

SIAPS Quarterly Report

Project Year 4, Quarter 4

July-September 2015



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SIAPS 

The SIAPS logo features the word "SIAPS" in a bold, green, sans-serif font. To the right of the text is a stylized blue graphic of a person with arms raised in a V-shape, suggesting movement or achievement.

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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
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
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 prophylaxis
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 fourth year, SIAPS works with local counterparts and partners in 23 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 July through September 2015 period.

SELECT PROGRESS TOWARD RESULT AREAS

IR 1. Pharmaceutical sector governance strengthened

The SIAPS approach to improving governance focuses on assisting countries to establish policies and legislation supported by rule of law; organizational structures that are able to exercise appropriate decision making, authority, and oversight; transparent, ethical, 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, which ensure the safety, quality, and effectiveness of medicines by regulating pharmaceutical products, establishments, professionals, and practices. SIAPS provides support to national medicines regulatory authorities to build their technical capacity; 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 **Guinea**, SIAPS is collaborating with international and local partners, including the World Health Organization (WHO), to assist the National Medicines Regulatory Authority (DNPL) to revise the national pharmaceutical law and regulations. In this quarter, SIAPS assisted the national commission tasked by DNPL with drafting the new legislation to prepare the four sections of the bill that address medicines, medical and pharmaceutical devices, microbiology products, veterinary products, and traditional medicines. The draft bill is now ready for review by the law council, Ministry of Health (MOH) directorates, and other stakeholders, and, once revised, will then be presented to the MOH Cabinet.

SIAPS continued to provide technical assistance to the Chief Pharmacist's Office in **Swaziland** to advocate and support the process for enactment of the Medicines and Related Substances Control Bill and the Pharmacy Bill, which will replace the existing legislation that dates back to 1929. The bills were debated and approved by the House of Senate with amendments in the previous quarter. In this reporting period, SIAPS helped the Pharmacy Services Department prepare and support the House of Senate Health Portfolio Committee's meetings over six days to deliberate on the bills and solicit stakeholder input. The next step is for the entire House of Senate to adopt the committee's reports, which have been developed with support from SIAPS.

SIAPS's technical assistance to support provincial (oblast level) procurement authorities in **Ukraine** to implement framework contracts for the public procurement of health products achieved another milestone this quarter when a second province, Dnipropetrovsk Oblast, successfully tendered and awarded its first framework contracts to supply infusions at a contracted value of up to USD \$116,200. A SIAPS-facilitated meeting in July 2015 enabled representatives from Poltava Oblast, who awarded their first framework contracts in the previous quarter, to share their experiences and factors that facilitated success in implementing framework contracts with officials from Dnipropetrovsk Oblast. SIAPS also reiterated the benefits and discussed the operational aspects of framework contracting, which can help obtain better pricing

and reduce opportunities for kickbacks that can occur with multiple, small, and frequent medicine purchases.

SIAPS is also using anticorruption funding to assist the government of **Ukraine** to establish a national essential medicines list (NEML) that will be utilized nationwide as the sole list for public procurement and potentially for reimbursement. When multiple, non-harmonized lists of medicines are available, as is the case currently in Ukraine, and procedures for their use in public procurement are not well described, procurements are vulnerable to duplication, inefficiencies, and even potential conflicts of interests or corruption. The two regulations that provide for the establishment of the NEML committee and regulate the NEML development and adoption process were approved by the MOH and submitted to the Ministry of Justice for review. The NEML committee members can be appointed once the regulations are approved by the Ministry of Justice.

Standards, Guidelines, and Procedures

With SIAPS support, several countries developed, revised, and implemented a diverse set of guidelines, lists, and standard operating procedures (SOPs) in this reporting period that provide the foundation for good governance and better practices in pharmaceutical systems.

A notable achievement of SIAPS technical assistance to strengthen pharmaceutical sector governance in **South Africa** was the development of a guidance document that can be used to prepare or review the terms of reference (TORs) of any committee responsible for making decisions or providing oversight in the sector. SIAPS is now using this document to review the TORs of the NEML committee and the committee responsible for evaluating bids for pharmaceutical and medical product tenders. Also in South Africa, as part of efforts to clarify roles and responsibilities and enhance accountability of personnel, SIAPS helped to develop standardized job descriptions for district pharmacists and provincial heads of pharmaceutical services.

In **Guatemala**, the SIAPS LAC AMI Portfolio helped introduce guidelines and finalize SOPs for supporting pharmaceutical management for malaria in primary health facilities and monitoring the availability of antimalarials used by primary health volunteers. In the **Philippines**, SIAPS worked with the national TB program to finalize and use the SOP for active pharmacovigilance surveillance and the recently developed active cohort event monitoring guidelines to initiate a nine-month multi-drug resistant TB (MDR-TB) treatment regimen study.

Also in this quarter, technical assistance provided by SIAPS to **Bangladesh's** Directorate General of Drug Administration (DGDA) culminated in the launch of the 2015 edition of the Bangladesh National Formulary. In addition to providing key information for prescribing, dispensing, and administration of medicines registered by the DGDA for sale, marketing, and use in Bangladesh, the updated formulary now includes information on registered medicines and pharmaceutical companies in Bangladesh.

Additional good governance tools developed include the following:

- SIAPS helped **South Sudan's** national malaria control program review and finalize guidelines and the training manual for malaria case management.
- The **Dominican Republic** revised and validated therapeutic guidelines and the medicines formulary for primary health facilities with assistance from SIAPS.
- In **Bangladesh**, SIAPS helped develop an SOP for post-marketing surveillance based on the Bangladesh Drug Act and Rules and international standards of practice.
- To promote efficiency, transparency, and accountability in **Mali's** Central Medical Store (PPM), SIAPS helped finalize SOPs and key performance indicators for key pharmaceutical management operations.

Transparency and Accountability

SIAPS worked with officials to develop and launch the Pharmaceutical Leadership and Governance Initiative (PLGI) in response to a request from the Pharmaceutical Services Directorate in **South Africa's** Free State Province for assistance in addressing issues identified in the auditor general's report that impact medicines availability in the public sector. SIAPS adapted the Pharmaceutical Leadership Development Program (PLDP), which the program developed in South Africa, to meet the capacity-building needs identified for pharmacists, particularly with respect to fostering good governance to improve medicine availability; 30 participants, including district and hospital pharmacists, attended the first two-day workshop held in September.

In **Ukraine**, SIAPS is providing technical assistance to help civil society organizations (CSOs) use price referencing and monitoring mechanisms to increase transparency in medicines pricing. The prototype of the web-based price monitoring tool, developed with support from SIAPS, was shared with the All Ukrainian Network of People Living with HIV (the Network) and other stakeholders for testing in this reporting period. The tool is expected to be ready for transfer to end-users in the next quarter.

SIAPS continued work to help **Mali's** Directorate of Pharmacy and Medicine (DPM) increase transparency and participation in the quantification of malaria and family planning commodities. Five CSOs participated in two workshops to update the forecasts of commodity needs and contributed to identifying assumptions and reaching consensus on how the assumptions will be used to calculate the quantities needed, particularly in the absence of data, among other tasks. It is anticipated that this inclusive and transparent process will improve forecasting accuracy and also donor confidence in the quantification process.

Coordination, Partnership, and Advocacy

In the **Philippines**, SIAPS has been assisting the Quezon City Health Department introduce and capacitate Barangay Health Management Councils (BHMCs), which bring together community-based groups, officials, and health providers to improve TB control program management and results in urban-poor settlements (barangays). In this reporting period, SIAPS helped draft implementing rules and regulations to support enactment of the city ordinance that establishes guidelines for setting up a BHMC. In addition, three BHMCs developed community action plans

for 2015-16 with assistance from SIAPS, that focus on ensuring community stakeholder participation, aligning stakeholder objectives, mobilizing funds, enhancing referral, and improving information management at the barangay level. Other work included helping the city's district health officers tasked with supervising the BHMCs prepare their M&E plans for 2015-16.

In **Swaziland**, SIAPS worked with partners to establish initial inter-partner agreements for coordinating support to the national TB control program in the introduction of bedaquiline for treatment of drug-resistant TB. Following a recent outbreak of cholera in the state of Western Equatoria in **South Sudan**, SIAPS held a series of emergency preparedness meetings with other task force members to plan a response to any subsequent occurrences. The SIAPS LAC AMI program supported coordination meetings with local counterparts and AMI partners to finalize a plan for the introduction of artesunate and mefloquine fixed-dose combinations in **AMI countries**.

Strategic Planning

In the **Democratic Republic of Congo (DRC)**, SIAPS collaborated with partners and stakeholders to develop a strategic plan for the National Medicines Supply System (SNAME), established by the MOH under the National Program for Medicines Supply (PNAM) to support centralized procurement and decentralized distribution through a network of provincial distribution centers. SIAPS worked with partners to conduct a situation analysis of DRC's supply chain and assisted the PNAM to conduct a five-day workshop to formulate the strategic plan. With the strategic plan under development, it's expected that SNAME (which has been dormant for years) and PNAM will now take up their assigned coordinating and stewardship roles in DRC's supply chain system and enhance coordination among MOH technical assistance partners. Once completed, the strategic plan will form part of the DRC's National Health Strategic Plan (2016-2021).

Also in DRC, SIAPS assisted the Faculty of Pharmaceutical Sciences (FOPS) to develop an annual operational plan based on its first-ever five-year strategic plan, which SIAPS helped to finalize in the previous quarter. FOPS has submitted both the strategic and annual plans to the World Bank as a first step (and a World Bank prerequisite) in applying for financial support, the first training institution in DRC to meet this requirement.

In **South Africa**, SIAPS helped the Pharmaceutical Services Directorate in the North West Province facilitate a workshop and consolidate input to draft a strategic plan for pharmaceutical services to address challenges in compliance, finance, medicine supply management, and human resources.

Regulatory Systems Strengthening

During this quarter, SIAPS provided support to the Pharmacy Department in **Mozambique** to review the regulatory framework for medicines registration (including laws, regulations, guidelines, SOPs, and checklists), map the current medicine registration process, and then fully implement the updated guidelines, SOPs, and other tools. In conjunction with these process

improvements, SIAPS assisted the Pharmacy Department to launch the electronic medicines registration system (Pharmadex) that was designed in accordance with the requirements and processes outlined in the finalized guidelines, SOPs, and review tools. To support the new electronic system, improvements were made to the IT and network infrastructure. SIAPS also conducted a series of trainings on Pharmadex for Pharmacy Department staff, including the dossier review modules and system administration. The medicine registration process improvements, in combination with the newly launched electronic system, are expected to reduce application processing times, bring greater transparency to medicine review processes and decisions, and help the Pharmacy Department implement processes in accordance with international standards.

SIAPS also advanced the implementation of Pharmadex in **Namibia**, where technical assistance was provided to the Ministry of Health and Social Services (MoHSS) Namibia Medicines Regulatory Council (NMRC) to transition to the new web-based version of the tool, which is replacing the offline database management system currently in use. An interactive, hands-on training on the use of the tool for receiving and processing medicine registration applications was conducted for newly recruited NMRC staff. Additionally, progress toward the implementation of Pharmadex was made in **Ethiopia** and **Bangladesh** this quarter, with SIAPS continuing to support optimization of each country's regulatory processes and tools and development of software in line with their country-specific requirements.

In **DRC**, SIAPS supported the national drug regulatory authority (DRA) to install and launch new product registration software, SIGIP-ARP (Integrated System of Computerized Management of Regulatory Process in a Drug Regulatory Authority), from the Burkina Faso DRA. SIAPS provided technical and financial assistance for a training workshop on the system for 25 participants from the national DRA, which was conducted by two experts from Burkina Faso's MOH.

SIAPS provided technical assistance in post-marketing quality surveillance of medicines in four countries during the quarter. In **Bangladesh**, SIAPS developed SOPs on inspections, including sampling for quality control testing, based on the Bangladesh Drug Act and Rules and international standard of practice. A workshop on the SOPs was conducted in September for 75 DGDA officials, including field inspectors and 15 officers from the National Control Laboratory, which also provided an opportunity for participants to exchange ideas, discuss challenges, and propose solutions to senior management. The DGDA's web portal, developed with SIAPS assistance, will serve as a tool for the DGDA field inspectors to provide reports, including submission of sample collection forms to the testing laboratory. SIAPS' on-going support for quality surveillance at both central and site levels in **Namibia** resulted in the NMRC issuing three circulars to recall poor-quality products from the market this quarter, including two batches of co-trimoxazole tablets used in the prophylaxis of opportunistic infections in HIV, and four batches of other essential medicines. In addition, assistance from SIAPS contributed to the preparation and submission of two product-quality defect reports to the Facility Inspection Directorate in **Ethiopia** and the inclusion of Ebola commodities in the regular medicine quality control system in **Guinea**.

IR 2. Capacity for pharmaceutical supply management and services increased and enhanced

The 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 35,000 professionals in several areas of pharmaceutical management.

Pre-service training

Dominican Republic completed the first draft of the educational modules for a certified course (diploma) on rational medicines use (RMU). The validation of the final version of the course will take place during the next quarter, and its implementation is scheduled for November 2015.

Mozambique is working toward strengthening adverse drug reactions (ADR) reporting. SIAPS supported the facilitation of the PV training (including logistics and moderation of meeting and group discussions) at the Unilurio University where approximately 30 final year pharmacy students have been trained. Students interning at various assigned community and hospitals are expected to collect reports of ADRs. This activity is expected to improve and build upon the current practices of ADR reporting so it can be continued once students have graduated and left their assigned sites.

Namibia supported the University of Namibia's School of Pharmacy (UNAM-SOP) to develop course materials for the pharmaceutical management module on medicine regulatory affairs for students pursuing a degree in pharmacy. The materials (course outline, learning objectives, instructor's presentation slides and guides and students self-directed learning activities) were drafted and reviewed by a SIAPS technical team. SIAPS has submitted the finalized draft materials to the UNAM-SOP course coordinator for review and inputs.

South Africa worked with the University of Western Cape (UWC) to develop the online RMU course, which is offered as a stand-alone course or as part of a Master's in Public Health. The course includes 11 sessions on RMU and the hope is that the students will transfer their skills and expertise to promote RMU beyond the borders of South Africa. The course was launched on July 26, 2015, and 12 participants from South Africa, Botswana, and Nigeria have enrolled. SIAPS staff members are facilitating 5 of the 11 sessions running until October 2015, and have developed the course material, assessments, and feedback forms. Through this initiative, SIAPS has provided technical assistance to deliver the first distance learning course aimed at strengthening RMU in Africa.

To date, 105 students have registered/enrolled for the pharmacy training program implemented in **Swaziland**. During this year, 16 students will be graduating from the pharmacy training program. Eight students from the first cohort will graduate with Diploma in Pharmacy (two males and six females), and eight students will graduate with a Certificate in Pharmacy (four

males and four females). This brings the total number of graduates with a Certificate in Pharmacy to 23.

In-service Training

Through the end of September 2015, 34 in-service health professional training curricula from 10 countries have been developed or revised with SIAPS assistance.

Burundi organized a series of trainings for 242 health care providers working on malaria diagnosis, entomological surveillance, pharmacovigilance, inventory management, and malaria case management. In this quarter, SIAPS assisted seven districts in the provinces of Cankuzo, Rutana, and Muyinga to develop post-training action plans aiming to ensure that knowledge and competence acquired through these trainings are used to correctly diagnose and treat malaria cases. These seven health districts are among the 28 health districts in Burundi with the highest malaria morbidity and mortality rates.

Cameroon provided training to 28 regional warehouses stock keepers of the Center, Littoral, and North West regions. Training materials used to train storekeepers and supervisors of the Central Medical Stores (CENAME) last quarter were adapted to each of the regional warehouses. Trainings were conducted in-situ and facilitated by the regional advisors of each region, and the administrator or the pharmacist of the regional warehouse. Aspects covered during the training included inventory management, stock management procedures, internal supervision, and practical exercises.

To provide support to the malaria disease program (PNLP), **SIAPS DRC** supported the PNLDP to conduct training for 48 health care workers (42 males and 6 females) on malaria prevention, diagnosis, and case management, including quantification and pharmacovigilance. Since January 2015, 884 health workers have been trained according to recent recommendations of the National Malaria Control Program.

Ethiopia organized a total of 16 different training events—these addressed standard operating procedures (8), APTS (4), ART (2), DTCs (1), and RMNCH (1). The trainings were organized as both onsite and training of trainers (TOT), and were attended by 654 professionals, of which 40% were females. Specifically, TOT on APTS was provided for 38 professionals (21 males and 17 females) from Addis Ababa region health offices and health centers. The trainees are expected to fulfill the facility and HR requirement for APTS implementation as well as provide onsite training with support from USAID/SIAPS. Additionally, onsite APTS trainings were given to 178 participants (managers and pharmacy staff and finance staff) from seven hospitals in Tigray and one hospital in the Southern Nations, Nationalities, and Peoples' Region.

Today, the Supply Chain Management Leadership Development Program (SCMLDP) has been fully institutionalized in **Lesotho**. As proof of country ownership, SCMLDP has transitioned to the Ministry of Health (MOH) Supply Chain Coordinating Unit (SCCU) that fully funds the trainings. During this quarter SIAPS Lesotho delivered three SCMLDP in-service training workshops to 113 health care workers (23 males and 89 females) from Berea, Leribe, and Mohale's Hoek. Furthermore, training participants formed clusters of two to four facilities that

worked together to complete the action plans that they developed during the workshops. To ensure the successful implementation of SCMLDP, the SCCU will support and supervise the District Health Management Teams (DHMTs) that will continue to monitor the implementation of the SCMLDP plans. So far, the facilities are making good progress in completing their action plans. By the end of this quarter, 63 percent of trainees have successfully implemented their post-training action plans.

Philippines provided training on the Practical Guide for the Management of Pharmaceuticals and Health Related Commodities (PGMP) to 119 Programmatic Management of Drug Resistant TB (PMDT) staff members (71 females and 48 males). The training focused on management of second-line TB medicines, including minimizing wastage from product expiry and proper waste disposal. Training results showed that average participant scores increased from 70% in the pretest to 89% in the post-test. Post-training action plans that include steps in improving inventory management, storage, requisition, and rational use, were also developed by participants to be implemented in their facilities. These plans were shared and coordinated with their respective managers for monitoring, supervision, and follow-up. Additionally, the 119 PMDT staff members were also coached in the accurate completion of the PMDT drug supply management report.

South Africa co-facilitated the second RMU Winter School course in collaboration with UWC School of Pharmacy and Boston University School of Public Health (BU SPH). The class consisted of 17 pharmacists and medical professionals working in several countries (Angola, Lesotho, Malawi, Mozambique, and South Africa). After two years of SIAPS support in facilitating the RMU course, it is anticipated that UWC staff will facilitate the course independently from 2016 on.

South Sudan worked with the state malaria coordinator for Central Equatorial State (CES) to develop a training plan and budget for malaria case management training for in-service health workers in CES. The training was held in two separate 5-day sessions. A total of 69 people (37 males and 32 females) were trained. SIAPS also worked with the state coordinator for CES to review his training plan for in-service health workers in CES. This included review of the timetable, trainers to facilitate the training, and the training materials needed.

Supportive supervision and mentoring

Lesotho conducted 71 supportive supervision and mentoring visits to health facilities in all 10 districts of Lesotho. During these supportive supervision and mentoring visits, 133 health care workers (19 males and 114 females) were mentored in inventory management and in strengthening the Pharmaceutical Management Information System (PMIS) using both the SCMLDP cluster system (participants from two to four facilities join together to complete the action plans that they developed during the SCMLDP workshops) and health facility visit approaches.

Mali provided technical assistance to the Direction Régionale de la Santé (DRS) to conduct supervision and coaching visits for eight districts— six in Bamako, one in Segou (Tominian), and one in Mopti (Bandiagara). Coaching visits showed that 40% of 171 stock managers trained

in previous trainings sessions successfully completed their post-training action plans. Efforts should continue to ensure that 71% of trainees will eventually complete their post training action plans.

Swaziland SIAPS supported the MOH to conduct supportive supervisions at 47 health facilities. This activity has been largely transitioned to the MOH while SIAPS provided TA and logistical support. Cumulatively this year, 100% of SIAPS-supported regions have a documented supportive supervision visits to ART sites. In general, all facilities were found to be using standardized ordering, reporting, and inventory management tools. Most facilities visited were reported to have over 90% of the tracer medicines available.

In **West Africa**, a team composed by SIAPS regional Project Director and two staff from the National AIDS Control Program (pharmacist and IT specialist) visited five pilot sites to conduct supportive supervision and to assess the quality of data recorded in the electronic dispensing tool (EDT). Two indicators—concordance between EDT record and prescription and concordance between stock in EDT and physical count—have been calculated and compared with previous values collected during past supervisions. Results showed that all the five ART sites have reached 100% of concordance between EDT record and prescriptions after the first supervision visit. However, none of them has reached 100% of concordance between stock in EDT and physical count.

Institutional Capacity Building

After a series of activities carried out to support the establishment of a database for registered and authorized medicines, **SIAPS DRC** supported the DPM to install and set the registration software SIGIP-ARP (Integrated System of Computerized Management of regulatory process within a Drug Regulatory Authority). Given that the SIGIP-ARP software was provided through the Burkina Faso DRA, two experts from the Burkina Faso MOH provided training to 25 staff members from DRC DRA (15 males and 10 females). Technical and financial support for the training was provided by SIAPS.

Mali supported a total of 15 local institutions and organizations (DPM, PPM, PNL, DRS, and health districts) to providing training or technical assistance in pharmaceutical management. Trainings sessions were conducted in six health districts, to strengthen the capacity of stock managers of 142 health facilities. In total, 285 (228 males and 57 females) stock managers were trained in Bamako and in the community health centers (centres de santé communautaire of the following five districts (Djenne, Bougouni, Bafoulabe, Baraoueli, and Banamba). The trainings focused on pharmaceutical management tools, such as stocks cards and logistic reporting tools, including requisition forms and how to calculate commodities needs as included in the LMIs SOPs developed in 2012 and adopted in 2013.

Building in the capacity of **South Africa** district and provincial teams currently engaged in sustaining quality improvement initiatives implemented as part of the Leadership Development Program (LDP), 27 health care professionals from the Khayelitsha Eastern Sub-structure (KESS) in the Western Cape (WC) are close to completing the program. During this quarter, the third and final workshop and coaching visits were conducted to assist teams in reviewing progress towards

achieving their measurable results. The participants are implementing quality improvement projects in 10 health facilities in the sub-structure.

Tajikistan developed training curriculum and organized trainings on LMIS for the staff of district TB facilities responsible for TB pharmaceutical management. After the training materials were developed, the national trainers were trained on both the content and methodology of trainings. Three trainings were organized where 38 participants from 18 district TB facilities were trained by the national trainers. During these trainings, 12 participants from 6 districts (Rudaki, Vahdat, Hisor, Shahrinaw, Tursunzoda, and Faizobod) were trained on use of automated tool to monitor and manage LMIS reporting in electronic system that was developed by SIAPS. The tool will be piloted in these districts.

Tools for capacity building

From August 17 to 27, **Bangladesh** organized an in-country international training for 16 Ministry of Health and Family Welfare (MOHFW) officials on procurement of goods and services. The training was facilitated by SETYM International, Canada, in Cox's Bazar. SIAPS developed and printed the standard and uniform inventory management tools including stock register, issue voucher, indent and issue voucher, bin-card, among others. Additionally, SIAPS trained 306 (280 males and 26 females) district, sub-district, and union health store officials from selected districts.

To ensure continuous patient information recording at the health facilities and generation of various reports for decision making, computers were distributed to four health facilities in **Ethiopia's** Amhara region. Onsite training was provided to 22 pharmacy professionals and data clerks. Additionally, four health facilities started using the electronic dispensing tool (EDT) and were given the necessary onsite training to implement the tool. Because of the use and implementation of EDT, during this quarter, 143 medication errors in ART pharmacy were identified by Felegehiwot hospital, Bahirdar health center, Finoteselam hospital, and Debremarkos referral hospital.

Following the training and the User Acceptance Testing (UAT) of the LMIS dashboard (OSPSANTE), **Mali** and the DRS have conducted coaching and mentoring activities in 50 health facilities to ensure logistic data entry in the OSPSANTE tool. These capacity building activities improved the quality of LMIS SOPs implementation and strengthened the capacity of dashboard users in the field who report logistic data to the higher levels.

To facilitate the nationwide rollout of the Medicines Management Module (MMM) in **Ukraine**, as well as to train the users on use of data analyzes functionality of e-TB Manager (the dashboard), three two-day trainings were conducted for the oblast level specialists (regional administrators of the system). A total of 47 people were trained who are expected to oversee/manage the further implementation of the MMM.

Uzbekistan conducted a training on the use of QuanTB for representatives of seven oblasts and three staff members of Project HOPE. Since January 2015, an information management system for quantification and early warning with the use of QuanTB has being piloted in three regions

(Samarkand, Khorezm, and Fergana oblasts) and Tashkent City, which is managed and coordinated by the central level (National TB institute and Republican TB center). The system enabled taking remedial actions at the district levels to avoid stock-outs or surplus leading to losses due to expiry of second-line drugs. Countrywide rollout of the system is expected to start in October 2015. The system will be managed by the NTP and its implementation in four regions of Uzbekistan will be supported by Project Hope.

IR 3. Utilization of information for decision-making increased

SIAPS's approach to management information systems is to harmonize and/or integrate the collection and presentation of accurate, quality pharmaceutical and other commodities data, processed in a timely and consistent manner, to assist decision makers and health workers at all levels of a country's health system in making evidence-based decisions, to manage health and laboratory commodities and pharmaceutical services, and to measure, monitor, and evaluate progress. SIAPS's 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's pharmaceutical management information tools, such as RxSolution, Pharmadex, e-TB Manager, QuanTB, OSP-Sante, OSPSIDA, EDT, and the PV Data Collection and Analysis Tool (DCAT), support both product and patient information. The demand for these tools in SIAPS and non-SIAPS countries keeps growing, and SIAPS works with various partners to expand the use of these tools.

Data Utilization

In South Africa, the analysis of RxSolution inventory and usage data in 13 sites in the Free State showed gaps in inventory management that were discussed with departmental officials in an effort to improve management and availability of pharmaceuticals.

In September 2015, SIAPS helped the Uzbek MOH successfully complete a nationwide roll-out of QuanTB, a tool that serves as an electronic forecasting, quantification, and early warning tool. It is designed to improve procurement processes, ordering, and planning for TB treatment. By completing this roll-out, Uzbekistan distinguishes itself in the former Soviet space by implementing QuanTB at the regional level.

Also with the use of QuanTB, SIAPS continues providing support in maintaining an early-warning TB medicines supply system in Tajikistan. The system allows addressing challenges in supply planning that result in stock-outs and overstock of TB medicines.

In Mali, the logistic data reporting rate improved after the installation of the web-based dashboard OSPSANTE. The percentage of surveyed health facilities that completed and submitted an LMIS report for the most recent reporting period increased from 67% to 87%.

During this quarter, SIAPS Mali supported the PNLIP to conduct the second EUV survey of this

current program year. This EUV was conducted during the rainy season (August 21–September 17, 2015) in 79 health facilities in five of Mali’s eight regions. The data collected during this exercise showed significant progress on the logistic data reporting rate, as well as on the availability of malaria commodities at the lowest level. In fact, 74.36% of facilities surveyed during the EUV submitted stock reports and orders on time.

Data Quality

In Bangladesh, SIAPS continues assessing the quality of reports and contributes to designing supervision plans for poor performing sites monitored with the SDP dashboard module. A follow-up analysis in August 2015 showed that approximately 98% of total sites maintained high data quality standards.

In Ethiopia, EDT helps health facilities prevent medication errors, improve medicine dispensing counseling, and adherence to treatment for ART patients. During the fourth quarter, 143 medication errors were identified by hospitals and health centers, communicated to the prescribers, and corrected.

In Lesotho, SIAPS continues to provide technical assistance to the MOH to improve availability of ARVs, HIV RTKs, and other HIV-related commodities through the implementation of the district-based supportive supervision and mentoring of all health facilities. IR3 indicators show that 100% of health facilities keep complete patient information as per national standards (target: 90%), and 97% use country-appropriate tools for reporting logistic and patient data by district (target: 90%).

In Swaziland, SIAPS conducted logistic data validation and verification to improve the quality of ART LMIS reports submitted by facilities to the Data Management Unit (DMU). This is a continuation from the previous quarter where SIAPS supported the DMU in carrying out a data quality assessment for 45 health facilities.

Information System Design and Collaboration

In Bangladesh, the health information system mapping exercise report was finalized in consultation with stakeholders and submitted to HQ. With the technical assistance of the William Davidson Institute, the SIAPS HIS team analyzed the extent to which evidence-based information can be used in selecting supply chain interventions and recommended a framework to determine which supply chain technical assistance activities will yield a higher impact on supply chain performance.

In response to the current demand to expand the equipment tracking module to a comprehensive asset management system, SIAPS Bangladesh facilitated a field visit by a World Bank team to pilot sites to assess the current status, demonstrate the system’s functionality, and seek input for further improvement.

In DRC, SIAPS, in collaboration with MEASURE Evaluation, conducted a baseline study on malaria case management in selected health facilities in 44 PMI-supported health zones. The

baseline will be used in the future to quantify improvement and estimate the level of support needed for those zones.

The SIAPS team in the Philippines met with the National Tuberculosis Program and key TB partners to introduce and demonstrate the DCAT that will be used in two operations research studies, namely, the nine month regimen and bedaquiline.

In South Africa, SIAPS met with the Aurum Institute to discuss opportunities for rolling out RxSolution in correctional service facilities. It was agreed that SIAPS will train Aurum in conducting RxSolution implementation assessments, installation, and providing support to these facilities.

IR 4. Financing Strategies and Mechanisms Strengthened to Improve Access to Medicines

The SIAPS approach for strengthening financing strategies and mechanisms for medicines focuses primarily on making efficient use of existing financial resources, generating additional funding resources, and tackling key financial barriers to accessing medicines. During this quarter, SIAPS supported the countries by assisting in the development and revision of concept notes for submission to donor agencies and contributing to consultative meetings to draft grant documents to access funds under donor-approved concept notes. In addition, SIAPS promoted the efficient use of financial resources by outlining policy options for the regulation of pharmaceutical prices, finalizing a national financial gap analysis on the procurement of medicines and supplies, and supporting the national adoption of a tool for transparent financial transactions at health facilities.

Mobilizing Additional Financial Resources

SIAPS continued to provide technical assistance to countries in raising additional funds to acquire pharmaceuticals and supplies. In the last quarter of PY4, SIAPS supported **Angola's** National Malaria Control Program (NMCP) to submit two revised concept notes under the Global Fund's new funding model (NFM). In collaboration with the Central Procurement Agency for Medicines and Medical Supplies (Central de Compras de Medicamentos e meios medicos de Angola; CECOMA), SIAPS has been closely involved in the monitoring of stock levels of antimalarial commodities at warehouses. Through this partnership, SIAPS advised the NMCP on their response to comments from the Global Fund on their malaria and health system strengthening concept notes.

In **Burundi**, SIAPS, in collaboration with the USAID-funded Leadership, Management and Governance (LMG) Project, organized a series of four workshops to assist the National Malaria Control Program (Programme National Intégré de Lutte contre le Paludisme; PNILP) in drafting key Global Fund grant documents for an approved malaria concept note under the NFM. The documents developed during the workshops include an implementation plan, a results framework, procurement and stock management plan, an M&E plan, and a detailed budget plan. Participants also provided feedback to inform responses to comments from the Technical Review

Panel on the concept note. Financial resources from the Global Fund mobilized through the grant will enable PNILP to implement malaria activities from 2015 to 2017.

Following the approval of an HIV/TB concept note in **Cameroon**, SIAPS was requested by the CNLS (National AIDS Control Committee), a Global Fund Principal Recipient for HIV, to provide technical assistance in the development of grant making documents. After resubmitting the HIV/TB concept note to the Global Fund in May 2015, CNLS also received notification that the Technical Review Panel cleared the supply chain management sections of the concept note. CNLS is in the process of creating an operational plan to illustrate the activities proposed in Cameroon's Strategic Plan to Scale-Up ART as requested by the Technical Review Panel. In partnership with **Lesotho's** Ministry of Health (MOH) Supply Chain Coordinating Unit (SCCU), SIAPS reviewed and costed quantifications for a Global Fund concept note, which included reagents for CD4, viral load, early infant diagnosis, and full blood count. SIAPS also worked on waivers for the SCCU to procure these reagents during 2016–2017 since current waivers expire in November 2015. To avert an anticipated nationwide stock-out of CD4 reagents, SIAPS assisted SCCU in writing a justification for the release of funds attached to a prior year's Global Fund grant for the procurement of clinical chemistry commodities that have not been used. As SIAPS rounds up its work in Lesotho, a technical hand over plan has been developed in collaboration with the MoH and shared with all key stakeholders.

To support Niger's Intersectoral Committee to Fight HIV and AIDS (CISLS), SIAPS used **West Africa** funds to provide technical guidance on the review of the procurement and supply management (PSM) Global Fund concept note. In August 2014, SIAPS performed a quantification of HIV/AIDS commodities for CISLS and identified priority activities for strengthening pharmaceutical systems in Niger. This quarter, SIAPS, using figures from the recent quantification, reviewed and costed the quantity required of laboratory reagents and consumables for a four year forecast (2015–2018) at the request of CISLS. If approved, the concept note will enable the National Blood Transfusion Center of Niger to access an amount of USD \$4,590,420 budgeted for the procurement of laboratory reagents and consumables over the four year period.

This quarter, the application from the **Ukraine** Center for Disease Control (UCDC) for an additional supply of ARVs through PEPFAR's Emergency Commodity Fund (ECF) was approved with a total value of USD \$10,443,756.05. SIAPS, along with its partners, helped UCDC complete the Emergency Fund toolkit as a requirement for accessing the emergency funding.

Analyzing and Tracking Costs

At the request of **Angola's** National Directorate of Medicines and Medical Equipment (Direcção Nacional de Medicamentos e Equipamentos [DNME]), SIAPS drafted and submitted a guiding document on policy options for regulating the pricing of pharmaceutical products. The document informed discussions on the regulation of pharmaceutical product pricing during a meeting organized by DNME of pharmaceutical importers and distributors. Continued deliberations on pricing policies for pharmaceuticals may lead to policy revisions in Angola, increasing access for patients to more affordable products.

In the **Dominican Republic**, SIAPS presented the results of its analysis of the MOH's financial gap related to the procurement of medicines and supplies to national authorities, USAID officials, and other stakeholders. The technical report, which summarized the key findings from the analysis of the country's medicines usage and figures from the MOH's proposed budget, was distributed this quarter to national counterparts and other interested parties. By illustrating the budgetary gap in the provision of pharmaceuticals and other health commodities, MOH authorities are equipped to lobby for additional resources to be set aside within the national budget for the procurement of pharmaceutical products and supplies.

SIAPS is continuing to expand the implementation and use of Auditable Pharmacy Transaction Services (APTS) in **Ethiopia**. This quarter, APTS was introduced at four new sites, bringing the total number of health facilities using APTS to ensure proper financial and programmatic oversight of medicines usage to 45. As an indicator for medicines availability, the average availability of the selected 15 key medicines in health facilities implementing APTS was found to be 96%. A majority of facilities boasted a medicines availability rate of 100%, while the lowest scoring was 70% among the implementing facilities. Through APTS implementation, eight hospitals in Ethiopia have saved a total of approximately USD \$173,231.75 by reducing expiry of medicines. APTS sites continue to increase revenue from the sale of medicines and display expiry rates below the 2% target set by the Federal Ministry of Health (FMOH). There were 178 finance and pharmacy professionals who received onsite trainings on APTS this quarter. Additionally, SIAPS assisted five health facilities in the Oromia, Harari, and Addis Ababa regions to conduct ABC/VEN analyses. In efforts to promote the sustainability and continued adoption of the APTS intervention, a directive for the indemnity of APTS implementation was drafted and submitted to FMOH for review and action by policy makers during this quarter.

In **South Africa**, SIAPS finalized a concept note to improve the use of RxSolution[®] for financial and inventory management decision making using ABC/VEN analysis. The proposal was provided to the Gauteng Head of Pharmaceutical Services who presented the pilot of the ABC/VEN intervention at the Gauteng Pharmaceutical Services Conference in September. The pilot will be conducted at three health facilities in Gauteng.

Reducing Financial Barriers to Access of Medicines

In collaboration with MSH's Pharmaceuticals and Health Technologies Group, the document, "Management of Medicines Benefit Programs—Adapting Approaches from High Income Countries," was finalized this quarter. The technical overview brief articulating pharmaceutical management considerations within a Universal Health Coverage (UHC) program has been drafted and is undergoing internal review. The brief examines the different pharmaceutical functions within UHC programs and addresses the policies, approaches, and regulatory requirements needed to develop equitable and transparent systems. The brief incorporates a number of recent Medicines Benefit Management (MBM) case studies drawn from low-, middle- and high-income countries, including one based on a recent evaluation of the Ghanaian insurance program, one describing the system in New Zealand, and one based on a prior assessment of the South African MBM system.

IR 5a. Supply Chain Management

SIAPS has continued to ensure the availability of medicines and improved supply chain systems by using a holistic pharmaceutical system strengthening approach. The interventions related to supply management are varied, including human-resource capacity-building, streamlining logistics systems, better distribution plans, warehouse optimization, and establishing supply chain governance and coordination mechanisms. Overall, SIAPS program's technical assistance across countries has shown contributed to an improvement in availability through the reduction of stock outs, on an aggregate level, at warehouses by 35%, and at facilities by 11%, this quarter. Illustrative supply chain management interventions that contributed to country achievements are described in the following paragraphs.

SIAPS **Bangladesh** is working with the MOHFW on institutionalization of the Supply Chain Management Portal (SCMP) and training of key personnel in the Procurement and Logistics Management Cell (PLMC) on using the logistics systems and forms. This is important in ensuring government ownership of logistics and supply systems, thereby establishing sustainability of these systems for the long term. For the first time, DGHS has standardized inventory management forms, with the support of SIAPS—training 306 district, sub-district, and union health storekeepers across the country on the tools. Capacitating logistics and supply chain staff on these inventory management tools and processes will contribute to continued high rates of availability of medicines across the districts. With interventions such as these, Bangladesh has seen an increase in the number of health facilities using standardized checklists to monitor storage conditions, from a baseline of 14% to 88% this past quarter, ensuring safe and quality medicines in stores. SIAPS' work with the DGFP forecasting working group helped the government save money and reduce the procurement quantity for contraceptives—including a revised forecast with a 49 million reduction in oral pills; a 2 million reduction in injectables; and a 100,000 reduction in Implanon; in addition to saving money, more storage space was made available in DGFP stores. The SIAPS team also helped mitigate a potential stock-out of cycloserine for MDR-TB treatment. Through QuanTB, the team was able to identify the gap in stock and inform the NTP, Global Fund, and USAID, while diverting and reallocating stock to the facilities that were in need. Interventions and responses such as these have led to stability in availability of TB medicines, holding the stock-out rate of TB medicines in facilities at 29% across the country.

In **Lesotho**, SIAPS worked on transitioning the Supply Chain Management Leadership Development Program (SCMLDP) to the MOH'S Supply Chain Coordination Unit (SCCU). The SCMLDP has established mentorship and supportive supervision visits throughout the country, ensuring that accurate data is available to make appropriate supply chain decisions. This intervention has continued to foster improvements in availability of medicines this quarter, where there were no stock-outs of HIV RTKs across all 18 laboratories, and only 3% of health facilities experienced stock-outs of ARVs for more than three days, below the quarterly target of 10%. During this quarter, three laboratory stock status meetings were held to discuss and target any bottlenecks in the supply chain for laboratory commodities. SIAPS worked with the NDSO and the SCCU to transition the development of the monthly stock status reports for laboratory

products. The development of these regular reports provides the information needed to ensure effective supply planning and significantly contributes to complete availability of HIV RTKs.

In **Cameroon**, SIAPS is using the pharmaceutical systems strengthening approach to increase availability of medicines. The team has decentralized support to the regions, allowing for more focused assistance to each region and taking proactive steps to avoid stock-outs. For example, SIAPS trained ART clinic managers and regional HIV coordinators to calculate minimum and maximum stock levels in a standardized way. This has allowed the staff to adequately plan the amount of stock needed for each facility. The SIAPS team also conducted supportive supervision visits to 104 sites, training storekeepers and assistants at regional warehouses on inventory management and storage practices. Given these approaches, the percentage of facilities that had ARV stock-outs decreased from 37% to 34.6% in the span of one quarter and is a significant improvement from the 94% stock-out rate observed at the beginning of the year. Furthermore, storage conditions have improved, with a rate increase from 67% to 100% of regional warehouses complying with good storage practices checklists. Inventory management skills have also improved, with the percentage of stock records matching physical counts increasing from 69% to 81.5%. The SIAPS team in Cameroon is also working to improve transparency among the Quantification and Stock Monitoring Committee, from which they have decided to reduce the number of technical team members involved in the monthly review of stock status—comparing them among a set of indicators. Later, the stock status results will be shared with all members of the quantification committee and partners to discuss and analyze.

