limited involvement of store managers in the central PPM in the development of stores and the use of Excel sheets designed to monitor the movements of pallets
- Administrative time limits imposed by the DGMP in the framework of the execution of public contracts

Objective 3: Pharmaceutical management information available and used for decision making at different levels of the health system

To improve decision making, SIAPS provided technical assistance to the MOH through the DPM, PNLP, and PPM for the preparation and submission of the PPMRm and PPMRc. For each quarter, data are collected on stock status and receipts to better process new shipments of malaria and family planning products. The logistics data in question had been collected for the October–December 2016 quarter.

On the basis of the levels of stocks for different products and logistics data, the following recommendations were made:

Malaria

The Global Fund/PSI should accelerate the transfer of 185,896 arthemeter-lumefantrine (AL) 6 × 1 packs and 58,347 AL 6 × 2 packs from the PSI store to the PPM; the packs were originally received on November 30, 2016.

To avoid potential stock-out at the central level, the Global Fund/PSI should accelerate deliveries of the followings medicines, which were expected to be delivered by February 1, 2017, according to the national supply plan:

- 223,993 doses of AL 6 × 1
- 95,997 doses of AL 6 × 2

USAID should accelerate deliveries of the following medicines and rapid diagnostic tests, which were expected to be delivered by February 1, 2017, according to the national supply plan:

- 700,000 doses of AL 6 ×1
- 800,000 doses of AL 6 × 2
- 400,000 doses of AL 6 × 3
- 400,000 doses of AL 6 × 4
- 120,000 rapid diagnostic test kits (25 tests/box)
- 6,000 boxes of 1,000 tablets of sulfadoxine/pyrimethamine, 500/25 mg

Family planning

- Accelerate the transfer of 12,000 cycles of Microgynon oral contraceptives and 5,000 implants received on October 20, 2016, at the DPM to the PPM
- Redistribute family planning commodities from the social marketing program to the public sector and vice versa to adjust stock levels
- Develop strategies to boost use of female condoms and CycleBeads in the country

To follow in real time and better manage commodities of health programs through an electronic system, SIAPS has also supported the DPM and the CNAM in organizing training for central-level actors on the nutrition, HIV, and Ebola portals in OSPSANTE. Lists of the various commodities, reporting outlines of the programs, logistic reports, and OSPSANTE program indicators were presented and discussed at these workshops. Participants included representatives of civil society, USAID, and NGO partners. In this quarter, 30 people were trained on the use of OSPSANTE:

- January 19 at the DMP: 9 (4 male/5 female) members of the Nutrition Technical Group
- January 24 at the DPM: 11 (8 male/3 female) members of the HIV Technical Group
- February 21 at the COU: 10 (9 male/1 female) members of the Ebola Technical Group

Partner Contributions

- All the above partners contributed to identify bottlenecks and solutions

- DPM, COU, DNS/DN, CSLS, SEREFO, CSLS, HCNLS, PNUD, PAM, and UNICEF participated in meetings

Constraints to Progress

- During these training activities, the challenge was the frequent revision of data collection primary tools at the national level for nutrition
- The absence of a reliable supply chain for Ebola and lack of primary tools for data collection

To address these difficulties, the decision was made to update warehouses and health facilities managing HIV and AIDS products as well as patients regimens in OSPSANTE. For Ebola, valid logistics data collection tools will be used for data collection at the national level.

Mozambique

Goal: To ensure access to safe, efficacious, and quality pharmaceutical products and effective pharmaceutical services to help achieve desired health outcomes.

Overall Quarter Progress

SIAPS continued to support the Ministry of Health (MoH) in the use of Pharmadex for the registration process and compared outcomes using the tool between this quarter and the previous one. During this quarter, SIAPS and the MoH organized a workshop for applicants; MoH partners; and stakeholders, including civil society, to launch Pharmadex and a Pharmaceutical Department (PD) website.

Objective 1: Governance in the pharmaceutical sector strengthened

To strengthen the PD monitoring and evaluation (M&E) system, SIAPS supported M&E staff and integrated new staff allocated to the M&E subunit to prepare and submit the 2016 annual report through data collection of the main indicators that had been reported and to develop additional work plan activities.

The data collection showed a 10% decrease in the average number of days to register a product, from 325 days in 2015 to 292 days in 2016. To determine the percentage of essential medicines list (EML) products that are registered, data were collected from the EML published in the bulletin of the republic in 2016. Of 549 EML products, 258 were registered (47%).

The total number of adverse event reports received by the Pharmacovigilance (PV) sector in 2016 was 2,479, and 470 were reviewed (19%).

In 2016, 2,097 people were trained on PV, which was a 62% increase over 2015 (1,297). During this quarter, to improve and simplify data registration, collection, and analysis of data:

- A document was prepared to guide the provinces on the codification of adverse drug reactions from the point of service that will be reviewed by the head of the PV sector and approved by the head of the PD.
- SIAPS supported the development of a tool to track consumption of psychotropic and narcotic substances in a specific period.

Workshop for Pharmadex Launch

- SIAPS supported the MoH to launch Pharmadex on March 9, 2017. Workshop participants included:
- The permanent secretary of the MoH
- The US Embassy representative
- The head of the PD
- All PD sector heads
- Registration staff

- Others (representatives of the applicants, universities, pharmacies, and the private sector)

The system was well received by all participants, and some had the opportunity to suggest improvements. The PD showed participants the positive impact of Pharmadex in terms of the number of days necessary for a product registration and improvements in registration procedures from SIAPS-supported training.

To create PD help desk capacity, SIAPS hired a company to diagnose the most frequent Pharmadex operational issues in the areas of database management, IT equipment, hardware, and network maintenance and to train PD IT staff to solve them.
The company will also prepare a manual of IT procedures that will be sent to the home office for approval. PD IT staff were trained in:

- Troubleshooting the internet and servers
- Identifying changes made to the DC01 server and internet access
- Validating the IPs for internet activation using Ungonet (the PD internet provider)
- Activating the Wi-Fi network
- Correcting identified anomalies in the network and servers
- Configuring load balances for internet access in Cyberoam
- Setting up the Ungonet internet link in Cyberoam
- Configuring load balances for TDM and Ungonet links
- Changing passwords in the Windows server
- Determining whether internet access is through TDM or Ungonet
- Checking the quality of internet links by pinging

Partner Contributions

PD IT staff were very active in learning and implementing helpdesk skills. Two PD staff was members of the technical working group and contributed to data collection and the annual report.