Mali SIAPS supported the National Malaria Control Program (NMCP) to develop distribution plans for malaria commodities. SIAPS also worked with the central medical store (PPM) to finalize and implement five new SOPs on pharmaceutical supply chain management. This was accompanied by SIAPS supporting 15 local institutions to train health workers on the LMIS SOPs and managing stock. The team supported the NMCP to develop a PPMRm and PPMRc, recommending improvements to procurement, replenishments plans, and inventory management. The reports also led the MOH to organize workshops in two regions to relocate commodities to avoid stock-outs. Given these activities, the last EUV report showed significant improvements in the availability of malaria medicines, with 97.5% of health facilities having at least one presentation of artemether-lumefantrine (AL) tablets, and 59% of all health facilities had the six presentations of the product. At warehouses, the stock-out rate decreased from 31% last quarter to 28% for tracer medicines.

In the **DRC**, SIAPS, in conjunction with partners, helped develop the strategic plan for the country's central medical store, *Système National d'Approvisionnement en Médicaments Essentiels* (SNAME). SNAME will play a coordinating role, under the National Program for Medicine Supply (PNAM) to strengthen the supply chain system in DRC through advocacy and stewardship among partners. SIAPS facilitated a workshop to finalize the National Strategic Plan in terms of supply chain interventions and objectives. As the country is striving toward an improved supply system, SIAPS DRC also supported the national malaria program (PNLP) on trainings for quantification, while also training MOH staff on conducting quantification of the 13 life-saving commodities recommended by the UNCoLSC for women and children. Furthermore, as commodity tracking and data recording have gotten better with the alert system, MOH was able to redistribute nearly 13 million male condoms (out of over 19 million) to various facilities.

This redistribution has avoided wastage and stock-out. The team also conducted supervisory visits to health care workers, capacitating them on stock management and reporting tools. Through these visits and trainings, DRC was able to find an overstock of medicines, allowing for the redistribution to other facilities, preventing wastage and stock-out. Stock-out rates at the warehouse level have decreased this quarter to 38%, compared to 50% in the previous quarter. The capacity building and governance interventions related to supply management have also had an effect on the stock-out rate at the health facilities, bringing the rate down this quarter to 52%, compared to the 100% stock-out rate recorded at baseline of tracer medicines.

IR 5b. Pharmaceutical services improved to achieve desired 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 pharmacovigilance (PV), rational medicine use (RMU), pharmaceutical care, essential medicines lists (EMLs), formularies, standard treatment guidelines (STGs), treatment adherence, drug information and patient education, antimicrobial resistance (AMR) and infection prevention and control (IPC), drug and therapeutics committees, and medicine use reviews.

Pharmacovigilance

During this quarter, SIAPS continued to strengthen the PV system in **Bangladesh**. SIAPS and the Adverse Drug Reaction Monitoring (ADRM) Cell members visited six hospitals to discuss the progress and implementation status of adverse event reporting activities in the hospitals. In this quarter, more than 200 adverse drug event (ADE) reports were collected by the Directorate General of Drug Administration (DGDA); the reports were reviewed by the ADRM Cell and sent to the Adverse Drug Reaction Advisory Committee (ADRAC) for evaluation. In September, SIAPS facilitated a technical session for ADRAC members to evaluate the ADE reports and to make recommendations to DGDA. ADRAC also reviewed and validated 145 ADE reports for submission to the WHO database.

SIAPS **Burundi** assisted the Department of Pharmacy, Medicines and Laboratories (DPML) and Programme National Intégré de Lutte contre le Paludisme/National Malaria Control Program (PNILP) to set up a PV database for adverse drug reaction (ADR) reports. The database will serve to capture ADEs submitted to DPML. Currently, six selected sentinel sites have been trained and are able to report the ADEs encountered and manage them. To date, 10 ADE reports have been sent to DPML and captured in the PV database. The next step will be to analyze the submitted cases and provide formal feedback to health care providers that reported the ADEs.

SIAPS **Ethiopia** continued to raise awareness on PV among health providers through face-to-face discussions during this quarter at 12 health facilities (8 in Oromia, 2 in Harari, and 1 each in Dire Dawa and Somali); 180 health care providers participated. SIAPS also distributed various PV tools and documents to health facilities, regional health bureaus (RHBs), and the southern branch of the Food, Medicines and Health Care Administration and Control Authority

(FMHACA). These tools and documents include 465 ADE reporting forms, 900 allergy cards, 400 national PV framework documents, 1,120 newsletters, and 350 preventable adverse event bulletins. In this quarter, 65 pieces of ADE data were entered into the national database, and acknowledgment was provided to 30 ADE reporters. Two product-quality defect reports were prepared and shared with the facility Inspection Directorate. With continuous efforts, the SIAPS Ethiopia indicators show that, during this quarter, the health facilities that reported ADRs increased from 127 to 152, and the number of ADRs received from health facilities increased from 790 to 844, and that 54 ADRs were reviewed.

SIAPS Mozambique supported the Pharmacy Department (PD) to provide on-the-job training to the new PV focal person at the Nampula Pharmacovigilance Unit to strengthen ADR reporting. In addition, approximately 30 final-year pharmacy students at Unilurio University were trained in PV. It is expected that these students will be able to collect ADRs from hospitals and the community when they are assigned as interns, and continue to practice ADR reporting activities after graduation at the end of this year.

SIAPS Namibia supported the Therapeutics Information & Pharmacovigilance Center of the MoHSS to capture data and conduct a preliminary analysis on ADRs for TB medicines. A total of 250 reports were collected from 4 PEPFAR-priority regions (Kavango East and West, Oshana, and Oshikoto) and captured in a data analysis tool. Major ADRs reported were joint pain, dizziness, and headache.

SIAPS Philippines continued to assist the NTP and FDA in PV affairs. During this quarter, four Programmatic Management of Drug Resistant TB (PMDT) treatment centers (two in the National Capital Region and one each in Regions 6 and 10) started implementation of the nine month MDR-TB treatment regimen operations research study. With SIAPS assistance, the NTP recently finalized the Standard Operating Procedures for Active Pharmacovigilance Surveillance. Hence, the Philippines became one of the first countries to develop SOPs for active cohort event monitoring. Implementation of the SOP started July 1, 2015, together with the initiation of the nine month MDR-TB treatment regimen operations research study. So far, one serious adverse event has been identified and reported to the FDA following the implementation of the SOP. Currently, the FDA is reviewing this report and will soon release feedback on the causality analysis to NTP and the research team. All the study sites have been diligently recording adverse events. A quarterly report of all the adverse events will be submitted by the research team to FDA for cohort event monitoring. The SIAPS indicator “percentage of SIAPS-assisted sites that have implemented PV or medicines safety activities” increased from 20% in the previous quarter to 80% in this quarter.

SIAPS South Africa continued to support the NDOH Pharmacovigilance Centre (NPC) to roll out the decentralized PV program in four phases. During this quarter, SIAPS participated in a meeting between the NPC and the Eastern Cape (EC) Province, organized by the NPC, as part of the phase one roll-out plan to introduce the Decentralized Pharmacovigilance Program in EC. During the meeting, partners were delegated with specific roles to support implementation of the phase two roll-out that took place in Port Elizabeth in August 2015. The NPC provided SIAPS with an invitation and training agenda for phase two training of three sub-districts in the EC. However, the NPC did not require further support from SIAPS for these trainings.

Following expansion of the active surveillance system to two new facilities in the last quarter, **SIAPS Swaziland** continued to work with the PV unit to support all seven active surveillance sentinel sites through monthly supportive supervision visits. During this quarter, SIAPS joined the PV unit for 20 supervisory visits. SIAPS also participated in two multidisciplinary team (MDT) meetings in a health facility to discuss the best way to strengthen active surveillance in the HIV and TB units. SIAPS supported the training of two National TB Hospital data clerks on Sentinel Site-based Active Surveillance System for Antiretroviral and Anti-TB (SSASSA) medicines. SIAPS documented PV work and submitted an abstract to the African Society of Pharmacovigilance (ASoP) Conference which will be held November 25-27, 2015, in Accra, Ghana. In FY16Q1, SIAPS will facilitate the drafting and adoption of TORs to establish a National Patient Safety Monitoring Committee (NPSMC) which includes representatives from national partners for HIV and TB, SIAPS, and key programs such as Swaziland National AIDS Program (SNAP), NTP, malaria, and EPI. The NPSMC began as a PV core team, facilitated by SIAPS, with the view that the team would subsequently develop into the NPSMC. **SIAPS Swaziland** also assisted in capturing adverse events from passive surveillance and disseminating the results to all stakeholders through the Medicines Safety Watch Newsletter. SIAPS continues to provide technical assistance in conducting the causality assessment of the adverse events. Since March 2015, over 250 adverse events have been analyzed, of which 97 were analyzed in this reporting quarter. The SIAPS team has also helped finalize job aids to strengthen ADR reporting, which are awaiting MOH endorsement.

During this quarter, **SIAPS Ukraine** continued to support the PV Guideline Working Group to develop new modules for the National PV Guideline. Four of the six modules previously developed were approved in the last quarter; two new modules are now being developed. They are expected to be finalized and sent for adoption, together with the two modules that were not approved last quarter, in December 2015. In addition, SIAPS continued to pilot the Pharmacovigilance Automated Information System (PAIS) in the AIDS centers. In the reporting quarter, 158 cases of adverse reaction/lack of efficacy were entered into the system. Cumulatively over three quarters, 210 cases have been entered into the system.

Rational medicine use

In **Burundi**, clindamycin is used with quinine as a second-line treatment for uncomplicated malaria cases as per the malaria STGs. SIAPS assisted the PNILP to prepare a rapid introduction and scale-up of clindamycin since August 2014. SIAPS assisted PNILP to facilitate a meeting with all health districts teams on September 29, in which PNILP refreshed more than 90 participants on the correct use of clindamycin and distributed the first supply for the coming quarter.

During this quarter, **SIAPS Dominican Republic** completed the first draft of the educational modules for a certified course (diploma) on RMU. During the next quarter, SIAPS will conduct a meeting for the validation of the final version. The implementation of the course is scheduled for November 2015.

During this quarter, SIAPS in the **Democratic Republic of Congo** (DRC) supported the Health Provincial Division (DPS) to conduct medicine use studies in four provinces, and made comparisons between hospitals with and without Drug and Therapeutics Committees (DTCs). By the end of the quarter, the studies were completed in three provinces (Kasai Occidental/Kananga, Sud Kivu/Bukavu, and Katanga/Kolwezi). Seven hospitals participated in the studies, out of which four have DTCs and three do not. The study in the Kasai Oriental/ Mbuji-Mayi Province is not yet finalized. The results will be reported after Kasai Oriental/Mbuji-Mayi Province completes the study. Overall, the SIAPS DRC indicator 5b (percentage of patients surveyed that know correct information about their medications) increased from 64% in Q3 to 88% in Q4. The SIAPS indicator 5c2 shows that the percentage of prescriptions in compliance with the STGs increased from 51% (1,163/2,279) in Q3 to 73% (1,661/2,267) in Q4.

SIAPS **Namibia** provided technical assistance to the MoHSS Division of Pharmaceutical Services (Div:PhSs) in organizing and disseminating key recommendations from M&E activities for pharmaceutical service delivery at the National Annual Pharmacists Forum, attended by 43 participants from 12 of the 14 regions. The forum resolved, among others, that the Div:PhSs should rapidly assess private practitioners' compliance with ART guidelines and estimate the number of patients referred to the public sector who have failed first-line therapy as a result of irrational prescribing and dispensing of ART. SIAPS, therefore, assisted the Div:PhSs to develop a tool for this rapid assessment.

In **South Africa**, the online RMU course that SIAPS developed with the University of Western Cape (UWC) was launched on July 26, 2015. It is offered as a stand-alone course, or as part of the master of public health curriculum. The online course includes 11 sessions aimed at transferring skills and expertise to promote RMU. Already, 12 participants from South Africa, Botswana, and Nigeria have enrolled in the course. To ensure sustainability, support for the course is being transitioned to UWC.

During this quarter, SIAPS **Swaziland** facilitated preliminary steps toward the implementation of bedaquiline for the management of XDR-TB patients. This included coordinating with the Swaziland partners and establishing initial inter-partner agreements for supporting the NTCP in the implementation of bedaquiline use. SIAPS also supported the development of communication by the MOH mandating the reporting on bedaquiline through the SIAPS-supported active surveillance system. In addition, SIAPS supported the NTCP to quantify the needs of bedaquiline in Swaziland based on the ADR reports for patients on second-line TB treatment, and to place an order for bedaquiline with the Global Drug Facility..

Pharmaceutical care

In **Ethiopia**, Limu Genet and Dilla Hospitals started clinical pharmacy services during this quarter. With SIAPS support, about 2,000 copies of the clinical pharmacy service SOP were distributed to 181 hospitals and health-related institutions to support standardization of services. With support provided to eight hospitals in the Amhara Region during the reporting quarter, these hospitals were able to serve 1,151 patients, of which 871 (75.7%) have a documented patient medication profile. Within the reporting period, 275 drug therapy problems were identified and interventions were planned and implemented for 257 (93.5%) of them. Of the

interventions recommended, 252 (98.1%) were fully accepted. To strengthen the patient-centered pharmacy services in this reporting period, 113 ward rounds and 61 morning sessions with the MDT and 9 pharmacy-only morning sessions were conducted.

SIAPS **Ethiopia** conducted the first national assessment of the outcomes of clinical pharmacy services implementation at 43 health facilities in five regions. The assessment revealed that 41 (95.3%) hospitals had started ward-based clinical pharmacy services, of which 20 (48.8%) hospitals had assigned pharmacists to serve in wards on full-time basis. In 23 (56.1%) hospitals, the pharmacists attended both morning sessions and ward rounds; 29 (67.4%) hospitals conducted an awareness creation program on the initiation of clinical pharmacy services for the hospital staff. Job descriptions were found in only 18 (41.9%) of the hospitals. Clinical pharmacy interventions were being documented in 36 (87.8%) hospitals. In addition, results of document reviews showed that 8,257 drug therapy problems were identified and pharmacists were able to intervene in 87% of the observed problems, of which 88% were accepted by the MDT. Another notable finding of the assessment was that 92.9% of the pharmacists noted that the undergraduate curriculum did not adequately prepare them for their work requirements. The overall results of the assessment showed that clinical pharmacy service is being initiated and integrated in a number of hospitals and that this new service is supporting quality of care and positive outcomes.

Essential medicines lists, formularies, and STGs

SIAPS **Angola** continued to participate in drafting the national formulary manual. This document will complement the National Essential Medicines List (NEML) that is still pending approval. Once finalized and disseminated, they will both assist in the promotion of RMU.

During this quarter, SIAPS **Bangladesh** assisted DGDA in the preparation and publication of 10,000 copies of the fourth edition of the Bangladesh National Drug Formulary (BDNF) 2015. This revised version contains up-to-date information on pharmaceutical companies and registered medicines in Bangladesh, which was absent in the third edition published in 2006. The BDNF provides key information necessary for prescribing, dispensing, and administration of medicines, including general guidelines on indications, side effects/adverse events, doses, drug interactions, and contraindications. SIAPS helped DGDA facilitate the launch of the BDNF on September 19, 2015. The honorable minister, state minister, and secretary of the MOHFW, the director for OPHNE/USAID, and more than 400 stakeholders participated in the event. In addition, a copy of the BDNF and a one-page flyer describing an overview of the formulary was provided to all participants.

During this quarter, SIAPS **Namibia** provided technical assistance to the Div:PhSs and the Essential Medicine List Committee in the final review and formatting of the sixth edition of the Nemlist.

In July 2015, SIAPS **South Africa** assisted the Essential Drug Program (EDP) to review four chapters (Central Nervous System, Mental Health Conditions, Respiratory Conditions and Trauma and Emergencies) in the Primary Health Care (PHC) Standard Treatment Guidelines and Essential Medicines List mobile application. The EDP intends to launch the application in November 2015. Suggestions for revisions and corrections were submitted to the Open Medicine

Project which is responsible for development of the smartphone/device application, via the NDOH. In September 2015, SIAPS assisted the EDP in the development of a recruitment strategy for expert review committee members for the standard treatment guidelines and essential medicines list of South Africa.

In **Ukraine**, SIAPS continue to support the regulation for EML and EML expert committee. During this quarter, the final versions of both regulations were approved by the MOH and were submitted for approval to the Ministry of Justice. Methodology of selection of medicines for the NEML is still under development. The expected date of posting of the methodology for public discussion is expected at the end of October.

Treatment adherence

During this quarter, SIAPS **Namibia** held monthly meetings with SIAPS Core Partner, Harvard Pilgrim Health Care, to review the draft protocol on identifying factors contributing to pediatric ART patients' retention in care and switching of treatment.

Drug information and patient education

SIAPS **Ethiopia** continued to support health facilities to provide medicine use-related education to patients. During this quarter, 7 health facilities in Amhara (5), Harari (1) and Tigray (1) regions organized 57 sessions; in these sessions, 3,763 patients attended, of whom 62.1% were female patients. During these health education sessions, 16 topics were covered, including prevention and treatment of malaria, rational use of antimalarial medicines and ARVs, adherence to treatment, breastfeeding and medicine use, and vaccines and pregnancy. SIAPS also technically and financially supported Oromia RHB to strengthen DIS units at 36 hospitals. During the supportive supervision visit, it was found that 75% of the hospitals have functional DIS. However, only half of them provided drug use education to patients at the waiting area.

Antimicrobial resistance and infection prevention and control

With SIAPS **Ethiopia**'s technical assistance, the second edition of the Strategy for the Prevention and Containment of Antimicrobial Resistance for Ethiopia was drafted and shared among a wide range of stakeholders. A workshop was organized to get feedback on the draft and to get key institutions to commit to implementation of the strategy. SIAPS also supported Oromia RHB to advocate for the prevention and containment of AMR by 156 health facilities in the region. The number of DTCs that developed AMR advocacy or containment-related activities was found to be low (only 19% of hospitals and 3% of health centers).

SIAPS **Namibia** is collaborating with the University of Namibia School of Medicine (UNAM-SOM) in preventing AMR and hospital acquired infections (HAI). SIAPS is a member of the project's steering committee and participated in an information exchange visit to the University of Bonn, Germany. The collaboration with UNAM-SOM includes the development of a curriculum for medical students on IPC and HAI, promotion of operational research on AMR, and exchange programs for students between UNAM-SOM and the University of Bonn. During

the visit, SIAPS presented strategies to combat AMR in Namibia. The steering committee developed plans for the implementation of activities on HAI and IPC in Namibia. SIAPS also participated in the fifth annual medical doctors' and dentists' forum of MoHSS to create awareness in those professionals of their roles in monitoring early warning indicators (EWIs) of HIV drug resistance (HIV-DR) and combating AMR. Together with the UNAM-SOM, SIAPS presented the ongoing work on reducing HAI and promoting IPC in Namibia. In addition, SIAPS provided assistance for data analysis and validation for the 2015 study on EWIs of HIV-DR. Queries and anomalies were observed from specific sites regarding the process of documenting data in the EDT, and records of inappropriate single regimens for ART patients were followed up and corrected. Preliminary results of the 2015 HIV-DR EWI study were compiled. The results will be shared after validation by the MoHSS.

In **South Africa**, the National Institute for Communicable Disease, private laboratories, and the Center for Disease Dynamics, Economics, and Policy have developed an AMR map for South Africa depicting the localization and trend of selected resistant bacteria. The AMR Strategy Implementation Plan identified the need to compare trends in antibiotic resistant microorganisms with the consumption of antibiotics. During this quarter, SIAPS worked with EDP to analyze the consumption of specific antibiotics in FY 2012-13 prone to generating resistance. SIAPS used the defined daily dose analysis method to compare antibiotic consumption across provinces. The information generated will serve as a baseline for the surveillance of antibiotic consumption as recommended in the National Antimicrobial Strategy. This baseline information was included in the AMR Strategy Implementation Plan. In addition, following the infection control assessment training in Nkangala district, SIAPS provided the district with 1,500 copies of the hand hygiene poster to support IPC activities.

Drug and therapeutics committees

In July 2015, SIAPS **DRC** supported Province Orientale's DPS to establish five DTCs in the Tshopo District. These DTCs are the first in the Province Orientale and are expected to play a critical role in improving medicine use, including prescribing and dispensing practices.

During this quarter, SIAPS **Mozambique** supported the Hospital Pharmacy Department of MOH to train DTC members and pharmacists in three provincial hospitals (Nampula, Inhambane, and Niassa) on piloting the SOPs and implementing the pharmacy management guidelines, including establishment and management of DTCs and pharmaceutical care for outpatients. The training included lectures on contents of guidelines and SOPs, followed by practical exercises in the hospitals. In total, 24 participants attended the training and pilot activities. Lessons learned from these activities resulted in the improvement of hospital guidelines and SOPs.

In **Swaziland**, 7 of the 11 SIAPS-supported PTCs had at least 1 meeting during the quarter. The key agendas included AMR advocacy or containment-related interventions, i.e., antibiotic prescribing guidelines, and development of TORs for PTCs.

Medicine use review/medicine use evaluation

During this quarter, SIAPS **Bangladesh**, BRAC and other partners conducted a baseline study to help identify the gaps in access to and appropriate use of essential medicines, as well as opportunities and challenges in addressing those gaps. The baseline study also aimed to understand how to strengthen DGDA's regulatory processes and capacity at both the central and district levels, and also how to strengthen the capacity of the pharmacy workforce and existing drug stores in the country's private sector. On September 20, 2015, a workshop was facilitated to present the results of the gap analysis and to make recommendations on how to develop, pilot, and evaluate an accredited drug seller model for Bangladesh, including identifying the challenges that may be encountered; 70 participants from stakeholders attended the workshop.

SIAPS **Ethiopia** conducted prescription indicator studies in four hospitals in West Amhara, Oromia, and Harari regions. The results were presented to DTCs and interventions planned. Among the key findings in one of the hospitals in Oromia region (Haromaya Hospital), the percentage of injections per encounter and percentage of antibiotics per encounter were 41.2% and 65.4%, respectively. SIAPS also supported Woldia General Hospital to finalize the ongoing drug use evaluation (DUE) study on artemether-lumefantrine. To fill the gaps identified by the DUE, an intervention plan was approved by the DTC. One of the interventions was the need to design a patient history registration form tailored to malaria cases. The form obliges prescribers to carefully assess 14 points and then rule out malaria before prescribing an antimalarial.

During this quarter, SIAPS **South Africa** provided technical assistance to the Rational Medicine Utilization Subcommittee of the Gauteng Provincial PTC to review the ABC analysis for the financial year 2014/15 and identify potential inappropriate medicine use. The high usage of risperidone injection was flagged as an area of concern. Subsequently, an analysis of the consumption of psychiatric medicines (defined daily dose analysis) was performed at the provincial level and for Ekurhuleni District. Following the presentation during the Gauteng Provincial PTC meeting on the high quantities of misoprostol ordered by some facilities in Gauteng Province, the Ekurhuleni District pharmacist requested SIAPS assistance to analyze the expenditure on misoprostol across the district's facilities. The findings from the ABC analysis will inform the decisions of the RMU subcommittee of the district PTC. In addition, SIAPS also provided technical assistance to the Western Cape Provincial PTC to finalize the medicine utilization evaluation (MUE) for aspirin. The data collection tool was piloted and some amendments made. The final MUE tool and documents were sent to all primary health care facilities and hospitals in the province. The MUE will be used to create awareness on MUEs and enhance rational prescribing of aspirin. To improve decision making on what topics or areas MUEs should be performed, SIAPS has provided technical assistance to develop a decision matrix for selection of MUEs.

During this quarter in **Ukraine**, two AIDS centers collaborated for the drug utilization review (DUR) in the HIV sector pilot, and the protocol was approved by their ethics committees. Nine data collectors were selected and trained. The collection of the data will begin in October 2015. In addition, as of the end of September, the draft report for the DUR in the TB sector pilot was finalized. By the end of October, the final translated report will be presented in a round table

meeting for the TB dispensary (where the pilot was implemented), the State Expert Center of the MOH, and the Ukrainian Center for Disease Control.

During this quarter, SIAPS **Uzbekistan** supported the National TB Pharmaceutical Management Working Group to analyze the data collected during the DUR program pilot in three TB facilities in Tashkent. The draft report on DUR was developed and it is currently being finalized. SIAPS organized a workshop/round table to which the representatives of all the three DUR pilot TB facilities were invited. The findings of the DUR were presented and discussed during the workshop, and, as a result of the discussions, the improvement plan was elaborated. It includes both educational and operational interventions.

Portfolios and SIAPS IRs in the Year 4, Quarter 4 Report

COUNTRY/PORTFOLIO	IR1	IR2	IR3	IR4	IR5
Africa					
Angola	•	•	•		•
Burundi	•	•	•	•	•
Cameroon	•	•	•	•	
Democratic Republic of Congo	•	•	•	•	•
Ethiopia	•	•	•		•
Guinea	•	•	•		•
Lesotho	•	•	•	•	•
Mali	•	•	•		•
Mozambique	•	•	•		
Namibia	•	•	•	•	•
South Africa	•	•	•	•	•
South Sudan	•	•	•	•	•
Swaziland	•	•	•	•	•
West Africa Regional	•	•	•	•	
Asia and Middle East					
Bangladesh	•	•	•		•
Philippines	•	•	•		•
Europe and Eurasia					
Tajikistan		•			
Turkmenistan		•			
Ukraine	•	•	•	•	•
Uzbekistan	•				
Latin America and the Caribbean					
Dominican Republic	•	•	•	•	•
Amazon Malaria Initiative	•	•	•	•	•
Core Portfolios					
Cross-Bureau	•	•	•	•	•
Malaria Core			•		•
MCH Core	•	•	•		
NTD Core		•			
TB Core	•	•	•		•
Total Portfolios	24	25	21	13	20

CROSS BUREAU

Objective 1: Strengthen pharmaceutical sector governance

For the governance eLearning course, this quarter, SIAPS received and collated the comments from the course reviewers, namely the SIAPS AOR team, USAID staff in Global Health eLearning Center (GHeL), the Office of Health Systems, the Center for Excellence on Democracy, Rights, and Governance, and the technical officer who leads WHO's Good Governance for Medicines (GGM) Program. SIAPS worked with K4H project staff to address the comments and made good progress; the course will be finalized and disseminated in the next quarter.

Also in the area of governance, SIAPS held discussions with staff from the GGM Program to confirm collaborative activities for the final year of the SIAPS Program based on WHO priorities for the GGM Program and input from USAID. Accordingly, SIAPS will continue to contribute to finalizing the revised assessment tool and will also support development of complementary training materials and will participate in regional meetings organized by WHO to re-engage and support countries that are implementing GGM.

SIAPS also responded to a request from the MOH in Lebanon to contribute to the development of a health governance assessment tool for health-policy making in low- and middle-income countries. SIAPS participated in a Delphi method consultation to submit comments on the rigor, relevance, and conceptual organization of the assessment tool's questionnaire and practicality.

Constraints to progress

Finalization of the eLearning course has pending comments from two external reviewers.

Partner contributions

The K4H Project continues to make valuable contributions to the development of the eLearning course.

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

During this quarter, the three facilities participating in the pooled procurement activity, namely, Eglise Evangelique du Cameroon, the Cameroon Baptist Convention (CBC), and the Presbyterian Church in Cameroon were waiting to receive the second consignment of drugs ordered and completed making payments for outstanding orders. As such, the following was achieved with the suppliers this quarter:

- Two suppliers provided the airway bills indicating that the medicines had been shipped and would be in Doula by mid-October
- Two other suppliers are facing challenges delivering commodities on time

Constraints to progress

- The appointment for the replacement of CBC’s representative to the TWG took a long time and affected follow-up and updates from CBC.
- The consultant has been stationed in the US for all this time because EPN has no resources to have staff stationed in Cameroon; this has impacted follow up procedures.
- Vendor-related delays caused delays in project implementation.

Partner contributions

EPN continues to lead this activity for SIAPS.

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

The report entitled Decreasing the Data Burden at the Last Mile to Improve Data Management and Use for Stronger Pharmaceutical Systems was finalized this quarter and published online.

SIAPS completed a working draft of the framework for measurement of pharmaceutical systems strengthening that will guide the selection of indicators based on the definitions, components, and elements identified at the SIAPS partner consultative meeting, validation with seminal publications and frameworks in the literature, and input from staff attending the SIAPS annual meeting. The process for identifying the candidate indicators, checking the availability of existing data from different sources, developing the data collection tools, soliciting stakeholder feedback, and field-testing the metrics and tools was detailed and the contribution of partners defined.

Also in this quarter, SIAPS continued work to develop a peer-reviewed publication that reviews the literature on pharmaceutical systems and strengthening it and proposes definitions and the components deemed critical for tracking progress in system strengthening. The paper was revised on the basis of comments from internal reviewers and has now been sent to external reviewers for comment.

Objective 4: Strengthened financing strategies and approaches

In collaboration with the Pharmaceuticals and Health Technologies Group (formerly the Center for Pharmaceutical Management (CPM), the document entitled Management of Medicines Benefit Programs—Adapting Approaches from High Income Countries was finalized this quarter.

The technical overview brief articulating pharmaceutical management considerations within a universal health coverage (UHC) program has been developed in its first draft and has been submitted for internal review. The brief examines the different pharmaceutical functions within UHC programs and addresses the policies, approaches, and regulatory requirements needed to develop equitable and transparent pharmaceutical systems in support of UHC. The brief will also incorporate recent medicine benefit management (MBM) case studies drawn from low-, middle-,

and high-income countries, including one based on a recent evaluation of the Ghanaian insurance program, one describing the system in New Zealand, and a third based on a prior assessment of the South African MBM system.

Efforts were made this quarter to articulate and finalize the scope of work to hire a consultant to support the development of the UHC e-learning course activity. A consultant was finally identified and she will start reviewing key materials and develop the key learning objectives and a course outline this coming quarter.

Objective 5: Quality of pharmaceutical products and services improved

Progress continues in drafting the guidance for conducting an options analysis for pharmaceutical management systems. The estimated completion date is February 2016 and will include case studies from recent applications of the options analysis approach in different settings.

SIAPS made significant progress on a comprehensive technical review of all the assessment questions in the Regulatory System Assessment Tool developed in 2007. Based on the program's agreed-upon objectives to make the tool technically more practical and focused prior to finalization and publication, the review team determined that a full revision is required. A draft of the revised tool will be completed and distributed for technical review and comment during the next quarter. During this quarter, SIAPS also engaged in a second round of discussions with the regulatory systems team at WHO about coordinating the agencies' respective regulatory tools to improve complementarity and harmonization. Following discussions, WHO shared several reports, as well as their current electronic data collection tool, which SIAPS reviewed in full to identify gaps and opportunities. Discussions with WHO will continue next quarter with the intention of reaching consensus on how the two tools can be used in coordination with one another and harmonized accordingly. NEPAD has also expressed to WHO and SIAPS the need for assistance with the development of an assessment tool and/or methodology specifically tailored to the M&E needs of the African Medicines Regulatory Harmonization (AMRH) Initiative, which will provide an opportunity for SIAPS and WHO to work together to address these harmonization issues. SIAPS had a meeting with NEPAD at the end of the quarter to discuss the status of their needs and plans for collaborating with partners, including SIAPS, WHO, and the World Bank, the outcome of which was an agreement to exchange and review all partners' tools and then reconvene next quarter to brainstorm on the findings from this review.

The how-to manual for the establishment of a STG development and implementation system was finalized, published, and disseminated, including through the e-drug listserv. This 127-page document especially focuses on the needs and realities of resource-constrained settings, draws from the experiences of SIAPS and its predecessors as well as from the global best-practices literature, and provides practical guidance on the various aspects of STG development and management. It includes multiple tools, templates, examples, country and local-level case studies, and hyperlinks to useful resources.

During the quarter, the draft of the document on improving medication adherence through a systems-based approach was further revised based on comments received from four reviewers.

During the quarter, K4H and SIAPS continued to work together to address the comments provided by USAID on the draft GHeL course on AMR (part 2). Revision of part 1, originally published in 2010, also started during the quarter.

The poster Strengthening Local Capacity to Establish or Improve Performance of Drug and Therapeutics Committees in Low- and Middle-Income Countries was finalized for presentation at the International Pharmaceutical Federation (FIP) World Congress of Pharmacy and Pharmaceutical Sciences being held in Düsseldorf, Germany, September 29 to October 3, 2015.

In addition, during the quarter, SIAPS continued to provide guidance and oversight to SIAPS field offices in implementing AMR-related activities.

The technical report entitled Technical Assistance in Implementing a Self-Assessment and Continuous Quality Improvement Approach to Improve Health Facility Infection Prevention and Control in Resource-Limited Settings progressed well this quarter. Inputs were validated and refined by country teams. In addition, final touches were made overall to the report, which is now awaiting a final technical review before beginning the editorial process.

Constraints to progress

Due to the collaboration with partners that is inherent in the Regulatory Systems Assessment Tool activity, SIAPS progress depends on communication and cooperation from WHO and NEPAD/AMRH, which have not been immediately forthcoming, presumably due to competing priorities. To address these issues, SIAPS regularly sends follow-up and reminder emails to demonstrate our commitment to the activities and multipartner collaboration to encourage faster response times.

Partner contributions

K4H continues to help move the GHeL course forward to finalization.

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

To support knowledge sharing through the WHO EMP Information Portal, SIAPS continued financial support to Human Info, the IT contractor responsible for the software platform. The documentation upload process continued to expand, and the collection has further increased from 4,964 to 5,112 documents.

Building on the work from last quarter on the list of USAID-funded documents in the portal, this quarter SIAPS conducted some basic analysis on the findings. For example, we found that the portal has 321 USAID-funded documents (roughly 6.5% of all documents in the portal) as of July 1, 2015. This information was shared with the SIAPS leadership team and USAID AOR.

Also this quarter, SIAPS reviewed and provided substantial input into the portal's user survey before it was finalized. SIAPS also contributed to the dissemination of the survey by sending the link to all SIAPS staff worldwide, partners, and posting it on the SIAPS website and official social media pages. Toward the end of the quarter, WHO shared the draft user survey results, some of which were instrumental in determining how the next phase of portal updates would be structured for the purchase order for the IT contractor for the coming year.

Based on the survey results, SIAPS also plans to dialogue with WHO to explore the potential to undergo a further gap analysis of the portal to delineate the specific technical areas in which the portal may be lacking and identify the best opportunities to address these gaps. SIAPS will also work with WHO to identify opportunities to collaborate on pharmaceutical sector country profiles and potentially linking them to the portal.

The 8th IAS Conference on HIV Pathogenesis, Treatment, and Prevention (IAS 2015) took place July 19-22, 2015, in Vancouver, Canada. SIAPS staff attended to learn from others and to present a poster entitled Addressing the Unmet Need for ART Among Women and Newborns in Cameroon by Strengthening the Supply Chain of PMTCT Commodities.

Cross bureau funds also supported SIAPS staff in presenting at the FIP World Congress this year. Two presentations were entitled Implementation of National Standard Treatment Guidelines Leads to Small Improvements in Prescribing Patterns in Swaziland and Practical Difficulties of Delivering Medicines Where Infrastructure Does Not Exist.

In addition, SIAPS supported the deputy director for Direction de la Pharmacie et du Médicament of Mali to present the SIAPS collaborative work and the country's specific experiences at the WHO Technical Briefing Seminar on Pharmaceutical Policy, which took place in Geneva, Switzerland, September 14–18, 2015.

Partner contributions

WHO continues to contribute to the management and improvement of the WHO EMP Information Portal. This quarter, WHO led the user survey development, incorporated our input, and then disseminated the survey link through their internal networks and through e-drug.

Appended EAC update

Last quarter, SIAPS developed and presented a memorandum of understanding and draft work plan to the leaders of the East African Community (EAC). The plan proposes activities that SIAPS could support in line with EAC's Medicine Regulatory Harmonization (EAC-MRH) pharmacovigilance (PV) agenda. This quarter, SIAPS participated in a regional experts meeting in Dar es Salaam to review and finalize the proposal for the Strengthening and Harmonization of Pharmacovigilance System for Medicines, Health Products, and Technologies proposal. This meeting drew participation from members of the Pharmacovigilance Expert Working Group, WHO, Bill & Melinda Gates Foundation, USAID, and SIAPS. Based on the revised final EAC-PV proposal, SIAPS met with EAC secretariat and revised the joint work plan. The work plan was resubmitted to EAC senior management and is currently under review. SIAPS expects to

have a conference call with EAC leadership next quarter to facilitate further deliberation on the proposed work plan.

Also during the quarter, SIAPS participated in discussions and preparations for the 2015 African Society of Pharmacovigilance Conference to take place on November 25–27, 2015, in Accra, Ghana. The theme of the conference is Pharmacovigilance in Africa: New Methods, New Opportunities, New Challenges.

GLOBAL PROGRAMS

Malaria Core

Goal: Improve the supply, quality, and use of malaria commodities to reduce malaria burden

Overall Quarter Progress

To improve coverage of malaria interventions, SIAPS held a meeting with PMI/Washington to discuss the malaria core work plan and activity implementation in PMI-supported countries. SIAPS contributed to improving metrics and monitoring of malaria commodities by conducting end use verification (EUV) surveys in two countries and submitting stock status of malaria commodities from Angola, Burundi, Ethiopia, Guinea, Kenya, Mali, South Sudan, and Uganda.

Objective 1. Improve Coverage of Malaria Interventions

During this quarter, SIAPS held a meeting with PMI/Washington to discuss activities proposed in the malaria core work plan. The work plan was revised accordingly and submitted to PMI for approval. Also during the quarter, two SIAPS staff members travelled to Ethiopia to document the country's contribution toward reducing malaria morbidity and mortality through systems-strengthening approaches and other interventions. The team interviewed key stakeholders including the Ministry of Health, health workers, community leaders, and non-governmental organizations. Whenever possible, interviews were videotaped for future reference and corresponding qualitative and quantitative data, reports or other materials were collected to support evidence of SIAPS's achievements.

Objective 2. Improve Metrics and Monitoring and Evaluation of Malaria Interventions

To facilitate procurement decisions at PMI, SIAPS aggregated data and reported on stock status of malaria commodities from Angola, Burundi, Ethiopia, Guinea, Kenya, Mali, South Sudan, and Uganda. During the quarter, Angola, Burundi and Ethiopia disseminated their end-use verification findings.

Objective 3. Strengthening Finances Strategies and Mechanisms to Improve Access to Medicines

No activity during this quarter.

NTD Core

Goal: Assure the availability of quality medicines and supplies and effective pharmaceutical services to increase efficiency of neglected tropical diseases (NTD) control and elimination programs

The NTD portfolio is progressing according to schedule. Final preparations have been made to host the NTD supply chain management (SCM) workshop in Addis Ababa in September. The assessment of the Senegal NTD SCM is complete and the report is drafted. Following internal review it will be submitted to USAID for final review.

Objective 2: Support NTD capacity-building initiatives

SIAPS finalized plans to host a NTD SCM workshop to be held in Ethiopia. Invitations have been sent and final logistics for holding the meeting are now being conducted. Preparations have begun for the follow-up workshop to be held in Accra, Ghana in early 2016.

MNCH Core

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

Overall Quarterly Progress

SIAPS/MNCH has been working at both the global and country level to assure the availability of quality medicines and supplies and effective pharmaceutical services to reduce maternal, newborn, and child mortality. On the global front, the portfolio continues to be highly visible in ensuring pharmaceutical management best practices are incorporated at the international level. Almost all of the abstracts that were submitted for oral or poster presentations have been accepted by the Global Maternal and Newborn Health Conference (GMNHC), International Conference on Family Planning (ICFP), and the American Public Health Association conference. Additionally, this quarter, SIAPS was asked to co-facilitate regional workshops on optimal procurement of quality maternal health medicines in Uganda and forecasting in Dakar, following the Reproductive Health Supplies Coalition (RHSC) francophone meeting.

This quarter, SIAPS/MNCH also finalized and disseminated the Intervention Guide for the Management of Childhood Illnesses which is available in electronic format with open access to all the reference documents. The Intervention Guide was also presented in a webinar to SIAPS country teams that have ongoing activities with universities or other training institutions in their countries, as well as disseminated through the CORE group, the Diarrhea and Pneumonia working group of the UN Commission on Life-Saving Commodities (UNCoLSC), and the SIAPS website.

Finally, at the country level, SIAPS/MNCH has been supporting chlorhexidine introduction in Afghanistan and DRC. In Afghanistan, the introduction strategy document is now finalized and awaiting endorsement from the MOPH, and in DRC, SIAPS is coordinating between the UNCoLSC's Chlorhexidine Working Group and with DRC national authorities to facilitate registration of the medicine in country. In Mali, work continues on integration of oxytocin in the vaccine cold chain.