Objective 3: Pharmaceutical services improved to achieve health outcomes

During the 2015–2016 fiscal year, SIAPS supported the MoH's Hospital PD to design, test, and scale medicine use studies (prescriptions, medication errors, and consumption) in hospital Drug and Therapeutics Committees (DTCs). To complement these studies, DTCs needs to perform other activities, such as medicine use evaluations, improve adverse drug reaction reporting and analysis, manage medicines formulary, and improve treatment adherence and process mapping.

During this quarter, SIAPS supported the Hospital PD to assess how these activities are being implemented in one general hospital. SIAPS also began developing tools to support these activities, including a therapeutic adherence survey tool, a tool to conduct drug use evaluations at hospitals, and tools for process mapping and improvement (e.g., wait time, patient satisfaction).

Namibia

Goal: To improve the quality and safety of pharmaceutical products and services for sustained HIV epidemic control in Namibia

Overall Quarter Progress

SIAPS advocated to the Namibia Medicines Regulatory Council (NMRC) for the early adoption and uptake of TDF/FTC-based ARV formulations (Truvada®) for pre-exposure prophylaxis (PrEP) of HIV in Namibia. This is in line with the recommendations of the 5th edition of the Namibian HIV Treatment Guidelines. As a result of SIAPS discussions with the NMRC secretariat and follow-up, one application submitted by a pharmaceutical company to the NMRC in October 2016 for the licensure of a generic TDF/FTC formulation for PrEP was considered for technical review. The consolidated recommendations of the NMRC will be deliberated at the meeting in May 2017, when the decision to license the product for PrEP will be made.

SIAPS supported the NMRC to further reconfigure Pharmadex for deploying on the web to facilitate online processing of applications for the registration of medicines by pharmaceutical companies. In addition, SIAPS trained six NMRC staff on the in-house implementation of Pharmadex before it is opened up for use by external pharmaceutical companies. The tool will be ready for use by pharmaceutical companies from Q3 onward.

SIAPS supported the Ministry of Health and Social Services (MOHSS) in conducting annual pharmaceutical support supervision visits (SSVs), assessing health facility performance on selected pharmaceutical services, providing on-the-job mentoring and technical assistance to health workers at ART and nurse-initiated and managed ART sites, validating pharmaceutical service information, and guiding facility staff on data quality improvements. At least 63 health facilities offering ART benefitted from the technical assistance.

In addition, SIAPS conducted structured follow-up and technical assistance for 37 facility electronic stock card (FESC) implementation sites. A structured checklist was used to assess usability and capacity of staff and provide on-the-job technical assistance for more efficient use and maximum impact of the system. Almost all (97%) of the facilities were using FESC and were generating pharmaceutical logistics reports that were uploaded to the dashboard for stock visibility and management. SIAPS is analyzing the data and will compile a summary report to guide subsequent interventions to improve efficiency of the staff and the system.

The expansion of FESC to the two Walvis Bay Corridor Group (WBCG) health facilities increased the number of FESC sites from 37 to 39 and main EDT sites from 51 to 53. The MOHSS facilities requested additional new sites for EDT, and the total number of sites currently with the tool stands at 57.

In collaboration with MOHSS partners in support of scale-up of the community-based ART (CBART) differentiated care approach to ART service delivery, SIAPS enhanced the EDT to capture CBART dispensing data. A total of 55 groups were created in the EDT with about 657 ART patients who met criteria for implementation of CBART. SIAPS provided technical

assistance to MOHSS and partners in the development of SOPs for the management of ART patients accessing ARV medicines through the CBART initiative.

SIAPS followed up on Short Message System (SMS) reminder implementation at 10 ART sites. Key findings from the preliminary analysis of data indicate that the intensity of SMS messages sent to patients on ART correlates well with patient on-time pill pick-up for enrolled patients. The SMS reminder gateway has been acquired, which will reduce challenges faced with test versions. SIAPS will continue to work with MOHSS in obtaining unique code from the mobile phone service provider MTC and the Namibian telecommunications company.

SIAPS is providing technical assistance to the National Strategic and Technical Advisory Group (NSTAG) in conducting a situational analysis of strategies to combat AMR in Namibia. The situational analysis will be used to determine gaps and guide actions for multi-sectoral containment of AMR.

Objective 1: Quality and safety of ARVs and medicines for OIs ensured

The NMRC under the MOHSS is changing and improving its medicines registration system to ensure the safety and efficacy of medicines as well as to strengthen the potential for exportation of medicines. SIAPS trained six NMRC staff on the in-house implementation of the web-based Pharmadex before it is opened up for use by external pharmaceutical companies (Q3 onward). During the sessions, recommendations were summarized and submitted to the programmers to further reconfigure Pharmadex to facilitate online processing of applications for medicine registration.

Following the training, SIAPS conducted four meetings in February to provide feedback and comments on the improvements made on Pharmadex. Documents needed for the programmers, were submitted by the NMRC. Comments were provided on the planned activity and the way forward was agreed. A one-day meeting is planned for April to re-orient NMRC staff and possibly deploy the tool.

The 5th edition of the Namibian HIV Treatment Guidelines recommends the early adoption and uptake of TDF/FTC-based ARV formulations (Truvada) for PrEP of HIV. However, currently the formulation is not registered for this particular “indication” by the NMRC. As a result of SIAPS discussions with the NMRC secretariat and follow-up, one application submitted by a pharmaceutical company to NMRC in October 2016 for the licensure of a generic TDF/FTC formulation was considered for technical review by NMRC. The decision to license the product will be made at the next NMRC meeting in May 2017.

Partner Contributions

- NMRC provided feedback and support for implementation of Pharmadex for medicine registration
- NMRC supported the recommendations to expedite the registration of Truvada for PrEP

Objective 2: HR capacity in pharmaceutical management and service delivery strengthened for improved HIV and AIDS treatment outcomes

SIAPS supported the Division of Pharmaceutical Services in conducting service quality assessments (SQAs) for the inventory management of ARV medicines and the quality of pharmaceutical services delivery. Strategies implemented include strengthening the Pharmacy Management Information System (PMIS), development and implementation of standard operating procedures and treatment guidelines, strengthening the functioning of therapeutic committees, and strengthening stock, patient, and data management for ART services using the EDT and FESC.

On-site mentoring is necessary to develop the capacity of health facility staff to implement the above mentioned systems and in using tools for improved pharmaceutical care and retention of patients on ART. SIAPS supported the annual SQAs for 12 clinics, 16 health centers, and 35 district and referral hospitals in February and March 2017. During the on-site technical assistance, the teams mentored and trained more than 70 health care workers on SIAPS implemented tools (EDT, FESC, and PMIS) including technical assistance on generating and submitting reports, validating pharmaceutical service information, and guiding facility staff on data quality improvements. The findings from SQAs will enable SIAPS to target technical assistance on the basis of evidence from the data and allow managers to make evidence-based decisions in managing pharmaceutical services. SIAPS also supported the orientation of 15 senior managers from MOHSS and other development partners on the use of tools for SQAs.

SIAPS continues to provide input and feedback in the continuing training of pharmacy staff at the University of Namibia's School of Pharmacy (UNAM-SoP). In Q2, SIAPS participated in a poster symposium for second-year pharmacy diploma students. During the symposium, technical staff provided feedback on the design of interventions to improve rational use of antimicrobials at the facilities where the students are stationed. This included problem identification, prioritization, selection of possible solutions and implementation of activities, monitoring, and feedback. The symposium was attended by key players in Namibia's pharmaceutical industry.

Partner Contributions

- MOHSS: regional directorates on support supervision and SQAs
- UNAM-SoP: continuing to engage SIAPS on key events at the school

Objective 3: Availability and use of pharmaceutical service data is enhanced for improved quality of ART services

SIAPS developed a process flow chart for dispensing medicines to Community Adherence Support Group (CASG) leaders. The flow chart was discussed with the Project HOPE technical team and agreed that it should be included in the SOP for CBART activity developed by Project HOPE. SIAPS is tasked with incorporating the CBART activity's process flow into the SOP that is under development.

SIAPS is collaborating with Project HOPE to support the Directorate of Special Programs (DSP) in implementing the differentiated model of care in managing patients at high-volume ART sites in selected PEPFAR priority regions. CBART is one of the strategies proposed in the differentiated care model to manage stable ART patients at high-volume sites. SIAPS is also providing technical assistance in adapting manual and electronic dispensing tools to incorporate capabilities to manage and track patients accessing ART through CASGs. To date, 55 groups have been created with about 657 ART patients who are ready for implementation of CBART.

Through the annual SQA and support visits, SIAPS supported MOHSS in data validation between the electronic patient management system (EPMS) and EDT to determine the discrepancies in numbers of ART patients in the two systems. The checklists for SQAs were adapted to enable collection of numbers of patients in the two systems. Results will be analyzed to provide baselines and justification for investigation into the reasons for data gaps in the two systems.

SIAPS is supporting MOHSS in implementing a dashboard for information on pharmaceutical services. The dashboard aggregates information from SIAPS-implemented tools, including EDT, FESC, and PMIS. Reports from these tools are represented on the dashboard in easy to interpret charts and tables, which allows MOHSS managers to use the reports in evidence-based decision making. In this quarter, SIAPS continued to support training and mentoring of pharmacy staff, specifically in how to upload ART, PMIS, and Logistics Management Information System (LMIS) reports onto the dashboard for pharmaceutical services. Staff at all 37 facilities was supported in applying for access rights to the dashboard to allow them to upload PMIS, ART, and LMIS reports to the dashboard.

During the SSVs/SQAs, SIAPS conducted a comprehensive assessment of FESC use and provided on-the-job technical assistance to pharmacy staff at 37 sites for continued and efficient use of FESC. SIAPS used a structured checklist for the assessment and as a guide for the assistance. SIAPS is analyzing the data and will compile a summary of the extent of use, challenges, and recommend actions for subsequent technical assistance. The summary will be ready in Q3.

SIAPS is working in collaboration with WBCG to provide ART services to their clients, including truck drivers and commercial sex workers, two categories of key populations. WBCG facilities are mostly located at the border towns of Walvis Bay, Oshikango, and Katima Mulilo. In Q2, SIAPS supported installation of EDT and FESC at these sites and the training of 10 health care workers running the facilities. The tools will enable the staff to manage both patients and stock and provide reports to the ART program at the national level. Since then, more than eight patients have been enrolled in EDT as active patients under the WBCG and the number is expected to increase in Q3.

Partner Contributions

- WBCG: training health workers for ART service delivery, inventory, and ART program management using FESC and EDT
- MOHSS sub-division of National Medicines Policy Coordination: support to health facilities

using EDT, FESC, and e-TB Manager and implementation of FESC and the dashboard
- MOHSS DSP: support to primary health care facilities using mobile EDT for ART data capture
- MOHSS district hospitals: implementation of FESC and data upload to the dashboard

Constraints to Progress

- Regional pharmacists and pharmacists at sites with FESC still face challenges in uploading eLMIS reports onto the dashboard; SIAPS will implement interventions to improve reporting rates in Q3.

Objective 4: Quality, efficiency, and accessibility of pharmaceutical services strengthened to attain 90% treatment coverage and 90% viral suppression

SIAPS presented its approach to promote RMU and combat AMR to the NSTAG, upon request by USAID. SIAPS supported the MOHSS during the annual pharmaceutical SQAs and SSVs to mentor pharmacy staff on their role on monitoring and promoting RMU through therapeutics committees, the structures proposed to lead efforts to combat AMR. SIAPS is providing technical assistance to the NSTAG in conducting a situational analysis of strategies to combat AMR. SIAPS has supported Namibian institutions and ministries in various activities for containing AMR, including HIV-DR and MDR-TB. SIAPS-supported AMR strategies have included development and implementation of STGs, infection control and prevention guidelines, and M&E of HIV-DR. SIAPS has also supported the MOHSS in developing the AMR advocacy strategy and in implementing early warning indicators for HIV-DR. The situational analysis will be used to determine the gaps in AMR in all sectors (including agriculture, veterinary, and private sectors) and guide action planning for the multi-sectoral containment of AMR in Namibia.

SIAPS continues to contribute to the HIV adherence technical working group, In Q2, SIAPS participated in the quarterly meeting and shared results on the SMS reminder intervention implemented at 10 sites countrywide. Data drawn from the EDT clearly showed an improvement in on-time pill pick-up rates for patients that were sent reminders to pick up medicines at intervention facilities. The efficiency of sending of SMSs will dramatically improve with the acquisition of a gateway that will automate the process of sending messages and through targeted onsite support. Planning for a nationwide roll-out is scheduled for Q3.

As a key partner in TB/HIV program implementation, SIAPS provided technical assistance to the National Tuberculosis and Leprosy Program (NTLP) during a consensus meeting that was held to finalize the third medium-term plan (MTP III). The assistance targeted improving the quality of pharmaceutical services at health facilities (focusing on site readiness assessment and preparedness), ARVs/anti-TB medicines, and human resources. TB is one of the main opportunistic infections of people living with HIV, with 40% of HIV-positive patients having TB (draft NTLP annual report 2015/2016); 92% of TB/HIV patients were on treatment.