Objective 1. Global Awareness of the Importance of Pharmaceutical Management for MNCH Medicines and Supplies Increased

SIAPS/MNCH remained actively engaged in global partnerships, initiatives, and working groups to ensure that appropriate pharmaceutical management for medicines and supplies is included in the global MNCH agenda. Most of the abstracts that were submitted to the American Public Health Association (APHA), GMNHC, and ICFP were accepted. These included the three abstracts for individual presentations and three abstracts for preformed panels at the GMNHC next quarter. The individual abstracts were related to the pharmacy benefits management assessment in Ghana, the analysis of WHO data for the paper on medicine policy, and the sub-national procurement assessment in Bangladesh. The three panels were related to UNCoLSC work. SIAPS/MNCH staff worked with SIAPS country representatives who will be attending the conferences to plan for the conference and develop presentations and poster presentations.

Additionally, SIAPS also submitted information to the Newborn Survival Map on SIAPS focal countries working on newborn health.

SIAPS/MNCH Principal Technical Advisor continued to work with the RHSC to plan for the Maternal Health Supplies (MHS) Caucus session during the annual membership meeting and the panel on MHS that will be presented during the break-out sessions. To plan for this, SIAPS facilitated a meeting of the Maternal Health Supplies Caucus in August to discuss the agenda for the meeting in Oslo in October.

SIAPS/-MNCH along with SIAPS/-DRC worked with Ecumenical Pharmacy Network (EPN) to provide training on quantification of the 13 priority products for the UNCoLSC for Women and Children to two EPN member organizations in DRC: the Baptist Church in Central Africa (CBCA) and Sois de Sante Primaire En Milieu Rural (SANRU). The trainings were conducted in August.

SIAPS/MNCH remained active in many child health global forums such as the Community Case Management (CCM) Taskforce and the Integrated Community Case Management (iCCM) Financing Task Team (FTT). During this quarter, two meetings of the Supply Chain Management (SCM) subgroup were held and both chaired by a SIAPS/MNCH Principal Technical Advisor. The SCM subgroup's work focused on mapping Procurement and Supply Management (PSM) support to countries, use of SCM data for decision making, and continuing the series of webinars to disseminate best practices in SCM for iCCM. The PSM Mapping exercise is ongoing and key organizations have been targeted for information. Additionally, SIAPS was able to participate in one of two teleconference calls of the iCCM task force presenting the update for the SCM subgroup. As support to the iCCM FTT, SIAPS recreated figures for the French version of the PSM guidance document. The PSM package is currently being reviewed and assessed by country teams and individuals, and will be revised and edited before the end of the year.

Next quarter, a webinar on the SCM for iCCM in the private sector will be conducted by SCM sub group at the end of October or early November 2015. The SCM subgroup will also propose revised SCM indicators for iCCM indicators guide. Finally, the MNCH team will provide assistance to the MSH team in Uganda and the SIAPS/DRC team in supporting the Global Fund grant iCCM implementation.

As a partner to the UN Commission on Life-Saving Commodities (UNCoLSC), USAID asked SIAPS to gather information on reproductive MNCH (RMNCH) programs in five MNCH priority countries—Ghana, Kenya, Mozambique, Nepal, and Rwanda, using a tool developed by the UNCoLSC. This quarter, SIAPS worked with USAID and the RMNCH Strategy and Coordination Team to communicate the results to USAID missions and country ministries of health and to obtain approval to display the results from the data collection.

Finally, the data analysis for the paper on RMNCH policies and practices was completed this quarter. All the data from WHO surveys has been analyzed and additional data were obtained from the RMNCH SCT from the recent landscape synthesis to complete the WHO regulatory and

procurement data survey. Instead of focusing on specific commodities and countries, the paper takes the perspective of presenting a snapshot across countries and selected commodities as there was insufficient data to analyze by country or commodity. A preliminary draft of the review paper was completed and is being circulated for comments and feedback. Next quarter, SIAPS will incorporate comments and finalize the article draft for review by a wider set of co-authors and finalize the article for journal submission as well as prepare the presentation for the GMNHC in October 2015.

Partner Contributions

WHO provided additional funding for this activity (cost-share).

Constraints to Progress

In relation to the countdown WHO paper, challenges were encountered in receiving the cost sharing funding from WHO for this piece of work and so delayed the progress.

Objective 2. Guidance and Tools for Improving Pharmaceutical Management for MNCH Developed and Disseminated

The Intervention Guide for the Management of Childhood Illnesses was finalized this quarter. There are three versions—an electronic version with links to URLs or references, a web-based version with links to URLs, and the source documents that can be disseminated via web distribution, and a CD version with links to URLs and the source documents that can be disseminated via CD.

A webinar on the Intervention Guide was held for SIAPS country teams that have ongoing activities with universities or other training institutions. In some countries, opportunities were identified to disseminate the intervention guide to those institutions as part of the ongoing SIAPS country portfolio work. Also, a draft version of the intervention guidance was extracted from the guide for review by UNICEF HQ to see if it is useful to integrate into the UNICEF's Diagnose-Intervene-Verify-Assess (DIVA) approach; SIAPS is awaiting feedback. Next quarter, SIAPS will disseminate the guide as widely as possible through the CORE group, UNCoLSC Diarrhea and Pneumonia working group, and other mechanisms as well as the SIAPS website. SIAPS will also do targeted follow-up in at least three SIAPS countries and with participants who showed interested at the CORE spring meeting and will continue to follow up with UNICEF HQ to explore the use of the guide or some adapted version of it in the DIVA materials.

The assessment report on managing MNCH medicines under the National Health Insurance Scheme (NHIA) in Ghana was sent to the NHIA in Ghana for feedback and is in the process of being finalized.

This quarter, a concept note and local consultant scope of work (SOW) was finalized with the Kenya HCSM team for conducting the subnational procurement assessment in Kenya. Additionally, generalized versions of the data collection tools were also sent to the team to review and provide feedback. A meeting was held with the HCSM team to discuss timelines, site

selection criteria, and next steps for obtaining approval from the MOH for the assessment. During the meeting, it was decided that three counties will be selected with varying levels of capacity for local procurement, the concept note and SOW will be shared with relevant MOH agencies to obtain approval, and someone will be identified from the MOH itself who is familiar with MNCH or health commodity procurement to handle approval. The representative from the MOH will be on official leave to assist with this assessment and work with the SIAPS/MNCH Technical Advisor. This person is expected to come on board early next quarter.

Partner Contributions

SIAPS Core Partner, Harvard Pilgrim Health Care, contributed significantly to the development of this guide over the life of the program. They developed the draft version with SIAPS review and input, and led the orientation for the field validation. As a result of the validation exercise in Zambia, they proceeded to finalize the guide. SIAPS took responsibility for the final design and editing of the document, which were conducted this quarter by SIAPS and not the partner as they had already completed their role.

Constraints to Progress

There were challenges in finalizing the Intervention Guide. While SIAPS had completed the revisions in March, the research on the rights to disseminate the references took much longer than had been anticipated. As the document was not developed with a budget for paying rights, we limited the references to those that could be disseminated for free. The main challenge this quarter related to the availability of an editor to finalize the document.

Due to competing priorities with the Kenya HCSM project, there have been delays in getting feedback and approval from the country team to the sub-national procurement assessment.

Objective 3. Evidence Base for Effective Strategies to Improve Access to MNCH Pharmaceuticals and Services Increased

This quarter, the SIAPS/MNCH technical support to improve availability of medicines for CCM in Guinea is now being supported with SIAPS/Guinea funds only and will not be reported under the SIAPS/Guinea quarterly report.

During this quarter, SIAPS/DRC team and Maternal and Child Survival Program (MCSP) have held many discussions at headquarters to determine DRC's activities in country and how SIAPS can complement them. In the last meeting held mid-September, it was agreed that SIAPS will evaluate resupply procedures for the community health workers and stock level monitoring to strengthen these processes for the MSCP implementation of iCCM in two new zones. Next quarter, SIAPS will conduct the evaluation and propose improvements as necessary for the MCSP zones.

Finally, SIAPS participated in the following working groups' meetings: the Maternal Health Technical Resource Team, the Supply Chain Technical Resource Team, the chlorhexidine working group, the injectable antibiotics working group, and the diarrhea and pneumonia

working group, which includes the amoxicillin and zinc subgroups. SIAPS provided country support for the UNCoLSC activities in Afghanistan, Angola, Bangladesh, DRC, Ethiopia, Mali, Pakistan, and South Sudan.

SIAPS/MNCH continued to support the Maternal Health Technical Resource Team (MHTRT). SIAPS/MNCH Principal Technical Advisor continued to coordinate MHTRT participation in the RHSC meeting and the GMNH conference. Presentations for both the RHSC meeting and the GMNH conference are in the process of being finalized. SIAPS is also working with the RMNCH SCT to prepare flash drives with key UNCoLSC resources for the RHSC meeting and the GMNHC. SIAPS/MNCH further worked with Concept Foundation and WHO to prepare for the workshop on optimal procurement of maternal health commodities that was conducted in Uganda in September.

As part of the support to the MHTRT, two MCH consultants in collaboration with SIAPS/Mali team are currently working with the MOH and other key stakeholders in Mali to analyze feasible options for oxytocin integration in the Expanded Program on Immunization (EPI) cold chain and develop an action plan to operationalize this integration. An in-country task force composed of representatives from appropriate departments of the MOH, UNICEF, WHO, and other relevant stakeholders was formed to analyze data from the case study on oxytocin integration into the EPI cold chain and discuss feasible options for the integration. The task force proposed a logical framework and a draft implementation plan to integrate oxytocin in the EPI cold chain—these proposals were discussed, amended, and validated in a national stakeholders' workshop which involved representatives from all levels of the national health pyramid (community, district, regional and national levels), civil society, USAID, and non-governmental organizations.

The national stakeholders' workshop agreed on the option to integrate oxytocin into the EPI cold chain at the district and community levels and validated recommendations and the implementation plan that should accompany this integration. SIAPS/MNCH Senior Technical Advisor assisted the consultants with finalizing the Mali trip report and developing the draft of the technical report of the option analysis, which will be finalized next quarter.

This quarter, SIAPS and JSI, in support of the Supply Chain technical resource team (SCTRT), finished the revision of the quantification guidance document for both the English and French versions based on feedback from the commodity Technical Resource Teams and countries that have used the guide. All documents were made available on flash drives that were distributed at both the SECONAF (Sécurité contraceptive en Afrique francophone) meeting and the Uganda workshop. Additionally, SIAPS also played an active role in planning and facilitating the September francophone South-to-South workshop that followed the RHSC SECONAF meeting in Dakar. During this workshop, the SCTRT tools were disseminated.

SIAPS/MNCH along with SIAPS/DRC further worked with two Ecumenical Pharmaceutical Network members in DRC—CBCA and SANRU—to provide training on quantification of the 13 priority products for the UN Commission on Life-Saving Commodities for Women and Children. The first training for CBCA was conducted in August and a workshop is planned to be held with SANRU next quarter.

SIAPS/MNCH senior technical advisors not only participated in the biweekly calls of the chlorhexidine working group (CWG) but also supported in-country introduction strategies for chlorhexidine (CHX). In Afghanistan, SIAPS finalized the CHX introduction strategy and coordinated with CWG to facilitate a study tour to learn about best practices for effective CHX introduction tentatively planned in Nepal for next quarter. The introduction strategy was translated into Dari and Pushto and sent to MOPH for endorsement by the Deputy Minister, Ministry of Public Health (MOPH). SIAPS is further facilitating Afghanistan MOPH participation in the GMNH conference in Mexico.

In DRC, SIAPS Senior Technical Advisor has been coordinating communications between DRC team and the CWG for CHX registration in the country as well as a representative of Kenya Universal Corporation regarding the availability of a donation of CHX gel product from Kenya Universal Corporation to potential countries that may be in need of the product. Finally, SIAPS/MNCH is also working closely with SIAPS/DRC to prepare for the GMNHC as well.

During this quarter, SIAPS moved ahead in developing the protocol to pilot the use of amoxicillin job aids and product presentation in DRC. This is based on the protocol that PATH is using for their pilots in Kenya and Bangladesh. The protocol is being reviewed in-country and the National Center for Pharmacovigilance will be subcontracted to conduct the pilot, which is expected to start in October. The subcontract will be funded by a grant from UNICEF through the diarrhea and pneumonia working group as a cost share to SIAPS program.

Additionally, SIAPS is contributing to a zinc/oral rehydration solution (ORS) lessons learned paper being developed by the zinc and ORS subgroup, through providing material for case studies and the document itself as well as in the phase of review. Next quarter, SIAPS will conduct the amoxicillin job aids validation in DRC, continue to support the ORS-zinc lessons learned document process, support to MOH in DRC to align supply planning and coordinate partner procurements under the Global Fund/iCCM Memorandum of Understanding, and provide inputs to the investment case process for Global Financing Facility in DRC to assure diarrhea and pneumonia treatment are prioritized.

This quarter, SIAPS received an award from Save the Children under the Injectable Antibiotics TRT as a cost sharing initiative to conduct the landscape analysis of antibiotics for newborn sepsis in DRC. This study will inform the implementation of the demonstration sites using the new WHO recommendations for sepsis management as well as its expected expansion. The protocol for the study has been finalized and submitted for ethics committee clearance.

SIAPS continues to participate in the TRT calls—two calls this quarter—and played an active role in collecting comments to incorporate in the newborn sepsis chapter of the revised RMNCH quantification guidelines in light of the recent WHO recommendation to change to a regimen with oral amoxicillin. Next quarter, SIAPS will continue to contribute to the implementation guidelines of the new newborn sepsis management recommendations as well as conduct the data collection in DRC.

Partner Contributions

- UNICEF co-funding for the amoxicillin job aids and product presentation pilot in DRC
- Save the Children co-funding for the newborn sepsis landscape analysis in DRC

Constraints to Progress

MCSP has had some difficulty clarifying their role in DRC and so the complementary role of SIAPS has been hard to define.

TB Core

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

Overall Quarter Progress

New medicines and novel regimens to treat TB must be introduced in an optimal way to protect patients from misuse and minimize the emergence of drug resistance. SIAPS has developed an approach to assist countries to prepare for and start using new medicines and novel regimens in a timely, rational, and sustainable manner.

In September, the first patient started treatment with bedaquiline, which was provided by the USAID bedaquiline donation program in Georgia. First patients are anticipated to start treatment in Swaziland and the Philippines during the next quarter. Stakeholder meetings were conducted in Georgia, Swaziland, and the Philippines.

The SIAPS consultant provided trainings on clinical considerations in Georgia and Swaziland and conducted a webinar, “A Global Update on the Use of Bedaquiline for Programmatic Management of Drug-Resistant Tuberculosis.” Lessons learned from the trainings and webinar will be integrated into future sessions.

SIAPS was invited to participate in the WHO meeting in Geneva to develop a position paper on active TB drug safety management and monitoring. Discussions are ongoing and a final paper with recommendations will be released at the Union conference in December 2015.

In the next quarter, SIAPS staff will focus on the second phase of the approach—execution, providing technical support to priority countries: Georgia, Philippines, and Swaziland as well as KNCV-assigned countries as requested, ensuring they continue to introduce new medicines and novel regimens in a timely manner.

Pre-implementation activities (stakeholder meetings, assessment of TA needs, implementation planning) will commence in Armenia, Kenya, Tanzania, and Uganda. Implementation will follow early in the next calendar year. SIAPS will also provide technical assistance to KNCV with their implementation activities in Bangladesh, DRC, Ukraine, and Uzbekistan. The team will design web pages and launch a website to provide information and showcase our direct assistance to countries introducing new medicines and novel regimens for TB treatment activity.

In Philippines, SIAPS organized a stakeholders meeting with the National TB Program (NTP) and partners to discuss updates of the implementation of the nine month MDR-TB treatment regimen (9MTR) study and pharmacovigilance (PV). In that meeting, SIAPS introduced and demonstrated the PV Data Collection and Analysis Tool (DCAT) as a possible PV database for both the 9MTR, and the bedaquiline studies, and other possible future studies of the NTP. Since the DCAT analytical module has yet to be demonstrated, the NTP has not yet approved the use of DCAT pending complete development of the tool. SIAPS also visited a 9MTR study

facility site and the Lung Center of the Philippines Research Team to gather more information and understand the situation in the facility level. One key challenge in the implementation of the 9MTR study is the slow uptake and enrollment of patients into the study. SIAPS is exploring possible technical assistance approach in increasing patient enrollment. SIAPS had a discussion with Philippines FDA to assist in the revitalization of the national advisory committee for medicine safety. As part of the organization of this committee, SIAPS plans to contract a senior level consultant to work in the initial phase of the advisory committee meetings in doing causality analysis.

Objective 1. Pharmaceutical Governance for TB Strengthened at Global and Country Level

Provide technical leadership to global TB initiatives and donors

SIAPS conducted an analysis for optimization of the Global Drug Facility (GDF) strategic rotating stockpile (SRS) for second-line TB medicines. This support focused on determining how the GDF should use the SRS optimally to reduce lead times and also prevent wastage. The information from this analysis was used to develop a strategic plan for the SRS. SIAPS finalized a paper on new pricing mechanisms (MPM) for the GDF to optimize quotations and payments by countries. The activity aims to ensure that only one price quote for TB medicines is provided to countries. This strategy will help reduce the problem GDF faces of not being able to supply TB medicines in the SRS to countries in the event of a price decrease. This activity has been completed.

Conduct annual workshop at the 46th World Union TB Conference and regional UNION conference on innovations and best practices in pharmaceutical management for TB

Preparations for the TB Union conference have begun. This year, SIAPS proposals were accepted for three full-day workshops and one symposium. SIAPS is also contributing to another symposium organized by MSH. This activity is ongoing.

SIAPS conducted a workshop session “Global Drug Facility as a global mechanism for sustainable access to quality assured MDR-TB medicines” at the Union Asia Pacific Conference in Sydney, Australia, in August 2015. The session was a technical and coordination workshop on access to second-line TB medicines and procurement aspects through GDF mechanism. The workshop introduced key TB quantification issues, early warning systems (EWS), and technical assistance strategies with countries attending the conference. During the conference, SIAPS also agreed on global and country EWS collaboration strategy, reporting requirements, monitoring indicators, and next steps for engaging countries in using QuanTB.

Objective 2. Capacity for TB Pharmaceutical Supply Management and Services Increased and Enhanced

Conduct pharmaceutical management meetings for TB and MDR-TB trainings for NTP managers, WHO, and Stop TB consultants and partners

SIAPS facilitated a technical coordination meeting on TB quantification, EWS, and technical assistance strategy using QuanTB in Geneva. A total of 14 participants (5 male and 9 female) from the Latvian TB Foundation, IRD Pakistan, Centre of Excellence in Rwanda, KNCV Kazakhstan, KNCV Vietnam, and KNCV consultants, Global Fund, and GDF attended the workshop. Funded by Eli Lilly MDR-TB Foundation and managed by KNCV, these organizations agreed to implement QuanTB using SIAPS standardized training materials, reports and indicators in the following countries: Belarus, Afghanistan, Nepal, Rwanda, Lesotho, Kazakhstan, Kyrgyzstan, and Vietnam. Eli Lilly MDR-TB Foundation funded the workshop and provided logistical arrangements.

Develop online training for QuanTB

SIAPS continues to build capacity to strengthen pharmaceutical systems through capacity and skills building of staff from national TB programs to the GDF and Global Fund on quantification, forecasting, and EWSs for TB medicines. SIAPS continues to get requests for capacity building from countries that we do not have funding to support. To address this demand, SIAPS has embarked on developing an on-line training course for QuanTB since this quarter. Preparations are still in the early phases. SIAPS staff met with the e-training experts at MSH to discuss the most appropriate platform for hosting the course that will be able to sustain the course beyond SIAPS. SIAPS chose the LeaderNet platform, developed by MSH, however, there will be more discussion that should confirm the suitability of it for the course content.

The team discussed the material with the e-training experts and developed a general design of the course. The course will be first developed in English and piloted within SIAPS and some external partners like GDF. The next steps are to discuss the course development process and contract a consultant that will be responsible for putting the course materials on the platform.

Objective 3. Improved Use of Information for TB Control Decision Making

Improve and maintain e-TB Manager and QuanTB as system strengthening and early warning tools for TB control

e-TB Manager has been improved with additional features for all the worldwide users. Updated versions have been regularly released and shared with countries currently using the platform. e-TB Manager is currently used in 2,737 sites in 11 countries. Globally, 3,698 active users manage 420,794 TB cases of all forms. The list of countries using the system increased to 11 this quarter after receiving data from Armenia for the first time. The system was deployed in the country around 2011 under the SPS program and was later managed by the NTP with ad hoc support from SIAPS. SIAPS continues providing its support combining SIAPS, Challenge TB, WHO, and country funds for adapting, reviewing, updating, monitoring, and implementing e-TB Manager in Azerbaijan, Armenia, Brazil, Bangladesh, Cambodia, Indonesia, Namibia, Nigeria, Turkmenistan, Ukraine, and Vietnam.

A new version of e-TB Manager with updated framework, new user interface, and enhanced functionalities allowing its use on any kind of device, such as smartphone and tablets, is under development. Testing for the generic version prototype is planned to start in next quarter.

e-TB Manager desktop application for case management with ability to synchronize with the web version has been under final controlled testing for consistency and accuracy. The generic desktop version will later be adapted to specific country requirements.

QuanTB, a downloadable tool for forecasting, quantification, and early warning of TB (medicines) version 2.0 was used regularly as the national tool for quantification and monitoring of TB medicines in 14 countries. QuanTB is also an officially endorsed tool by GDF and is used regularly during GDF monitoring missions to collect and analyze data for decisions around forecasting and procurement of TB medicines. This quarter, there were over 470 downloads of version 2. Version 3 is in the development process and is being tested by SIAPS TB Core HQ staff. It is planned to be launched during the Union Conference in Cape Town, South Africa.

Measure and evaluate the impact of e-TB Manager as a system-strengthening tool for TB control

After a pilot test among seven internal respondents, the 18-point survey designed to capture e-TB Manager user experience has been validated and finalized. It is expected to be implemented in the 12 countries where e-TB Manager is being used, including countries like Armenia that manages the system independently. To substantially increase the survey response rate to the maximum possible, the English version survey has been translated into Portuguese, Ukrainian, Vietnamese, Azeri, and Armenian. Translation into Bhasha (Indonesia) and Khmer (Cambodia) is expected to occur next quarter. The core questions to guide key informant interviews and focus group questions are in the final draft form. It will be refined and implemented in a select sub-set of at least 4 countries out of the 12 for in-depth evaluation.

Partner contributions:

- Local and international partners had provided important feedback for e-TB Manager and QuanTB improvements.
- National TB programs and WHO will facilitate the survey process by informing the participants about the study and its purpose

Constraints to Progress

- Lack of strengthened in-country champions to keep e-TB Manager implementation and monitoring of activities (e.g., high turnover, and deficiency of local MIS, IT, and TB specialists).
- Commitment from other USAID funded projects such as Challenge TB is required for this global e-TB Manager report, particularly in Indonesia, Vietnam, Cambodia, and Nigeria.

Objective 5. Improved Pharmaceutical Services and Access to TB Products to Achieve TB Goals

Promote active surveillance for monitoring the safety of TB/HIV co-medication; assist with implementation in select countries

Enhancement of the DCAT tool for monitoring and analysis of TB adverse events at facilities is still ongoing. SIAPS is now in the testing phase with the developers and plans to deploy tool for pilot by next quarter. In the Philippines, SIAPS organized a stakeholders meeting with the NTP and partners to introduce DCAT as a possible PV database for both the 9MTR, bedaquiline, and other future NTP studies. Since the DCAT has yet to demonstrate the analytical module, the NTP has not yet approved the use of DCAT as PV database system pending complete development of the tool. Another demonstration of the tool is planned for next quarter, at which time all the key functions of the tool will be operational.

Provide technical assistance to improve access to medicines for TB control through the SIAPS regional and country technical assistance mechanisms

SIAPS continued to work with GDF in planning for monitoring missions in the anglophone region. With SIAPS support, a monitoring mission took place in Zimbabwe July 27–31, 2015. In addition, this past quarter SIAPS continued to provide ad hoc remote support to other GDF/PSM consultants on TB medicines quantification using QuanTB as requested.

In Uganda, the EWS established through QuanTB indicated that the country's TB program was facing an upcoming stock-out of kanamycin. This led to Uganda borrowing 1,000 vials of kanamycin from Kenya in July 2015, which helped to prevent stock-out.

In Tanzania, stock status analysis was conducted based and a request was sent to GDF to reschedule delivery dates of first-line TB medicines from January 2016 to the earliest possible dates to avoid stock-outs likely to occur by November 2015. GDF worked with manufacturers to ensure delivery dates were brought forward as requested.

Support Medicines Use Reviews and Active Surveillance PV in MDR-TB and new TB Treatment Programs

SIAPS developed a user-friendly provider ADE severity grading guide to help doctors easily look up and report TB ADEs' severity to support more effective analysis of events. This guide will help standardize adverse event severity reporting using the international standard—Common Terminology Criteria for reporting adverse events. Job aids were also customized for the care givers to facilitate ADE effective identification and reporting.

TB Core Add On

Goal: Assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve Global TB goals

Objective 5. Improved Pharmaceutical Services and Access to TB Products to Achieve TB goals

As part of the SIAPS efforts to strengthen countries' quantification capacity and establish an early warning system to prevent stock-outs and minimize TB medicine wastage, capacity and skills training were provided to approximately 196 people from various organizations such as national tuberculosis programs (NTP) (Tanzania, Uganda, Kenya, Bangladesh, Zimbabwe, Zambia, Nigeria, DRC, Burma, South Sudan, and Ethiopia), the Global Fund and Global Drug Facility (GDF), WHO, and other local and international partner organizations. SIAPS collected QuanTB reports from 12 countries and helped validate their data and to decide on the next steps to prevent or minimize supply chain risks for TB medicine supply.

In Myanmar, NTP endorsed the implementation of QuanTB at the central, upper, and lower management level taking into account susceptible TB and drug-resistant TB cases on treatment, expected cases and stock of medicines countrywide. During quarter 4, the Global Fund procurement plan for 2016, where SIAPS supported Myanmar NTP in using QuanTB to quantify first-line anti-TB drugs by tool was approved. In DRC, QuanTB was introduced to the members of PATIMED during their regular quarterly meeting where the QuanTB dashboard and other reports were discussed. The PATIMED group provides the framework bringing together all major stakeholders for TB commodities supply management. During this meeting, it was agreed that QuanTB data review will be included as a routine agenda item for PATIMED's quarterly meetings. Zimbabwe was able to maintain constant availability of TB medicines for the past five quarters after QuanTB was introduced in the country.

In Kenya, SIAPS actively engaged NTP and other stakeholders to follow up on medicines alert action points as highlighted in quarter two EWS reports. For example, 14,000 vials of kanamycin were donated to Uganda, thus averting a possible expiry of 4,950 vials. An agreement was reached between GDF and NTP for GDF to act as a guarantor to IDA so that the pending second-line medicines could be delivered to prevent stock-out of MDR TB medicines. A stock count was undertaken at KEMSA regional depots which showed that these stores held three months of stock of levofloxacin 250 mg and four months of levofloxacin 500 mg. The county pharmacists were informed of the available stocks and requested to place a request from the depots in case they run out. The stock count specifically targeted levofloxacin which was getting low at the central level and there was a need to assess peripheral-level stock security. SIAPS also provided support to NTP Kenya during the grant making process for the Global Fund New Funding Model 2015–2017. This was in form of TA to generate multiyear projections for the 3 year grant making period for first line and second line medicines. SIAPS also supported PSM plan development.

In Zambia, SIAPS engaged with NTP to follow up on action points for the quarter 3 report on monitoring TB medicine availability. Pending supplies of streptomycin were fast-tracked averting a possible stock-out. To prevent stock-out arising from delay in delivery of pending

stock of pyrazinamide, NTP consistently undertook redistribution from peripheral buffer points to facilities with low stock of pyrazinamide 500 mg. The stocks are expected in the country by mid-September after the supplier received the go-ahead from the government to airlift the medicines

In South Sudan, SIAPS supported the national TB program of South Sudan and the MOH to conduct a technical meeting on July 22–25, 2015 to build capacity for forecasting and quantification among its pharmaceutical staff. A total of 10 people were trained from MOH, NTP and UNDP. In Mozambique, As a result of SIAPS support, the Quantification team has been in communication on regular basis since the last technical assistance visit to the country. A WhatsApp group (phone chat group) was established for regular information sharing and knowledge exchange to improve key supply chain processes and inform decisions. Sharing data, discussing assumptions and exchanging knowledge clearly shows collaboration and good team spirit between all key stakeholders in ensuring TB medicine availability in the country. This is very important for the upcoming quantification review meetings and exercises.

In Nigeria, a total of 25 participants were trained to use QuanTB tool and its EWS features in July 2015. Participants were from national and zonal levels of NTP, Global Fund principal recipients, other MOH units, and partners. QuanTB is now used for both first and second-line TB medicines quantification and pipeline monitoring to identify supply chain management risks alerts early and take prompt actions to alleviate or minimize risks.

In the Philippines, QuanTB report was discussed and analyzed with partners during the regular Drugs and Supplies Management sub-technical working group meeting. As a result of QuanTB data review, medicines with overstock and potential expiration were identified and redistribution was initiated. Medicines with critical status were also identified, delivery schedule was monitored, and coordination with GDF was initiated for urgent requests. QuanTB orientation was conducted by SIAPS to increase the capacity of the technical staff in charge of quantification and forecasting and also to increase the knowledge and understanding of other sub-technical working group members.

Partner Contributions

SIAPS works directly with National Medical Stores, NTPs, Ministry of Health, GDF and other USAID TB projects in countries during the development of recommended actions to address the challenges or implementation of action plans identified previously.

Constraints to Progress

Main challenges indicated in the reports from all countries are procurement delays due to funding availability issues and delayed disbursement of Global Fund and government funds, uncertain lead time from suppliers and delayed port clearance, discrepancies between Global Fund performance framework treatment targets and the current trend of patient enrollment leading to overstock of TB medicines. Other constraints include data accuracy issues and delayed reporting from facilities to central level, and weak

communication links between key stakeholders and high staff turnover.

REGIONAL PROGRAMS

LAC-AMI

Goal: To institutionalize national and regional mechanisms to ensure a continuous supply of antimalarials, particularly in low-incidence areas.

Overall Quarter Progress

Eight countries reported antimalarial stock levels this quarter. The availability of antimalarials in central warehouses increased from 71% the previous quarter to 86% at the beginning of this quarter. There are a few countries, however, still facing problems with the local procurement of antimalarials.

Objective 1: Pharmaceutical sector governance strengthened

SIAPS proposed a performance evaluation of malaria control strategies in Colombian departamentos with high malaria incidence. During this quarter, SIAPS finalized the research protocol (including data collection instruments) and validated it with the Malaria Control program director. SIAPS will collect the information in three departamentos during the next quarter, and a follow-up monitoring exercise for the same evaluation approach in Brazil is scheduled for February 2016.

Partner contributions

There were no partner contributions this quarter.

Constraints to progress

There were no constraints this quarter.

Objective 2: Pharmaceutical management information available and used for decision making at different levels of the health system

The technical report on the situation of malaria pharmaceutical management and the impact of AMI-supported interventions in seven AMI countries was finalized. No additional activities were planned for this quarter. A regional meeting to analyze the implications of this study for the eradication of malaria in selected countries is scheduled for February 2016.

Through its local consultants, SIAPS supported the compilation of information and analysis for the *Quarterly Bulletin on Availability and Consumption of Antimalarials*, disseminated by PAHO in August 2015. Eight countries shared information. The availability of antimalarials in central warehouses increased from 71% in the last quarter to 86% during this quarter.

Certain countries still face problems with the availability of antimalarials. Guatemala is

experiencing stock-outs at the central level, and limited stock at the departamentos level, while Nicaragua has limited stocks of cloroquine and primaquine. In Perú, availability of artesunate at the central level does not match the availability of mefloquine. Generally, few countries are implementing standardized criteria for the distribution of medicines for severe cases. For the next quarter, SIAPS consultants will continue supporting the collection of information and analysis of the availability of antimalarials in AMI countries.

Partner contributions:

There were no partner contributions this quarter.

Constraints to progress:

There were no constraints this quarter.

Objective 3: Pharmaceutical services improved to achieve desired health outcomes

During this quarter SIAPS supported coordination meetings with local counterparts and AMI partners to finalize a plan for the introduction of artesunate/mefloquine fixed-dose combinations (FDC). For the next quarter, the regional malaria program in Loreto has scheduled the introduction of this FDC in selected Loreto counties to pilot-test operational procedures for the scale up to the rest of the departamento.

With the technical assistance of SIAPS, the Loreto medical store became the second facility in Peru to be certified in good storage practices. SIAPS will continue providing limited technical assistance to keep the certification valid.

SIAPS has continued to work with local counterparts in Pará and Roraima, in Brazil, to systematize interventions to improve access to malaria diagnosis and treatment in gold mining areas. For next quarter, SIAPS will finalize the technical report on the systematization of these interventions, and will start monitoring the implementation progress and preliminary results based on a monitoring plan to be completed by August 2016.

In Guatemala, SIAPS provided technical assistance for the introduction of guidelines to support malaria pharmaceutical management in primary health facilities, and to monitor the availability of antimalarials used by primary health volunteers. Standard operating procedures and training materials have been finalized, and training for primary health volunteers is scheduled for next quarter.

In Ecuador, the MoH has requested technical assistance for the transition of the malaria supply management from the National Control Program to the national pharmaceutical system. SIAPS will visit Ecuador next October to collect primary data to assess the situation, and to discuss alternative interventions with national counterparts.

Partner contributions

PAHO facilitated contact with the Ecuador MoH.

Constraints to progress

The systematization of interventions to improve access to malaria diagnosis and treatment in Brazil has been delayed due to difficulties accessing mining communities during the rainy season and conflicting agendas of the local malaria program.

West Africa Regional

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

Overall Quarter Progress

SIAPS attended the monthly procurement and supply management (PSM) technical committee meeting on August 31 organized by the National AIDS Control Program (NACP) of Togo where the HIV and AIDS dashboard (OSPSIDA) reports have been used for evidence-based decision making.

In conjunction with NACP of Togo, SIAPS has conducted supervision visits to the five pilot sites and also assessed the quality of data entered into the electronic dispensing tool (EDT).

SIAPS conducted a site readiness assessment prior to deployment of EDT in Forces en Action pour le Mieux etre de la Mère et de l'Enfant (FAMME) Clinic of Lomé, a referral center for female sex workers supported by the USAID-funded Regional HIV/AIDS Prevention and Care Project (PACTE-VIH).

Prior to capacity building of quantification committee in Togo and to increase the south to south collaboration, SIAPS has sponsored the trip of a Togo NACP pharmacist to attend the quantification workshop organized by the NACP of Cote d'Ivoire to learn about best practices that can be implemented in Togo.

As part of its effort to support the PSM concept note for Global Fund Grant, SIAPS has supported the Intersectoral Committee to fight HIV and AIDS of Niger (CISLS) to review the quantification of lab reagents and consumables required for the National Blood Transfusion Center of Niger.

Objective 1. Increase the Use of Pharmaceutical Management Information for Decision Making at National and Regional Levels

A team composed by SIAPS regional Project Director and two NACP staff— Pharmacist, IT specialist—visited the five pilot sites between August 31 and September 3, 2015, to conduct supportive supervision and to assess the quality of data recorded in EDT.

Two indicators—“concordance between EDT record and prescription” and the “concordance between stock in EDT and physical count”—have been calculated and compared with previous values collected during past supervisions. All five ART sites have reached 100% of concordance between EDT records and prescriptions after the first supervision visit, but none of them has reached 100% of concordance between stock in EDT and physical count.

As requested by USAID/West Africa and following a meeting between the PACTE-VIH and SIAPS in Accra, the FAMME Clinic, a referral center for Female Sex Workers, was visited to

assess its readiness to receive EDT as dispensing tool as part of roll out of EDT nationwide. SIAPS and the two NACP staff members met the Country Coordinator of PACTE-VIH Project in Lomé and her assistant prior the visit to FAMME Clinic.

The SIAPS and NACP representatives met with the clinic staff to explain the purpose and objectives of the assessment and also to present the SIAPS West Africa Regional Project funded by USAID/West Africa. The clinic is currently offering care and treatment services to 98 current patients. The clinic has an ART prescriber who is also the dispenser since ARV drugs are kept in his office. The assessment showed that the EDT can be deployed at this referral clinic as soon as a computer is provided to dispensing area.

Partner Contributions

The PACTE-VIH Project funded by USAID/West Africa has facilitated the assessment of the readiness of FAMME Clinic to receive EDT as dispensing tool

Objective 2: Improve Coordination among Regional and National Stakeholders Involved in Ensuring ARVs and HIV and AIDS Commodity Availability

On August 31, 2015, the NACP of Togo hosted the monthly PSM technical committee meeting to discuss the following:

- Analysis of stock and consumption of HIV and AIDS products as of July 31, 2015, using OSPSIDA for particularly ARV drugs
- Status of orders in progress

Prior to the meeting, SIAPS has assisted the NACP to assess current ARVs stock status at national level through OSPSIDA, to review the current HIV and AIDS commodities procurement plan, and identify gaps as showed in OSPSIDA. SIAPS and NACP also worked to develop a list of actions to implement as next steps to improve HIV and AIDS product availability.

A live demonstration of OSPSIDA was presented to attendees. Looking at the OSPSIDA reports as of July 31, Togo did not have any stock-outs of ARV drugs. But the NACP is facing challenges regarding the management of lab reagents. The reporting rate is very low and data quality is major issue.

Partner Contributions

Following the monthly PSM technical committee meeting and as requested by ESTHER, another meeting was held September 2, 2015, at the ESTHER country office with the SIAPS Regional Project Director, the Togo HIV and AIDS Program pharmacist, Country Coordinator the medical officer of ESTHER.

ESTHER gave a brief presentation of their global program in Togo with emphasis on the support provided to the NACP to implement ESOPE (HIV+ patient management software) and a plan for

expansion to other ART sites in the three regions in which they are active (Lomé Commune, Plateau, and Kara).

ESTHER is open to collaborate with SIAPS to strengthen HIV and AIDS PSM and has suggested working with the HIV program to seek opportunities for resources mobilization.

Constraints to Progress

The HIV program is facing challenges due late deliveries of commodities.

Objective 3: Enhance Access to Financial Resources for the procurement of ARVs to Prevent Stock-Outs in the Selected Countries

As requested by the quantification committee led by the Niger's Central Medical Stores and the CISLS and as part of its effort to support countries in the submission of the PSM concept note for Global Fund Grant, SIAPS assisted the CISLS to review the quantification of blood safety commodity. This revision concerned rapid tests kits, lab reagents, and consumables needed from 2016 to 2018 to support the testing of blood collected by the Blood Transfusion Center to ensure security of blood products.

Objective 4: Enhance Capacity for Pharmaceutical Supply Management

At the beginning of this year, Togo faced several alerts of critical ARVs stock-outs; one of the root causes was poor quantification resulting from a lack of capacity on quantification and supply planning.

As requested by the NACP of Togo and as part of its effort to build capacity on quantification, SIAPS agreed to send the NACP pharmacist to attend the quantification workshop in Cote d'Ivoire where the quantification process is cited as an example in West Africa Region. The pharmacist received training on quantification and supply planning process and the use of Quantimed and Pipeline Software that can be replicated in Togo.

Partner Contributions

The USAID-funded Supply Chain Management System, and Cote d'Ivoire's National AIDS Control Program (PNLS), and the Central Medical Stores (Nouvelle PSP) all have contributed to building the capacity building of the Togo NACP pharmacist.

COUNTRY PROGRAMS

Angola

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

Overall Quarter Progress

The third quarter of PY4 for SIAPS Angola was characterized mostly by consultations with USAID and government counterparts and the development of the PY5 work plan for the three pots of funds. Two work plans, one for PMI-funded interventions and the other one for PEPFAR- and POP-funded interventions, were developed and sent to USAID for approval.

In addition to work planning, SIAPS continued to implement its planned activities toward the overall program's goal. The program assisted the National Directorate of Medicines and Medical Equipment (Direcção Nacional de Medicamentos e Equipamentos, DNMEe) of the MOH to organize an Inter-Agency Coordination Committee for Municipal Revitalization's (ICC/R) Logistics, Procurement, and Operations Subcommittee (Sub-Comissão para a Logística, Aproveitamento e Operações, SCLAO) meeting as an effective mechanism for coordination, information sharing, and consensus building among local public health logistics stakeholders. SIAPS also participated as a member of an ad hoc committee to draft the national formulary manual. This document will complement the National Essential Medicines List (NEML) that is still pending approval. Once finalized and disseminated, they will both assist in promoting RMU through good prescribing and dispensing practices for better health outcomes.

DNME received a special visit from the new minister of State of MOH who instructed the team to work on the legal documents that will guide the establishment of the new medicine regulatory authority to replace the current structure, DNME. SIAPS continued to support CECOMA management to collect and monitor daily and monthly key performance indicators (KPIs) for its operations and to organize weekly technical meetings to identify the current bottlenecks to attaining established benchmarks and suggested corrective measures. Under the coordination of DNME and the National Malaria Control Program (NMCP), the program finalized and disseminated the end use verification (EUV) report. This EUV was conducted in 42 health facilities localized in the provinces of Luanda, Cabinda, Huila, Moxico, and Namibe.

During this period, PMI's ACT shipment was distributed in all 18 provinces and the quarterly procurement plan and monitoring report for malaria commodities (PPMRm) was submitted to PMI through the USAID | DELIVER Program, with clear recommendations to address the growing risk of stock-outs of ACTs as the government has yet to procure its promised portion to fill the gap left, even after receipt of PMI donations. SIAPS participated also in the revision of two concept notes for the new funding mechanism of the Global Fund for both malaria and health system strengthening, after receiving comments from the Global Fund team. SIAPS continued to closely follow up on the stock status of HIV and AIDS, malaria, and FP commodities and provide its technical support to respective programs to tackle the identified issues. Regular monthly physical inventory was done for FP commodities. Finally, SIAPS

participated in a PEPFAR implementing partners' joint baseline assessment in nine selected health facilities to guide the work plan in the area of HIV and AIDS continuum of care.

Objective 1. Pharmaceutical supply chain system governance strengthened

In the final quarter of PY4, SIAPS continued to provide technical and logistical support to DNME to organize the bimonthly ICC/R's SCLAO meeting to facilitate information sharing, optimize utilization of resources, and follow-up on the recommendations of the previous meeting. In this quarter, one of two meetings was organized with a satisfying participation from key members. In addition, SIAPS continued to participate in the drafting of the national formulary manual as a member of an ad-hoc commission constituted by DNME. The development of this document is being coordinated by a consultant hired by the Global Fund through UNDP, and use of the manual will complement the NEML to promote good prescribing and dispensing practices while enhancing RMU for improved health outcomes.

Following a request from DNME, SIAPS drafted and submitted the guiding document that presents policy options for regulating pharmaceutical product pricing in Angola, to be consulted as this policy is in the process of being established; once fully implemented and enforced, it will increase access to affordable pharmaceutical products. DNME organized a meeting with all pharmaceutical importers and distributors to discuss the importance of regulating product prices and to request their support. Some private companies have shared with DNME their pharmaceutical prices by using FOB Incoterms, to be used as a baseline to regulate wholesale prices in the first phase. Meanwhile, because of other competing priorities within the MOH (financial crisis due to the drop in oil prices), it was difficult to finalize the national supply chain strategy as planned. This activity will be continued in PY5.

Partner contributions

- MOH/DNME for overall coordination in the organization of ICC/R SCLAO meeting and the development of the national formulary manual and policy options to guide pharmaceutical product pricing
- UNDP/Global Fund for technical and logistics support in developing the national formulary manual

Constraints to progress

The current changes in priorities of MOH caused by falling oil prices has slowed down the development of the national supply chain strategy and the approval of the NEML before its dissemination.

Objective 2. Local capacity for pharmaceutical management enhanced

In the reporting quarter, SIAPS Angola continued to provide technical assistance to CECOMA to collect daily data that allow the monitoring of KPIs and to organize weekly KPI review meetings to address the identified bottlenecks. By using KPIs, the technical meetings are able to recommended improvements to CECOMA operations and monitor their implementation.

The planned training for CECOMA regional warehouses was delayed because no new staff was recruited because the regional warehouses have not yet been finalized and handed over to CECOMA to initiate operations. This training has been postponed to be implemented in PY5. To follow up on the implementation of the pharmaceutical management post-training action plan, 11 municipalities are reported to have implemented the post-training interventions, namely Cazenga, Viana, Maianga, and Rangel in Luanda; Matala in Huila; and six municipalities in Cunene.

Other planned training activities were postponed due to a shortage of funds or changes in CECOMA plans due to the current oil crisis; training should be implemented in PY5.

Partner contributions

- CECOMA's coordination in monitoring and improving KPIs
- Teams from provincial health directorates following up on post-training action plans

Constraints to progress

CECOMA has not been able to take over and operate the three regional warehouses due to the current financial crisis. Municipal teams are also reporting the lack of funding to implement post-training action plans. SIAPS is also no longer able to support the selected provincial teams that were capacitated by using Exxon Mobil funds through PMI, as it was a one-time support to pharmaceutical management training. Delays in nominating the National Quantification Technical Working Group (NQTWG) and a shortage of financial resources, coupled with a reduced number of staff, did not allow the program to organize planned training and supervisory visits. Capacity building activities will be continued in PY5 including those that have been postponed.

Objective 3. Information for pharmaceutical management decision making promoted

During the reporting period, SIAPS held meetings with the NMCP M&E team to review the quality and completeness of the monthly reports sent by provinces. The contract for the staff at the NMCP M&E unit that was performing data entry and analysis was terminated due to a shortage of funds, as he was hired by the Global Fund. Other NMCP staff paid by the Global Fund stopped working, as their contracts were ended. It was difficult to get data from the provinces where SIAPS has provided capacity building support. Meanwhile, SIAPS proposed to second a data clerk to NMCP as data is key for programming, especially in malaria case management reporting, quantification, and preparation of distribution plans. This position was included in the already approved PY5 work plan.

In coordination with NMCP, the program collected monthly stock-level information on antimalarial commodities and prepared the quarterly PPMRm that was submitted to PMI Washington through the USAID | DELIVER Program. An important observation is that, since last year, the current stock level of ACTs at provincial warehouses is critical even after the

receipt of PMI products. To alleviate this situation, the Government of Angola has approached the Global Fund to provide some malaria products while the government is still having difficulties procuring their own products. There is a generalized shortage of SP used in intermittent preventive therapy in pregnancy (IPTP), which puts pregnant women at a high risk of malaria. Although the MOH was aware of this situation, since last year, after the withdrawal of the Global Fund's assistance to purchase antimalarial products, there has been no indication that the procurement process at CECOMA has been initiated, as they were awaiting approval from the MOH to initiate an emergency order since January 2015.

Under the coordination of DNME and NMCP, the program finalized the EUV report that summarizes findings in 42 health facilities in the 5 provinces of Luanda, Cabinda, Huila, Moxico, and Namibe. Some improvements in the use of stock cards were noticed, although stock-outs of key commodities were reported, even at the health-facility level, jeopardizing malaria case management.

SIAPS continued to provide technical support to the National HIV and AIDS Control Institute (Instituto Nacional de Luta Contra o Sida, INLS) to analyze their current stock and pipelines to compare with their distribution rates to anticipate shortages or raise a red flag for products that are not moving or are at risk of expiration.

Partner contributions

- DNME and NMCP coordination role in EUV
- CECOMA, provincial warehouse managers, and malaria supervisors involved in the PPMRm and stock monitoring;
- INLS in stock monitoring at the national level

Constraints to progress

- Review of the government budget that has affected the overall supply chain, from the central to the health facility level, and has heightened the risk of stock-outs. Even if the MOH would be willing to procure some products, it is not clear which mechanisms they would use to obtain products at the right moment. Some suppliers have reported that MOH is in arrears in payments, which puts the MOH in a weak position to negotiate post-shipment payment contracts.
- Difficulty in collecting data from the NMCP and provinces, due to a lack of staff (malaria provincial officials).
- A generalized weakness in logistics management information systems across all health commodities that results in a weak supply chain and risks stock-outs and wastage due to expired products.

Objective 4. Pharmaceutical service to achieve desired health outcomes improved

Using the reported data from the INLS outsourced private warehouse, NEOFARMA, the program continued to provide technical assistance in monitoring stock levels of HIV and AIDS

commodities at the central level, including ARVs, RTKs, opportunistic infection drugs, and condoms. Findings were discussed with the INLS logistics team to define recommendations for commodity security improvements.

The program continued to advocate for the use of available fixed-dose combinations (FDCs) of ARV tablets instead of individual oral solutions for pediatrics per WHO recommendations and promotion of the once daily FDC of tenofovir/emtricitabine/efavirenz as the treatment of choice for all new adult patients to avoid the drugs expiring if not used. SIAPS facilitated the meeting of the NQTWG for HIV and AIDS commodities, and will continue to provide technical support to this group.

The program collaborated with UNFPA and Pathfinder to conduct an inventory of all FP products at CECOMA in coordination with the National Reproductive Health Program (NRHP). SIAPS participated in a meeting to finalize and approve long-term forecasting needs of FP commodities, under coordination with other partners. A meeting was organized at USAID to discuss the role of SIAPS once a USAID project implemented by Pathfinder ends in March 2016. SIAPS will take over all activities of commodity security, including continuous support to the NRHP and technical assistance to Luanda province.

SIAPS also continued to monitor the availability of antimalarial medicines in all 18 provincial warehouses and at CECOMA. Following this monitoring, NMCP was able to advocate that some products be procured by the Global Fund, using some portion of the pledged amount in the Global Fund's new funding mechanism.

SIAPS also participated in revising Angola's concept notes on malaria and health systems strengthening teams to be submitted to Global Fund, in line with its new funding mechanism.

During the reporting period, the PEPFAR Angola team organized joint data-quality and service-quality baseline assessments in nine selected health facilities in Luanda where technical assistance throughout continuum of care will be provided. SIAPS led the team that collected and analyzed data on the pharmaceutical services of these nine health facilities. Preliminary findings showed a generalized lack of data and inadequate data registers in the pharmacy, complicating patient and HIV and AIDS commodities recordkeeping and monitoring. This baseline will be compared with other post-intervention surveys at the end of this joint effort toward an AIDS-free generation.

Partner contributions

- INLS coordination in stock monitoring of HIV and AIDS commodities
- NMCP and provincial warehouse managers and supervisors in monitoring antimalarial products at the provincial level
- NRHP, CECOMA, UNFPA, and Pathfinder collaborations in FP commodities inventory
- PEPFAR implementing partners' collaboration in data quality and service quality assessments in the nine health facilities

Constraints to progress

- Delay in the official nomination of the NQTWG
- Lack of patient data to advise INLS during stock analysis meetings for sound decision making
- Poor quality and incompleteness of data at the health facility level

Bangladesh

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

Overall Quarter Progress

During this quarter, the milestone achievement of SIAPS was to organize the launching of the Bangladesh National Formulary (BDNF), 2015, in addition, the Director General (DG) Major General Md. Mustafizur Rahman of the Directorate General of Drug Administration (DGDA) presented on “Model Pharmacies in Bangladesh.” The Honorable Health Minister, Mr. Mohammed Nasim, Member of Parliament (MP), was the chief guest. The honorable State Minister Mr. Zahid Maleque, MP, Ministry of Health and Family Welfare (MOHFW); and Ms. Melissa Jones, Director, Office of Population, Health, Nutrition, and Education, USAID, were the special guests. The key officials were among the 400 participants, including representatives from the DGDA, MOHFW, pharmacists, clinicians, and Pharmacy Council of Bangladesh.

Both the minister and state minister emphasized taking control of the quality of pharmacy shops in the country and informed the participants that the country is moving toward achieving quality pharmaceutical care in Bangladesh. Ms. Melissa Jones said that the BDNF is important work that has been done by DGDA with the support from SIAPS. She stressed the use of the BDNF as a reference book by pharmacist, physicians, and other relevant groups. The DG of DGDA highlighted the good work and progress made by DGDA in the last couple of years with the support from USAID/SIAPS program, in such areas as pharmacovigilance, capacity building on Good Manufacturing Practices (GMP) inspection, and the online medicine registration system. Mr. Zahedul Islam, Country Program Director, welcomed all the participants.

As mandated by the MOHFW, SIAPS achieved another milestone in this quarter by standardizing inventory management tools for Directorate General of Health Services (DGHS). SIAPS printed the forms and registers for DGHS inventory management for 19 districts and then trained the users. SIAPS also facilitated training for electronic reporting system through DHIS2 in all upazilas (sub-districts) of Gazipur district.

As part of continued capacity building assistance, SIAPS organized an in-country international training for 16 MOHFW officials on procurement of goods and services. The training was conducted by SETYM International, Canada. The participants were procurement desk officers and managers of MOHFW and key procuring entities.

SIAPS facilitated the finalization workshop on standard operating procedures (SOPs) for warehouse management for Central Medical Store Depot (CMSD). The Technical Working Group (TWG) led by CMSD Director played the lead role in the development process.

To ensure quality of pharmaceuticals through an effective warehousing/storage system, SIAPS facilitated commissioning 102 medicine refrigerators for Bangladesh’s 94 tuberculosis (TB) treatment centers for costly TB medicine. The functionality of e-TB Manager assessment was carried out by a committee consisting of representatives from SIAPS, USAID, National TB

Program, WHO, and TB partners. The key recommendation was to roll out e-TB Manager in the rest of the country for full coverage with the priority to cover all sites of two divisions (Sylhet and Rajshahi) immediately.

Upon request, SIAPS demonstrated the pilot implementation of Equipment Tracking Module to the World Bank and USAID. There is a strong demand from the donors to expand the module for asset management system. SIAPS is discussing performing a conduct feasibility study in one tertiary level health facility to pilot the asset management system.

SIAPS and DGFP's continued work on using the Upazila Inventory Management System (UIMS) led to an August level of 100% in quality and timeliness of logistics reporting.

Objective 1. Supply Chain Management Systems of the MOHFW and Component Procuring Entities Strengthened

As part of the continuous effort to institutionalize the Supply Chain Management Portal (SCMP), MOHFW issued an official order and assigned two designated IT persons to take over the responsibility of the portal. In this connection, Procurement and Logistics Management Cell (PLMC) requested SIAPS to train 12 key IT persons from different directorates for management and maintenance of SCMP.

PLMC led the condemnation workshop in Khulna division held September 5–6 about the situation and process of condemnation, and how the process could be improved for effective logistics management in the system. All the divisional, district and upazila level health and family planning officials including the civil surgeons, divisional director were present.

The finalization workshop on the Table of Organization and Equipment (TOE) of 500-bed hospitals was held September 8-9, 2015. Around 21 people from 500-bed Dhaka Medical College Hospital, 500-bed general hospitals, Bangabandhu Sheikh Mujib Medical University (BSMMU), National Electro-Medical Equipment Maintenance Workshop (NEMEW) experts, and the TOE working group participated in the workshop. Important issues addressed in the workshop to be included in the final report were:

- Inclusion of additional units and support services in the TOE including:
 - Guidelines on hospital laundry, hospital kitchen, waste disposal
 - Casualty, burn unit, physical medicine, mortuary unit
 - Hospital pharmacy
 - Hospital records
 - Eye bank
 - Ambulances to include for referral
- There should be planning for future expansion in TOE.

Upon As the World Bank did not approve procurement of the Drug and Dietary Supplement (DDS) kit SIAPS analyzed the SCMP data and found potential stock and notified the DGFP with copy to USAID and other key players. SIAPS also organized a dialogue with all the bidders on the DDS kit on September 10, 2015.

SIAPS organized an in-country international training for 16 MOHFW officials on procurement of goods and services. The training was facilitated by SETYM International, Canada, in Cox's Bazar August 17–27. As such, there was no uniform, standard forms, and registers for inventory reporting in DGHS. Working with the pharmaceutical users, SIAPS developed and printed the standard and uniform inventory management tools (stock register, issue voucher, indent and issue voucher, bin-card) and trained 306 (26 female) district, sub-district, and union health store officials from selected districts.

SIAPS MNCH portfolio staff trained 250 storekeepers and statisticians (district hospital, District Reserve Store/Civil Surgeons Office, upazila health complex, Union sub-center, and Community Health Care Provider of Community Clinic) of the Gazipur district. This training was held to capacitate the participants on reporting available stock data (eLMIS) on a monthly basis into the DHiS2 platform containing the priority medicines reporting forms.

SIAPS has been accredited as a member of the National Technical Working Committee for Newborn Health (NTWC-NBH) and attended its August 16 meeting where recent global updates of newborn health were discussed. SIAPS shared the recent incidence of CHX application in Nigeria to key members of the national TWG for Newborns (e.g., chairperson and member secretary, Director of Saving Newborn Lives, and Chief of Party—MaMoni). The group called for a NTWG-NBH meeting on October 1 at DGHS to discuss the current situation of chlorhexidine in newborn care and to develop a risk mitigation plan to avoid any damage by chlorhexidine in-country.

DGFP organized the 4th forecasting working group meeting with the technical assistance of SIAPS on September 7 at the Information, Education and Motivation conference room. For FY 2015–16, DGFP/Forecasting Working Group (FWG) reached consensus not to procure any IUDs and made significant reduction of procurement quantity for contraceptives which include: oral pill—49 million (m) (original plan 149 m vs. revised plan 100 m); injectables—2 m (original plan 16 m vs. revised plan 14 m); and Implanon—100,000 (original plan 3.5 m vs. revised plan 2.5 m).

SIAPS has updated the QuanTB tool with new information (patient, stock, regimens) for the period of July 2016–June 2017 for first-line drugs and the second-line drugs to generate the orders to be placed with the Global Fund to fight AIDS, Tuberculosis and Malaria (Global Fund). The draft exercise was then shared with Global Fund and all concerned for necessary feedback and eventually used for making procurement orders for the said period.

A potential stock-out of cycloserine for multidrug-resistant TB treatment was identified during quantification in the Procurement and Supply Management Working Group meeting. SIAPS identify the potential gap using QuanTB and informed the National Tuberculosis Program (NTP), Global Fund, USAID, and other key stakeholders. SIAPS made an internal reallocation arrangement to overcome the situation and organized series of meeting with NTP and other relevant stakeholders. The drug arrived in the country on August 5 and was available in the central TB warehouse on August 17. To ensure quality of TB medicine in the peripheral level (DOTS centers) through environmental control (temperature control in particular), 102

refrigerators in 94 DOTS centers in 14 districts were successfully commissioned throughout the country.

NTP, with support from SIAPS and master trainers, organized the e-TB Manager training for all staff in 20 districts' Upazila Health Centers. Four hundred-fifty participants were brought treatment cards from their DOTS centers to learn more about reducing tags and entering accurate data to generate electronic TB reports through e-TB Manager. As per recommendation of the e-TB functionality assessment by the NTP and relevant partners, SIAPS TB team revised the whole training plan to cover two divisions (Sylhet and Rajshahi) whose entire staff completed the basic e-TB manager training for electronic recording and reporting system. A total of 90 government TB staff were trained on e-TB Manager in this reporting period.

SIAPS team visited Khulna Shishu Hospital (KSH) for a feasibility study to develop a good health information system for tracking medicines and inpatient management. The KSH authority is interested in implementing these kinds of tools for patient and logistics management.

During this quarter, the Engineering Staff College, Bangladesh trained 30 DGHS, DGFP, and MOHFW personnel on procurement and logistics management system.

Partner Contributions

No partner contributions for this quarter.

Constraints to Progress

There was a lack of coordination among different ministries, such as Public Administration, Finance, Law, Justice, and Parliamentary Affairs, to create permanent positions for PLMC. The challenges to updating and implementing TOE is getting participants, especially clinicians/experts/NEMEW, to attend and engage as they are too busy with hospital and patient duties to actively participate. The implementation of TOE will require strong policy guidelines in infrastructure development and HR deployment at the health facilities. The Union sub-centers (USC) still need authorization to enter data into DHIS2. The Java consultant is working with MIS-DGHS for authentication. Without this data, the USC reporting form will be incomplete.

Objective 2. Systems for Evidence-Based Decision Making Established

The health information system (HIS) mapping exercise report was finalized in consultation with stakeholders and submitted to HQ. The SIAPS HIS team with the technical assistance of the William Davidson Institute (resource partner) analyzed the extent to which evidence-based information can be used in selecting supply chain interventions and recommended a framework to determine which supply chain technical assistance activities will yield a higher impact on supply chain performance.

There is an overall demand to expand the Equipment Tracking Module to a comprehensive asset management system. In response, SIAPS facilitated a field visit for the World Bank to the pilot sites to present the status of Equipment Tracking Module, demonstrate the system's functionality, and seeking inputs for further improvement. Subsequently, a meeting held with USAID, MOHFW, and others to decide how to move forward on an asset management system. As part of the agreed next steps, SIAPS would conduct a system study at Dhaka Medical College and will present the skeleton of the architecture in the upcoming technical workshop. The SIAPS HIS team also assisted the FP 2020 program to build the capacity of DGFP MIS unit, other USAID partners, and UNFPA on FP 2020 indicator analysis as part of the training of trainers. The SIAPS HIS team is working with Routine Health Information System team (icddr, MaMoni, HSS, and MEASURE Evaluation) to create interoperability between the RHIS database and DGFP Electronic Logistics Management System (eLMIS). The team has already prepared and shared the web application programming interface in this regard. The SIAPS HIS team conducted a feasibility analysis on introduction of the Warehouse Management System (WMS) in the TB Central Warehouse and will be discussing in the next PSMWG meeting to gather input and reach consensus on technical direction.

The SIAPS HIS team is also working with GiZ team and global DHiS2 experts on regular basis on the DGHS eLMIS module in DHiS2 platform to incorporate the necessary requests in terms of system functionality and build interoperability between DHiS2 and SCMP eLMIS platforms. The team also finalized the technical documentation on SCMP and the updated user guide on Equipment Tracker Module and DGDA web portal.

SIAPS field-based technical advisors continued to use the RDQA tool at FP and TB sites as part of their joint monitoring visits (10 visits were made in past quarter) with GoB and worked with staff on-site to enhance data quality and use at local level.

SIAPS continued assessing the quality of implementing sites' reports and contributed to designing supervision plans at low-performing sites for Service Delivery Point dashboard module. A follow-up analysis shows that, around 98% of total sites are maintaining the data quality standard (timeliness, completeness, and accuracy) in August 2015 while only 2% of sites have low standards. It has also been observed that timely direct uploads of logistics data through UIMS to web-based DGFP/eLMIS has increased (from 99% in May to 100% in August). SIAPS provided technical assistance to roll out the SDP dashboard module in 488 upazilas, which captures approximately 29,500 service delivery providers' stock information. An analysis was performed to determine the availability of contraceptives at SDPs; Less than 1% (0.77%) of SDPs experienced a stock-out in the month of July 2015 (n = 488 upazilas).

As part of preparation for the 4th Health, Nutrition and Population (HNP) sector program (2016-2021), MOHFW has assigned SIAPS to lead Procurement and Supply Chain management sub-thematic area under the core system development. After holding consultative sessions, a series of technical meetings, and desk review of secondary data, the draft STG report was prepared and submitted to the MOHFW. Later on, the plan was presented in a wider stakeholder's session with the presence of donors, implementing partners, civil societies, state ministers of health, health secretary, and others for endorsement.

Partner Contributions

WHO, NTP, BRAC, DGHS, DGFP, WB, UNFPA, Global Fund, JSI, Save the Children, and the Damien Foundation are working together in the TB, FP, and maternal, neonatal, and child health programs.

Constraints to Progress

The delay in identifying the appropriate IT staff by MOHFW from its key entities for the SCMP training slows down the handing over process.

Objective 3. Pharmaceutical Regulatory Systems Strengthened

As part of strengthening the pharmacovigilance (PV) program, SIAPS and Adverse Drug Reaction Monitoring (ADRM), cell members visited six hospitals to meet with the hospital directors and focal point persons to discuss the progress and implementation status of adverse event reporting activities in the hospitals. As a result, more than 200 adverse drug events (ADE) reports have been collected by DGDA in this quarter, which have been reviewed by the ADRM cell and sent to Adverse Drug Reaction Advisory Committee (ADRAC) for evaluation. A technical session for the ADRAC members was facilitated by SIAPS in September to evaluate the ADE reports and to make recommendations for DGDA. ADRAC also reviewed and validated 145 ADE reports for submission to the WHO database.

At the request of DGDA, SIAPS provided technical assistance for the preparation and publication of 10,000 copies of the fourth edition of the BDNF, 2015. The revised version contains up-to-date information on the pharmaceutical companies and registered medicines in Bangladesh not found in the 2006 third edition. The BDNF provides the key information necessary for prescribing, dispensing, and administration of drugs that are registered by the DGDA for sale, marketing, and use in Bangladesh.

The BDNF provides general guidelines on indications, side effects/adverse events, doses, drug interactions, and contraindications. Consequently, SIAPS facilitated a launching of the book, which was held on September 19, 2015. The Honorable Minister, State Minister, and Secretary of the MOHFW and the Director, Office of the Population, Health, Nutrition and Education/USAID were the special guests and more than 400 relevant stakeholders participated in the event. A copy of the BDNF and a one-page overview of the book were provided to all the participants.

SIAPS developed SOPs on post-marketing surveillance based on the Bangladesh Drug Act and Rules and international standards of practice, especially sample collection procedures and quality management. Accordingly, a workshop was facilitated on September 16–17, 2015, for all the 75 DGDA officials, including the field inspectors and 15 officers from the National Control Laboratory involved in sample testing of drugs. The workshop concentrated on how the officials can utilize and implement the SOPs; the attendees were also asked for their inputs to finalize the document. The workshop also created an opportunity for DGDA officials to exchange ideas, discuss their challenges in the field during inspections and propose solutions to

their senior management. The web portal serves as a tool for the DGDA field inspectors to provide PMS reports, including the submission of the sample collection forms, to the testing laboratory during and after inspection of pharmacies all over the country.

SIAPS, BRAC, and other partners conducted a baseline study to identify the gaps in access to and appropriate use of essential medicines along with opportunities and challenges in addressing these gaps. The study also looked at how to strengthen DGDA's regulatory processes and capacity at both the central and district levels, rational medicines use, and to strengthen the capacity of the pharmacy workforce and existing drug stores in the country's private sector. On September 20, 2015, SIAPS assisted with a workshop for about 70 relevant stakeholders to present the results of the gap analysis and to make recommendations on how to develop, pilot, and evaluate an accredited drug seller model for Bangladesh, including identifying the challenges that may be encountered.

A workshop on Good Manufacturing Practices inspection process and other regulatory affairs related with procurement of health sector goods held July 4–5, 2015—99 Procurement Desk Officers of DGFP & DGHS participated in the workshop.

Partner Contributions

DGDA arranged the BDNF launching program and managed the key participants, including ministers, to attend the program.

Constraints to Progress

Changes in the DGDA leadership had created a vacuum of proper coordination of activities and partnership for last couple of months; however, the situation has recently been improved.

Burundi

Goal: Contribute to a reduction in the malaria-related morbidity and mortality in Burundi

Overall Quarter Progress

In efforts to help Programme National Intégré de Lutte contre le Paludisme (PNILP– National Malaria Control Program) improve coordination with partners, SIAPS helped conduct the third Roll Back Malaria (RBM) partners’ quarterly meeting for FY15. In the meeting, the PNILP highlighted the upcoming deadline for the submission of key Global Fund grant documents for the malaria concept note that was approved in July 2015. The concept note has been developed with SIAPS technical assistance and a series of in-county workshops and regional peer reviews funded by SIAPS and submitted to Global Fund in January 2015. The meeting provided an opportunity for PNILP to officially launch the 2016 work planning process. The director requested that the partners implementing projects at field level share their activities with health districts and for the PNILP to integrate activities into plans from peripheral to central levels.

SIAPS collaborated with the Leadership, Management, and Governance (LMG) Project to assist the PNILP in updating the Monitoring and Evaluation (M&E) Plan of the national malaria strategic plan 2013–2017 to align the two documents. Additionally, SIAPS and the LMG Project worked together in assisting PNILP to develop compulsory grant documents for the malaria concept note to be funded by the Global Fund under the new funding mechanism.

During this quarter, to ensure a supply chain mechanism for uninterrupted malaria commodities is in place, SIAPS assisted the Department of Pharmacy, Medicines, and Laboratories (DPML) in conducting three monthly coordination meetings of the Medicines Thematic Group (MTG). The three key aspects discussed in these three meeting include the process of reviewing the essential medicines list and the importance of sharing logistic data. SIAPS also facilitated customs clearing and reception of ACTs procured by PMI.

SIAPS completed a stock status analysis at Centrale d’Achat des Medicaments Essentiels au Burundi (CAMEBU–Burundi’s Central Medical Store) for malaria commodities, and submitted the Procurement Planning and Monitoring Report–Malaria (PPMRm) and End Use Verification (EUV) reports. Data collected and disseminated through those reports generated recommendations and action plans to address malaria commodity stock issues in health district pharmacies, health centers, and at CAMEBU.

In efforts to improve malaria services, SIAPS assisted the PNILP to prepare a rapid introduction and scale-up of clindamycin available at CAMEBU since August 2014. As per malaria standard treatment guidelines (STGs), clindamycin is used with quinine as a second-line treatment for uncomplicated malaria cases, though its use for uncomplicated malaria was delayed because a decree under which the government bears costs related to the purchase and distribution of quinine tablets to be used in combination with clindamycin is not yet signed. A meeting with all health districts teams is set up for September 29, 2015 during which PNILP will review with more than 90 participants the proper and correct use of clindamycin and distribute the first quantity for the coming quarter.

SIAPS assisted the DPML and PNILP to set up a pharmacovigilance database for adverse drug reaction (ADR) reports. The database will serve to capture adverse drug events submitted to DPML. Currently, six selected sentinel sites were trained and able to report and manage ADRs once encountered. To date, 10 adverse drug events' forms have been sent to DPML and captured in the PV database. Next step will be to analyze submitted cases and provide formal feedback to health care providers who have reported the adverse drug events.

Objective 1. Leadership and Governance for Key Institutions (PNILP, DPML, CAMEBU, and Districts) Improved

SIAPS collaborated with LMG to organize four workshops with PNILP and stakeholders to develop key Global Fund grant documents necessary for the Global Fund to sign based on the approved malaria concept note. The documents developed included an implementation plan, results framework, procurement and stock management plan, a detailed budget, an M&E plan, and responses to the Technical Panel Review observations on the concept note. These documents are compulsory for Global Fund approval of the grant. The grant will mobilize financial resources to enable PNILP to implement malaria activities from 2015 to 2017. Another key document is an updated M&E plan that aligns with the updated National Malaria Strategic Plan 2013–2017. SIAPS collaborated with LMG to assist the PNILP to organize a five day workshop to align the two documents. The workshop gathered staff from PNILP, Direction du Système National d'Information Sanitaire (DSNIS–Direction of the National Health Information System), Caritas, Secrétariat Exécutif Permanent du Conseil National de lutte contre le SIDA (SEP-CNLS–Permanent Executive Secretariate of the National AIDS Control Council), and SIAPS. As a result of the workshop, indicators, indicator definitions, baseline data, and targets have been aligned, and community case management indicators integrated into the PNILP M&E plan.

SIAPS assisted the PNILP in conducting the RBM partners' quarterly meeting which focused on (1) reviewing the status of Global Fund malaria concept note documentation, (2) launching the 2016 PNILP annual joint work plan process, (3) presenting 2015 EUV survey findings and next steps, and (4) determining the environmental risk that El Nino may pose in terms of increasing malaria cases in Burundi. Regarding the Global Fund concept note, the ongoing process of developing key grant documents is to be completed by the end of September 2015. For the PNILP 2016 work plan, the timeline and process were shared and will involve all levels; from the peripheral to the central level including other vertical programs. The PNILP requested that partners who implement field-based projects/activities communicate with health districts and the PNILP to integrate work plans at both the district and national levels. Concerning EUV survey findings, immediate corrective measures were defined based on findings; participants also recommended a larger sample size for future surveys to get a better picture of stock status throughout the country.

Constraints to Progress

Insecurity and civil unrest in Burundi has affected the length of process for preparing for the Global Fund grant. The Grant Management Solutions Project and the Local Fund Agent (LFA) were not able to travel to Burundi to assist the PNILP in finalizing the Fund grant. Normally, two trips are planned to assist countries, but only one workshop was conducted and this

workshop had to be conducted in Uganda with Burundi staff involved because of security issues and violence in Burundi. Additional assistance was provided virtually to follow-up on the Uganda meeting.

Objective 2. National Supply Chain Strengthening

SIAPS continued to assist DPML and PNILP to strengthen the supply chain and improve the availability of malaria commodities at all levels. SIAPS assisted the DPML in conducting three coordination meetings for the Medicines Thematic Group for July, August, and September 2015. Key points on agenda were the status of the essential medicines list revision and strengthening the logistics management information system (LMIS).

During this quarter, SIAPS facilitated in-country clearing and reception of 598 blisters of artesunate/amodiaquine (AS/AQ) 50 mg and 500 blisters of 135 mg; and 261 blisters of AS/AQ 100 mg and 850 blisters of 270 mg purchased by the DELIVER Project with PMI funds. All 2015 PMI-funded malaria commodities for FY15 have been delivered in-country.

SIAPS assisted the PNILP in continuous and monthly distributions of malaria commodities from CAMEBU to health districts. The seconded pharmacist within the PNILP has analyzed and reviewed monthly requisition forms submitted by the 45 district pharmacies, and provided feedback to districts to improve estimation of district needs and prevent stock-outs and expiries at the peripheral level. SIAPS staff members are transferring capacity to assigned PNILP staff while a full-time pharmacist is being recruited.

SIAPS collaborated with the PNILP to implement PMI tools, PPMRm and EUV to generate information for decision making. Regarding PPMRm, SIAPS assisted in collecting data on malaria commodities at CAMEBU that was necessary for the PPMRm report for April–June, 2015. In August, SIAPS assisted the PNILP in collecting and analyzing data as well as writing reports disseminated to PMI and in-country partners. Additionally, SIAPS supported the PNILP to develop the monthly stock status analysis reports for August and September 2015. Under EUV, the main challenges identified are shortages and stock-outs of malaria commodities in some health districts and facilities visited in June 2015, risk of expiry of clindamycin 300 mg and quinine 100 mg tablets stored at CAMEBU, and overstock of sulfadoxine-pyrimethamine and artesunate injectable at CAMEBU. As corrective actions, SIAPS is assisting PNILP to conduct a rapid assessment in the 45 health districts by analyzing LMIS data to identify districts that are have either understocked or overstocked commodities. Results will inform a redistribution of overstocked malaria products in several health districts ensure a balanced availability of malaria commodities in the country.

To prevent the expiry of clindamycin 300 mg, SIAPS is assisting PNILP to prepare a rapid distribution of this product to health centers starting early October 2015. SIAPS assisted the PNILP to develop a detailed action plan based on EUV recommendations. Actions related to the effective management of the potential expiry of clindamycin 300 mg and the dissemination of EUV results are being implemented.

Constraints to Progress

Timid introduction of clindamycin and quinine as second-line treatment protocol for uncomplicated malaria cases is putting the products at risk of expiry. The PNILP was waiting a decree on free dispensing of the combination. Currently, clindamycin was generously procured by PMI while quinine is purchased by CAMEBU. The decree under which the government bears costs related to the purchase and distribution of quinine tablets is not yet signed.

Objective 3. Malaria services improved

As part of the establishment of the national pharmacovigilance system, SIAPS assisted the DPML and PNILP in designing a database for capturing ADR reports submitted by health facilities. The designed database has three parts: (1) a window to store information on the reporting health facility, (2) a window to capture medicine quality information and problems, and (3) a window to capture ADR information. During the second quarter, sentinel sites reported and submitted 10 ADR reports, which were captured in the PV database. The next step will be that DPML and partners will analyze the ADR reports and provide formal feedback to the facilities. The World Health Organization (WHO) provided DPML with an access to VigiFlow, a WHO database for ADR, which will enable sharing ADR information with WHO and regional pharmacovigilance centers.

During the third quarter, a series of trainings were organized for 242 health care providers on malaria diagnosis, entomological surveillance, pharmacovigilance, inventory management, and malaria case management. In this quarter, SIAPS assisted seven districts in the provinces of Cankuzo, Rutana, and Muyinga (in eastern Burundi) to develop post-training action plans that aim to ensure that knowledge and competence acquired through these trainings are used to correctly diagnose and treat malaria cases. The seven provinces fall under hyper-endemic areas with a high prevalence of malaria in general and particularly among children under five years and are among the 28 health districts with the highest malaria morbidity and mortality rates in Burundi. SIAPS assisted the health districts to collect baseline data for key indicators over which progress and changes related to morbidity and mortality rates will be monitored throughout 2016.

Constraints to Progress

Delayed disbursement of the Global Fund money to complement SIAPS funds delayed training of hospital health care providers as well as planned formative supervision.

Cameroon

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

Overall Quarter Progress

During the last quarter of PY4, SIAPS Cameroon has shown significant progress in the indicators observed at the health facility level, confirming the positive trend observed during the year. These results are linked to the strategy of decentralizing technical assistance to the regions, which has allowed a proactive presence of SIAPS in the region and an increased participation of regional coordinators and ART clinic managers in pharmaceutical supervision.

At the end of the year, SIAPS Cameroon has achieved notable improvement in the following:

- Percentage of facilities that had ARV stock-outs dropped from 36.7% in Q3 to 34.6% in Q4. This is a significant achievement from the 94% observed at the beginning of the year.
- Average number of days of stock-out decreased over the year from 6 to 1.8, reflecting an increased capacity of health facilities to react when stock-outs occur.
- Storage conditions have significantly improved from 67% to 100% of the regional warehouses complying with 80% of good storage requirements. At the health facility level, the number of health facilities complying with 70% of good storage conditions improved from 41% in Q2 to 84% in Q4.
- The percentage of ART sites that reported on stock-outs continued to increase from 34.7% to 55.1%.
- The percentage of stock records matching physical counts increased from 69% to 81.5%, and 70% of health facilities had no errors in the stock cards.

During this quarter, regional feedback meetings were organized to discuss the results of Q3 indicators. During the meetings, SIAPS trained ART clinic managers and regional HIV coordinators to calculate maximum and minimum stocks through a harmonized methodology. As a result, each region estimated and compiled the information on minimum and maximum stock levels by health facility and by ARV, which will allow the facilities to easily monitor the adequacy of stocks on hand, as well as quantities to order. SIAPS conducted joint supervisions with regional HIV coordinators and ART clinic managers in all regions, visiting all 104 sites supported by SIAPS and 6 regional warehouses. Additionally, during this quarter, SIAPS has trained the store keepers and assistants of the four regional warehouses in inventory management and storage practices.

As SIAPS moved into implementation of PY5, the activities in the regions of Adamawa and Est, whose support is not part of the agreed PEPFAR strategy under COP15, were closed out. Since 2013, SIAPS has provided technical assistance to the two regional warehouses and six ART clinics, which represents 35% of the ART clinics in both regions. Although regional and health facility managers have been capacitated to conduct basic pharmaceutical supervision and ARV stock monitoring, the regions have expressed their concerns in view of the lack of other partners providing technical support in ARV management, and the unfilled need to expand capacity

building to other ART and PMTCT clinics in the regions.

The use of OSPSIDA to report and analyze regional and national information remains problematic due to the lack of sufficient human resources at the Regional HIV Program (Regional National AIDS Control Council [NACC]). The permanent secretary of NACC sought advice from SIAPS to explore options to make OSPSIDA fully operational and used. As a result, SIAPS is piloting a new approach in which the civil society organization Positive Generation assists in data entry. If the experience is positive, it will be expanded to the rest of the regions.

During the month of July, a team from SCMS visited Yaoundé to discuss with USAID, PEPFAR, SIAPS, and the four regional warehouses the procurement plan for ARVs and other health commodities that will be procured during COP15 in support to PEPFAR and the country. SIAPS facilitated the mission, as well as the different meetings with representatives of the MOH and PEPFAR partners.

Objective 1. Pharmaceutical sector governance strengthened

For PY4, this objective includes activities to improve the pharmaceutical governance and transparency of management systems for HIV and AIDS commodities through a coordinated mechanism of quantification, procurement, and distribution of these commodities from the national level to health facilities. It also includes work with some civil society organizations involved in advocacy for access to ART, so they can participate in the improvement of the HIV and AIDS health commodities supply chain, including properly identifying and timely reporting issues related to the availability of these commodities.

Some progress was achieved during this quarter in relation to the Quantification and Stock Monitoring Committee. The SIAPS CPD and the permanent secretary of NACC agreed on some actions that will be implemented during PY5 to increase transparency and quality of the exercises conducted through the committee. As such, a reduced technical team will meet monthly to review the stock status by using a set of basic indicators. Then, quarterly, the stock status analysis will be enlarged to cover additional indicators and results presented to all members of the quantification committee and eventually other partners.

NACC, the secretary of the quantification committee, is gradually taking a more active role in the committee, although there is still a need to better manage the participation of the members, as well as the quality of the analysis conducted. As such, the full committee met this quarter only once to mainly discuss the need to agree on procedures for redeployment of health commodities when there is a need to rebalance stocks at the periphery. Unfortunately, the agenda was not explicit and members could not adequately prepare for the meeting. NACC wrote the stock status reports for June and July without SIAPS or other members' involvement, which, in principle should be avoided. In addition, SIAPS assisted at the end of September with the review of the quantification of HIV commodities that will be submitted to the Global Fund as part of the grant-making process, although reports and final documentation have not yet been completed.