SIAPS has developed a desktop version of e-TB Manager, which is aimed at hospitals with Internet challenges. Currently, the tool is being tested by the NTLP; feedback and a plan of action will be provided in Q3.

In Q2, SIAPS finalized technical reports on the support provided to MOHSS on pharmacovigilance activities as well as pediatric ART uptake and retention in care and regimen switching trends from EDT. The reports will be available for uploading into the SIAPS institutional memory.

Partner Contributions

- MOHSS HIV case management unit and DSP: ART adherence and retention initiatives
- MOHSS-NTLP: consultative meeting for finalizing the MTP III for TB and leprosy
- MOHSS Okuryangava Clinic: documenting impact of the SMS reminder on ART adherence

Constraints to Progress

- Active follow up of SMS sites has been inadequate; SIAPS will be visiting SMS sites in Q3 to ensure the intervention is implemented effectively and results are utilized for the roll-out phase to other sites.

Philippines

Goal: To strengthen key institutions in reducing the TB burden through increased access to quality and effective pharmaceutical and laboratory services.

Overall Quarter Progress

During this quarter, SIAPS continued to work with the National TB Control Program (NTP) to improve access to effective and sustainable TB pharmaceuticals and services by strengthening health systems in laboratory management, community health leadership, management and governance, pharmaceutical management, information systems, and pharmacovigilance (PV).

SIAPS finalized two documents to improve governance of and access to TB medicines at the NTP: "Building Leadership and Governance in Supply Chain Management for the National TB Control Program of the Philippines" and "Ensuring Sustainable Access to TB Medicines through Inclusion in the Philippine National Formulary". SIAPS also provided technical assistance to the National Tuberculosis Reference Laboratory (NTRL) in finalizing the following key technical documents:

- Laboratory Information Management and Utilization (LIMU)Training Package
- LIMU Training Report
- NTRL Annual Report 2014
- Laboratory Training Decentralization Package
- NTP Laboratory Network Assessment Report (2016)

SIAPS also provided support in validating NTP procurement orders for programmatic management of drug-resistant TB (PMDT) covering Q1 and Q2 of 2017. SIAPS is actively supporting the NTP in reviewing drug supply management (DSM) reports for forecasting and quantification of medicines.

SIAPS has successfully deployed the Pharmacovigilance Monitoring System (PViMS) in the Department of Health (DOH) IT infrastructure. PViMS is also being implemented as the national active drug safety monitoring and management (ADSM) database for the Philippines. These initiatives will significantly improve PV in the Philippines.

Objective 1: Capacity for pharmaceutical and laboratory leadership, governance, and management improved

In partnership with the NTP, SIAPS finalized a technical brief on "Building Leadership and Governance in Supply Chain Management for the National TB Control Program of the Philippines". This brief provides an overview of the need to strengthen governance in pharmaceutical management through the DSM sub-Technical Working Group and the results of this initiative. SIAPS also finalized a technical highlight on "Ensuring Sustainable Access to TB Medicines through Inclusion in the Philippine National Formulary". This technical highlight gives an overview of the initiative to ensure sustainable access to TB medicines through the inclusion of essential and new TB medicines in the Philippine National Formulary. These

documents will be shared with the NTP and partners in a dissemination meeting being organized by SIAPS.

SIAPS participated in and provided input during the Year-Start National Consultative and Planning Workshop with regional teams and NTP coordinators. SIAPS also participated in the break-out sessions and provided input on strategies and initiatives of the regional offices to improve supply chain management.

SIAPS finalized several documents that describe key technical assistance activities, including:

- LIMU Training Package: A compilation of the materials used for the training on LIMU for NTRL staff. The package contains a description of the course content and methodologies; trainers' session guides; materials for discussions and exercises; and tools for planning, reporting, and training evaluations. The document can serve as a guide for trainers and training managers who wish to develop and implement similar courses in the future.
- LIMU Training Report: This report describes the implementation of the LIMU training course, the workshop proceedings, training outputs by participants, and participants' insights about the training.
- NTRL Annual Report 2014: This report describes the NTRL's achievements in 2014. With technical assistance from SIAPS, the NTRL was able to produce this annual report, which is the first of its kind in the organization's 15-year history.
- Laboratory Training Decentralization Package: This package contains materials that will guide NTRL and NTP managers at the regional level in the decentralization of TB laboratory trainings in the Philippines. The package includes principles and draft policy statements to guide training decentralization, definitions of roles, and standards for facilities and trainers. This document includes the course materials used for the enhanced "Training of Trainers Course for Basic TB Microscopy" that was implemented in July 2016.
- NTP Laboratory Network Assessment Report (2016): This report describes the performance of the NTP laboratory network over the past three years. The activity involved a systems approach in the analysis of the laboratory network performance so that the document could be more useful and relevant to program and lab network managers who are responsible for training, supervision, supply chain management, M&E, and information management. The report will also be useful for policy makers and service providers.

SIAPS conducted a meeting and field visit to a Barangay Health Management Council (BHMC) in Quezon City in response to a request from Japan's Nagasaki University School of Tropical Medicine and Global Health for its MPH students. The participants in this activity included students from Japan, Myanmar, Uganda, Ghana, the Democratic Republic of Congo, and other countries and supervising staff of Nagasaki University. The discussions and field visit gave students and faculty real-time exposure to BHMCs as they exist and operate in the community.

Partner Contributions

- The NTP provided the venue and coordinated with participants and partners for the Year-Start National Consultative and Planning Workshop.
- Quezon City's Old Balara BHMC hosted the activity for Nagasaki University students at Barangay Hall. The Old Balara BHMC officers presented their BHMC activities and results and shared insights on their BHMC experiences.
- NTRL technical staff and various regional med tech coordinators provided assistance to SIAPS in collecting data for the laboratory assessment.

Objective 2: Capacity for transparent and evidence-based decision making improved

In accordance with the revised NTP targets for the PMDT and considering the expansion plan to roll out the Shorter Standard Treatment Regiment (SSTR) and expansion of iDOTS centers for 2017, SIAPS supported the NTP to validate procurement orders for Q1 and Q2 of 2017. SIAPS also provided assistance in reviewing DSM reports from the access sites to retrieve data needed to forecast and quantify adjustments to orders to be made later this year in light of progress in the expansion plan. The next scheduled quantification activity will be by the end of March to finalize procurement orders for Q3 and Q4 of 2017.

Partner Contributions

The NTP provided the venue and meals for the quantification meeting. The NTP also collects and provides the data needed for the quantification.