SIAPS has been invited to participate in the Regional Funds for Health Promotion (RFHP) Partners Committee that includes the MOH as well as partners supporting the regional funds,

mainly GIZ, the German Development Bank, the World Bank, and AFD. Meeting participants are obligated to share the work conducted in the regional funds to ensure better coordination among partners from financial and management perspectives, but not necessarily to discuss technical matters. The involvement of SIAPS has been well appreciated as an opportunity to bring a technical perspective to help in decision making.

Constraints to progress

Because of other project activities, duties, and absences of several members of the Medicines Cluster, the cluster has not met this quarter.

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

Although during PY4, most of the activities related to supply management focused on regions and health facilities, this objective includes activities to maintain some support to the Central Medical Stores (CENAME) and regional medical stores (RFHPs), especially in terms of human resources capacity building. Strengthening supportive supervision visits has been chosen as one of best approaches to improve inventory management practices in health facilities. In addition, SIAPS reports under this objective on activities that were jointly initiated last year and implemented with UNFPA related to the upgrade of LMIS in CENAME and RFHP.

During this quarter, SIAPS provided training to 28 stock keepers at the regional warehouses of the Center, Littoral, and North West regions. Materials used to train storekeepers and supervisors of CENAME last quarter were adapted to each of the regional warehouses. Trainings were conducted in-situ and facilitated by the regional advisors of each region and the administrator or the pharmacist of the regional warehouse. Aspects covered during the training included inventory management, stock management procedures, internal supervision, and practical exercises. In the Littoral Region, the training helped to refine some procedures for inventory management and control, thus reducing the time required to conduct physical counts.

SIAPS met with the Clinton Foundation to see the status of the LMIS project, who informed SIAPS that the consultant has already been recruited, although the procurement of services for the SAGE Sari upgrade have suffered some delays. Meanwhile, UNFPA will be financing the development of the electronic MIS platform, whose technical specifications and tender documents are currently under review, and GIZ has procured the equipment needed for six regions, with the remaining four still to be covered. SIAPS and the Clinton Foundation agreed on the need to discuss how best to ensure management of this project and the need to find some funding among technical and financial partners to recruit a project manager to watch over the whole process.

Partner contributions

UNFPA, the Clinton Foundation, and GIZ are the main partners in the LMIS project.

Constraints to progress

Storage capacity of the regional warehouses, especially in the Center Region, remains a limiting factor to scaling up ART, but also to storing and distributing other essential medicines. SIAPS is working with the Center Region warehouse to seek funding from the Global Fund to rent additional space. Although ARVs are being stored in acceptable conditions, some of the store rooms of the regional warehouse are poorly equipped. The Littoral Region is also facing limitations in storage space, although it is less problematic.

Objective 3. Use of information for decision making increased

For PY4, this objective includes activities to improve the availability of information on pharmaceutical stock status and patients under treatment so that evidence-based decisions are made at both the regional and central levels. It also includes the deployment of a comprehensive dashboard (OSPSIDA) to monitor the availability and use of HIV and AIDS commodities and to improve supply management and the reporting system at the facility level.

Following the strategy adopted during the previous months, ART site coordinators and hospital directors of target sites were invited to a second feedback meeting in each of the regions supported by SIAPS. This objective of the second feedback meeting was to review the indicators aggregated from the last supervision related to a) availability of ARVs at health facility, b) compliance with good storage practices, and c) reporting requirements. During the meeting, SIAPS proposed some tools for internal supervision to help ART site coordinators quickly interpret data collected and reported by the dispensers and detect possible errors in reporting and management problems. Finally, SIAPS trained the ART site coordinators to estimate maximum and minimum stocks levels and accompanied them back to their facilities to help them establish the right stock levels for that facility. Stock levels by ARV, health facility, and region are expected to be a key element in assessing whether stock status is adequate and thus, prevent stock-outs.

Supervisions to each of the health facilities were organized jointly with the ART site coordinators and the regional NACC representatives. During the next regional meeting, it is expected that ART site coordinators will be able to provide feedback to SIAPS on the use of internal supervision tools, and additional practical exercises will be elaborated to interpret stock levels from the maximum and minimum stock-level concepts.

Activities in the regions of Adamawa and Est have already been closed out at the end of September 2015. As such, in addition to the feedback and supervision visits conducted in the other four regions, a final regional meeting was organized to close-out activities and reinforce some of the key concepts of pharmaceutical management. Also, the methodology in the last round of supervision in Adamawa and Est was modified to enable the ART site coordinator and regional NACC to lead the exercise. Out of the six ART sites in these regions, the capacity of five sites to adequately manage the stock of ARVs had greatly improved. However, the NACC offices of both regions expressed their concerns about the interruption of activities and regretted that SIAPS did not have the opportunity to extend its activities to all ART and PMTCT sites in both regions.

The lack of human resources to regularly update OSPSIDA has been identified as the key bottleneck that hampers implementation of this activity. SIAPS proposed to NACC possible solutions: partnerships with academic institutions, recruitment of data clerks to support the regional NACCs every month, and use of other regional staff to support the regional NACC. The option that was finally adopted by NACC was the partnership with the Association of People Living with AIDS and other civil society organizations. The approach is currently being piloted in the Center Region with Positive Generation, which is a SIAPS partner. Piloting this approach will help determine the level of effort that can be estimated by region depending on the quantity of data to be entered, other additional requirements, and the development of general procedures to solve the most common problems. Once the approach is well established, SIAPS and NACC will seek other partners to implement the strategy in the rest of the regions.

Partner contributions

The Clinton Foundation has started to implement the system SMS for Life to track PTMCT and pediatric commodities in some regions. SIAPS and the Clinton Foundation will be coordinating so that both organizations have access to each other's electronic tools (SMS for Life and OSPSIDA) and to complement each other's information.

Constraints to progress

The implementation of OSPSIDA in the regions not directly supported by SIAPS may hamper the use of OSPSIDA in Cameroon in its full potential. Also, this limitation may affect the results of SIAPS' Regional West Africa Office in relation to the multiple-country implementation of OSPSIDA.

Objective 4. Financial barriers reduced

Under this objective, SIAPS Cameroon PY4 reports on contributions that are made to monitor procurement and supply management performance for HIV and AIDS commodities and to ensure compliance with Global Fund requirements in regards to forecasting and management of these health commodities. In this sense, SIAPS plays a double role. On the one hand, SIAPS is directly providing technical assistance to CNLS, which is the main Global Fund principal recipient for HIV, as well as to CENAME and selected Centre d'Approvisionnement Pharmaceutique Regional (CAPRs) and health facilities. In addition, SIAPS is one of the members of the CCM representing the technical and financial partners.

The concept note submitted for HIV and TB in May 2015 has finally gotten a positive answer from the Technical Review Panel (TRP) and sections related to supply management have finally been cleared. However, the TRP has requested that the country develop an operational plan to detail the activities and chronology of the strategic plan to scale-up ART.

Meanwhile, the grant-making process is gradually starting. SIAPS was called among other technical and financial partners to provide assistance in the development of the grant-making documents.

Constraints to progress

One of the challenges that SIAPS faces in providing quick and on-time technical support to NACC is the habit of NACC to conduct most of its technical activities related to document development in Yaoundé. With only one vehicle in the SIAPS country office, SIAPS has difficulty participating in these out-of-town sessions when they are announced with only a few hours' notice. NACC has committed to better plan for partner participation and, alternatively, to hold some meetings at the country office or to allow SIAPS to provide input remotely when this does not hamper the quality of the work.

Objective 5. Availability of pharmaceuticals improved

For PY4, this objective includes activities to implement an active distribution system for ARVs and test kits from the four regional CAPRs to targeted health facilities for PMTCT Option B+ in PEPFAR-supported regions. Initially, the health facilities that should be targeted are those corresponding to the first stages of the implementation of PMTCT Option B+, as described by the ministerial instruction of November 2014. In the PEPFAR regions concerned, the same sites are those that will receive technical assistance by SIAPS during this year.

During this quarter, a team from SCMS visited Yaoundé in order to agree with national and PEPFAR partners on the procurement and distribution plan for the commodities procured with PEPFAR funding. Most of the commodities will be procured in support of the roll-out of PMTCT Option B+ and the Accelerated Children Treatment (ACT) Initiative during the implementation of COP15 in priority districts of the four PEPFAR-supported regions. Partners agreed that, given the bottlenecks observed in CENAME and also in view of the support that SIAPS is providing to the regions, the most efficient distribution strategy to ensure that PEPFAR commodities are distributed to PEPFAR-supported geographic areas is to directly ship to each of the four regional warehouses. The frequency agreed upon, taking into account storage capacity limitations, is every four months, with a first shipment planned for November.

During this quarter, a pilot shipment of lopinavir/ritonavir was delivered directly to the regions, and the regional advisers satisfactorily assisted the regional warehouses to distribute the quantities according to the distribution plans. This experience seems to show that direct delivery to the regional warehouses is a feasible option and that distribution can be easily controlled at the regional level. This positive experience contrasts with the problems encountered by SIAPS during the slow distribution of NVP syrup, delivered to CENAME in Q2, which caused several stock-outs at the health facility level.

The presence of the regional advisers contributes to preventing stock-outs and expiration of products in a more active manner. For example, an overstock of the ARV tenofovir/lamivudine + efavirenz, which was at risk of expiring in the Littoral Region, was redistributed to other regions.

Partner contributions

The technical advisors of SIAPS in the North West Region were called upon to facilitate the M&E and logistics management sessions during the follow-up phases of the Option B+ implementation training to replace the M&E coordinator of the regional NACC. The trainings were organized by CBCHS who is a PEPFAR implementing partner in the North West and South West Regions.

The SIAPS technical advisor for the Center Region was also called to participate in the data validation workshop for PMTCT data organized by the regional NACC. The technical advisor was requested to formally present the reporting requirements and management tools related to HIV logistics.

Constraints to progress

Bottlenecks at CENAME continue to be a risk factor in the distribution system. For example, the North West Region fell out of stock of the RTK Determine for which an order had been placed. Three times a shipment from CENAME came to the region without the test kits which were actually available at the central level. Finally, SIAPS used its own vehicles to transport the kits to the region.

Reporting requirements of PMTCT sites implementing Option B+ are still not totally shorted out at the national level. Some regions are finding difficulties in understanding indicators, and sometimes tools are not available. In the absence of specific tools, SIAPS is advising sites to use the ART registers and dispensing tools to at least capture the main information

Democratic Republic of the Congo

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

Overall Quarter Progress

SIAPS continued to provide support to Medicine Regulation Authority (MRA [DRA]) to improve its governance, its registration system, and to provide training to its staff. Given that the Burkina Faso DRA is the SIGIP-ARP software provider, two Burkina Faso Ministry of Health (MOH) experts also participated in the training of 25 DRC and DRA staff members.

During this quarter, SIAPS, in conjunction with other partner and stakeholders, was involved in the development of the strategic plan of the National Supply Chain System (SNAME). SIAPS also, in collaboration with other partners, supported a five day workshop on the elaboration of a National Strategic Plan of the DRC Supply Chain. This strategic plan will be part of the National Health Strategic Plan 2016–2020.

In the previous quarter, SIAPS supported the Faculty of Pharmaceutical Sciences (FOPS) in finalizing the five-year strategic plan (2016–2020), which was one of the recommendations by the US-based Accreditation Council for Pharmacy Education (ACPE) to improve the governance to better monitor faculty operations. During this quarter, SIAPS supported FOPS to finalize the operational plan (2016) for implementing the first year of the strategic plan. In addition, data and information were gathered to inform the development of the competency framework for the pharmacy training program that should guide the overhaul of the training curriculum.

Objective 1. Pharmaceutical Sector Governance Strengthened

After a series of activities carried out to support the establishment of a database for registered and authorized medicines in DRC, during this quarter, SIAPS supported the DPM to install and set the SIGIP-ARP registration software. From August 31 to September 4, 2015, SIAPS provided technical and financial support to train the DRA staff on this system. As the SIGIP-ARP software was provided through the Burkina Faso DRA, this training was conducted by two experts from the Burkina Faso Ministry of Health who trained 25 DRC DRA staff members (10 women and 15 men).

After completing the situational analysis of the DRC supply chain, SIAPS, in collaboration with other partners, supported a five day workshop to develop a national strategic plan of the DRC Supply Chain. This strategic plan will be part of the National Health Strategic Plan 2016–2020 which is under development.

During this quarter, in conjunction with other partner and stakeholders, SIAPS was involved in the development of the strategic plan for the National Supply Chain System (SNAME). SNAME, coordinated by the National Program for Medicine Supply (PNAM), have been ineffective for years. With the strategic plan under development, it is expected that SNAME

and PNAM will now play their coordinating and stewardship roles in the supply chain system in DRC by improving the advocacy and coordination of MOH partners' supportive activities.

As previously mentioned, SIAPS supported FOPS to develop the operational plan (2016) for the first year of the implementation of the strategic plan. This plan was presented to the World Bank for funding purposes. The FOPS strategic and operational plans came at the right time as the World Bank requires that training institutions should submit their strategic plans before being considered for any financial support. The World Bank avails approximately USD \$250 million to support the DRC universities and other training institutions, including primary and secondary schools. As a result of SIAPS support, the FOPS is the first training institution to meet this requirement.

SIAPS is also assisting FOPS to develop the first competency framework for the pharmacy training program. The framework should encompass the three domains of competency (i.e., cognitive, motor, and attitude) that should guide the revision of the training curriculum.

Partner contributions

USAID, WHO, UNICEF, Supply Chain Management Systems, Rural Health Program of DR Congo (SANRU), Bill & Melinda Gates Foundation, UNFPA

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

In line with the Malaria Operational Plan (MOP) 2014–2015, SIAPS was mandated to provide support to the malaria disease program (PNLP) focusing on malaria case management in 44 new PMI health zones. During this quarter, SIAPS supported the PNLP to conduct training for 48 health care workers (42 men and 6 women) on malaria prevention, diagnosis, and case management, including quantification and pharmacovigilance.

From January to September 2015, 884 health workers have been trained on malaria case management, according to the NMCP's recent guideline document.

Given SIAPS's expertise in quantification, the MOH requested assistance from SIAPS to assist with the quantification of 13 life-saving products for women and children. The following partners were involved in this quantification exercise:

- Ecumenical Pharmaceutical Network (EPN)
- Central Africa Baptist Church (CBCA)
- SECONAF (contraceptive security in francophone Africa)

An annual meeting and exchange with the UN Commission on Life-Saving Commodities was also held from September 7 to 10, 2015, during which 16 participants (6 women and 10 men) were trained on forecast and supply planning of the 13 life-saving products to improve their access and availability.

Partner Contributions

IHP, UNICEF, SANRU, l'Agence Belge de Développement (CTB), IMA World Health, Department for International Development [U.K.], John Snow, Inc., SECONAF, EPN, CBCA, Evidence to Action

Constraints to Progress

The 44 new PMI-supported health zones (HZs) are spread over six health provinces area. This complicates logistics and the cost of activities, such as training workshops.

Objective 3. Utilization of information for decision making increased

Using the alert system set up from the stock monitoring tool at the Management Sciences for Health warehouse in Kinshasa, a stock of nearly 13 million male condoms out of 19,244,157 was redistributed among USAID IPs to avoid wastage. The redistribution is still ongoing.

In September 2015, SIAPS, jointly with PNLN, conducted the second End User Verification (EUV) Survey of the fiscal year 2014-2015. Data analysis is still in process and the result will be reported during the next quarter. SIAPS, jointly with Measure-Evaluation, conducted a baseline study for malaria case management in selected health facilities among the new 44 PMI-supported health zones. The baseline data will be used in the future to measure progress made in controlling malaria disease in the health zones.

Partner contributions

NMCP DRA, PNAM IHP, PMI-Exp (PSI and CARITAS)

Constraints to progress

Logistic issues have greatly increased the cost of both EUV and baseline study.

Poor record keeping and archiving practices in health facilities has made it very difficult to conduct a baseline study.

Objective 4. Financing strategies and mechanisms strengthened to improve access to medicines

Despite the fact that the data of the health zones was not shared during this quarter, the percentage of health zones that have at least 50% of capital account for medicines recovery at the district-level has increased from 11% (9/80) last quarter to 18% (14/80) this quarter. It was noticed that some health zones purchased their medicines from the private sector instead of the public sector. SIAPS started doing advocacy with the MOH/DPS to address this issue.

Objective 5. Strengthen Pharmaceutical services to achieve desired health outcomes

During this quarter, SIAPS program in DRC supported the Health Provincial Division (DPS) to conduct medicine use studies in four provinces, and made comparisons between hospitals with and without Drug and Therapeutics Committees (DTCs). By end of the quarter, the studies were completed in three provinces (Kasai Occidental/Kananga, Sud Kivu/Bukavu, and Katanga/Kolwezi). Seven hospitals participated in the studies, out of which four have DTCs and three do not. The study in the Kasai Oriental/ Mbuji-Mayi Province is not yet finalized. The results will be reported after Kasai Oriental/Mbuji-Mayi province completes the study.

In July 2015, SIAPS DRC supported Province Orientale's DPS to establish five DTCs in the Tshopo District. These DTCs are the first in the Province Orientale and are expected to play a critical role in improving medicine use, including prescribing and dispensing practices in the province.

Partner contributions

DRA, CNPV, WHO, Médecins sans Frontières, ProVIC, Direction de Lutte contre la Maladie, National Institute for Biomedical Research (INRB)

Constraints to progress

There is a mismatch between data collection tools used at health facility level and those used at health zone level, therefore, important data captured from health facilities are not captured at health zone level. As a result, much information is not shared and has a negative impact on decision making.

Dominican Republic

Goal: Increase the availability of critical medicines and diagnostic materials including the ones used for HIV and AIDS through the implementation of the different 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 in this quarter with the majority of health facilities reporting their data and receiving feedback (1,392/1,400, 99%). ARV availability in health facilities remains high (92%). The estimation of needs for 2016 considers the progressive adoption of the 90/90/90 goals.

Objective 1. Pharmaceutical Sector Governance Strengthened

During this quarter, the Ministry of Health (MOH), with SIAPS technical assistance, launched the Essential Medicines List (NEML). The list is available at: <http://www.msp.gob.do/oai/documentos/Resoluciones/2015/Cuadro%20Basico%20de%20Medicamentos%20Esenciales%20de%20RD.%202015.pdf>.

SIAPS supported the revision and validation of the therapeutic guidelines and medicines formulary for primary health facilities. The final edition of both documents will be printed and distributed during next quarter.

During this quarter, SIAPS finalized technical reports of the estimation of needs for the 2016 national pooled procurement, and individual reports for the “Estimation of Need for 2016 procurement of Disease Control Programs—Maternal and Child Health, High Cost Medicines Program, HIV and AIDS, and TB.” SIAPS also supported the adjustment of the 2016 procurement estimates to the anticipated financial ceiling. The adjustments were based on the vital/essential/non-essential classification included in the NEML. The estimated cost of medicines and supplies needed for 2016 will be included in the MOH’s budget proposal.

Partner contributions

There were no partner contributions this quarter.

Constraints to progress

No constraints this quarter.

Objective 2. Capacity for pharmaceutical Supply Management and Services Increased and Enhanced

During this quarter, SIAPS completed the first draft of the educational modules for a certified course (diploma) on rational medicines use. For the next quarter, SIAPS will conduct a meeting for the validation of the final version. The implementation of the course is scheduled for November 2015.

During this quarter, SIAPS continued supporting on-site trainings of personnel in two major hospitals in the implementation of SUGEMI procedures. For the next quarter, SIAPS will develop the methodology and tools to scale up the implementation of SUGEMI to the rest of the hospital network through a training of trainers and cascade trainings.

Partner contributions

The certified course on rational medicines use will be implemented in partnership with the Universidad Central del Este.

Constraints to progress

There were no constraints this quarter.

Objective 3. Pharmaceutical Management Information Available and Used for Decision Making at Different Levels of the Health System

The April-June SUGEMI quarterly bulletin was disseminated to a wide audience on August 2015, and is also available on the MOH website.

SIAPS has supported the revision and update of the SUGEMI information and monitoring system. During this quarter, SIAPS trained the central pharmaceutical unit personnel in the interpretation and use of pharmaceutical management indicators for decision making. SIAPS has also developed a proposal for a monthly report that PROMESE may provide to its clients with data on procurement, requisition, dispatch, and inventories.

Partner contributions:

There were no partner contributions this quarter.

Constraints to progress:

There were no constraints this quarter.

Objective 4. Improved allocation of resources for procurement and pharmaceutical management operations

SIAPS consultants collected information for the analysis of the financial gap in the procurement of medicines and supplies. During this quarter, the results were presented and discussed with national authorities and technicians, and USAID officials. A technical report summarizing the findings was developed and distributed to national counterparts and interested parties. SIAPS also finalized success stories and technical reports on:

- Final version of technical document: “Financial gap for the procurement of medicines and supplies in Dominican Republic.”
- Success Stories: Revision of High Cost Medicines List; The Financing of ARVs in Dominican Republic.

Partner contributions:

There were no partner contributions this quarter.

Constraints to progress:

There were no constraints this quarter.

Objective 5. Pharmaceutical Products and Services Improved to Achieve Desired Health Outcomes

During this quarter SIAPS continued supporting the integration of two major hospitals to SUGEMI (Hospital Maternidad La Altagracia and Hospital Moscoso Puello). SIAPS hired two national short-term consultants to integrate four additional hospitals to SUGEMI before December 2015.

SIAPS supported the implementation of a baseline assessment previous to the integration of the Maternal and Child Health Program (M&HP) to SUGEMI. During this quarter, the results of the study were presented to the M&CHP Director and her technical team. By the end of the next quarter, SIAPS will support the transfer of all M&CHP products to the SUGEMI administration.

Partner contributions:

Baseline study was technically and financially supported by UNFPA.

Constraints to progress:

There were no constraints this quarter.

Ethiopia

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

Overall Quarter Progress

During the last quarter, SIAPS Ethiopia, as part of its long-term technical assistance to help the Ethiopian Government institutionalized the Auditable Pharmaceuticals Transactions and Services (APTS) initiative, drafted and submitted a directive for indemnity of APTS implementation to FMOH for review by policy makers. This is an important milestone as it is anticipated to address one of the major complaints of pharmacy practitioners implementing APTS at health facilities. In addition, six hospitals in the South Nations, Nationalities, and Peoples Region (SNNPR) started APTS during the quarter. This brings the total number of health facilities that started APTS implementation to 45 (90% of the life-of-project target).

In the reporting period, training on reproductive health, maternal, newborn, and child health (RMNCH) was organized for 51 pharmacists drawn from selected community pharmacies in Addis Ababa. The training covered concepts and strategies of RMNCH, responding to symptoms, rational use of medicines, priority life-saving medicines, pharmaceutical ethics, and public education.

In this quarter, health facilities continued to provide medicine-use related education to patients in different wards. Seven health facilities from Amhara (5), Harari (1), and Tigray (1) regions organized 57 sessions in the reporting period where 3,763 patients attended, of which 62.1% were female. During the health education sessions, 16 different topics were covered including malaria prevention and treatment, rational use of AMDs and ARVs, adherence to treatment, breastfeeding and medicine use, and vaccines and pregnancy.

During the quarter, SIAPS conducted the first national assessment on the outcomes of clinical pharmacy services implementation. Results of this assessment revealed that 41 (95.3%) hospitals had started ward-based clinical pharmacy services, of which 20 (48.8%) hospitals had assigned pharmacists to wards on a full-time basis. In 23 (56.1%) of the hospitals, the pharmacists attended both morning sessions and ward rounds; 29 (67.4%) hospitals had conducted an awareness creation program for the hospital staff. Job descriptions were found in only 18 (41.9%) of the hospitals. Clinical pharmacy interventions were being documented in 36 (87.8%) hospitals. In addition, results of document reviews showed that 8,257 drug therapy problems (DTPs) were identified, and pharmacists were able to intervene in 87.0% of them, of which 88% were accepted by the multidisciplinary team (MDT). Regarding the undergraduate curriculum, 92.9% pharmacists noted that it did not adequately prepare them for their work requirements. The results also showed that clinical pharmacy services have been started in a number of hospitals and positive outcomes registered in improving quality of care.

In the reporting quarter, prescription indicator studies were conducted in four hospitals in the Amhara, Oromia, and Harari regions. The results were presented to DTCs and interventions planned. Among the key findings in Haromaya Hospital in the Oromia region, the percentage of

injections per encounter and percentage of antibiotics per encounter were 41.2% and 65.36%, respectively.

Graduation of PMI sites implementing a continuous results monitoring system (CRMS) began during the quarter, and SIAPS, in collaboration with Oromia Regional Health Bureau (ORHB), graduated five health facilities from AMDM and CRMS support. These health facilities were graduated after building their capacity on the management of antimalarial and related medicines in addition to their capacity to generate CRMS reports to monitor their progress and identify challenges for future improvement.

Objective 1. Strengthen the pharmaceutical system to ensure access to quality pharmacy services that will lead to improved health outcomes

The health regulatory information center (HRIC) established at FMHACA is progressing well and preparations are underway to train their staff on how to administer and operate the center.

In the quarter, one review meeting was organized to assess the implementation status, best practices, and challenges of pharmacy services with emphasis on APTS and clinical pharmacy services in the Amhara region. The review meeting brought together experts, including pharmacists, clinical officers, chief executive officers (CEOs), pharmacy accountants, and auditors from all hospitals in the Amhara region. The audience thoroughly discussed both successes and challenges in the presence of leadership from RHBs, and the meeting concluded with development of an action plan to resolve the challenges.

USAID/SIAPS/PMI supported ORHB to conduct the pharmaceutical supply chain management and pharmacy services assessment survey. The purpose of this survey was to examine how health facilities handled pharmaceutical supplies and services at zonal and district levels. Furthermore, to enable ORHB to strengthen the management of pharmaceutical services at hospitals in the region, SIAPS provided technical and financial support to ORHB to organize its annual pharmacy review meeting. Participants were drawn from 54 hospitals, 18 zonal health departments (ZHDs), 12 town administration health offices, and 5 PFSA hubs. A representative from ORHB made presentations on the findings generated from the supportive supervision on the availability and rational use of medicines and status of pharmaceutical services at 156 health facilities. Finally, the participants discussed various indicators from the presentations and set future interventions to improve availability, rational use of medicines, and pharmaceutical services at health facilities to improve patient health outcomes. There were more than 500 participants in the review meeting.

Objective 2. Pharmacy services at the facility level improved

In this quarter, a total of 16 different trainings were held on SOPs (8), APTS (4), ART (2), DTCs (1), and RMNCH (1) and were attended by 654 professionals, of which 40% were female. These trainings were organized as both onsite and training of trainer (TOT) trainings.

SIAPS supported the revision of the pharmacy chapter of the Ethiopian Hospital Reform Implementation Guideline (EHRIG). In this edition, more emphasis was given to APTS and

clinical pharmacy services based on the FMOH's direction that these interventions are making tremendous contributions to improving quality of services at hospitals and are being considered as the flagship program for the MOH to scale up in the coming five years.

During this quarter, Limu Genet and Dilla Hospitals started clinical pharmacy services. About 2,000 copies of the clinical pharmacy service SOP were distributed to 181 hospitals and health-related institutions to enable them to standardize provision of service.

With support provided to 8 hospitals in the Amhara region during the reporting quarter, the hospitals were able to serve 1,151 patients, of which 871 (75.7%) have a documented patient medication profile. Within the reporting period, 275 drug therapy problems were identified and interventions were planned and implemented for 257 (93.5%) of them. Of the interventions made, 252 (98.1%) were fully accepted. To strengthen patient-centered pharmacy service in this reporting period, 113 ward rounds and 61 morning sessions with MDTs and also 9 pharmacy-only morning sessions were conducted.

In quarter 4, the Strategy for the Prevention and Containment of Antimicrobial Resistance for Ethiopia was drafted and shared among a wide range of stakeholders. This strategy has five strategic objectives, and a workshop was organized to get feedback on the draft strategy, to get key institutions committed to implementation of the strategy.

ORHB was supported to advocate for the prevention and containment of AMR at 156 health facilities in the region. The number of DTCs that developed AMR advocacy or conducted containment-related activities was found to be low (only 19% of hospitals and 3% of health centers).

To create awareness on pharmacovigilance among health providers, face-to-face discussions with 180 health providers were carried out at 12 health facilities (8 in Oromia, 2 in Harari, and 1 each in Dire Dawa and Somali). During the quarter, various pharmacovigilance tools and documents were distributed to health facilities, RHBs, and the southern branch of FMHACA. These included 465 adverse drug event reporting forms, 900 allergy cards, 400 copies of the national pharmacovigilance framework, 1,120 copies of newsletters, and 350 preventable adverse event bulletins; 65 pieces of ADE data were entered into the national database and acknowledgment provided to 30 ADE reporters. Two product-quality defect reports were prepared and shared with the Inspection Directorate.

ORHB was technically and financially supported by SIAPS to strengthen DIS units at 36 hospitals during the supportive supervision. At the time of the visit, it was found that 75% of the hospitals have a functional DIS. However, only half of the hospitals provided drug use education to patients in the waiting area.

In this quarter, Woldia General Hospital finalized the drug use evaluation (DUE) study on Coartem. To fill the gaps identified by the DUE, the intervention plan was approved by the DTC. One of the interventions put in place was the design of a patient history registration form tailored to malaria cases. The form obliges prescribers to carefully assess 14 points and then rule out malaria before prescribing an AMD.

Partner contributions

- SIAPS collaborated with its partners, such as health facilities, FMHACA, EPHI, mass media agencies, and medicine outlets.
- PFSA, public universities, and RHBs were involved in the assessment of clinical pharmacy service updates.

Constraints to progress

- Some planned activities, such as pre-service training for university graduates, were not conducted because of budget constraints.
- Poor documentation of patient medical records and communication of results by health facilities, despite the fact that formats are supplied and facilities supported on how to document and communicate results to concerned bodies.

Objective 3. Capacity to use information for decision making strengthened

During the reporting quarter, SIAPS Ethiopia revised the SOPs for managing information on ARV drug dispensing and patient medication records. This document is expected to contribute to the standardization of the management of patient and product-related information at ART sites. This will be instrumental in improving the recording, aggregation, and reporting of ART patient and regimen-related information. In addition, it provides guidance to pharmacy personnel on how to prevent and document medication errors related to ART.

A total of 278 pharmacy professionals were trained on SOPs for managing information on ARV drugs dispensing and patient medication records and were given the manual. This training was organized by partners in which SIAPS provided all the required support including trainers.

SIAPS compiled patient uptake and regimen breakdown reports on a regular basis and shared it with all stakeholders and partners to help them make informed decisions on ART program monitoring and adherence to treatment. Continued support was provided to health facilities to maintain patient medication records and submit reports every two months. In Q4, one patient uptake and regimen breakdown report was produced and shared. Patient uptake data were collected from 680 health facilities, while regimen breakdown was collected from 380 health facilities. According to the recent patient uptake report, 346,332 patients were on ART, of which 302,819 patients were covered in the regimen breakdown report (87.4% of those covered under the patient uptake report).

As a way of ensuring continuous patient information recording at the health facilities and generation of various reports for decision making, computers were distributed to four health facilities in the Amhara region. Computer hardware and software maintenance support was provided to 51 ART electronic sites nationally, including BIOS battery replacement for 12 computers. Onsite training was provided to 22 pharmacy professionals and data clerks. Four health facilities started using EDT and were given the necessary onsite training to implement the tool.

The EDT helps health facilities prevent medication errors and improve medicine dispensing counseling and adherence to treatment of ART patients. The tool displays detailed patient information and medicine-use history which is then used by dispensers to take evidence-based intervention. In this quarter, 143 medication errors were identified at Felegehiwot Hospital, Bahirdar Health Center, Finoteselam Hospital, and Debremarkos Referral Hospital in the ART pharmacies, and all of these were related to inadvertent changes in regimen, all of which were communicated to prescribers and corrected.

Support to FMHACA to develop an automated regulatory information system that facilitates medicine registration continued in the quarter where additional training and piloting of the software were carried out. This training and mock piloting were provided for 3 weeks to 71 trainees (29 industry applicants and 42 FMHACA users [CSOs, Medicine Registration and Licensing Directorate, Quality Control Directorate, TWGs, and super users]) in 4 different training sessions. The trainings provided extensive hands-on experience, and feedback was collected to refine the software features and to capture all required functionalities. After this recent training and mock piloting, it was agreed to conduct the final go-live at the end of November 2015.

The second-round countrywide of EUV survey data was collected from 40 sites comprising 11 hospitals, 13 health centers, 8 health posts, and 8 stores in 8 regions and city administrations. The comprehensive report on the first-round EUV survey was prepared and distributed to all SIAPS Ethiopia management members and technical staff for final comments.

Partner contributions

Health-facility CEOs and dispensary staffs are interested in implementing EDT for real-time dispensing.

FMHACA is committed to finalizing backlogs of registration applications and make them ready to upload to the master database. A change-management plan has been approved by FMHACA to manage the changes effectively as per the agreed 90-day plan. The USP/PQM regulatory affairs officer is a member of the TWG for the registration module, and he has continued to show constructive support toward SIAPS project work and provide input on the progress of the project by participating actively in the TWG meeting and by taking assignments and providing feedback for deliverables.

Health facilities collaborated in providing the necessary data and information for the EUV and regional, zonal, and health facility staff participated in the data collection activities.

Constraints to progress

- Frequent failure of old computers
- Frequent power interruption

Objective 4. Optimal use of financial resources ensured

So far, APTS has been implemented in 45 health facilities throughout the country. The average availability of key medicines in 45 APTS-implementing health facilities was found to be 96%; the majority of health facilities achieved the Health Sector Development Program IV target (100%), and the minimum achievement was 70%.

Medicines availability was measured by selected key medicines; 15 key medicines were selected nationally and an additional 10 to 15 key medicines were added by the hospitals based on their own top 10 diseases. In total, 25 to 30 key medicines were used as a reference (which provides more and better information) to regularly measure availability of medicines at APTS sites.

Out of 45 health facilities, 30 (67%) track their sales of medicines by using APTS and report regularly to their respective regions and FMOH. APTS-implementing health facilities regularly submit performance reports to the FMOH and RHBs through the email account dedicated for this purpose. FMOH and RHBs give feedback through email, telephone, supportive supervision, and review meetings.

As a result of APTS implementation, the efficiency use of the medicines budget has improved, through regular stock status analysis, where 8 hospitals saved 414 types of medicines costing \$173,231.75 from expiry. Expiry of medicines also decreased to below 2% in APTS-implementing health facilities. Revenue retained from the sales of medicines at APTS-implementing hospitals has been increasing progressively in almost all hospitals.

APTS TOT was provided for 38 professionals (21 male and 17 female) from health offices and centers in the Addis Ababa region. The trainees are expected to fulfill the facility and HR requirement for APTS implementation as well as provide onsite training with a little support from SIAPS. In the quarter, onsite APTS trainings were given to 178 participants from 7 hospitals in Tigray and 1 hospital in SNNPR. Participants included managers and pharmacy and finance staff.

SIAPS Ethiopia supported health facilities in redesigning pharmacy premises to properly implement APTS and improve work flow. So far, technical support was provided to 18 health facilities in Addis Ababa (6), Amhara (4), Oromia (3), SNNP (3), and Tigray (2). In addition to improving the storage and dispensing area for AMDs, contracts were awarded to refurbish 4 health facilities during the quarter to bring the total health facilities under refurbishment to 10.

During the reporting period, five health facilities in the Oromia, Harari, and Addis Ababa regions conducted ABC/VEN analyses. One of the health centers in the Addis Ababa city administration presented study findings on an event organized to disseminate results of ABC analysis and prescription review and develop intervention plans. A total of 40 DTC members, health center technical staff, and representatives and officials from nine health centers in the Arada sub-city, the Addis Ababa RHB, and SIAPS participated in the workshop.

During the supportive supervision visit, ORHB was supported to assess the implementation of the guideline for redistribution of overstock and near-expiry AMDs from public health facilities

to 156 health facilities experiencing a shortage in the Oromia region. During the visit, it was found that 94% (34) of the hospitals and 73% (92) of the health centers visited practice redistribution of overstock and near-expiry of AMDs and other drugs to minimize wastage due to expiry.

Partner contributions

SNNP RHB and Adare Hospital supported facilitation of APTS training at Adare Hospital.

Constraints to progress

- Reporting time is not maintained because of Internet connection problems and some weak commitment from facility staff.
- The absence of incentive packages is believed to be a cause of the shortage of pharmacists in some district hospitals, compromising pharmacy service provision (counseling and documentation).

Guinea

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

Overall Quarter Progress

During this quarter, SIAPS Guinea worked with the Ministry of Health (MOH) and its partners to improve access to quality pharmaceuticals and services. Key achievements have improved pharmaceutical sector governance, availability of information for decision making on pharmaceutical management, and the availability of antimalarial products countrywide.

To improve the pharmaceutical sector governance, SIAPS Guinea continued to provide technical assistance to the Direction Nationale de la Pharmacie et des Laboratoires (DNPL) to develop a draft of the Pharmacy Act and to revise treatment protocols for the health facilities. SIAPS also supported the Central Medical Stores (Pharmacie Centrale de Guinee [PCG]) to implement needed reforms for a transparent and efficient medicines supply chain management.

In an effort to improve capacity of institutions and individuals in pharmaceutical management, Guinea supported PCG to finalize a call for tenders dossier for medicines supply, to identify a WHO-qualified quality control laboratory for medicines testing, to develop a list of 40 key medicines that should be tested at regular basis, and to include Ebola commodities in its current quality assurance system. SIAPS also conducted a training of pharmacists from the six PCG regional depots on the decentralization of stock and the distribution of malaria commodities. To improve availability of pharmaceutical management information for decision making, SIAPS worked in collaboration with Village Reach (a global SIAPS partner) and DNPL to conduct a comprehensive assessment of the existing logistics management information system (LMIS) in the country and subsequently presented findings and recommendations to MOH for actions.

To improve availability of malaria commodities, Guinea worked with PNLP and other counterparts to conduct a stock inventory in all health facilities (health centers and prefectural and regional hospitals) within PMI-supported health districts to quickly address observed commodities stock-outs.

Objective 1. Pharmaceutical Sector Governance Strengthened

During this quarter, SIAPS Guinea supported the DNPL and its national commission for the revision of the Pharmaceutical Act in working on four sections of the future law. These sections are respectively related to (1) medicines and medical and pharmaceutical devices, (2) microbiology products, (3) veterinary pharmacy, and (4) traditional medicines. The draft was made available to professionals from Law Council, health corporations, unions, and MOH Directorates to provide their inputs and feedback before sending the final draft to the MOH cabinet.

In addition, in collaboration with a focal person from the DNPL, Guinea has hired a consultant to support the revision of the therapeutic flow charts for health center level. The flow charts being

revised were last reviewed in 1993 and needed to be adjusted in line with new changes that have occurred within the different health programs since then.

This work started with site visits to several health units to verify the use of existing diagnostic algorithms and to consult with specialist doctors on the current management of various conditions to feed into the revisions. Key specialists were consulted in the departments of pediatrics, obstetrics and gynecology, and internal medicine as these specialties deal with the majority of conditions seen at health center level.

To date, the team has reviewed all therapeutic flow charts together with documentation from the key health programs including child health, malaria, HIV, community health, tuberculosis, and maternal and child health in line with current national treatment guidelines and WHO recommendations.

Most of the therapeutic flow charts have been updated with these revisions and will be presented to members of a national revision committee for validation. Following this, regional workshops are planned to present the revisions and to conduct health worker training on the changes.

Concurrently, the team has updated a list of suggested medicines to be used at the health center level following the revision of the therapeutic flow charts. This will allow the finalization of the National Essential Medicines List (NEML). Revision of these algorithms and the NEML will significantly contribute to improving rational medicines use countrywide, and enhance pharmaceutical management.

Partner Contributions

SIAPS has leveraged efforts with some key partners (WHO, Catholic Relief Service (CRS), and SOLTHIS) to support pharmaceutical governance-related activities and with CRS and Stop Palu for assistance with PNL. WHO, the European Union (EU)-funded Purchase and Supply Agency (PASA) Project, and CRS contributed to PCG activities.

Constraints to Progress

During this quarter, the ongoing Ebola outbreak has continued to be a major preoccupation of the MOH with all resources including personnel focused on its response. Various activities that required the joint effort of MOH and project staff were therefore difficult to plan and implement.

Similarly the ongoing countrywide pre-election activities were disruptive to transportation and planned activities, further slowing down implementation.

Objective 2. Capacity for Pharmaceutical Supply Management and Services Increased and Enhanced

During this quarter, SIAPS worked with the PCG and the technical assistant of the EU-funded PASA project to specify the quality of pharmaceutical products to be included in the PCG's upcoming international call for tenders. A joint mission to the Nzerekore region September 14–

20 that included representatives from DNPL, a general health inspector, two pharmacists from the PCG as well as PASA and SIAPS staff completed this work. The mission's objective was to support both the PCG and the DNPL to organize a regional workshop on the medicines and medical devices needs for the entire region in collaboration with all the focal persons from the regional health management (DRS), prefectural health management (DPS) pharmacists, and hospital directors.

This mission was significant because it provided support for the evaluation of both the qualitative and quantitative needs for pharmaceuticals and devices. It also supported pharmaceutical product management in a region that has been significantly affected by the ongoing Ebola epidemic, and in which several health units have been deserted by patients and health workers alike.

Lastly, the mission took this opportunity to conduct supervision visits to health centers and hospitals within the region, the PCG regional depot in Nzerekore to enhance best practices in pharmaceutical management. They also visited the proposed site for the construction of the PCG depot in Guinee Forestière region.

As part of continuous effort of capacity building in pharmaceutical management, SIAPS in collaboration with WHO, supported the establishment of an ad hoc committee for the integration of Ebola-related commodities into the current quality control system at the PCG. Going forward, all commodities including those specific for emergency response (including Ebola) would be quality assured at the PCG to streamline and enhance central supply management procedures.

SIAPS also conducted a training of pharmacists from the six PCG regional depots in decentralization of stock and the distribution of malaria commodities. This was in line with future decentralization plans to the regions to improve routine medicines distribution in the country.

Finally, SIAPS supported the Procurement Supply Management (PSM) technical working group of the National Malaria Control Program to define the technical specifications for the choice of insecticide-treated mosquito nets that will be procured with Global Fund's financial support. This will ensure that imported mosquito nets comply with agreed international standards and also meet the unique needs of the end user.

Constraints to Progress

See objective 1

Partner Contributions

EU-funded PASA Project, DNPL, DRS, and DPS Nzerekore, hospital directors

Objective 3. Pharmaceutical Management Information Available and Used for Decision Making

From July 25, 2015, SIAPS Guinea received a team from Village Reach for a two-week mission to assess the current LMIS. The team met with various partners involved in LMIS, and conducted site visits to rural and urban hospitals and health centers in collaboration with focal persons from the DNPL. The evaluation's findings were presented during a national workshop that included participants from MOH, technical partners, and funding agencies including USAID.

Key findings from this assessment included:

- A lack of leadership and coordination between the vertical disease programs and the PCG at central level which limits the implementation of an integrated system for management of logistics which can provide reliable information for logistics management
- A weak technical and human resource capacity for ensuring good quality logistics data and data analysis needed to inform decision makers at all levels of the supply chain. This results in stock-outs or overstocks of pharmaceutical products for the different disease programs.
- A lack of compatibility between the different information tools and the users' needs.

To overcome the stated challenges, the following recommendations were made:

- Establish a central mechanism for the collection, flow, analysis, management, sharing, and utilization of logistics data.
- Create a regional unit for logistics management supervised by the central coordinating mechanism to facilitate support supervision for collecting and using data for decision making
- Implement the use of electronic data management tools following an in-depth assessment of the requirements of data users to ensure that tools respond to the needs of the system.

Partner Contributions

Village Reach, DNPL

Constraints to Progress:

See objective 1.

Objective 4. Financing Strategies and Mechanisms to Improve Access to Medicines Strengthened

In view of the unreliable monthly report data from the different health units (epidemiological data, monthly consumption, and stock status), and the inconsistency observed between the reported data and overstocks, PMI requested that a stock inventory be undertaken in all health units before any future distributions.

SIAPS Guinea supported an inventory exercise for all health facilities within the PMI-supported region of Boke, Conakry, Kindia, Labe, and the DPS of Dingiraye. The exercise also captured information on the monthly consumption of the supported health units. CRS supported the inventory exercise in the Global Fund regions.

Reports from the inventory exercise indicated that certain commodities were almost completely out of stock or soon to be stocked out including: rapid diagnostic tests (many expired at the end of August), some artesunate-amodiaquine (ASAQ) formulations, quinine 300 mg tablets, and sulphadoxine-pyrimethamine. On the other hand, other products were overstocked. Due to increased demand use of and more demand for artemether/lumefantrine (AL), it was distributed instead of the previously used ASAQ in June 2015 in the six districts where seasonal chemoprophylaxis is being done.

Because of the findings of stock-outs, the USAID mission informed SIAPS to conduct an urgent distribution of malaria commodities with the PCG. However, pending authorization from USAID/Global Health Administrative Assistant to pay service fees to the PCG which is a parastatal prevented SIAPS from using PCG for any commodities distribution. SIAPS has, in the meantime, conducted an urgent distribution of commodities with support of the DPSs and the regional pharmacists. The DPSs have been asked to collect commodities from the central level at the PCG. In addition a reallocation of ASAQ from the health facilities where there was an overstock to those understocked facilities was conducted and continued with support from the regional pharmacists based on the results of the inventory. These adjustments have enabled a better understanding of stock levels and consumption and adaptation of supply to the actual needs of health facilities.

During this quarter, SIAPS provided support to PCG to receive and store a consignment of PMI-funded malaria commodities including 3,198 treatments of AS injection, 43,680 treatments of AL tablets adult, 26,400 treatments of AL tablets adolescent, 22,650 treatments of AL tablets young child, 52,650 treatments of AL tablets infant, and 1 million of examination gloves. This will improve availability of malaria commodities in supported health facilities.

Partner Contributions

CRS, PNLP, PCG, DPS

Constraints to Progress

The use of PCG for distribution of PMI-funded commodities has not been possible because of pending approval from USAID/Washington to pay PCG service fees.

Haiti

Goal: To ensure availability of quality health products and effective pharmaceutical services to the Haitian population

Objective 1: Pharmaceutical Sector Governance Strengthened

The Haitian National Pharmaceutical Policy (NPP) was launched in June 2015 by the Ministry of Health. As a follow-up to this launch, this quarter SIAPS supported and participated in a series of workshops that were held in all health departments from all regions (North, West, and South) in Haiti. A total of 10 workshops were held, reaching a total of 490 participants, e.g. departmental pharmacists, hospital pharmacists, and other health workers.

The main purpose of these workshops was to promote the NPP and identify opportunities for its implementation; however, it was also an opportunity to identify the various challenges that might hinder its implementation. Scarce human resources and inadequate budget allocation are the main challenges that have been identified at all levels, from the Pharmacy Directorate (DPM) to facilities rendering pharmaceutical services.

Proposals for the promotion of traditional medicines and the establishment of a pharmaceutical production plant (Farmatrix) by local investors were also reviewed.

SIAPS assisted the DPM to draft Haiti's strategies regarding research and development, and access to essential medicines.

Objective 2. Strengthening National Supply Chain System

Sessions were held with the DPM to support the creation of a technical committee that will review and support the implementation of the National System for Procurement and Distribution of Medical Products (Système National d'Approvisionnement et de Distribution des Intrants–SNADI). The SNADI proposal developed by SIAPS was also revised during this period to address various comments and is expected to be presented to this committee in October.

Lesotho

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

Overall Quarter Progress

As this is the final year of implementing the SIAPS program in Lesotho, SIAPS worked with the Ministry of Health (MoH) Supply Chain Coordinating Unit (SCCU) to transition the implementation of Supply Chain Management Leadership Development Program (SCMLDP) to the MoH SCCU. Using a continuous improvement model, the SCMLDP combines the Management Science for Health (MSH) Leadership Development Program (LDP) and supply chain management to improve the availability of health commodities in Lesotho. In this quarter, SIAPS provided TA to the MoH SCCU to deliver training to the health care workers of Berea, Leribe, and Mophale's Hoek. These are three of the five PEPFAR priority districts in Lesotho. The other PEPFAR priority districts are Mafeteng and Maseru. SIAPS already conducted trainings for the health care workers of Mafeteng and Maseru earlier in this Project Year (PY). Furthermore, SIAPS already delivered training to the health care workers of Botha Bothe and Mokhotlong in the previous quarters. Botha Bothe and Mokhotlong are two of the five PEPFAR maintenance districts (these are PEPFAR non-priority districts). That leaves three PEPFAR maintenance districts— Qacha's Nek, Quthing, and Thaba Tseka — that the MoH SCCU still needs to deliver the development program to.

With the implementation of the SCMLDP, all supportive supervision and mentoring (SSM) visits by the District Health Management Teams (DHMT) to their health facilities are modelled around the SCMLDP cluster system approach. The participants formed clusters made of two to four facilities that work together to complete action plans that they developed during the workshops. This has improved the quality of information for decision making allowing the clusters to make decisions in a timely manner. The improved data and increased timeliness have led to gains in this quarter's program indicators. One hundred percent of all laboratory reports were submitted on time, there was no stock-out of HIV rapid test kits (RTKs) at all 18 laboratories nationwide; only 3% of the country's health centers, experienced stock out of ARVs for more than 3 days (the quarterly target is 10%); all facilities (100%) kept complete patient information as per the national standard, and 97% of them are using the country appropriate tools for reporting logistic and patient data.

Objective 1. Capacity for pharmaceutical supply management and services increased and enhanced

In this reporting period, SIAPS delivered three SCMLDP in-service training workshops to 113 health care workers (23 males and 89 females) from Berea, Leribe, and Mophale's Hoek. The SCMLDP improves the health care workers' competencies in conducting logistics functions, such as how to quantify and procure health commodities, receive and store commodities, and track inventory. The SCMLDP is fully institutionalized and there is country ownership as SIAPS has transitioned the SCMLDP to the MoH SCCU which fully funds the trainings. The SCCU will support and supervise the DHMTs that will continue to monitor the

implementation of the SCMLDP plans. The facilities in the districts will support other clusters through peer to peer mentoring and by holding quarterly progress review meetings. This will ensure that all the trainees and their health facilities successfully implement the individual facility action plans that they developed during the initial training workshop. So far, the facilities are making good progress in completing their action plans; by this quarter, the cumulative number of trainees that have successfully implemented their post-training action plans is 63% (56 out of 89) with a target of 75%.

Partner Contributions

The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) Coordinating Unit (GFCU) provided the financial assistance to the MoH while SIAPS provided technical assistance to facilitate the three SCMLDP training workshops.

Objective 2. Utilization of Information for Pharmaceutical and Laboratory Decision Making Increased across all Levels of the Lesotho Health System

In this quarter, SIAPS provided technical assistance (TA) to the MoH SCCU to review and cost the quantifications that were completed for the Global Fund concept note. The commodities that were included in this exercise were reagents for CD4, viral load, early infant diagnosis (EID), and full blood count (FBC). SIAPS also worked with the SCCU to apply for waivers to procure these reagents for the 2016/2017 period. The current waivers to procure these reagents will expire in November 2015.

Further, SIAPS also provided TA to the SCCU to write and submit to the GFCU a justification and a request to release funds that were awarded to laboratory services for the procurement of clinical chemistry commodities for health facilities in year two but were not used. This activity was done to avert an anticipated national-wide stock-out of CD4 reagents which was due to lack of funding.

During this quarter, there were three laboratory stock status meetings where the stock status of all laboratory commodities was discussed and bottlenecks to unimpeded availability of all laboratory commodities were resolved in the country. SIAPS transitioned the compilation of the monthly stock report work to National Drug Service Organization (NDSO) that SIAPS had produced for the past two years. This activity was important because this monthly stock status report will enable the NDSO and the SCCU to continue to critically analyze the stock status and use it to generate information for decision making for supply planning and procurement processes of all ART and laboratory commodities.

During this reporting period, 100% of laboratories (18 out of 18) that are supported by SIAPS submitted the laboratory LMIS reports on time, and no laboratory experienced stock-out of HIV RTKs.

Objective 3. Pharmaceutical Services Improved to Achieve Desired Health Outcomes

In this reporting period, SIAPS continued to provide TA to the MoH to improve the national availability of ARVs, HIV RTKs, and other HIV-related commodities through the implementation of district-based supportive supervision and mentoring of all the health facilities. SIAPS provided TA to the MoH SCCU to hold stock status meetings for all health commodities. It was during these meetings that status reports were analyzed and recommendations were made to address the underlying bottlenecks in the supply chain system.

In this quarter, SIAPS conducted 71 supportive supervision and mentoring visits to health facilities in all 10 districts of Lesotho. During these visits, 133 health care workers (114 females and 19 males) were mentored in inventory management and in strengthening the Pharmaceutical Management Information System (PMIS) using both the SCMLDP cluster system.

SIAPS TA to the MoH SCCU, District Health Management Teams (DHMTs) and health facilities led to the teams and facilities meeting or exceeding their goals for this quarter:

- 100% of health facilities have complete patient information as per national standards (quarter target is 90%)
- 97% of health facilities are using country-appropriate tools for reporting logistic and patient data by district (quarter target is 90%)
- 51% of SIAPS-supported sites where ARVs are stocked according to plan, that is, within the 2 months minimum and 3 months maximum stock levels (quarter target is 51%)
- 3% of health facilities (3 out of 118 assessed health facilities) experienced stock-out of ARVs for more than 3 days (quarter target is 8%)

Mali

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

Overall Quarter Progress

During this quarter, SIAPS supported the MOH to implement several activities to strengthen pharmaceutical governance, build capacity of individuals and institutions in pharmaceutical management, make logistics data available for decision making. To reinforce pharmaceutical governance, SIAPS supported the Directorate of Pharmacy and Medicine (DPM), to update malaria and FP commodities quantification through two workshops. Five civil society organizations (CSOs) participated in this quantification process. The number of CSOs who are participating in pharmaceutical management activities increased from 19 to 24, which fostered consensus on the medicines quantification and made donors more confident about participating in the national medicines supply plan. In addition, SIAPS supported the National Malaria Control Program (NMCP) to develop two distribution plans for malaria commodities.

Technical assistance was also given to the Pharmacie Populaire du Mali (PPM, the Central Medical Store) to develop five SOPs for their main pharmaceutical management transactions. As a part of the ongoing effort to build sustainable capacity in pharmaceutical management, SIAPS supported 15 local institutions in providing training or technical assistance in pharmaceutical management. Trainings of health facility managers and stock managers were conducted in Bafoulabe (Kayes), Banamba (Koulikoro), Bougouni (Sikasso), Baraouli (Segou), and Djenne (Mopti); 285 health workers were trained in the use of the LMIS SOPs. The number of people trained in pharmaceutical management increased from 975 to 1,260. After each session, trainees developed their individual action plan to implement what they learned. To accompany the implementation of trainings, SIAPS provided technical assistance to the Direction Regional de la Sante (DRS) to conduct supervision and coaching visits for eight districts: six in Bamako and one each in the Segou (Tominian) and Mopti (Bandiagara) regions. These coaching visits showed that out of 171 people, 40 successfully completed their post-training action plan. The number of trainees that successfully completed post-training action plans increased from 41% to 46%.

To ensure logistic data entry into the dashboard, after the training and the user acceptance testing of the new LMIS dashboard OSPSANTE, SIAPS and the DRS conducted coaching and mentoring activities in 50 health facilities. To render data available for decision making on pharmaceutical management, one PPMRm and one PPMRc were developed and submitted to USAID. These reports were developed with the MOH and partners and made recommendations for procurement, a replenishment plan, and inventory management. Specific support was also provided to MOH to organize workshops to validate quarterly logistic data in Bamako and Mopti; and based on these data, commodities were relocated and recommendations were made to improve pharmaceutical availability. This last EUV showed significant progress in the availability of malaria commodities (97.47% of the health facilities had at least one presentation of artemether-lumefantrine [AL] tablets the day of the visit and 59% had six presentations of the product). This EUV also demonstrated that the new standard guideline for treating malaria is

being followed, and that 91% of patients under age 5 with uncomplicated malaria were treated with an ACT.

A key intervention during this quarter which significantly contributed to making data available for decision making was the implementation of OSPSANTE and the increased data entry into the system at the district level. This new tool made a significant improvement on the logistic reporting rate. The number of health facilities that completed and submitted an LMIS report for the most recent months increased from 67% to 87% and the percentage of health facilities with stock-outs of a preselected group of medicines for three days or more in the last three months decreased from 65% in 2012 to 39% this quarter with program target being 15%.

Objective 1. Pharmaceutical sector governance strengthened

To improve pharmaceutical governance, SIAPS supported the DPM and the NMCP through TWGs to update the quantification of malaria and FP commodities. Two workshops were held with these groups from August 31 to September 4 and September 7 to September 11, 2015, respectively. During these workshops, the forecastings for malaria and FP commodities were conducted using Quantimed and Reality Check, respectively. At the end of this exercise, consensus supply plans were developed for malaria and FP with Pipeline software.

These national supply plans included all donors' commitments and will cover three years (2015-2017) for FP commodities and 5 years (2015-2020) for malaria commodities. It is expected that with the inclusive and transparent forecasting process, national needs will be covered and donors will be more confident in procuring commodities based on their own commitments. The next step to finalize this process will be a validation of the quantification results by the Comité National de Coordination et de suivi de la gestion des médicaments and then implementation of these supply plans by all donors and the MOH.

SIAPS also supported the NMCP to develop two distribution plans for malaria commodities (ACTs) purchased by USAID/PMI. Support was also given to the PPM to finalize the development and implementation of five SOPs and KPIs for their main pharmaceutical management operations and also to push the implementation of the PPM's five-year strategic plan developed and validated in June 2015 with SIAPS technical support. For that purpose, SIAPS Mali supported the PPM to begin acquiring a new warehouse management system (WMS) to improve the organization's overall management information system (MIS) and improve inventory data management for decision making. In addition, SIAPS Mali with technical support from SIAPS HQ, began a gap analysis for the current and/or existing PPM MIS for commodities against the known standard WMS, Sage®.

Adding to the above tasks, the team also worked with PPM and USAID in preparation for the procurement and installation of a Warehouse in a Box® for PPM Mali.

Partner contributions

- Malaria TWG, FP TWG, DPM, PPM, NMCP, National Health Directorate (Direction Nationale de la Santé/Division Santé de la Reproduction) National AIDS Control Program

(Cellule Sectorielle de Lutte contre le SIDA/Ministère de la Santé et de l'Hygiène Publique)

- Donors: USAID, Global Fund/PSI, UNFPA
- CSOs: Fédération Nationale des Associations de Santé Communautaire (FENASCOM), PSI, Keneya Jemu Kan, Marie Stop International, Futurs Group, USAID ASSIT

Constraints to progress

The main challenge that the program faced during this quarter was the lack of a task force to take over the quantification process; even if a TWG is created, the country still needs to establish a logistics management unit to deal with all medicines logistics concerns.

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

As part of the ongoing effort to build sustainable capacity in pharmaceutical management, this quarter, SIAPS Mali supported 15 local institutions and organizations (DPM, PPM, NMCP, DRS, and health districts) in providing training or technical assistance. Trainings sessions were conducted in six health districts to strengthen the capacity of stock managers in 142 health facilities.

A total of 285 (228 male and 57 female) stock managers were trained in Bamako and in the Centre de Sante Communautaire (CsCom) of the following districts: Djenne (Mopti Region), Bougouni (Sikasso Region), Bafoulabe (Kayes Region), Baraoueli (Segou Region), and Banamba (Koulikoro Region). The trainings focused on pharmaceutical management tools, such as stocks cards and logistic reporting tools, a requisition form, and how to calculate commodities needed (as included in the LMIS SOPs developed in 2012 and adopted in 2013). Trainers from the central and regional levels conducted these sessions following the standard guidelines and using the training materials developed and adopted in 2013 by the MOH. In addition, to ensure that trainees effectively implement acquired skills and knowledge on a daily basis, SIAPS provided technical assistance to the DRS to conduct supervision and coaching visits for eight districts: six in Bamako and one each in Segou (Tominian) and Mopti (Bandiagara) regions; 171 stock managers trained in previous trainings sessions were visited and this coaching showed that 40% of them successfully completed their post-training action plans. Efforts should continue to reach the target of 71% of trainees who should successfully complete their post-training action plans.

Following the training and the user acceptance testing of OSPSANTE, SIAPS and the DRS conducted coaching and mentoring activities in 50 health facilities to ensure logistic data entry into OSPSANTE. All these capacity buildings contributed to improving the quality of implementation of the LMIS SOPs and strengthening the capacity and ownership of users in the field to use the tools and report logistic data to the higher levels.

Partner contributions

- Direction Régionale de la Santé of Kayes, Koulikoro, Sikasso, Segou, Mopti, and Bamako
- 50 health districts of Kayes, Koulikoro, Sikasso, Segou, Mopti, and Bamako regions (including six districts of Bamako).

- USAID, PSI, Unité de Gestion du Projet/Programmes des Nations Unies pour le Développement (UGP/PNUD), UNFPA, Global Funds

Constraints to progress

It appeared from supervision visits that some health professionals previously trained on pharmaceutical management were still struggling to properly implement their post-training action plans.

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

To render data available for evidence-based decision making in pharmaceutical management, during this quarter, SIAPS supported the MOH to develop and submit one PPMRm and one PPMRc to USAID/Washington.

The PPMRm and PPMRc contain information relating to (i) stock on hand at the PPM reported as months of stock, (ii) upcoming expected shipments for malaria and FP commodities, (iii) recommendations on critical actions to be taken by USAID to respond to any problems of medicine availability identified in the report (stock-outs, oversupply, expiries) and other contextual information concerning malaria and FP programs activities in Mali that affects medicine availability.

During this quarter SIAPS/Mali also supported the NMCP to conduct the second EUV survey of this current program year following the sampling protocol and revised periodicity that was introduced by PMI. This EUV was conducted during the rainy season (August 21-September 17, 2015) in 79 health facilities in 5 of Mali's 8 regions.

The data collected during this exercise showed significant improvement in the logistic data reporting rate, availability of malaria commodities at the lowest level, and implementation of the new malaria treatment guidelines. In fact, 74.36% of facilities surveyed during the EUV submitted stock reports and orders on time, 97.47% of health facilities had at least one presentation of AL the day of the visit while 59% had four presentations of the medicine, and 91% (3,140/3,459) of malaria patients under age 5 with uncomplicated malaria were treated with an ACT as recommended by the malaria STGs. The findings of this EUV survey regarding the supply chain and malaria case management will be disseminated at central and regional levels so that corrective actions can be taken and implemented. During the next quarter, SIAPS will assist the NMCP and the regional directorate of health to organize regional dissemination meetings which will involve key actors. This will improve the implementation of recommendations and reduce stock-outs at the lowest level.

Another intervention that contributed to making logistic data available was implementation of the web-based dashboard OSPSANTE and the data entry into that tool by medicine managers at the district level. This new tool made a significant improvement on the reporting rate. The number of health facilities that completed and submitted an LMIS report for the most recent months increased from 67% to 87%.

Partner contributions

- PPM, PSI, DPM, DSR, USAID, and UNFPA provided data and participated in data analysis and validation for the PPMRm and PPMRc.
- DRS, PPM regional warehouses, and 50 health districts in Kayes, Koulikoro, Sikasso, Segou, and Mopti regions and Bamako participated in data entry into OSPSANTE.

Constraints to progress

There is a limited ownership of actors at all levels to analyze data and make relevant decisions.

Objective 4. Pharmaceutical services improved to achieve desired health outcomes

On February 16-17, 2015, SIAPS supported NMCP in disseminating results from an assessment conducted to determine the possibilities to involve private pharmacies in the management of malaria according to the national malaria case management policy in Mali. The main finding of this study showed that access to antimalarial medicines could be improved through private pharmacies that served 50 to 200 clients on a daily basis, with 20% of them having been prescribed an antimalarial medicine. However, data also showed that only 40% of pharmacies were inspected by a medicines regulatory authority in the last two years.

To improve the availability of commodities at all levels of the health system and to assist stock managers in their day-to-day tasks, SIAPS supported DPM, DRS, and districts to conduct supportive supervisions. These supervisions contributed to strengthening the capacity of field-based health workers to use pharmaceutical management tools to improve availability of medicines and increase the number of treated patients at the health center level. Approximately 121 structures, including 5 PPM regional warehouses, 5 regional health directorates, 48 health facility depots, and 42 district warehouses were visited.

Partner contributions

NMCP, DPM, Private Sector Pharmacists Association (SYNAPO), National and Regional Pharmacists Councils (CNOP, COPD), Community Health Regional Federation (FENASCOM, FERASCOM Bamako), DRS Bamako, CRS, PSI, TB program, PPM, National Directorate of Health (DNS)

Constraints to progress

The weak coordination of the key players in the implementation of the FP and malaria supply plans.

Mozambique

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

Overall Quarter Progress

During this quarter SIAPS provided support to the Pharmacy Department (PD) of the Ministry of Health (MoH) to implement the standing operating procedures (SOPs) and guidelines for the regulation of essential medicines, which were also supported by SIAPS in previous years. SIAPS also provided technical support for the implementation of the Pharmadex electronic medicines registration system. To allow for the smooth implementation of Pharmadex, SIAPS also supported the improvement of the IT and network infrastructure of the PD.

In the same period SIAPS helped to organize a one-day meeting to present the new national essential medicines list (NEML), the drafting and finalization of which was supported by SIAPS. The meeting was chaired by the MoH and was attended by major stakeholders (MoH national directors, USAID, WHO and Center for Public Integrity).

SIAPS supported the hospital pharmacy department (HPD) in building the management capacity of staff at hospital pharmacies by developing SOPs and training hospital pharmacists on the use of these SOPs. SIAPS also supported the HPD in pilot testing the guidelines developed to control medicines, dispensing and patient counseling at the health facility level. These trainings on hospital pharmacy guidelines and SOPs also served to strengthen the capacity for improving the functions of hospital drug therapeutic committees (DTCs) at the provincial level.

SIAPS strengthened adverse drug reactions (ADR) reporting by supporting PD on-the-job training on pharmacovigilance at the Nampula Pharmacovigilance Unit, and supported the training in pharmacovigilance of approximately 30 final-year pharmacy students.

Objective 1: Governance in the pharmaceutical sector strengthened

SIAPS supported the implementation of SOPs and guidelines for the regulation of essential medicines. The following activities were carried out in this quarter:

- Process mapping of current medicine registration process;
- Review of current regulatory framework including laws, regulations, medicine registration guidelines, SOPs, and checklists;
- Design of the strategy to clean up and archive old and current drug registration certificates and dossiers;
- Design of the strategy to transferring paper data to digital information;
- Implementation of PharmaDex.

SIAPS also provided technical support for the implementation of the electronic medicines registration system (PharmaDex), which used the information provided through the medicines guidelines and SOPs. This support was performed in two stages—first remotely through

document review (registration SOPs, regulations, process maps, and databases) and an STTA from HQ. The STTA included the following:

- User training workshop for automation of registration functions for PD
- Training for users on product registration module
- Training for users on system administration
- Defined process for user feedback on system enhancements, system errors and change management process
- Discussion with PD of any required next steps for Pharmadex

Alongside with this STTA, in order to allow a smooth implementation of the Pharmadex, the IT and network infrastructure of the PD was completely revised with the support of SIAPS.

SIAPS helped to finalize the NEML through a revision of the list by two consultants. This finalization included various consultation meetings with physicians, pharmacists, heads of health programs, medical specialists and supply chain managers to reach agreement. The draft NEML was presented in a meeting with key stakeholders, chaired by the MoH and supported by SIAPS.

Partner contributions:

The PD supported the finalization of the NEML, the activity on strengthening regulatory procedures and the electronic medicines registration system.

Constraints to progress:

All PD legacy data was inaccessible due to the fact that most of the files were transferred to the Medical Stores Warehouse and stored in boxes, making the search of documents impractical. It was therefore impossible to obtain information on more than 4000 registered products.

To solve this problem, SIAPS developed a plan to update old and current drug registration certificates and dossiers, as well as to transfer paper data to digital information. The plan includes new data management procedures, as well as outsourcing a company to recover the old data. The digitalization of this information will improve the data management process and reduce the registration renewal lead times.

Objective 2: Capacity in pharmaceutical management increased and enhanced

SIAPS supported the Hospital Pharmacy Department (HPD) in building the pharmaceutical management capacity of staff at hospital pharmacies by training hospital pharmacists in guidelines and SOPs relating to the control of medicines, dispensing, and patient counseling at the health-facility level. The SOPs and guidelines were pilot-tested in three main hospitals: Nampula Central Hospital, Inhambane Provincial Hospital, and Niassa Provincial Hospital. The training was organized in two parts: hospital pharmacists attended lectures where the content of the guidelines and SOPs was explained in detail, and then participated in practical exercises. The lessons learned through these activities resulted in the improvement of the Hospital Guidelines and SOPs.

Partner contributions:

The Hospital Pharmacy Department drafted Hospital Pharmacy Guidelines for controlling medicines and dispensing

Constraints to progress:

Hospital Pharmacy Department increased the number of staff from four to nine; however, the department lacks resources, such as computers, to conduct their work. To allow HPD activities to continue, SIAPS provided two used computers and started the procurement process for two new ones for HPD staff. With this equipment, the HPD will be able to conduct daily operations, as well as perform trainings, supervisions, and monitoring for DTCs.

Objective 3: Pharmaceutical services to achieve desired health outcomes improved

SIAPS strengthened ADR reporting by supporting PD to provide on-the-job training to the new pharmacovigilance focal person at the Nampula Pharmacovigilance Unit. In addition, approximately 30 final-year pharmacy students at Unilurio University were trained in pharmacovigilance. It is expected that these students can collect information on ADRs from communities and hospitals where they are assigned as interns, and that they can help build the culture of reporting ADRs in the country.

The training on hospital pharmacy guidelines and SOPs also aims to strengthen the capacity of the staff to improve the functions of hospital drug and therapeutics committees (DTCs) at provincial levels because all the trainees were not only members of the DTCs of the visited provinces, but also from other provinces.

The DTC training not only focused on good pharmaceutical management and dispensing practices, but also addressed irrational medicines use and the role of DTCs in pharmacovigilance.

Partner contributions:

WHO provided with laptop computers as well as reference books relevant to PD activities.

Constraints to progress:

The HPD decided to develop and test a large number of SOPs and guidelines at the same time. To ensure the guidelines have the required technical quality, SIAPS focused on the draft medicine use SOPs, which are now being revised with support from SIAPS HQ.

The Nampula PV unit is responsible for collecting 20% of the target ADRs (1200 of 5953 expected ADRs) and was not able to achieve the target due to lack of training of the new focal person, as well as a lack of basic materials. This is largely due to the fact that the unit operates in

the provincial branch of the PD, sharing the computer and printer with the Central Medical Stores.

SIAPS supported on-the-job training and is procuring one laptop and one printer for the PV unit in Nampula to improve the ADR reporting and monitoring and supervision at provincial level.

Currently there are 11 DTCs (one for each province), all of whom require training for the recently developed SOPs and guidelines. HPD did not have sufficient staff to cover all provinces within the established two month timetable, so representatives from all provinces attended training sessions in one of three provinces.

Namibia

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

Overall Quarter Progress

SIAPS supported the Namibia Medicines Regulatory Council (NMRC) of the Ministry of Health and Social Services (MoHSS) in mentoring technical staff and providing technical assistance in the use of the registration module for the new web-based Pharmadex tool. The tool will improve efficiency of the NMRC, facilitate review of applications for medicines registration, and improve dissemination of information on essential medicines. This will contribute to ensuring the availability of safe, efficacious, high-quality medicines for HIV and related co-infections, for maternal, newborn and child health (MNCH), and for other priority public health diseases. Through SIAPS technical assistance, the NMRC also set up systems for the post-marketing quality surveillance of medicines in the country.

SIAPS continued assisting the University of Namibia's School of Pharmacy (UNAM-SoP) to strengthen pre-service training in pharmaceutical management by developing course materials on pharmaceutical regulatory affairs. SIAPS also supported the MoHSS National Health Training Centre (NHTC) in concluding its Pharmacist's Assistant (PA) tracer study. Results from the study indicate high employer satisfaction (96%) with the PA graduates from the NHTC. SIAPS is supporting NHTC in documenting the impact of its support in strengthening PA training through interviews with key stakeholders.

With ongoing support from SIAPS for the MoHSS, there are now more than 50 antiretroviral therapy (ART) sites on electronic dispensing tool (EDT) enhancement and use of the EDT in Namibia. This is essential to ensuring optimal use of the EDT patient care and availing ART data for decision making. SIAPS finalized and handed over to MoHSS a guide on the installation and set-up of the EDT and the EDT mobile as part of transitioning IT support to MoHSS. The EDT is used to capture ART patients and ARV medicines information, part of which was used for compiling the quarterly ART-Pharmaceutical Management Information System (PMIS) report for the April-June 2015 period.

SIAPS provided technical assistance (TA) to the MoHSS Division of Pharmaceutical services (Div:PhSs) in organizing and disseminating key recommendations from monitoring and evaluation activities of pharmaceutical service delivery at the national pharmacists forum. Among other outcomes, the forum resolved that the Div:PhSs should rapidly assess private practitioners' compliance with ART guidelines and estimate the number of patients referred to the public sector who have failed first-line therapy as a result of irrational prescribing and dispensing of ART. SIAPS assisted with the development of the tool for this rapid assessment.

SIAPS began implementing the ART patient management and pharmaceutical commodity dashboard/ electronic logistics management information system (eLMIS). The eLMIS will provide visibility and immediate access to key information on pharmaceuticals and ART patients at the national, regional, district, and health facility levels for managers to support decision

making. SIAPS, in consultation with MoHSS Div: PhSs and the Directorate of Special Programs (DSP), determined the user requirements for the eLMIS.

SIAPS continued to collaborate with the University of Namibia's School of Medicine (UNAM-SoM) in coordinating activities related to hospital-acquired infections (HAI) and infection prevention and control (IPC). SIAPS presented strategies aimed at reducing antimicrobial resistance (AMR) and promoting rational use of medicines (RUM) in Namibia at the University of Bonn, in Germany.

SIAPS assisted with the data analysis and validation for the 2015 study on early warning indicators (EWI) of HIV drug resistance (HIV-DR). Queries and anomalies observed from specific sites on the process of documenting data in the EDT and records of inappropriate single regimens for ART patients were followed up and corrected. Preliminary results of the 2015 HIV-DR EWI study were compiled.

Objective 1: Pharmaceutical regulatory system strengthened for better ART services

SIAPS provided technical assistance (TA) to the MoHSS Namibia Medicines Regulatory Council (NMRC) to use the registration module of the new version of the web-based Pharmadex tool. A hands-on training of the tool on receiving and processing of medicine registration applications was conducted for a newly recruited NMRC staff. The online use of Pharmadex will improve efficiency of NMRC medicine registration operations when their clients submit registration applications online. The use of a web-based platform will improve the dissemination of medicine regulation information to NMRC clients and enhance efficiency of medicines registration.

SIAPS continued to provide TA to NMRC to set up a system for the post-market quality surveillance of medicines in the country. Using this system, NMRC has become vigilant on medicine quality surveillance at both the central and site levels. In June and July 2015, NMRC issued three circulars to recall poor quality products from the Namibian market. Two batches of cotrimoxazole tablets (used in the prophylaxis of opportunistic infections in AIDS) and four batches of other essential medicines were recalled.

Partner contributions:

NMRC provided feedback and support towards implementation of the Pharmadex tool for medicines registration.

Constraints to progress:

The implementation of Pharmadex has not progressed as anticipated. MoHSS is still waiting for instructions and setup links from the programmer to deploy tool at NMRC and start user testing of the tool.

Objective 2: Capacity of pharmaceutical HR and local institutions to manage the pharmaceutical system and supply chain in delivery of sustainable ART and other pharmaceutical services strengthened

SIAPS supported UNAM-SoP in developing course materials for the pharmaceutical management module on medicine regulatory affairs for pre-service training of B.Pharm students. The materials (course outline, learning objectives, instructor presentation slides and guides, and self-directed student learning activities) were drafted and reviewed by a SIAPS technical team. SIAPS has submitted the finalized draft materials to the UNAM-SoP course coordinator for review and inputs.

SIAPS supported the MoHSS National Health Training Centre (NHTC) in conducting a Pharmacists' Assistant (PA) graduate tracer study to inform strategies for improving the PA training program and its re-accreditation by the Namibia Qualifications Authority (NQA). SIAPS supported the NHTC in compiling a technical report and feedback presentation. A tutor of the NHTC PA course shared the findings and proposed recommendations for stakeholders' inputs during the national pharmacists' forum, which was held in July 2015. Results indicate high employer satisfaction with PAs' work in the workplaces. Ninety-six percent of employers and supervisors were satisfied with the PAs' performance at work, 96% of the PAs work in jobs that they were trained for, more than 90% of the surveyed PAs have worked in ART clinics, and currently, 58% of PAs serve in ART clinics, thereby contributing to the scale-up and provision of essential ART services in Namibia.

The majority (75%) of the PAs reported overall satisfaction with their PA training at the NHTC. Proper training for PAs is key to ensuring that the correct medicines are available in sufficient quantities, and that patients receive counsel on the proper use of antiretroviral therapy (ART). Information obtained from the assessment will be used for the PA curriculum revision and enhancing the quality of training at NHTC.

In support of the NHTC's documentation of successes and support from USAID, SIAPS continued to conduct stakeholder interviews. In the fourth quarter, the registrar of the Health Professions Council of Namibia (HPCNa), the deputy director of the NHTC, and the head of preservice training at the NHTC were interviewed. A video recording of all the interviews will be finalized in the first quarter of FY16.

Partner contributions:

1. UNAM-SoP on the development of the pharmaceutical regulatory affairs course materials for pharmaceutical management module.
2. NHTC on the PA tracer study report compilation and soliciting stakeholders' feedback.

Objective 3: Pharmaceutical metrics developed, and the availability and use of data for making strategic decisions on ART program improved

SIAPS continued to provide routine IT support for MoHSS's 50 main electronic dispensing tool (EDT) sites, as well as for Rx Solution at Intermediate Hospital Oshakati (IHO), e-TB Manager,

and national database (NDB) servers to ensure optimal availability of these tools to improve pharmaceutical service delivery. In addition, SIAPS resolved user queries from 10 EDT sites, including Tsandi, Keetmanshoop, Andara, Nankudu, Tsumeb, Katima Mulilo, Rundu, Omaruru, Katutura Intermediate Hospital and Okuryangava Clinic.

SIAPS supported the IHO Systems Administrator in configuring the system parameters on new Rx Solution computers to enable printing of labels from the software. All configuration steps were documented in the installation and setup guide for future reference as part of transitioning the IT support to MoHSS.

SIAPS began implementing the ART patient management and pharmaceutical commodity dashboard, eLMIS. The dashboard will provide visibility and immediate access to key information on pharmaceuticals and ART patients at the national, regional, district, and health facility levels for managers to support decision making. SIAPS, in consultation with MoHSS Div: PhSs and the DSP, determined the user requirements for the eLMIS. Aspects of the user requirements that were discussed included a detailed systems review of the EDT and NDB and how it will be interoperable with the Electronic Patient Management System (EPMS); the automation of health facility ART reporting through the NDB to the national ART dashboard; the automation of the medicines ordering system from health facilities to the central and regional warehouses with an implementation of an electronic stock card system at health facilities that order stock from the central medical store (CMS) and regional medical depots (RMD); and visualization of stock status information on the dashboard. SIAPS also revised the implementation plan based on feedback received during the system study visit.

SIAPS supported MoHSS Div: PhSs in compiling the consolidated ART- pharmaceutical management information system (PMIS) feedback report for the period April-June 2015, which includes information on ART patient adherence and retention in care. According to the report, the total number of active patients on ART was 141,634 at the end of June 2015.

Several Early Warning Indicators (EWIs) for HIV drug resistance (DR) were also reported. For example, ARV pill pick-up was 70.3%, which is below the 80% target, and the proportion of patients achieving an adherence score of more than 75% was about 78%--still below the target of 90%. Retention in care for ART patients in cohorts started a year ago remained high at 95.3%.

SIAPS continued providing technical assistance to the Directorate of Tertiary Health Care and Clinical Support Services and the DSP to pilot test the short messaging system (SMS)-based adherence reminder service at two ART sites and updated the SMS database structure to improve interoperability with other systems. The SMS service allows automated short messages to be sent to ART patients reminding them about their pharmacy appointments, encouraging adherence to ART. SIAPS continued to support the data abstraction and analysis on the 2015 HIV-DR EWI annual study. This study is being carried out by MoHSS in collaboration with a consultant from the Tufts University.

Partner contributions:

- 1) MoHSS Div: PhSs, sub-division NMPC on support to health facilities using the EDT.

- 2) MoHSS-DSP on support to PHC facilities using the EDT mobiles for ART data capture.
- 3) Tufts University in the compilation of the 2015 HIV-DR EWI report.

Objective 5: Pharmaceutical services delivery strengthened to improve adherence to HIV/TB treatment, enhance achievement of health outcomes, and contain AMR

SIAPS provided TA to MoHSS Div: PhSs in preparing for and facilitating discussions to improve pharmaceutical services in the public sector during the annual pharmacists' forum that was attended by 43 participants from 12 of the 14 regions in Namibia. The forum provided an opportunity for the Div:PhSs to disseminate information and recommendations based on the various monitoring and evaluation activities. Regional pharmacists were trained to better ensure that recommendations with budgetary implications are included in regional plans and budgets.