Objective 3: Capacity of NTP to deliver pharmaceutical and laboratory services improved

During this quarter, SIAPS successfully deployed PViMS in the DOH infrastructure. PViMS will initially be operationalized in the Lung Center of the Philippines-National Center for Pulmonary Research (LCP-NCPR) and will serve as the active PV tool for the 9MTR and BDQ operational research. PViMS is also being implemented as the national ADSM database for the Philippines. It will serve as a bridge to send PV data from the NTP to the Food and Drug Administration (FDA). In addition, data encoded in PViMS can be generated into an e2B format, which is the preferred FDA format for ADR reports.

Because PViMS is the national ADSM database of the NTP, orientation is a topic in the SSTR training design. During this quarter, SIAPS oriented 195 participants in Regions 6, 10, 4A, and 5 on PViMS.

SIAPS has reviewed selected 9MTR data in preparation for its migration to PViMS. SIAPS has also provided technical advice for 9MTR data quality improvement. SIAPS supported the LCP-NCPR in reporting BDQ serious adverse events to the Global Drug Facility by providing technical guidance on the process.

SIAPS is working closely with the DOH-KMITS in the development of PViMS and IT/IS interoperability. Testing of PViMS-IT/IS interoperability in the live environment will soon follow.

SIAPS provided technical input in the development of the Administrative Order (AO) on PV being drafted by the DOH-PD. The AO covers the national PV and adverse drug event reporting guidelines for the public health programs of the DOH. SIAPS has also worked with the DOH-PD to finalize the PViMS user manual.

SIAPS will work with the DOH-PD and NTP to draft PViMS implementation guidelines.

Partner Contributions

- The DOH-KMITS hosted the PViMS in its data center, provided the subdomain and hardware, provided technical support for the installation of PViMS on its network, and developed PVIMS-IT/IS interoperability at the end point.
- The DOH-PD and NTP provided support in coordinating within the DOH on the implementation of PViMS.
- The PBSP funded the SSTR and PMDT trainings with PViMS orientation as one of the topics delivered by participants.
- The LCP research team co-facilitated the PViMS orientation during the PMDT training.
- The LCP training unit coordinated and co-facilitated the PViMS orientation in the SSTR and PMDT trainings.

Sierra Leone

Goal: Strengthen pharmaceutical management systems to ensure availability of quality pharmaceutical products and rational use to achieve desired health outcomes

Overall Quarterly Progress

The new Directorate of Drugs and Medical Supplies (DDMS) organogram has now come into force, with the nomination of designated officials to head the identified departments. A joint DDMS/SIAPS annual review meeting was held in January, supported by SIAPS.

The procurement process is underway for basic office equipment, including computers, stationary, and Internet service to get the newly structured organization off the ground, especially in view of current austerity measures currently in place, making procurement through the Government very unlikely.

The roll-out of Continuous Results Monitoring System (CRMS) continued to make progress. Targeted response to identified gaps in storage practices and capacity was introduced in health facilities. This has been highly appreciated as timely and cost effective, especially as it used local carpenters.

Drug and therapeutic centers (DTCs) were set up in four tertiary hospitals and, following a national launch, roll-out has commenced in another five.

SIAPS has taken advantage of the newly established DTCs to advocate for progress with the Government's AMR agenda. Momentum has picked up, in preparation for submission of a national strategic plan to the World Health Assembly in May 2017.

A printer for the critical treatment register has finally been identified and preparations are underway for the training of trainers and subsequent cascading to the districts.

Objective 1: DDMS' ability to effectively support health facilities is strengthened

DDMS Organogram

The new DDMS organogram has now come into force, with the nomination of designated officials to head the identified departments. An annual review meeting was held in January, supported by SIAPS in which each departmental head and district pharmacist examined in detail their expected roles and responsibilities will be and what improvements may be necessary. It was also agreed that project implementation issues identified at the retreat will be fed into a proposed meeting for all district medical officers, directors, and health program managers. This decision was subsequently endorsed by the chief medical officer but the March timing for such a meeting has not feasible due to other engagements. This important meeting will be tracked to fruition.

Drugs and Therapeutic Committees

DTCs were established initially in four hospitals, three in Freetown and one in Bombali District, followed by a formal launching of DTC by the Ministry of Health and Sanitation (MOHS). The event was successful, with a wide range of participation, including USAID representation, senior hospital management, technical care providers, the media, and a strong SIAPS presence already in country to support this and other project activities. Additionally, there was press coverage managed by the MOHS Media Unit.

Work on DTCs created an advocacy opportunity that has been well used by SIAPS to get the government's AMR agenda to the fore. A SIAPS expert in the country to consolidate DTC work provided necessary technical support and motivation to stakeholders, spearheaded by the Pharmacy Board. This resulted in a national AMR call-to-action meeting that has now moved to the development of a national strategic plan due to be presented to the World Health Assembly in May.

Support to National AIDS Secretariat

Following the signing of a memorandum of understanding and a detailed consultation with national experts, a consultant finally put together a draft architecture of a Sierra Leone pharmaceutical dashboard that initially focuses on HIV/AIDS products, but has potential to include other health programs such as malaria and TB. Training of health personnel from various districts and health products has been conducted. The goal of the training was to build the capacity of MOHS staff on the dashboard and to test the system from the user's perspective.

Reverse Supply Chain for Expired Medicines

On the basis of successful cycles of retrieval of expired medicines from peripheral health facilities to back to the district level and then finally to the central level for controlled disposal, a draft national guideline is at an advanced stage of development.

National Quantification Committee

Following a process fully supported by SIAPS and with the participation a wide range of stakeholders, data for quantification for the 2017 procurement of Free Health Care supplies, funded by DFID, was approved and the procurement process is ongoing through UNICEF. Data collected through the CRMS process formed one of the sources that was used in the quantification by a subcommittee comprising various partners. This has been major progress toward more rational supply chain decision making, especially the move away from a push to a pull system. It is hoped that subsequent procurement will build on and consolidate this.
Also, quantification training for TB, QuanTB, was conducted and the actual TB quantification was done with support from SIAPS. There are now indications that other health programmes will use the experience to develop their quantification processes.

Partner Contributions

- The DDMS continues to provide dedicated office space for use by SIAPS, which enables staff to embed with their team anytime it becomes critical.
- The district health management teams (DHMTs) are continuing to provide vehicles to be used during the CRMS exercise.

Constraints to Progress

- DDMS and DHMTs are extremely busy, which often makes it difficult to get their attention and participation on a timely basis.
- An austerity program officially declared by the government makes it very unpredictable to rely on inputs that would normally be made by government counterparts.