SIAPS supported the Div:PhSs in designing a tool to collect data on regimens used to initiate ART therapy in Namibia's private sector to determine compliance to national ART guidelines. Results from this exercise will be used to influence policies on adherence to ART guidelines by private sector practitioners so as to reduce the numbers of patients progressing to second-line ART regimens.

SIAPS is collaborating with the UNAM-SOM in preventing AMR and HAIs. SIAPS is a member of the project's steering committee and participated in an information exchange visit to the University of Bonn, Germany. The collaboration with UNAM-SOM includes the development of a curriculum for medical students on IPC and HAI, the promotion of operational research on AMR, and exchange programs for students between the UNAM-SOM and the University of Bonn.

In Bonn, SIAPS presented on strategies to combat AMR in Namibia, and the steering committee developed plans for the implementation of activities on HAI and IPC in Namibia. In addition, SIAPS participated in the 5th annual medical doctors and dentists' forum of MoHSS to create awareness among medical doctors and dentists on their role in monitoring EWIs of HIV-DR and in combatting AMR. Together with UNAM-SOM, SIAPS presented on ongoing work on reducing HAI and promoting IPC in Namibia.

SIAPS held monthly meetings with the Harvard Pilgrim Health Care (HPCH) Institute team to review the draft protocol on identifying factors contributing to pediatric ART patients' retention in care and switching treatment. SIAPS supported the MoHSS to review the proposed staff establishments of the new directorates of pharmaceutical services and the directorate of supply chain management. In conjunction with SCMS, SIAPS supported a two-day meeting with 15 representatives from the regions and Div:PhSs to review the proposed staff establishment for the Directorates of PhSs and Supply Chain Management. An inadequate staff establishment has been identified as a major contributor to failure to implement activities to strengthen pharmaceutical services delivery.

SIAPS provided TA to the Div:PhSs in drafting a plan and budget for pharmaceutical services activities for the MoHSS 2015/16 financial year, and to the Div:PhSs and the Essential Medicine

List Committee (EMLC) in the final review and formatting of the 6th edition of the National Essential Medicines List.

SIAPS supported the therapeutics information and pharmacovigilance center of the MoHSS to capture and conduct a preliminary analysis of data on adverse drug reactions (ADRs) to TB medicines. A total of 250 reports were captured on a data analysis tool. Reports were collected from four PEPFAR priority regions (Kavango East and West, Oshana and Oshikoto). The major ADRs reported were joint pain, dizziness and headaches.

SIAPS provided TA to the MoHSS-DSP to cost the ART operational plan aimed at decentralizing services. Detailed costs on the procurement of the EDT and EDT mobile, and specific regimens used in the treatment of HIV/AIDS and opportunistic infections were provided.

SIAPS continued to support data analysis and validation for the 2015 EWI study. Queries and anomalies observed in Onandjokwe, Keetmanshoop, and Omuthiya hospitals on the process of documenting data in the EDT, and records of inappropriate single regimens for ART patients were followed up and corrected. Preliminary results of the 2015 HIV-DR EWI study were compiled, and these will be shared after validation by the MoHSS.

Partner contributions:

- i) MoHSS: Therapeutics Information and Pharmacovigilance Center (TIPC) on pharmacovigilance activities.
- ii) MoHSS: HIV Case management unit and Directorate of Special Programs (DSP) on ART adherence and retention initiatives.
- iii) HPCH on systematic process for review of EDT data elements and queries to assist in the strengthening of ART EWI data use for decision making.

Niger

Goal: To strengthen pharmaceutical management of health products to treat malaria.

Objective 1. To strengthen the systems for malaria commodities management

Distribution of Malaria Commodities to Health Districts

During the quarter, the SIAPS technical advisor collaborated with the National Malaria Control Program (NMCP) and the central medicine store (CMS) supply chain manager to develop a distribution plan for rapid diagnostic tests (RDTs) and artemisinin-based combination therapy (ACTs). The plan targets government and Global Fund-procured commodities. This is the first time that a distribution plan was developed based on estimated needs of health districts using 2014 data provided by partners (Médecins Sans Frontières [MSF] and UNICEF). Approximately 2,101,000 RDTs and 1,850,000 treatments of antimalarials (523,000 treatments of artesunate/amodiaquine [ASAQ] and 1,327,000 treatments of artemether-lumefantrine [AL]) have been delivered to all the 44 health districts of Niger's eight regions during this quarter. This ensures availability of malaria commodities during the high transmission session (July to November).

Following the distribution, the stock levels at the regions and districts were evaluated and the results were summarized. There is an overstock of pediatric formulation in some regions resulting from previous distributions by UNICEF; these commodities were not accounted for at the time of distribution plan development.

Support for Policies, Guidelines, Regulations, and Partner Coordination

The Malaria Supply Chain technical committee held its initial meeting on September 3, 2015. The meeting was chaired by the Director of National Drug Regulation Authority and participating committee members included UNICEF, Catholic Relief Services (CRS), Save the Children, MSF Switzerland, MSF Belgium, MOH Directorate of Laboratory, and the NMCP. During this meeting, the SIAPS technical advisor presented the committee's terms of reference and the malaria stock status at the CMS as of August 31, 2015. The analysis shows a stock-out of major malaria commodities at the CMS. The government has stock on order that would be sufficient for two months if delivered by December 2015. The technical advisor recommended a quantification exercise be held and a request for an emergency procurement sent to the Global Fund.

To address the malaria data quality challenges, the NMCP, in collaboration with the World Health Organization and CRS, organized a four day workshop with all regional and district data managers. This workshop was held to validate the first and second quarter data for 2015. The technical advisor provided input on revising existing data collection tools and harmonizing commodities and indicator item description. He also provided guidance on reporting stock management information (stock on hand, consumption, stock-outs, etc.) and how to analyze data on consumption, number of people tested for malaria and number of malaria cases treated. This workshop helped validate data that may be used for the upcoming quantification exercise, will

allow for better allocation of resources by partners, and may improve availability of stock at each level. Also, the revised tools will help improve data accuracy during the next quarter for better decision making

The technical advisor participated in writing the Global Fund concept note for the 2016 to 2018 malaria grants funding. On July 17, 2015, the Global Fund notified Niger that the technical review panel approved the concept note for an amount of USD \$36,735,493 and an additional USD \$2,449,465. Unfortunately, grant negotiation did not start as the MOH did not meet the organizational requirements to become the principal recipient (PR). Another PR has been proposed and could possibly be CRS, the PR of the current grant ending in December 2015.

SIAPS participated in a meeting with seasonal malaria chemoprevention (SMC) partners to finalize distribution plans for the SMC campaign. To avoid wastage of sulfadoxine/pyrimethamine + amodiaquine (SP + AQ) stored at the MSF store, the SIAPS technical advisor facilitated communication and coordination between the NMCP, CRS, and MSF Spain to have approximately 375,000 treatments of SP + AQ that are set to expire in 2016 be used during the second round of distribution. About 62% of children aged 3 to 59 months received SP + AQ during the first round of SMC distribution.

The technical advisor supported the Country Coordinating Mechanism and other partners to identify priority procurement and supply chain management (PSM) activities that may be funded by the Global Fund through the health systems strengthening grant.

Constraints to Progress

The country could potentially face stock-outs of some malaria commodities due to delayed and incomplete delivery of government-procured products. Both the CMS and the NMCP lack essential staff members to properly manage medicines, including malaria commodities. Also, the NMCP lacks the organizational capacity to effectively manage the program and achieve desired results. For the time being, the SIAPS technical advisor supports the NMCP in facilitating and coordinating follow-up actions, as well as provides technical assistance to NMCP.

Philippines

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

Overall Quarter Progress

SIAPS continues to build the capacity of the National TB Control Program (NTP), National TB Reference Laboratory (NTRL), and local health partners in improving accessibility to quality pharmaceutical and laboratory TB services through strengthening of health system elements.

In this quarter, SIAPS and NTRL jointly reviewed the progress of implementation of the 2015 NTRL technical units' work plans, and provided technical inputs to address obstacles encountered. Due to the request of NTRL head to monitor the performance of NTRL technical units, the leadership and management functions of the units' head staffs were also reviewed and enhanced.

SIAPS is assisting the Quezon City Health Department (QCHD) to draft Implementing Rules and Regulations for the Quezon City Ordinance No. 2419s, 2015—an ordinance establishing guidelines for the creation of a Barangay Health Management Council (BHMC). BHMC aims to strengthen TB program leadership, management, and governance at the grassroots levels to improve service delivery. The city ordinance will be launched during the “Barangay Health Summit” at the end of this quarter. The Health Summit intends to increase the awareness of BHMC model and highlight the significant efforts of the City Council and QCHD in the establishment and scale-up of BHMC. SIAPS also helped the QCHD and BHMC with preparing their presentations and exhibits for the summit.

To strengthen TB pharmaceutical management, SIAPS continues to mentor NTP to improve its capacity in quantification using the QuanTB tool. Starting this quarter, the NTP Drug Supply Management (DSM) officer was able to forecast medicine status using QuanTB, while SIAPS verified the QuanTB outputs. Given the global shortage of kanamycin supply, SIAPS helped NTP review the quantification and plan for a programmatic decision to ensure an uninterrupted supply for the upcoming months. In addition to forecasting second-line TB medicines for MDR-TB patients, SIAPS mentored NTP to forecast first-line TB medicines – both adult and pediatric medicines.

SIAPS trained 119 (71 females and 48 males) Programmatic Management of Drug Resistant TB (PMDT) staff on the Practical Guide for the Management of Pharmaceuticals and other Health-Related Commodities (PGMP).

Implementation of the nine-month MDR-TB treatment regimen operations research study started in four PMDT treatment centers this quarter. SIAPS continues to assist NTP and the Food and Drug Administration (FDA) in pharmacovigilance (PV) affairs. The Standard Operating Procedures (SOPs) for Active Pharmacovigilance Surveillance was recently finalized by NTP and SIAPS, and the Philippines became one of the first countries to develop guidelines for active cohort event monitoring.

Objective 1. Capacity for Pharmaceutical and Laboratory Leadership, Governance and Management Improved

SIAPS continued to work with NTRL to strengthen laboratory network systems and services. This quarter, a meeting was facilitated by SIAPS to assess progress in implementing the NTRL technical unit (TU) 2015 work plans. Based on the progress, SIAPS assisted NTRL to make adjustments in their work plans and provided technical inputs to address obstacles. Fully implemented work plans will result in: (1) improved implementation of quality assurance performance of laboratories, (2) better tracking of laboratory network performance, (3) clearly defined laboratory network policy and research agenda, and (4) improved laboratory network management and expansion process.

With the change in NTRL leadership, SIAPS met with the new head and TU heads to review and plan technical assistance to improve NTRL human resource, leadership, and management capacities. SIAPS worked with NTRL to enhance the leadership and management roles and responsibilities of the NTRL technical units heads to enhance the units' efficiency. NTRL sought further assistance from SIAPS to develop and implement a strategic approach for the decentralization of laboratory trainings to the regional and provincial levels.

SIAPS continues to help QCHD in improving the BHMC's capacity in problem identification and analysis, and planning. SIAPS assisted BHMCs in District 3, and barangays (administrative divisions) Batasan and Commonwealth in District 2, to develop community action plans for 2015–2016. The new action plans focus on ensuring the participation of community stakeholders, aligning the stakeholders' objectives, mobilizing funds for BHMC planned activities, enhancing the public health referral system, and improving information management at the barangay level. SIAPS also assisted the city's district health office managers, responsible for supervising and monitoring the BHMCs, to formulate their technical assistance, and monitoring and evaluation (M&E) plans for 2015–2016.

As part of strengthening TB supply chain management, 119 (71 females and 48 males) Programmatic Management of Drug Resistant TB (PMDT) staff received PGMP training that focused on managing second-line TB medicines including minimizing wastage from product expiry and proper waste disposal. Training results showed that average participant scores increased from 70% in the pretest to 89% in the post-test. Post-training action plans that include steps in improving inventory management, storage, requisition, and rational use, were also developed by participants to be implemented in their facilities. These plans were shared and coordinated with the staff members' respective managers for monitoring, supervision, and follow-up.

The Region 4A Drug Supply Management (DSM) working group, with technical assistance from SIAPS and the USAID-funded Innovations for Multi-sectoral Partnerships to Achieve Control of Tuberculosis (IMPACT) Project, met this quarter and continued to tackle pharmaceutical management issues. Agreements made by the group included: (1) purchasing of stock cards by the Regional Office; (2) further strengthening the mechanism for medicine requisition of health facilities to provincial health offices and from the provincial health office to the Regional Office,

(3) inclusion of provincial and city jails in the requisition of provincial health offices, and (4) disposal of recalled pediatric rifampicin syrup by the manufacturer.

Partner contributions

Philippine Business for Social Progress shared costs for the DSM training for PMDT staff, particularly transportation costs for participants.

Constraints to progress

Development of a SOP on laboratory supplies management was delayed due to lack of an NTRL point person. SIAPS plans to work with new NTRL staff member once available.

Objective 2. Capacity for Transparent and Evidence-Based Decision Making Improved

SIAPS assists NTP to strengthen capacity in information management and utilization. The 119 PMDT staff members trained in PGMP were also coached on accurate completion of the PMDT drug supply management report. Improvements in the timely submission of quality data from these facilities will result in evidence-based forecasting and quantification of second-line TB medicines. The next steps include assisting NTP in the review and consolidation of DSM reports.

SIAPS participated in the discussion led by Knowledge Management and Information Technology Service (KMITS) that reviewed the functionalities of the Integrated Tuberculosis Information System (ITIS) laboratory module and the enhancement of the National Online Stock Inventory Reporting System.

To generate quality PV data for causality assessment and analysis, proper collection and capture is necessary during the implementation of the two operations research studies (nine-month regimen and bedaquiline). SIAPS met with NTP and key TB partners to introduce and demonstrate the PV Data Collection and Analysis Tool (DCAT). DCAT's analysis module is still underway so the NTP has not yet approved the use of this tool for the PV element of the two operations research studies.

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

In support of strengthening the pharmacovigilance system, SIAPS continued to work with NTP, FDA, and other TB partners to carry out the operational research studies for novel regimens and new medicines. To date, four PMDT treatment centers (two in National Capital Region, one in Region 10, and one in Region 6) have started the implementation of the nine month MDR-TB operations research study. NTP and partners have planned to train the staff of the final batch of nine month MDR-TB study sites, and first batch of sites for bedaquiline implementation in the next quarter.

The SOPs for Active Pharmacovigilance Surveillance was recently finalized by NTP and SIAPS, and the Philippines became one of the first countries to develop guidelines for active cohort event monitoring. Implementation of the SOPs started July 1, 2015, with the initiation of the nine month MDR-TB treatment regimen study. Thus far, one serious adverse event (SAE) was identified. Treatment facility and the research team were able to report this SAE to the FDA, following the guidelines. Currently, FDA is reviewing this report and will soon provide feedback on the causality analysis to NTP and the research team. Other than the SAE identified and reported, all study sites have been diligently recording adverse events (AE) identified among MDR-TB patients. A quarterly report of all AEs is scheduled to be submitted by the research team to FDA for cohort event monitoring.

SIAPS is working with NTP to ensure access to TB medicines through registration of second-line drugs (SLDs) and new pediatric formulations with FDA. In anticipation of the revised Department of Health (DOH) policy that allows exemption of medicines procured through Global Drug Facility, NTP, with technical assistance from SIAPS, started obtaining necessary pharmaceutical data from manufacturers in early 2015. This quarter, three additional medicine dossiers (capreomycin, prothionamide, and co-amoxiclav) were received by NTP from the manufacturers and are currently being reviewed for submission to FDA. Furthermore, the WHO collaborative registration agreement is now being considered by FDA.

SIAPS provided technical inputs to NTP, particularly on DSM, in the Global Drug Facility (GDF) and WHO Essential Medicine Program joint mission conducted this quarter. A key aspect of the mission is the planned transition of NTP from syrup/suspension formulations to the new fixed-dose combination (FDC) formulation for TB pediatric patients. With help from SIAPS, NTP presented the inclusion of the new FDC pediatric formulation inclusion in the national essential medicine list, the Philippine National Drug Formulary. SIAPS is also assisting NTP and Central Office Bids and Awards Committee in the procurement process for FLD for adults, particularly Category II kits, through the United Nations Office for Project Services-GDF channel.

SIAPS facilitated meetings with the heads of NTP and several DOH agencies: Disease Prevention and Control Bureau, Pharmaceutical Division (PD, formerly known as National Center for Pharmaceutical Access and Management), Logistics Management Division, KMITS, and FDA to present the “Philippine Tuberculosis Supply Chain Options Analysis” report, which was commissioned by SIAPS. The decision of DOH senior management is for the Supply Chain Management Committee to convene and deliberate on the proposed stakeholders’ meeting. This report has also been considered by development partners, who are supporting DOH supply chain management, particularly the European Union.

Constraints to progress:

FDA is organizing an advisory committee, composed of local experts, who will discuss and advise final recommendations to FDA. The organization of the advisory committee is taking a long time. To address this challenge, SIAPS is setting up a meeting with FDA point person who is responsible for this committee.

South Africa

Goal: Strengthen the capacity of pharmaceutical systems at all levels to support the South African Government's priority health programs and initiatives to improve health outcomes.

Overall Quarter Progress

During this quarter, SIAPS continued to provide assistance in strengthening governance in the pharmaceutical sector of South Africa. Key initiatives during this period were the development of a guidance document that can be used to develop or review the terms of reference (TORs) of any committee and the development of standardized job descriptions for the district pharmacist, other pharmacists at the district level, and provincial heads of pharmaceutical services. These guidelines will assist in standardizing the organizational structures in pharmaceutical services management, clarifying roles and responsibilities, and enhancing accountability of personnel. Thus far, SIAPS has developed 17 pharmaceutical management guidelines, lists, and SOPs, exceeding the life-of-project target of 15.

SIAPS provided support to the National Department of Health (NDOH) in the tendering and awarding of seven medical-related contracts. Thus far, three of the tenders were approved for award, pending sign-off in September. Three contracts for pharmaceuticals were finalized with two contracts being awarded eight weeks prior to the starting date as per target. The system-generated reports from RxTender were proved useful in improving efficiencies in tendering processes.

The online rational medicine use (RMU) course that SIAPS developed with the University of the Western Cape (UWC) was launched on July 26, 2015. It is offered as a stand-alone course, or as part of a master's in public health. The course includes 11 sessions to transfer skills and expertise to promote RMU. Already 12 participants from South Africa, Botswana, and Nigeria have enrolled in the course. To ensure sustainability, support of the course is being transitioned to UWC.

SIAPS has ensured continuity in our Pharmaceutical Leadership Development Program (PLDP) support in KwaZulu-Natal (KZN) by completing the PLDP sustainability initiative with 13 teams in the province. In September, the teams presented their results achieved thus far and thoughts on sustaining and scaling up the initiatives. The presentations were focused on improving medicine availability and accessibility, ensuring compliance with standards, improving RMU, and improving quality service provision. To date, 261 health care professionals completed the LDP/PLDP, exceeding the target of 200.

RxSolution[®] continues to be a flagship project of SIAPS South Africa. By the end of the reporting period, 395 sites were using RxSolution out of a target of 494 sites. During the quarter, five new sites were added. SIAPS assisted in the finalizing a research protocol in collaboration with Harvard University to assess antibiotic consumption with data from RxSolution in the North West (NW) province. The anticipated start date of the study is November 1, 2015. SIAPS aims to

use the outcomes of the study to provide recommendations on the use of RxSolution dispensing data to monitor the appropriate use of antibiotics.

SIAPS supported the WC provincial PTC to finalize the medicine utilization evaluation (MUE) for aspirin. The final MUE tool and documents were sent to all primary health care facilities and hospitals in the province. The MUE will be used to create awareness on MUEs and improve rational prescribing of aspirin.

SIAPS also participated in finalizing the National Antimicrobial Resistance (AMR) Strategy Implementation Plan 2014-2019. During PY4Q4, SIAPS worked with the Essential Drugs Program (EDP) to analyze the consumption of specific antibiotics (FY 2012-13) prone to generating resistance. The information generated is included in the AMR strategy to serve as a baseline for the surveillance of antibiotic consumption. The AMR Strategy Implementation Plan specifically identified the need to compare trends in antibiotic resistant microorganisms with the consumption of antibiotics.

Objective 1. Pharmaceutical sector governance strengthened (IR 1)

During the quarter, SIAPS continued to work with NDOH on the development of a national strategy for improved access to and availability of health products. The report of the strategic workshop held for stakeholders, including the NDOH, provincial heads of Pharmaceutical Services, and Supply Chain Management Systems (SCMS) was finalized. A team with representation from NDOH, SIAPS, and SCMS continued to work on concept notes relating to the various components which will form the basis of the strategy document. Concept notes on the Provincial Medicines Procurement Unit (PMPU), the direct delivery strategy, cross docking, contract management, the stock visibility system (SVS), and the Central Chronic Medicine Dispensing and Distribution (CCMDD) Program were finalized. The workshop report and the above mentioned concept notes were presented to a meeting of the National Health Council Subcommittee on Pharmaceutical Services held in August. Technical assistance for this meeting was also provided in the drafting of the agenda, development of reporting templates, and follow-up actions after the meeting. SIAPS developed a guidance document for the development or review of the TORs for any committee. Work commenced on the review of the TORs for the National Essential Medicines List Committee (NEMLC) and the Bid Evaluation Committee, which is responsible for evaluation of bids for pharmaceutical and medical-related items tenders.

A challenge facing the NDOH is the management and coordination of technical assistance provided by various development partners. SIAPS worked with NDOH to map partner contributions against the strategic framework for access and availability of medicines. A template for the submission of monthly reports to NDOH was developed. This approach will assist NDOH to coordinate support and prevent duplication of effort.

As part of the Ideal Clinic initiative of the NDOH, the role and function of District Health Management Teams is being reviewed. SIAPS provided technical assistance to NDOH in the review of job descriptions for the district pharmacist and other pharmacists at the district level. SIAPS also helped NDOH develop a job description for provincial heads of pharmaceutical services. These job descriptions will assist in standardizing functions across provinces.

SIAPS worked with NDOH to prepare the narrative to support the medium-term expenditure framework request and budget bid from the Affordable Medicines Directorate.

SIAPS was requested to be part of the secretariat for a ministerial advisory task team on security of medicines and health commodities. The task team is expected to develop implementation plans for several procurement and health reforms. The team met in September and established working groups to focus on aspects of supply chain, budgeting, and governance. SIAPS presented the report of a previous task team on procurement, chaired by the country project director, to this meeting. Support was provided in developing the work plan and reporting templates for the working groups. A stakeholder engagement meeting is expected to be convened in the next quarter to discuss the task team recommendations.

SIAPS continued to provide support in implementing the M&E framework for the CCMDD Program. There are currently over 220,000 patients enrolled in the program. During the quarter, site visits were conducted at private and public pick-up points in Gert Sibande, Dr. Kenneth Kaunda, Umzinyathi, and Umgungundlovu districts to determine the existing tools and processes being used to monitor the program. Findings from these visits were used to update the indicators that were submitted to the National Health Insurance (NHI) task team responsible for the CCMDD. Districts are expected to start reporting on the revised indicators in the next quarter.

During this quarter, the National AMR Strategy Implementation Plan 2014-2019 was finalized and submitted for editing. This plan will guide implementation of the National AMR Strategic Framework published earlier this year. It is expected that the implementation plan will be published during International Antibiotic Awareness Week in November 2015. SIAPS also worked with the EDP of NDOH to prepare a position paper on the role of pharmacists in antimicrobial stewardship.

Technical assistance was provided to NDOH in the tendering and awarding of 7 medical-related contracts for 191 bandage and dressing items, 14 crutches and walking aid items, 85 surgical sundry items, 40 surgical glove items, 47 sterilization material items, 144 catheters and tube items, and 79 syringe-and-needle items. The first three of these tenders were approved for award and should be signed-off by the end of September. System-generated reports by RxTender have been implemented and improved for all these processes. During this quarter, NDOH also awarded and published three pharmaceutical tenders for TB medicines, antimicrobials, and contraceptive agents. All targets in the project plan were met and the TB and contraceptive contracts were awarded eight weeks prior to the starting date as per target. The publication of the antimicrobial contract was delayed due to capacity and performance challenges of some successful bidders and global antibiotic shortages. The aforementioned are the third cycle of pharmaceutical tenders managed by NDOH, and processes are improving with every cycle. NDOH requested that SIAPS support outstanding supplementary tenders, as contracts were urgently required.

SIAPS attended and assisted facilitation of the Pharmaceutical Services strategic planning workshop held in NW. The workshop focused on challenges in four areas, namely, pharmaceutical services compliance, finance, medicine supply management, and human resources. SIAPS consolidated input from the working groups and submitted the draft strategic

planning document to the province for comment. SIAPS also did a presentation on the proposed study to assess the feasibility of using data extracted from RxSolution for surveillance of outpatient antibiotic consumption and monitoring of antibiotic prescribing practices at hospitals in the province (see objective 3).

SIAPS presented at a conference organized by Kheth'Impilo on governance and how it relates to meeting the HIV and AIDS 90-90-90 targets. The request to support another partner is evidence of the value placed on SIAPS expertise.

Partner contributions

Pure Health Consulting, through Center for Disease Dynamics, Economics, and Policy (CDDEP) funding, is providing technical assistance to the EDP in the finalization of the AMR Strategy Implementation Plan and the drafting of the NDOH position statement on the role of pharmacists in antimicrobial stewardship. SCMS is working with NDOH and SIAPS on the access and availability strategy.

Constraints to progress

Reliance of NDOH on SIAPS for operational work related to supplementary tenders rather than building capacity of the NDOH staff.

Objective 2. Capacity of personnel for the provision of pharmaceutical services enhanced (IR 2)

During this quarter, SIAPS co-facilitated the second RMU Winter School course in collaboration with the UWC School of Pharmacy and Boston University School of Public Health. The class consisted of 17 pharmacists and medical professionals working in Angola, Lesotho, Malawi, Mozambique, and South Africa. Participants indicated that the course was very useful. After two years of SIAPS support in facilitating the RMU course, it is anticipated that UWC staff will facilitate the course independently, starting in 2016. SIAPS also facilitated 3 (distribution; policy, laws, and regulations; and management information systems) of the 14 sessions of the medicine supply management course during the Winter School. Six participants attended the course from South Africa and Lesotho.

SIAPS has worked with the UWC to develop the online RMU course offered as a stand-alone course, or as part of a master's in public health. The course includes 11 sessions to transfer skills and expertise to promote RMU beyond the borders of South Africa. The course was launched on July 26, 2015. Already 12 participants from South Africa, Botswana, and Nigeria have enrolled in the course. SIAPS staff will facilitate 5 of the 11 sessions running until October 2015, and have developed the course material, assessments, and feedback forms. Through this initiative, SIAPS has provided technical assistance to deliver the first distance-learning course aimed at strengthening RMU in Africa. SIAPS has developed materials, provided mentoring, and supported facilitation to ensure transfer of skills to university staff. The course will be evaluated to inform improvements for the next cycle. In the next quarter, SIAPS will assist the school in

the preparation and development of the online medicine supply management course which should be completed by April 2016.

SIAPS support in course facilitation and research guidance to Nelson Mandela Metropolitan University (NMMU) is ongoing. SIAPS worked with two lecturers and a student to develop a poster entitled Reporting of Adverse Drug Reactions in Private Sector Pharmacies in the Nelson Mandela Metropole, South Africa which was presented at the First Training Workshop and Symposium MURIA Group (July 27–29, 2015) held at the University of Botswana. In July 2015, an abstract entitled Building Capacity in Data Mining and Large Database Analysis to Support Informed Decision Making was accepted for oral presentation at the South African Association of Health Educationalists conference held in Gauteng in September 2015. The research presentation was based on the RxSolution project completed with NMMU in 2014. SIAPS also provided technical assistance on the pharmacovigilance elective for the fourth-year BPharm research project at NMMU.

The final presentations for the groups from all districts in KZN that completed the PLDP sustainability initiative took place in September. Six teams presented their results in Ulundi on September 15 and seven teams presented in Durban on September 18. The teams shared their measurable results, interventions they had implemented, results achieved thus far, and thoughts around sustaining and scaling up the initiatives. Following the presentations in each category, a moderator from either the province or one of the districts facilitated a discussion with the audience. The presentations were categorized into themes, namely, improving medicine availability and accessibility, ensuring compliance with standards, improving RMU, and improving quality-service provision.

A total of 27 health care professionals are in the advanced stages of completing the LDP in the Khayelitsha Eastern Substructure in the WC. During the quarter, the third and final workshop and coaching visits were conducted to assist teams in reviewing progress toward achieving their measurable results. The participants are implementing quality improvement projects in 10 health facilities in the substructure. The projects focus on:

- Reducing patient waiting times at the pharmacy
- Increasing the percentage of ART patients in Central Dispensing Unit (CDU) clubs
- Increasing the percentage of clients collecting CDU parcels off-site
- Reducing rejections of CDU prescriptions
- Increasing the proportion of staff and patients wearing masks in the facility
- Decreasing clinicians' workload
- Increasing the proportion of patients booked for a clinical review by clinical nurse practitioners
- Improving ward stock management
- Increasing correctness of prescriptions
- Increasing the proportion of patients that leave the pharmacy with an electronically booked appointment date

The participants will present their achievements to senior management next quarter. Discussions are underway with the substructure representatives to implement mechanisms for sustaining the improvements achieved.

In the Free State (FS), the Pharmaceutical Services Directorate requested that SIAPS assist in addressing various challenges identified by an audit conducted by the auditor general. Key challenges identified were the availability of medicine and improving medicine supply management processes. The province emphasized that the capacity-building approach used should focus on governance. To respond to the request, SIAPS adapted the PLDP to become the Pharmaceutical Leadership and Governance Initiative. The first workshop, held September 22–23, 2015, was attended by 30 participants including district, hospital, and roving pharmacists.

A memorandum of understanding (MOU) has been entered into between the Department of Pharmacy, Sefako Makgatho Health Sciences University, and SIAPS. One of the activities in the MOU is the integration of the challenge model as well as some of the tools from the LDP into the management of pharmaceutical services module of the masters' program (public health pharmacy and management); 14 students are enrolled in the program. Ten desired measurable results have been crafted and are being implemented by students in their work place to improve health outcomes. A follow-up workshop was held during this quarter to guide and coach students. A blog has been created to facilitate discussion on application of the leading and managing practices.

The Public Health Association of South Africa will hold their annual conference in October 2015 in Durban. Two abstracts prepared by teams from the KZN PLDP sustainability initiatives were accepted for poster presentation. The abstracts are entitled Establishing an Optimally Functioning PTC in eThekweni South District in KwaZulu-Natal and Improving the Quality of Pharmaceutical Services at Primary Health Care Clinics in Umzinyathi District, KwaZulu-Natal.

Objective 3. Use of information for decision making for pharmaceutical services improved (IR 3)

Software development

Technical assistance continued to NDOH on the national pharmaceutical management information system (PMIS) and RxPMPU activities. Following the broader medicines access and availability strategy workshop, it became evident that further clarity is needed on components of the strategy that will inform the PMIS. Further work on this element of the strategy will take place in the next quarter. SIAPS reviewed the master procurement catalogue policy which forms part of the PMIS. SIAPS is working with the Clinton Health Access Initiative and Oracle to enable remote access for updating the master procurement catalogue.

SIAPS continued to support rewriting of the tender module to address governance issues that were not covered in earlier versions. SIAPS is currently recruiting a business analyst to assist NDOH with mapping processes and documenting user requirements and specifications. RxSolution software development during the reporting period included completion of testing the

new version of RxSolution and demonstration of the interface between SVS and RxSolution to USAID and SCMS.

Implementation of RxSolution

By the end of the reporting period, 395 sites were using RxSolution; 13 local service area offices that served as mini depots and used RxSolution to order medicines on behalf of local primary health care (PHC) facilities were closed. During the quarter, five new sites were added, including two installations in Gauteng, two facilities in Limpopo, and one facility in Mpumalanga. The facilities are using the stock management module effectively.

During the second quarter, SIAPS was requested by NDOH to roll out RxSolution to 700 NHI clinics before the end of March 2016. Following this request, discussions took place with NDOH and USAID on the requirements for successful implementation of RxSolution at the PHC level. NDOH subsequently decided that the Vodacom-supported mobile cellphone application SVS should be used in PHC facilities, rather than RxSolution. SIAPS was requested to install the RxSolution/SVS interfaced version at district offices in the ten NHI districts. This version will allow a district pharmacist to receive SVS exported data from PHC facilities and import the data into RxSolution for stock management.

In Limpopo, a project plan was approved to install RxSolution at three Vhembe hospitals, two Capricorn hospitals, and two Mopani hospitals before the end of December 2015. Pietersburg Hospital has gone live on pharmaceutical products and is placing orders directly with suppliers. Plans are at an advanced stage to switch surgical products from PDSX to RxSolution.

In Gauteng, Rahima Moosa Hospital is fully utilizing RxSolution after a stock-taking exercise was conducted in July. Following the compilation of a list of information and communications technology equipment that needed to be procured for Chris Hani Baragwanath Academic Hospital pharmacy, a monthly meeting was held with SIAPS, SCMS, pharmacy management and hospital IT. A project plan was developed and is being implemented.

SIAPS attended RxSolution Steering Committee meetings in Northern Cape (NC) to discuss implementation of RxSolution in the province. During the last quarter, the NC Department of Health requested that SIAPS implement the stock management module of RxSolution in the provincial depot. The province will meet with internal stakeholders to discuss implications of changing to RxSolution. Because of the complexity of the NC depot system and time required, it may not be feasible to change the system at this stage. SIAPS continued to support implementation of RxSolution at selected sites in the NHI district in the province, including coaching and mentoring. A drive to collect data by retrieving RxSolution usage reports and assessing inventory management from sites that have implemented the system continued in this quarter.

SIAPS met with Aurum Institute to discuss the process of rolling out of RxSolution in Correctional Services. It was agreed that SIAPS will train Aurum on how to conduct RxSolution implementation assessments, installation, and support in Correctional Services facilities.

During this reporting period, 115 RxSolution users from KZN (105) and NC (10) were trained to use the system. In most cases, this was refresher training on use of the stock management module.

Use of data for decision making

SIAPS assisted in the finalization of a research protocol in collaboration with Harvard University to assess antibiotic consumption by using data from RxSolution in the NW. The anticipated start date of the study is November 1, 2015. Provided that all ethics and relevant approvals are received, SIAPS will provide assistance as needed to implement recommendations from the study and assist pharmaceutical services in using RxSolution dispensing data to monitor the appropriate use of antibiotics and develop quality improvement plans to address challenges encountered.

In FS, the results of a usage report analysis and inventory management assessments from 13 sites were shared with stakeholders. Gaps in inventory management were discussed with departmental officials in an effort to improve management and availability of pharmaceuticals. SIAPS worked with SCMS in providing technical assistance to the facilities to implement the direct delivery model.

Steering committee meetings were held in Eastern Cape (EC), KZN, NW, FS, Limpopo, and the Gauteng CDU in Ekurhuleni District to discuss progress with the roll-out of RxSolution and stakeholders' requirements for the quarter.

In terms of the annual performance plan, NDOH will implement a dashboard for the early detection of stock-outs of medicines at 10 central, 17 tertiary, and 25 regional hospitals across all provinces. The dashboard will import relevant stock data from the various source systems at the hospital level. The stock data will be based on predefined minimum datasets, data structures, and formats to be submitted or replicated to a central point at set intervals. The populated dashboard will be accessed by various authenticated stakeholders at the provincial and national levels and will provide up-to-date stock status at any given point in time. This tool will also ensure that relevant master data from NDOH will update the various source systems when applicable. In the last quarter, nine central hospitals were assessed for installation of the dashboard. To date, 14 of the tertiary hospitals have been assessed and the remaining 3 hospitals (plus 1 central hospital) will be assessed in the next quarter. Six central hospitals are connected to the dashboard.

Partner contributions

Work with SCMS on implementation of the direct delivery strategy

Constraints to progress

- Delay in finalization of the MOU between SIAPS and NDOH
- Unsigned project charters due to unsigned SIAPS/NDOH MOU are an obstacle that hinders implementation

Objective 4. Financial mechanisms strengthened to increase access to medicines (IR 4)

In the last quarter, it was reported that a request had been submitted to the mission to revise the work plan, as limited progress had been made on activities related to implementation of efficient medicine-benefits management under NHI as well as assistance with the development of a health technology assessment model. It had not been possible to make progress on these activities since they are dependent on the release of the white paper on implementation of the NHI in South Africa.

In this quarter SIAPS, assisted in drafting a concept note on health technology assessment (HTA) for NDOH. Feedback is awaited. Related to the HTA activity, SIAPS attended a two-day meeting hosted by the City of Johannesburg and the Southern African Health Technology Assessment Society. SIAPS collected information on HTA activities in South Africa and abroad that would assist NDOH in preparation for the establishment of an HTA in South Africa.

Constraints to progress

The white paper for NHI has yet to be published.

Objective 5. Pharmaceutical services improved to achieve desired health outcomes

In July 2015, SIAPS assisted the EDP in reviewing four chapters (central nervous system, mental health conditions, respiratory conditions, and trauma and emergencies) in the PHC standard treatment guidelines (STGs) and essential medicines list (EML) mobile application. The EDP intends to launch the application in November 2015. Suggestions for revisions and corrections were submitted to the Open Medicine Project, responsible for development of the smartphone/device application, via the NDOH.

In September 2015, SIAPS was requested to assist the EDP in the development of a recruitment strategy for expert review committee members for the STGs and EML of South Africa. Feedback is awaited.

SIAPS provided technical assistance to the Rational Medicine Utilization (RMUz) Subcommittee of the Gauteng Provincial PTC to review the ABC analysis for the financial year 2014/15 and identify potential inappropriate medicine use. The high usage of risperidone injection was flagged as an area of concern. Subsequently, an analysis of the consumption of psychiatric medicines (defined daily diagnosis analysis) was performed at the provincial level and for Ekurhuleni district. Following the presentation during the Gauteng Provincial PTC meeting on the high quantities of misoprostol ordered by some facilities in Gauteng province, the Ekurhuleni district pharmacist requested SIAPS assistance to analyze the expenditure on misoprostol across the district's facilities. The findings from the ABC analysis will inform the decisions of the RMUz Subcommittee of the district PTC.

During this quarter, a concept note was finalized to improve use of RxSolution for decision making with a focus on financial and inventory management using ABC/VEN concepts. The intervention was presented to the Gauteng head of Pharmaceutical Services who used the Gauteng Pharmaceutical Services Conference held in September as a platform to introduce the pilot of the ABC/VEN intervention that will be conducted at three institutions in Gauteng.

In July 2015, a SIAPS representative was appointed to the KZN PTC and the Selection and Formulary Subcommittee. SIAPS has contributed to two subcommittee meetings and one quarterly PTC meeting, as well as activities that arise from the meetings.

During this quarter, SIAPS trained pharmacist's assistants, data capturers, and pharmaceutical management on managing data at the Dr. George Mukhari Academic Hospital and KZN Pharmaceutical Services Directorate. Technical assistance was provided to multiple groups and during one-on-one sessions. The training resulted in a more efficient and accurate flow of pharmacy information for different users. The attendees have continued training other individuals with SIAPS support when required.

This quarter, SIAPS provided technical assistance to the WC provincial PTC to finalize the MUE for aspirin. The data collection tool was piloted and some amendments were made. The final MUE tool and documents were sent to all PHC facilities and hospitals in the province. The MUE will be used to create awareness on MUEs and improve rational prescribing of aspirin. To improve the decision making on which MUEs should be done, SIAPS has provided technical assistance to develop a decision matrix for selection of MUEs.

The National Institute for Communicable Disease, private laboratories and CDDEP has developed an AMR map for South Africa depicting the localization and trend of selected resistant bacteria. The AMR Strategy Implementation Plan identified the need to compare trends in antibiotic resistant microorganisms with the consumption of antibiotics. SIAPS worked with EDP to analyze the consumption of specific antibiotics (FY 2012-13) prone to generating resistance. SIAPS used the defined daily dose analysis method to compare antibiotic consumption across provinces. The information generated will serve as a baseline for the surveillance of antibiotic consumption as recommended in the national AMR strategy. This baseline information was included in the AMR Strategy Implementation Plan. Following the infection control assessment training in Nkangala district, SIAPS provided the district with 1,500 copies of the hand hygiene posters to support the infection prevention and control (IPC) activities.

SIAPS participated in a meeting between the National Pharmacovigilance Centre (NPC) and the EC province, organized by the NPC, as part of the phase 1 roll-out plan to introduce the Decentralised Pharmacovigilance Programme to the EC. During the meeting, partners were delegated with specific roles to support implementation of the phase 2 roll-out that took place in Port Elizabeth in August 2015. The NPC provided SIAPS with an invitation and training agenda for phase 2 training of three subdistricts in the EC. However, the NPC did not require further support from SIAPS for these trainings.