Objective 2: Strengthen supply chain management from district to peripheral health unit (PHU) level

A second cycle of CRMS has been conducted in 10 districts covering 860 of the 1,241 health facilities in the country, which is 69% coverage. This leaves three districts to be covered, namely, Western Area, Kenema, and Kambia. The data analysis for Kenema's first cycle has been completed, and plans for Kambia district CRMS data analysis will commence this April.

Support through procurement of basic, community-made storage for identified health facilities is ongoing; 50 health facilities have been assessed, 11 in Bombali, 8 in Port Loko, 11 in Tonkolili, 16 in Western Area, and 4 in Kenema. Work is in progress for 5 health facilities in Tonkolili and 13 in Western Area. Installation of secure and improved storage capacity has been completed in three facilities in Western Area. The DHMTs will now be encouraged and supported to reorganize their stores and update their stock cards. These are basic, low-investment activities that have high impact on facility level, good pharmaceutical management practices.

Partner Contributions

- The DHMTs provide support by scheduling and finding space for planning meetings and orientation trainings; when possible, they also provide vehicles to be used for CRMS activity.
- Some programs, such as the National AIDS Secretariat, have used funding from other partners and donors to contribute to joint activities with SIAPS.

Constraints to Progress

- Government partners frequently make last-minute changes to scheduled activities, which then affect others.

Objective 3: Utilization of information for supply chain decisions is increased

Information collected through the CRMS process was fed into decision making regarding the retrieval and controlled disposal of expired medicines accumulated at peripheral health units.

CRMS data was also used as a reliable source of data for the quantification process and the subsequent determination of procurement items and quantities.

With the imminent use of the new and more user friendly treatment registers, the quality of data and timely reporting is expected to improve and inform supply chain decision making.

Technical support continues to be well-coordinated and responsive to project needs. Once a need is identified, the search for a suitable SIAPS in-house technical expert is engaged to plan for the response, with minimal time delay. This has been helpful to achieving project deliverables.

Partner Contributions

- The DDMS remained engaged with project activity; convening, coordinating, and providing staff to support DHMT during CRMS supervisions

Constraints to Progress

- Bureaucracy and partner budgetary uncertainties sometimes negatively impact the timing of project implementation.
- Electricity and water supply to the building is erratic and unreliable, resulting in extensive use of fuel for the standby generator and the need to make ad hoc purchases of water.
- The continuing lack of authority to issue purchase orders is a major bottle neck for project implementation.

Swaziland

Goal: The goal of the SIAPS Program in Swaziland is to ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes for HIV/TB care and treatment.

Overall Quarter Progress

The introduction of the HIV Test and Start Initiative by the National AIDS Program (SNAP) has meant that a significant amount of attention is being given to ensuring product availability for HIV diagnosis and treatment. The demand for commodities has seen an increase over the past six months, further putting pressure on the supply chain system. SIAPS has worked closely with local stakeholders to ensure commodity security for ARVs and laboratory diagnostic commodities. The success of the test and start and also retention of patients to care relies on an uninterrupted availability of HIV diagnosis and monitoring supplies and ARVs.

During this quarter, SIAPS actively monitored the stock levels of tracer ARVs and laboratory commodities. There was no stock-out of these commodities reported at central and facility levels. The laboratory has maintained a stock level of rapid HIV diagnostic kits of four to six months through the national pipeline. The stock of tenofovir + lamivudine + efavirenz adult combination ARV was received from USAID's Procurement and Supply Management Project. This stock would add to the national pipeline for the implementation of test and start.

Fiscal constraints continue to threaten MOH's efforts to achieve commodity security. Certain essential medicines were stocked out at facilities in this reporting period. There was a national shortage of isoniazid 300 mg tablets, which affects isoniazid prophylaxis therapy. Fewer patients would be enrolled in the program against the target. A shortage of co-trimoxazole tablets was also reported at certain facilities; SIAPS facilitated delivery of stock from another warehouse which had sufficient quantities to cover the gap while bottlenecks in the purchasing of these drugs were addressed.

SIAPS is actively involved in various initiatives to promote rational medicines use (RMU) and patient safety. Ensuring rational use is part of achieving efficiency in the use of limited public health sector resources. SIAPS is currently engaged in the development of a national antimicrobial resistance (AMR) containment strategic plan. This will guide the government and private sector in reducing the use of antimicrobials in human and animal health. The task team, under the Office of the Chief Pharmacist (OCP), has drafted the strategic plan, which is currently under review to be finalized at the end of April. The final document will be presented by the Minister of Health at the World Health Assembly in May.

With the Medicines and Related Substances Control Act enacted into law, the process toward establishing a medicines regulatory authority (MRA) is currently underway. Various sub-committees focusing on key functions of the MRA have been established and continue to meet to chart the way forward. SIAPS is also supporting the end-term evaluation of the Pharmaceutical Strategic Plan (SPSP) 2012–2016. The review is expected to guide the development of the next strategic plan for the pharmaceutical sector.

Objective 1: Strengthen Governance in the Pharmaceutical Sector

SIAPS continued to support the OCP in the functioning of two committees that facilitate improved medicines availability, pharmaceutical service delivery, and safety and treatment adherence for patients on ARVs, anti-TB and antimalarial medicines, and FP commodities. The support included:

- The finalization and gazetting of the guidelines and policy documents developed by the pharmaceutical importation and exportation committee. These documents have been uploaded onto the MOH website. SIAPS also facilitated endorsement of the guidelines by the Swaziland Revenue Authority for collaboration in strengthening importation procedures. The next steps include designation of ports of entry for pharmaceuticals and limiting of importers of pharmaceuticals to those who meet minimum requirements established by the MOH.

- Supporting the pharmaceutical recruitment and training committee in maintaining minimum standards for retail pharmacies and pharmacy personnel and minimum quality standards for pharmacy training programs to ensure that services offered to people living with HIV are provided by competent personnel who can also ensure robust supply chain management. This included supporting four meetings for this committee, two of which were with the Swaziland Higher Education Council. SIAPS also supported the development and advertisement of a notice on the registration of retail pharmacies to support implementation of the Medicines and Related Substances Control Act of 2016 that establishes the MRA. The next step is to conduct a reassessment of training institutions to determine the status of compliance with pharmacy training quality standards.

The task team to lead the end-term evaluation of the SPSP 2012-2016 has been formally appointed by the principal secretary. SIAPS supported and participated in the first meeting of the task team which drafted the action plan for the SPSP evaluation. SIAPS is the secretariat of this task team working directly with the chief pharmacist. The end-term evaluation started on March 28 and will be completed next quarter.

Constraints to progress

- Activities scheduled for the National Essential Medicines Committee and the National Quantification Committee were delayed to the next quarter due to conflicting priorities at the Central Medical Stores (CMS), including tender adjudication, warehouse relocation, and annual stock-taking exercises.

Objective 2: Increase capacity for pharmaceutical supply management and services

SIAPS has continued to provide support to ART sites to improve pharmaceutical service through supportive supervision on inventory management, good dispensing practices, counseling patients

on ARV/TB treatment, and monitoring ADRs to improve adherence of patients to treatment. In the review period, SIAPS has provided supportive supervision to 10 out of the 16 target health facilities. These are Raleigh Fitkin Memorial (RFM) Hospital, National TB Hospital, AIDS Healthcare Foundation (AHF)–Lamvelase Clinic, Mankayane Government Hospital, Mbabane Government Hospital, Piggs Peak Government Hospital, Dvokolwako Health Centre, Mkhuzweni Health Centre, Lubombo Government Hospital, and Baylor Centre of Excellence.

During the routine supportive supervision, 19 pharmacy personnel (8 pharmacists and 11 pharmacy technicians) were mentored on pharmaceutical and supply chain management of HIV/TB. There was general improvement in the performance of the health facilities visited. Areas of improvement included recording transactions (receipts and issues) on stock cards, monthly physical stock count, and monthly consumptions. Those health facilities that were still not recording monthly consumptions were mentored on the importance of recording this information. There was a stock out of co-trimoxazole 960 mg tablets in all health facilities visited. However, patients were being given co-trimoxazole 480 mg tablets to ensure that their prophylaxis treatment was not interrupted. Some health facilities were found to still have the challenge of proper labelling of medication dispensed to patients. Mankayane Government Hospital has been supported to implement a quality improvement project to improve labeling of pre-packs as this affects patient adherence to treatment.

Constraints to progress

- Stock-out of essential medicines and personnel shortages at facilities remain a challenge at all ART treatment sites.
- Inadequate storage space at facilities, which makes it difficult to achieve accreditation and improve access.

Objective 3: Address Information Utilization for Pharmaceutical Management Decision Making

The MOH Health Management Information Systems (HMIS) Unit has employed 10 information technology (IT) support officers to support health information tools including RxSolution® and the ART Patient Management Reporting (APMR) System at facilities. SIAPS conducted a workshop for these IT officers to develop their skills on troubleshooting system bugs for APMR, a module of the RxSolution system. The training aimed to address the weaknesses in IT systems support and ensure that new staff in the HMIS unit is adequately skilled to support these tools. Further, the troubleshooting manual developed in the previous quarter was reviewed and finalized by the team. In the next quarter, SIAPS will support the HMIS Unit in developing standard operating procedures (SOPs) for standardization of facility-based support to ensure uniformity and documented troubleshooting steps. The APMR system was designed and limited to manage patients on ART treatment from initiation to follow-up. It is envisaged that the new electronic Client Management Information System (CMIS) currently being piloted around the country will absorb the APMR system, once it has been fully deployed in all health facilities.

Health facilities and warehouses that were visited and provided support on RxSolution during the quarter include RFM Hospital, Pigg's Peak Hospital, Hlathikhulu Hospital, CMS warehouse,

Swaziland Health Laboratory Services warehouse, AHF Lamvelase, Lobamba Clinic. and Dvokolwako Health Centre.

During a site visit to Hlathikhulu Hospital, the use of RxSolution for inventory management was found to be partially implemented. The SIAPS team engaged the pharmacy staff to conduct a physical stock count for all ARV drugs and also update stock cards. Two pharmacy technicians were oriented on RxSolution and the physical count data was captured into RxSolution. In the next quarter, SIAPS will monitor operationalization of the system in processing all inventory management transactions.

The electronic logistics management information system (e-LMIS) remains the primary tool for managing logistics data for ART/TB, SRH, malaria and laboratory. The SIAPS-supported eLMIS (also known as the commodity tracking system, [CTS]) is currently implemented at the CMS, laboratory warehouse, and six laboratory sites. Additional system upgrade modifications have been requested by the MOH, including linkage of the software with other health systems, such as a new warehouse management system (WMS). In the quarter, two meetings were held with CMS management to review integration of the WMS and e-LMIS. It is envisaged that linkage between the two systems will improve data quality, reduce data collection/entry burdens, reduce data duplication, support M&E, and enhance decision making for distribution of commodities. In the next quarter, SIAPS will develop an integration plan for CTS and WMS and will also initiate modifications to accommodate update requests. Additionally, SIAPS shall focus on e-LMIS scale-up at laboratory health sites and conduct onsite trainings on the use of the system for monthly ordering and reporting.

SIAPS also assisted in the development of a Microsoft Access database to pilot the e-LMIS to manage distribution and monitor narcotic drug consumption at central and facility levels. In the next quarter, SIAPS will focus on assisting the OCP to manage narcotics consumption by using the e-LMIS. The system will further be updated to accommodate additional indicator fields and also migration of existing data.

SIAPS developed an SOP for the development of monthly central-level stock status reports. This activity was done in parallel with the development of a standard monthly stock status template for ART, TB, SRH, and malaria commodities. These tools help ensure that stock status information communicated by CMS is not only accurate but in a standard format as well.

Constraints to Progress

- There is minimal stakeholder involvement in the roll-out of the new WMS at the CMS.
- CMIS pilot sites are running the APMR in parallel, which requires additional effort to ensure data quality and continued support of the APMR at these sites. The parallel systems may also result in inconsistent data output.

Objective 4: Improve Pharmaceutical Services to Achieve Desired Health Outcomes

The MOH has been implementing the Test and Start ART treatment approach since the beginning of this fiscal year. There has been an increase in the consumption of first-line ARVs, mainly tenofovir/lamivudine/efavirenz as a result of test and start. SIAPS has been supporting SNAP to ensure availability of ARVs and diagnostic commodities for test and start. In this quarter, SIAPS supported CMS with advocacy efforts for additional funding for ARVs by facilitating the coming together of CMS, SNAP, PEPFAR, OCP, and the National Emergency Response Council of HIV/AIDS to develop a funding advocacy strategy.

SIAPS also supported CMS in developing the Q4 FY 2016/17 supply plan for ARVs, anti-TB medicines, sexual and reproductive health (SRH) commodities, and antimalarials. Additionally, SIAPS supported CMS pharmacists in generating purchase requests by using RxSolution. According to the Q4 supply plans, SZL 105,110,324 was required, however, only SZL 59,150,570 was disbursed by the Ministry of Finance. Adjustments were then made to the supply plans and only key products amounting to the available funds were ordered.

SIAPS facilitated the placing of orders with the USAID procurement mechanism. The first- and second-line ARV orders that had been placed in the last quarter were received in this quarter.

SIAPS facilitated inclusion of ADR monitoring and reporting in the SNAP reporting mechanisms to improve reporting rates. The next steps are to engage a data clerk to assist in capturing the ADR reports to facilitate more efficient decisions regarding patient safety. The national database of ADRs will be referenced when the country embarks on updating the national HIV treatment guidelines in the next quarter.

SIAPS continued its support to the National TB Control Program (NTCP) in the implementation of bedaquiline for the management of multi-drug resistant (MDR) and extensively drug-resistant (XDR) TB patients by contributing to the revision of informed consent SOPs and the monitoring of patient safety. SIAPS participates in the clinical-access program expert-committee meetings for the selection and monitoring of patients on bedaquiline. This committee is also responsible for monitoring key bedaquiline implementation indicators to ensure patient safety and an uninterrupted supply of the medicine. NTCP support also included contributing to the development of the short-course MDR-TB regimen guidelines and training health professionals on these guidelines. The short-course TB regimen seeks to reduce the length of MDR-TB treatment and to use a combination of medicines that are more tolerable, more effective, and less expensive, thus improving RMU and treatment outcomes.

SIAPS is working with various stakeholders to develop the national AMR containment strategic plan to assist PTCs in health facilities implement activities that will reduce AMR. This is being developed by a multi-disciplinary team with representation from academia; government ministries, such as agriculture, national resources, and environmental affairs; and partners such as WHO. In the review period, the committee has had two meetings and two stakeholder consultative meetings to develop a draft of the AMR strategic plan.

Constraints to Progress

- The Q1 FY 2017/18 supply plan updates and the quarterly National Quantification Committee meeting have been delayed to the next quarter due to competing priorities at CMS.

Ukraine

Goal: Ensure availability of affordable quality pharmaceutical products and effective pharmaceutical services to achieve the desired outcomes for HIV and AIDS patients.

Overall Quarter Progress

During the second quarter of PY6, SIAPS/Ukraine has continued to finalize some activities, while others have been put on hold until new funding becomes available because of the lack of progress in revising legislation around framework agreements by the MOET.

Objectives 1 and 2 have been completed per the work plan and deliverables have been finalized; future Objective 2 activities have been put on hold until new funding becomes available.

The new national essential medicines list (EML) (Objective 3) and amendments to decrees on price regulation and reimbursement (Objective 5) have passed the Cabinet of Ministers (COM) and should be published in the next few weeks.

In addition, SIAPS/Ukraine continues to provide technical assistance to the Government of Ukraine on medicines procurement reform and health care financing reform, the National Medicines Policy, State Expert Center restructuring, and the nationwide roll out of the Pharmacovigilance Automated Information System.

Objective 3: Improve pharmaceutical management and governance

Standard operating procedures for the EML Expert Committee were finalized, and public discussion of the EML has been completed. The final draft EML was circulated for coordination and updated to include the comments and suggestions gathered during the public discussion and coordination. The Ministry of Health (MoH) obtained approval of the final draft EML from the Ministry of Economics and Ministry of Finance. The final draft EML was submitted to the COM and approved on March 16. The final approved EML was published on March 25 and will take effect July 1, 2017.

As of December 2016, modules 1–4 had been approved, modules 5 and 6 had been submitted to the MoH but not approved, and modules 7–16 had been developed but not submitted to the MoH. During this quarter, the SEC did not submit any modules to the MoH for approval because of administrative issues.

Partner Contributions

The Renaissance Foundation continues to support the work of the EML Expert Committee as well as the public relations campaign in support of the new EML.

Constraints to Progress

Administrative issues over which SIAPS had no control hampered the submission of the last 10 developed modules of national pharmacovigilance guidelines to the MoH for approval.

Objective 4: Support improvements in national supply chain management

Although a significant amount of advocacy work was done and technical assistance was provided to the Ministry of Economics, the draft of new legislation on framework contracting did not proceed for approval. Because the finalization of the framework contracting module for Prozorro and the development of the curriculum depend on this legislation, these activities were put on hold. The current situation means that changes to legislation and the module for Prozorro will not be finalized before June 2017.

Partner Contributions

The Ministry of Economics is updating the legislation related to framework contracts and has started to develop a module for Prozorro, but the process has been very slow.

Constraints to Progress

Approval of framework contracting legislation was delayed, which delayed further development of the framework contracting module in Prozorro and the training curriculum.

Objective 5: Improve pharmaceutical management and governance

Price regulation was postponed until April 1 to allow time to improve the legislation and address problematic issues around reimbursement. The legislation for reimbursement and price regulation was reviewed and amendments were passed through the COM, including those suggested by SIAPS. The amended decrees were published on March 25.

While the need to support the Health Technology Assessment (HTA) continues, SIAPS/Ukraine has completed all possible activities within the scope of its current budget and work plan. However, HTA roadmap activities are part of the NDP action plan, which is awaiting approval by the COM.

Uzbekistan

Goal: The primary goal of the project is to strengthen the TB control system to address the threat of increased MDR-TB.

Overall Quarter Progress

SIAPS continued to work on strengthening the supply system for anti-TB medicines using the QuanTB early warning system (EWS).

Objective 3: Strengthen the supply system of anti-TB medicines

All 14 regions of the Republic of Uzbekistan use QuanTB, the TB medicine quantification and EWS, to monitor actual versus planed consumption of TB medicines and to avoid TB medicine stock-outs and expiries at the oblast and district TB facility levels.

In 10 oblasts, anti-TB drug use review (DUR) was conducted to promote optimal medication therapy according to the national treatment guidelines and to prevent errors and minimize adverse effects to patients associated with second-line treatment. A total of 914 MDR-TB patient cards were reviewed.

An abstract entitled "A quantification and early warning system, QuanTB, helps to avoid TB medicines stock-outs in Uzbekistan" was submitted to the 48th Union World Conference on Lung Health to be held October 11–14, 2017, in Guadalajara, Mexico.

The National Tuberculosis Program of the Republic of Uzbekistan, with support from SIAPS, conducted a knowledge exchange workshop on how to tackle the MDR-TB burden using QuanTB and the anti-TB DUR.

Partner Contributions

Project Hope supported EWS pilot monitoring visits in four regions of the Republic of Uzbekistan: Navoiy, Bukhara, Kashkadarya, and Khorezm.