SIAPS provided a guest speaker at the Pharmacy Week event at Dr. George Mukhari Academic Hospital.

SIAPS was represented at the South African Development Community (SADC) Pooled Procurement Technical Review Committee meetings held in Gaborone and Johannesburg. The focus of these meetings was to review and build consensus on documents relating to Centers of Excellence and Specialization, Procurement & Supply Management and Promotion of Regional Manufacturing of medicines and health commodities in SADC. The final drafts will be presented to the SADC ministerial meeting for approval.

SIAPS was again represented at the SADC TB workshop that took place August 31 to September 1 at OR Tambo International Airport. Each member state was represented. Partners who attended the workshop were SIAPS, WHO, International Organization for Migration, University Research Corporation (URC), AIDS and Rights Alliance for Southern Africa, and Aquity Innovations/URC. The objective of the workshop was to provide comments and build consensus on draft reports prepared by a consultant.

Partner contributions

Right to Care was involved in the pharmacovigilance roll-out in the EC.

South Sudan

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

Overall Quarter Progress

During Q4, SIAPS supported the distribution of essential medicines/Emergency Medicines Fund (EMF) commodities to various states including Central (CES) and Western Equatoria States (WES). SIAPS ensured that storage space and local logistics, such as transport in the 16 counties of CES and WES, are arranged through coordination with Integrated Service Delivery Project (ISDP). These commodities include oral rehydration salts, antibiotics, antimalarials (ACTs), and sulfadoxine-pyrimethamine (SP) for intermittent preventive treatment (IPT) in pregnancy and oxytocin for reduction of maternal and child deaths.

As part of support to reduce malaria morbidity and mortality, USAID has procured 400,000 long-lasting insecticide-treated nets (LLINs). SIAPS carried out an assessment in WES and CES on availability of storage space for the incoming LLINs, which will be distributed in all 16 counties in WES and CES. These nets are intended for ANC and routine distribution at facilities through the implementing partners working in these states.

SIAPS conducted supportive supervision in five CHDs in CES (Terekaka, Lainya, Yei, Morobo, and Juba). During this visit, the program collected Continuous Results Monitoring System (CRMS) data from CHD stores and 18 health facilities.

SIAPS participated in a three day M&E meeting held at Management Systems International (MSI)-Juba which sought to orient all USAID-funded projects on the newly proposed performance monitoring and evaluation plan, a document required by each project that describes how the life-of-project activities will be monitored.

In response to a recent cholera outbreak in WES, SIAPS worked with the State MOH to create enough storage space for EMF's last quarter distribution and supported the redistribution of medicines at selected locations for emergency use. SIAPS, in collaboration with other task force partners, conducted a series of emergency preparedness meetings for any possible outbreak of cholera in WES.

The SIAPS team in Juba has been having regular technical discussions on strengthening the Logistics Management Unit (LMU) and introducing the Electronic Dispensing Tool (EDT) in the country to remove bottlenecks and ensure improved availability of data for decision making in the pharmaceutical sector.

To allow for greater collaboration, efficiency, and assurance that proper assumptions are made for close-out during the final year of the project, the SIAPS portfolio finance analyst visited South Sudan to support the country project director with work planning and budgeting for PY5 and to ensure that appropriate financial planning is in place for close-out.

SIAPS worked with HQ to develop and finalize the FY15 work plan for South Sudan. This process involved several consultative meetings and discussions with stakeholders, including the Mission and MOH, to identify priority areas of intervention, given that the project closes in September 2016. Most of the activities planned and budgeted for in FY15 seek to show visibility and also ensure that country ownership is part of the exit strategy. The work plan and budget have been submitted to USAID and are awaiting approval.

During Q4, SIAPS portfolio management and USAID South Sudan held strategic discussions and interactions to revise and agree on the broad direction for the SIAPS South Sudan program. A number of review meetings to strengthen the M&E system were undertaken.

Progress on some of the indicators currently being reported includes:

- Number of malaria case management trainings conducted: 1 training held in CES, 69 people trained (37 male, 32 female)
- Number of counties submitting monthly stock status reports: 16 stock status reports for 5 counties collected in WES
- Number of constituted Pharmaceutical Technical Working Groups (PTWGs): 4, each of them conducted 3 PTWG meetings this quarter

Objective 1: Pharmaceutical services improved to achieve desired health outcomes

SIAPS coordinated with USAID | DELIVER to ensure that all 16 counties in CES and WES received their EMF supplies, which included antimalarial and other essential commodities. SIAPS continued communication with its partners, such as ISPD and the CHDs in the counties, to ensure readiness to receipt consignment, availability of storage space, and proper documentation to ensure accountability for the supplies received. Currently, all counties have received last quarter's EMF supplies, and SIAPS is supporting partners to ensure the onward distribution of these supplies to the facilities where they are needed where partners are not able to support distribution.

SIAPS continues to provide technical and logistical support to Morobo County in CES in the distribution of quarter 4's EMF commodities to health facilities that had been requested earlier, but could not be delivered because of logistic challenges. These health facilities included Aboroto, Payume, Lujulo, and Aloto Primary Health Care Centers (PHCCs) and Yaribe and Kendila Primary Health Care Units (PHCUs). SIAPS engaged the county's implementing partners, such as ISDP, in the process.

By September 2015, the country faces an eminent stock-out of essential medicines. To ensure a correct and uninterrupted supply of medicines, SIAPS has been working with its partners, including the MOH, to discuss plans and options for the next procurement of essential medicines as the EMF comes to a close. SIAPS has been working closely with WHO, DFID, and the Canadian international development agency to identify and adopt the best mechanism to procure essential commodities for the country to avert stock-outs. Currently, about 54 commodities which include antimalarials, antibiotics, and medications for prevention and treatment of

diarrhea, have been proposed as essential commodities to be procured. Hopefully, with financial commitment from donors, the availability of essential medicines will be ensured to save the lives of many South Sudanese.

SIAPS continues to provide technical assistance in the management of the CES medical store (which also holds supplies for Juba County) to ensure smooth operation, appropriate medicine storage, and proper inventory management practices (e.g., store arrangement of medicines, stock card update, receipt and issue of medicines). Currently, as part of the introduction of a pull system, supplies are issued based on requests from facilities.

SIAPS continues to support the in-country customs clearance and transport of PEPFAR-procured commodities, such as condoms and ARVs to the CES warehouse for storage and distribution. The customs clearance of these vital commodities at the ports of entry remains a challenge, however SIAPS has leveraged its working relationship with these government institutions to ensure a smooth clearance and delivery of these supplies to be stored appropriately. This has dramatically reduced the lead time for ARV commodity delivery from an initial three to four months to two to four weeks, thereby reducing the risk of deterioration from poor storage at ports and ensuring that the ARVs reach the people who need them the most.

SIAPS has been engaging with the USAID | DELIVER team to ensure that the procurement and shipment of the 400,000 LLINs, 630,000 doses of ACTs, and approximately 7,500 doses of SPs are received on time, transported, and appropriately stored. These supplies are to be distributed to all 16 counties in WES and CES. Currently, SIAPS has also initiated customs clearance and the necessary tax exemption to clear the 400,000 LLINs. SIAPS has also made arrangements to store and distribute these supplies when they arrive.

Partner contributions

SIAPS has collaborated with Health Pooled Fund, WHO, UNICEF, USAID | DELIVER, and ISDP to ensure that issues related to drug supply and pharmaceutical management are addressed.

Constraints to progress

The general insecurities continue to greatly affect drug supply and management in the country, with certain areas very difficult to reach because of the conflict.

Limited funding for health programs, such as drug procurements, has potential implications for some of the key interventions for drug availability.

In CES and WES, some counties do not have store keepers and pharmacists who can be accountable for the management of drugs. This affects the management of the drug supply and capacity-building efforts by SIAPS.

Selected counties and health facilities have challenges with shelves and pallets, which result in poor storage and management of EMF supplies. SIAPS has initiated procurements of pallets to reduce the problem.

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

To improve the capacity for pharmaceutical supply management and services, SIAPS continues to provide technical assistance in the day-to-day management of the CES medical store, ensuring smooth operation and appropriate medicines storage and inventory practices, including arrangement of medicines in the store, stock card update, and receipts and issues of medicines. SIAPS has provided computers and basic computer training to help the staff carry out the day-to-day tasks of warehouse management.

SIAPS conducted supportive supervision in the following health facilities in Tambura County: Mangburu, Mabaiku, Bakirigbma, Dingimo, and Matoto PHCUs; Source Yubu and Mupoi PHCCs; and Tambura State Hospital; in Ezo County at Ezo and Naandi PHCCs. The county medical store in Tambura CHD was part of the team as part of the capacity-building strategy to improve the pharmaceutical management capacity of the CHD. During the visit, SIAPS rearranged the dispensary and labeled shelves at Naandi, Mupoi, and Ezo PHCCs. SIAPS carried out an onsite training on stock cards for dispensers and CHWs at Mabaiku, Dingimo, Matoto and Bakirigbma PHCUs. Some challenges, such as constrained human resources, were also reported and the county health department was informed to address the gap.

SIAPS worked with the state malaria coordinator for CES to develop a plan and budget for malaria case management training for in-service health workers in CES. The training was held in two separate sessions, each taking about five days, starting July 27 to August 7, 2015. A total of 69 people (37 male and 32 female) were trained. SIAPS also worked with the state coordinator for CES to review the training plan for in-service health workers. This included review of the timetable, trainers to facilitate the training, training materials needed (including sample drugs and RDTs for demonstrations).

Partner contributions

SIAPS has collaborated with ISDP, IMA, and Health Pooled Fund to ensure that pharmaceutical management trainings are rolled out throughout the country.

Constraints to progress

Human resources are a challenge at the facilities, and the capacity to undertake pharmaceutical management tasks is minimal. This leads to difficulty in rolling out program activities.

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

To ensure that information for decision making is enhanced, SIAPS continued to provide monthly stock status reports through the LMU for CES and WES. During the monthly data collection and feedback to the counties, the team noted that there has been a continuous decline in the rate of stock-outs of tracer medicines in all 16 counties, which can be attributed to the

effective distribution of EMF throughout the country. The LMU received data from four counties (Nzara, Yambio, Tambura, and Ezo) in WES; the results indicated 76% availability of all tracer medicines, an indication of sufficient supplies and good distribution. This is significant, given that the information received from these counties helps address any stock-out situation and will inform future quantification for drug procurements.

SIAPS successfully installed EDT at the ART Centre at the Juba Teaching Hospital. EDT installation is funded by PEPFAR to improve the management of ARVs to patients through proper patient records and product information and to generate various patient and product reports. SIAPS provided hardware, such as four desktop computers and trained the staff on the use of these systems.

On-the-job training has been the best means of offering continued support at the site, since the program was launched before all staff members were fully proficient with the new system. It is expected that this will ultimately improve the management and care of patients at the ART center.

Partner contributions

SIAPS worked with ISPD partners within CES and WES in data collection and field visits. PSI also contributed significantly in providing data for antimalarial stock status for their supplies.

Constraints to progress

Human resources are a challenge at the facilities, and the capacity to undertake inventory management tasks is minimal, which leads to delays in receiving prompt and accurate reports for analysis.

Objective 4: Financing strategies and mechanisms strengthened to improve access to medicines

Due to changing focus of the program in pharmaceutical sector governance, SIAPS's role is limited in supporting the review and update of the STG/EML for South Sudan. However, SIAPS has been collaborating with WHO to establish the committees and partner discussions for this process to begin, using the PTWG as the forum for discussion and implementation of this review. WHO is taking the lead in this entire process and will engage a consultant until the process is completed. It is expected that after the review, partners will support the printing and dissemination of the document in their various states.

Partner contributions

WHO, UNICEF, USAID, and other key partners have been involved in preliminary discussions on the process and review of the STG/EML.

Constraints to progress

The newly established Drug and Food Control Authority lacks enough human resources to engage in fruitful discussions of the EML/STG.

Objective 5: Scale-up of malaria interventions accelerated, better coordinated, and documented

SIAPS participated in the malaria mid-year review meeting held in June 2015. SIAPS participated in all the preparatory meetings and worked with the NMCP program manager to develop the meeting agenda. During the meeting, SIAPS gave presentation on key M&E updates including a summary of the malaria annual work plan and also chaired the meeting. In total, this three day meeting was attended by 48 participants, comprising state coordinators, M&E officers, and malaria stakeholders. Later, SIAPS did a summary of achievements by state malaria control programs, which was submitted to the program manager for incorporation into the final report. The next review meeting will be held in December 2015.

SIAPS worked with the state malaria coordinator for CES to develop a plan and budget for malaria case management training for in-service health workers in CES, which was submitted to HQ for funding approval. The training was held in two separate sessions, each taking about five days. A total of 69 people (37 male and 32 female) were trained. SIAPS supported the state coordinator for CES to review the training plan, which included review of the timetable, facilitators, training materials (including sample drugs and RDTs), and venue.

SIAPS held a malaria team meeting chaired by the agriculture acting National Malaria Control Program manager. In the meeting, the new SIAPS senior malaria advisor was introduced to the team, together with some of the new team members recruited under Global Fund support through PSI. The group discussed need to build a strong team and work together for better services delivery. The meeting recommended reviving the weekly/biweekly malaria team meeting to keep everyone updated on changes and new developments and identify needed support. The team also recommended conducting a team-building meeting in September 2015. The meeting was attended by 12 people (3 females and 9 males) from SIAPS and NMCP MOH.

A malaria team-building meeting was held to helping the members understand each other's roles, work relationships, and how to function as part of the team. The meeting was attended by 14 people (11 male, 3 female). It was recommended that this kind of meeting should be done periodically to ensure team cohesion, support, and building the capacity of staff in management.

SIAPS facilitated a joint SIAPS/NMCP supportive supervision visit to WES, as part of the continuous technical assistance provided by SIAPS to the MOH to ensure scale-up of malaria interventions. During the visit, the team sub-divided into two groups, one focusing on the LLINs investigation and pharmaceuticals strengthening and the other team conducted malaria supportive supervision in four counties (Yambio, Tambura, Ezo, and Nzara) and selected health facilities, working with the WES malaria coordinator and M&E focal person.

SIAPS held a meeting with the newly recruited M&E officers to orient them on malaria M&E activities. Key program documents such as the malaria annual work plan 2015/16 and malaria

strategic plan 2014-2021 were shared. The three staff was assigned states to monitor, collect all monthly reports, and attend the weekly IDSR and monthly M&E meetings.

SIAPS worked with the NMCP program manager to review, finalize, and submit for printing the guidelines and the updated training manual for malaria case management in South Sudan; 150 copies were printed with funding from SIAPS to facilitate training in CES and WES. Further updates of the document are ongoing.

Partner contributions

The Global Fund, through PSI, WHO, and USAID, has been supporting malaria activities through the engagement of technical assistance, consultants, and advisors. USAID has also contributed to the procurement of antimalarials for case management.

Supervision in WES was conducted in partnership with the State MOH malaria coordinators and malaria M&E officers and the respective county health department teams.

Constraints to progress

The human resource capacity at the national, state, and county levels to fully implement malaria interventions still remains limited, restricting the ability of the malaria program to fully roll out its strategies at the lower levels. Embedded advisors from SIAPS and WHO are supporting the national program to develop the necessary policies and tools for effective implementation of malaria activities.

Swaziland

Goal: Assure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes for HIV, TB, and family planning

Overall Quarter Progress

SIAPS works through a pharmaceutical systems strengthening (PSS) approach to support the MOH to achieve its national targets for the treatment and care of HIV and TB patients. SIAPS worked at the national and facility levels, in collaboration with local counterparts, including the MOH. During this quarter, 39% (n=69) of SIAPS-supported ART sites were able to maintain required minimum-maximum stock levels for tracer ARVs which is a reduction in performance from the 52% reported in the previous quarter. The Central Medical Store (CMS) reported no stock-outs of ARVs, however, stock-out of TB tracer medicines was reported. The stock-out of tracer medicines has received a lot of attention from all stakeholders, such that there are efforts to look at measures to prevent them, especially considering that MOH has set high treatment targets for the current year. The introduction of the new ART guidelines and Life Long Access to ART for pregnant and lactating mothers has meant that the country has to increase its stock holding. The procurement function of the MOH has also been identified as an area of improvement, especially in supplier payments and general contract management.

Facility level practices in supply chain management have a direct impact on the national supply pipeline of lifesaving medicines. SIAPS has conducted a pharmaceutical supportive supervision in two regions focusing on stock management using the country appropriate tools and dispensing practices. These visits have been running since 2012, and have now been transitioned to the MOH. A pharmacist in the CMS has been assigned by the chief pharmacist to lead these activities. In this quarter, SIAPS only participated in the visits, but the coordination and resource planning was done by the responsible pharmacist at CMS. Following these visits, SIAPS often mentors dispensary personnel to work on gaps identified during the visits. The mentorship is conducted jointly with MOH and responsible PEPFAR clinical partners in the regions; 57 health workers have been mentored on stock management, LMIS, and good dispensing practices for HIV and TB medicines.

SIAPS has put a lot of effort this quarter into addressing data quality and improving the reporting rate at facilities. Web-based commodity tracking is a tool that will assist the country in getting timely stock information to inform supply chain decisions.

During the quarter, only 75% (n = 133) of ART sites completed and submitted LMIS reports. This reflected a decline in performance from 92% reported in the previous quarter. This is a concern, especially since this information is used in the annual quantification and can inform the national budget allocation for ARVs in 2016/17. The poor reporting rate can be attributed to a shortage of LMIS forms and insufficient staff at facilities; hence, no one is assigned the responsibility of submitting the reports to the national level. Another challenge is the long lead time in the flow of information from baby sites to mother sites, then to the national level. SIAPS

is exploring options to address this and possibly advise MOH on the need to place data entry clerks at mother facilities.

The support to the national AIDS program and the Pharmacovigilance Unit is ongoing. There have been efforts to increase the number of facilities reporting adverse events to the national office, and over 250 adverse events have been analyzed to date.

Objective 1. Strengthen governance in the pharmaceutical sector

SIAPS continues to support the Pharmaceutical Services Department on various interventions to improve medicines policy and regulation. SIAPS provided technical assistance to the MOH and Parliament in advocacy activities for the enactment of the Medicines and Related Substances Control Bill No. 7 of 2015 and the Pharmacy Bill No. 8 of 2015. These activities included participation and providing technical assistance in six (full-day) meetings with the House of Senate Health Portfolio Committee to conduct stakeholder input hearings, deliberation on the bills, and develop Senate Health Portfolio Committee reports. The next steps are for the Portfolio Committee reports to be adopted by the entire House of Senate.

SIAPS continued to provide technical assistance to the Pharmaceutical Services Department in the process of controlling the quality of medicines imported into Swaziland. SIAPS is currently facilitating the process of transitioning this activity to a pharmacist newly appointed to the interim medicines-regulatory desk. SIAPS prepared guidance documents for Parliament's discussion of the imposition of a value added tax (VAT) on medicines. Next quarter, SIAPS will continue support activities toward establishment of the MRA, including the maintenance of a medicines registration system.

SIAPS continued to facilitate the finalization and adoption of the Swaziland Medicines Donation Guidelines by facilitating guideline review and preparing for presentation of the guidelines to MOH senior management for formal adoption. SIAPS's strategic objective of ensuring implementation of strategic and evidence-based pharmaceutical sector development plans has prompted renewed focus on finalizing the draft Swaziland Pharmaceutical Strategic Plan M&E framework. This document will be presented to the MOH senior management in the next quarter for approval. The Office of the Chief Pharmacist will then be supported in implementing the pharmaceutical sector monitoring matrix.

Constraints to progress

The public sector pharmacist forum meeting was not conducted this quarter because there were other competing activities in the Pharmaceutical Services Department (Office of the Chief Pharmacist). A tentative date has been secured for this meeting in the next quarter.

Objective 2. Increase capacity for pharmaceutical supply management and services

SIAPS is working with the PEPFAR/Swaziland regional clinical partners on inventory management of HIV and TB medicines at health facilities. The regionalization strategy is about

consolidation and streamlining PEPFAR support to clinical facility sites from multiple programmatic-partner support to single comprehensive programmatic-partner support. SIAPS provides national support on pharmaceutical services and supply chain management for HIV and TB. These implementing partners will also provide medicines inventory mentorship and supervision at selected facilities in their respective regions. SIAPS works as a technical resource to these partners on their inventory management interventions at facilities. SIAPS collaborated with URC to conduct training of 20 clinical mentors on supply chain management of HIV and TB medicines and commodities. Discussions are underway with other regional partners to offer similar training for their clinical mentors.

SIAPS supported MOH to conduct facility supportive supervisions at 47 health facilities. This activity has been largely transitioned to the MOH while SIAPS continued to provide technical assistance and logistical support. Cumulatively this year, 100% of SIAPS-supported regions have a documented supportive supervision visit to ART sites. In general, all facilities were found to be using standardized ordering, reporting, and inventory management tools. Most facilities visited were reported to have over 90% of the tracer medicines available. During this quarter, 60 health workers were mentored on supply chain and pharmaceutical management for HIV. SIAPS provided technical assistance to four staff at PSI's main warehouse and New-Start clinic in drawing up the in-country supply chain pipeline for HIV RTKs aligned to the national supply chain pipeline. This was necessary to ensure that all sources of HIV test kits are coordinated and resources are used efficiently. SIAPS provided technical support at two laboratory facilities on good warehouse management principles focusing on inventory management. Mentorship on the use of RxSolution was also provided to 10 health workers at 5 health facilities for inventory management and dispensing. Onsite training on RxSolution was offered to 7 health care workers. SIAPS conducted a training for 65 health care workers (19 doctors; 2 pharmacists, 40 nurses, and 4 information officers) from health facilities, central medical stores, and NGOs on the implementation of bedaquiline. This is in preparation for the planned implementation of the medicine for eligible MDR-TB patients.

SIAPS worked with the main ART sites to support their feeder clinics on inventory and logistics information management for ARVs. Good Shepard Hospital in Lubombo region has been supported in conducting mentorship and supportive visits to 20 of its feeder facilities. This is to ensure that the management of ARV stock at feeder clinics is done properly to avoid stock interruptions and expiration.

Currently, 61% (n = 18) of targeted facilities have completed their quality improvement projects. The Raleigh Fitkin Memorial (RFM) Hospital PTC facilitated development of institutional guidelines and data collection forms to guide prescription for inpatients at the facility. SIAPS continued to support the CMS in the implementation of its key performance improvement activities. Noteworthy was the improvement in TB medicine inventory recording accuracy at CMS from 38% in June to 48% in July.

SIAPS has continued to provide technical assistance to Southern Africa Nazarene University (SANU) as it prepares for full independence from support of the project. Cumulatively, 105 students have registered/enrolled for the pharmacy training program to date. During this year, 16 students will be graduating from the program; 8 from the first cohort will graduate with a

diploma in pharmacy (2 males, 6 females) and 8 students will graduate with a certificate in pharmacy (4 males, 4 females). This brings the total number of graduates with a certificate in pharmacy to 23.

Constraints to progress

The regionalization approach is still unclear in terms of roles and responsibilities and how SIAPS will transition supply chain support at facilities to clinical partners. There are ongoing discussions with partners to design an approach to work on inventory management at facilities.

Objective 3. Address information utilization for pharmaceutical management decision making

SIAPS conducted logistic data validation and verification to improve the quality of ART LMIS reports submitted by facilities to the Data Management Unit (DMU). This follows on the previous quarter, where SIAPS supported the DMU in carrying out a data quality assessment at 45 health facilities. SIAPS also supported MOH to facilitate 2 logistics data dissemination workshops for 70 health care workers from 52 health facilities in Hhohho and Lubombo regions. Logistic data depicting stock status and quality of facility reported data were presented. This provided an opportunity for participants to deliberate on challenges faced in using LMIS. Highlighted at this meeting were the poor reporting rates, incompleteness of reports, and the fact that 50% of reported facility data was found to be inaccurate for all commodities. During the quarter, only 75% (n = 133) completed and submitted an ART LMIS report for the most recent reporting period. This reflected a decline in performance from 92% reported in the previous quarter. An improvement was seen in timely reporting by ART facilities (51% this quarter, compared with 49% last quarter). In the next quarter, SIAPS will continue to provide technical assistance to the DMU to conduct dissemination at the remaining two regions. SIAPS will also support the DMU to develop a plan to improve data quality.

SIAPS continued to provide support to the DMU through the development of a data analyzer tool for generating custom reports on the web-based Commodity Tracking System (CTS). This analyzer will allow for non-routine reports to be generated, for example, for data dissemination meetings or ad hoc requests from the program.

Through funding from the Global Fund HIV/TB grant, the MOH will be procuring a Warehouse Management System (WMS) which is a tool for recording all inventory management-related warehouse processes. As the first step in this process, SIAPS has assisted MOH in drafting a consultancy scope of work for a feasibility assessment in implementing the WMS. A roadmap for review activities has been drafted, including tentative timelines. To oversee this project, a task team has been established, chaired by the assistant director at CMS with SIAPS as the secretariat.

SIAPS continued to support MOH to ensure that information for decision making is available and used. This quarter, SIAPS reviewed, redesigned, and printed the main laboratory report and order forms to align with the CTS. SIAPS also assisted PSI to start using the laboratory main and feeder clinic LMIS report and order forms for HIV test kits. The clinic order form was also

revised to incorporate the changes made at the National Essential Medicines Committee; this form has been submitted to the CMS senior pharmacist for adoption and printing.

SIAPS, in collaboration with the William Davidson Institute (WDI), conducted a supply chain analysis to determine which of SIAPS' interventions were successful as well as what informs interventions to determine if SIAPS Swaziland followed the SIAPS technical approach, which requires evidence-based interventions.

SIAPS remains active in ensuring innovative and proven tools are broadly available and used. Following on from the previous quarter, SIAPS has completed usability and functionality test activities on the new version of RxSolution and Pipeline Syncher applications. In a collaborative effort to strengthen active surveillance activities through the implementation of a web-based Data Collation and Analysis Tool (DCAT), SIAPS initiated testing activities on DCAT, which is in the development phase.

Partner contributions

SIAPS worked with WDI to conduct a supply chain analysis for the country.

Constraints to progress

Facilities recently exhausted supplies of LMIS reporting forms for TB and ARVs. This has negatively affected reporting and ordering rates for facilities and has led to delayed distribution of supplies for commodities at facilities. SIAPS is currently supporting MOH in the printing of at least 250 copies of the LMIS forms to supply to facilities.

The reporting rate continues to be a challenge, and errors in data reported have become a major concern. These issues have a direct impact on the country's efforts to forecast requirements and hence procure sufficient amounts of products.

Objective 4. Financing strategies and mechanisms strengthened to improve access to medicines

This quarter, SIAPS supported the Health Laboratory Services in evaluating tenders for chemistry equipment standardization. SIAPS supported this by providing technical input during the tender evaluation meetings and also facilitated a site visit for the tender evaluation committee to visit a selection of laboratories in South Africa using the equipment under evaluation.

The process of quantification of the ARV and TB medicines requirement for the 2016/17 budget cycle has begun. SIAPS is leading this activity, working closely with the Office of the Chief Pharmacist and CMS. Various consultations have been made with the National AIDS Program, National TB Control Program (NTCP), and the M&E department in the MOH to get as much input toward developing forecast needs.

In the next quarter, SIAPS will provide training in forecasting and quantification. This training will be coupled with the development of forecast documents for ART, TB, and sexual and reproductive health commodities in an effort to inform procurement of these commodities.

SIAPS also participated in the condom technical working group where USAID's support to procure condoms was discussed. A consignment of a million male and 14,600 female condoms was received. The current stock of condoms is equivalent to 12.2 months of stock.

Objective 5. Improve pharmaceutical services to achieve desired health outcomes

Swaziland has experienced frequent stock-outs of tracer medicines for HIV and TB at the central level during the past six months. Recently, 39 % (n = 69) of ART-supported sites were able to maintain required minimum-maximum stock levels for ART tracer drugs. This was a reduction in performance from the 52% reported in the previous quarter ending June 2015. The CMS reported no stock-outs of ARVs, however, stock-outs of TB tracer medicines, i.e., ethambutol 400 mg or 100 mg rifampicin /isoniazid 150/75 mg, were reported.

SIAPS continued to advise the MOH on the best option to procure TB medicines to avoid stock-outs. The direct procurement of TB medicines from the Global Drug Facility (GDF) is currently under consideration and a decision will be made after consultation with other inter-ministerial agencies involved in procurement.

SIAPS facilitated the preliminary steps toward implementation of bedaquiline for the management of XDR-TB patients. This included SIAPS in coordinating the Swaziland partners and establishing initial inter-partner agreements for supporting the NTCP in the implementation of bedaquiline. SIAPS also supported the development of communication by the MOH mandating the reporting of bedaquiline through the SIAPS-supported active surveillance system. In addition, SIAPS supported the placing of an order for bedaquiline by the NTCP to the GDF, including quantifying Swaziland needs based on the ADR reports for patients on second-line TB treatment.

Following the expansion of the active surveillance system to two new facilities in the last quarter, SIAPS continued to work with the pharmacovigilance unit to support all seven active surveillance sentinel sites through monthly supportive supervision visits. SIAPS participated in two facility multidisciplinary team (MDT) meetings to discuss the best way to strengthen active surveillance in the HIV and TB units. National TB Hospital staff was trained on the Sentinel Site-Based Active Surveillance System for Antiretroviral and Anti-TB (SSASSA). SIAPS documented pharmacovigilance work and an abstract was developed and submitted to the African Society of Pharmacovigilance Conference. SIAPS will continue to support the expansion and implementation of patient safety monitoring and strengthen the system at existing implementing sentinel sites. SIAPS will continue to facilitate the drafting and adoption of TORs to establish a National Patient Safety Committee to include representatives from SIAPS and key programs such as SNAP, NTP, malaria, and EPI as well as national partners for HIV and TB. It is proposed that this team develops into the national medicines safety monitoring committee, in the last quarter of FY15 SIAPS implementation.

Pharmacovigilance results on passive surveillance and causality assessment of the adverse events have been captured and disseminated to all stakeholders through the Medicines Safety Watch Newsletter. SIAPS continues to provide technical assistance in conducting the causality assessment of the adverse events, and over 250 adverse events have been analyzed to date. Job aids aimed at strengthening ADR reporting were finalized by the SIAPS team awaiting MOH endorsement.

A total of 7 of 11 SIAPS-supported PTCs had at least one meeting during the quarter. Discussed in these meetings were AMR advocacy and containment-related interventions, i.e., antibiotic prescribing guidelines, development of TORs for a PTC, and the ADR reporting rate.

Constraints to progress

The MOH Procurement Unit is facing some challenges with a few items not attracting bidders even after subsequent rebids. SIAPS is advising the MOH on options to buy through a request for quotation (RFQ) method, but are also considering a pooled procurement mechanism. The RFQ, though simpler to manage, can have very high unit costs.

The stock level of condoms has reached the 12-months level and it is likely that the country will be overstocked. The stock is not moving out as anticipated because of a parallel condom distribution system that exists. There is a planned condom distribution coordination meeting where the issues of promotion/marketing and distribution will be discussed.

Tajikistan

Goal: The goals of SIAPS Central Asia is to assure availability of quality pharmaceutical products and effective pharmaceutical services to achieve the desired outcomes for TB patients in the countries.

Overall Quarter Progress

SIAPS continued providing support to the Tajikistan's National Tuberculosis Program (NTP) in building the TB pharmaceutical management capacity. The TB pharmaceutical management manual along with the respective PowerPoint presentations training materials for post-diploma education curriculum were finalized after being reviewed by the national counterparts and are in the process of being translated into Tajik language. After the translation is completed, it will be presented to the MOH for approval. Also, SIAPS organized trainings on logistics management information systems (LMIS) for the staff responsible for TB pharmaceutical management in the district TB facilities—this included developing the training materials, coaching and supporting national trainers, and holding three trainings for 38 participants.

The development and testing of the automated electronic tool for collecting and managing LMIS data was finalized. The tool will be piloted in six districts starting in October 2015. The users of the tool were trained in these districts.

SIAPS continued support of the early warning and quantification system established in the previous quarters.

Objective 1. Increase and Enhance Capacity for Pharmaceutical Management of NTP of Tajikistan

SIAPS continued further strengthening of the capacity of the National TB Pharmaceutical manager through on-the-job training. The manager is now able to work with the challenges faced in the overall TB pharmaceutical management, including forecasting and quantification of the orders of second-line drugs from different sources/partners in country with the use of QuanTB. The manager collaborated with external consultants during the Global Fund grant making process in early September 2015 and provided comprehensive information on behalf of the NTP; she successfully acted as a trainer during the trainings on LMIS for staff involved in TB pharmaceutical management that was organized with SIAPS assistance in August and September 2015. The National TB pharmaceutical manager became proficient during August and September in the use of automated tool to monitor and manage LMIS reporting in electronic system that was developed by SIAPS (system is described in Objective 2). SIAPS provided on-the-job and remote assistance in all these activities.

Partner contributions

The NTP and Chief TB Specialist of the Ministry of Health collaborated in their inputs to the training curriculum materials.

Constraints to progress

There are no major constraints. The National TB program is collaborative, however, translation of the material to Tajik language may take longer than anticipated due to the specificity of the document.

Objective 2. Increase Use of Information for Decision Making in TB Pharmaceutical Management

As was planned, SIAPS assisted the NTP in optimizing the use of existing paper-based reporting, and developed an automated tool to monitor and manage LMIS reporting in electronic system. The electronic system is designed to receive and automatically aggregate the quarterly LMIS reports on consumption and stock levels of medicines. The use of the system will ensure monitoring of reports being submitted on time, improve their accuracy, and dramatically reduce the time needed for aggregation of the data received from the different facilities. This is important for improving the supply planning of anti-TB medicines within the country and minimizing stock-outs or overstocks of medicines. During the reporting period, SIAPS completed developing, testing, and finalizing of the electronic tool. The system will be piloted in six districts of Tajikistan (Rudaki, Vahdat, Hisor, Shahrinaw, Tursunzoda, and Faizobod) starting in October 2015. The users were trained with assistance of SIAPS.

SIAPS developed the training curriculum and organized trainings on LMIS for the staff of district TB facilities responsible for TB pharmaceutical management. For this purpose, after the training materials were developed, the national trainers were trained on both the content and methodology of trainings. During the reporting period, three trainings were organized where 38 participants from 18 district TB facilities were trained by the national trainers. The SIAPS consultant provided assistance to the national trainers when there was a need for it. During these trainings, 12 participants from 6 districts (Rudaki, Vahdat, Hisor, Shahrinaw, Tursunzoda, and Faizobod) were also trained on use of automated tool to monitor and manage LMIS reporting in electronic system that was developed by SIAPS. These are districts where the tool will be piloted.

Partner Contributions

SIAPS collaborated closely with KNCV Tajikistan Branch office as KNCV will take over part of interventions that are implemented by SIAPS. Particularly, KNCV will support countrywide rollout of the reporting with the automated tool. Also, KNCV will support LMIS trainings in Kurgantube, Soghd, and Gorno-Badakhshan Autonomous Oblast regions.

Constraints to Progress

Lack of internet connection in some TB facilities and insufficient human resource capacity at TB facilities may have an impact on the rollout of the automated tool.

Objective 3. Strengthen Supply System of Anti-TB Medicines

With the use of QuanTB and an Excel-based data collection tool, SIAPS continues to provide support in maintaining an early warning and quantification system for supply of anti-TB medicines. The system allows TB staff to address the challenges in supply planning of anti-TB medicines, which may result in stock-outs and overstocks. Currently, information for QuanTB is collected on a quarterly basis throughout the country. Then quantification with QuanTB for supply planning purposes is done at the NTP central level. The system is managed by the NTP's pharmaceutical management coordinator.

Partner Contributions

The early warning system that was established with SIAPS support still needs external assistance, which was discussed with the partner organizations Project HOPE, the principal recipient of the Global Fund TB grant, and KNCV Tajikistan Branch implementing USAID-funded TB programs. These organizations will take over support to the system.

Turkmenistan

Overall Quarter Progress

There has been no progress in piloting e-TB manager in Turkmenistan. Instead, the NTP showed interest in the use of QuanTB for quantification of anti-TB medicines. Currently, SIAPS is working with WHO country office to plan and organize a training on the use of QuanTB for the NTP staff from the central and regional levels.

Objective 1. Strengthen the Turkmenistan NTP by Improving the TB Management Information System

There is no progress in the eTB Manager pilot in Ashgabat and Mari oblasts of Turkmenistan—no TB cases were entered in the system for piloting purposes. However, NTP expressed interest in using QuanTB for anti-TB medicines' quantification purposes. Currently, SIAPS is working with WHO to plan a training on use of QuanTB for the national and regional level staff responsible for TB drug management.

Partner Contributions

The WHO country office is the main collaborator in Turkmenistan. Currently, SIAPS is working with the WHO on planning of the training on the use of QuanTB as a quantification tool for anti-TB medicines.

Constraints to Progress

The NTP does not pilot the eTB Manager in Ashgabat and Mari Oblast as it was planned.

Ukraine

Goal: Assure availability of quality pharmaceutical products and effective pharmaceutical services to achieve the desired outcomes for HIV and AIDS and TB patients in country.

Overall Quarter Progress

In the last quarter of PY4, many interventions were successfully implemented and met SIAPS Ukraine's goals, while others will need to be continued in the next quarter to meet their goals.

A fully revised user's guide for e-TB Manager was developed to systematically reflect those major functionality improvements, which were introduced within last two years.

The piloting of a Medicines Management Module (MMM) in Kyiv oblast was finished, including both drugs procured by both the Global Fund to Fight AIDS Tuberculosis and Malaria (Global Fund) and public funds. Based on the achievement of this pilot, the further rollout of the MMM has started and will be managed by 47 people who were trained in September 2015.

Two AIDS Centers have joined the Drug Utilization Review in HIV sector (DUR/HIV) pilot, and the protocol was approved by their ethics committees. Data collectors were selected and trained, and the collection of the data will begin in October 2015.

The pilot of Pharmacovigilance Automated Information System (PAIS) is ongoing and now accounts for a total of 210 entered cases of adverse drug reaction/lack of efficacy (ADR/LOE). The development of data protection system for PAIS goes along as planned.

The development of the new National Essential Medicines List (EML) has notably progressed. Two regulations were approved by the Ministry of Health (MOH) and submitted for approval by the Ministry of Justice. These legal documents are required to start the selection of the EML Expert Committee which will develop the new National EML.

The success story on introduction and implementation of framework contracting for procurement of medicines with public funds has expanded to include Dnipropetrovsk oblast. Following the experience exchange session, where representatives of Poltava oblast shared their lessons learned, the framework contracting tender was announced in Dnipropetrovsk oblast. The bidding was successful for six lots out of eight for infusion solutions to be delivered in 2015–2016, the total contracted value is up to UAH 2,556,370 (USD \$116,200).

Also, the application developed by SIAPS Ukraine for additional supply of antiretroviral medicines (ARVs) through the PEPFAR's Emergency Commodity Fund (ECF) was approved. Ukraine will receive additional amount of ARVs for total value of USD \$10,443,756.

Objective 1. Strengthen Pharmaceutical Management Information Systems to Support the HIV and AIDS and TB Programs.

During this quarter, SIAPS Ukraine advanced in the further implementation of the Medicines Management Module (MMM) and released a new user's guide for e-TB Manager.

During the last two years, several major improvements were made to the system, and many of them were covered in updates to the user's guide. However, to cover the latest version of the system in a consistent and comprehensive way, the new user's guide was written and provided to Ukrainian Center for Disease Control (UCDC).

The MMM pilot in Kyiv oblast was finished, having included drugs procured by both the Global Fund and public funds. As a result, the stock levels of 38 facilities were entered to the system, and facilities started to track received and dispensed medicines as part of their routine activities.

Based on the achievement of this pilot, the further rollout of the MMM has started. SIAPS Ukraine has developed a generic algorithm for using medicines management module that the UCDC sent to all country oblasts. After that, the oblasts started entering the information on stock levels into the system. As of September 30, the data in approximately 80% of cases in the system and the actual stock level of Global Fund medicines are identical. After the training in mid-October, the data on public budget funded medicines will start to be entered into the system.

It was expected that the State Penitentiary System (SPS) will start using the MMM in a pilot mode in Q4, PY4. However, it will require additional efforts from UCDC side to facilitate SPS's use of e-TB Manager.

To facilitate the nationwide rollout of the MMM and train the users on use of data analyzes functionality of e-TB Manager (the dashboard), three two-days trainings were conducted for the oblast level specialists (regional administrators of the system). Forty-seven people who were trained are expected to oversee/manage the further implementation of the MMM in Ukraine.

Partner Contributions

The major contributing partner for this objective remains UCDC, which in the reporting period continued to support MMM implementation and provide SIAPS Ukraine with specifications of technical requirements for updates, bugs fixes, and other improvements for e-TB Manager.

Constraints to Progress

Entering stock level information in the system in 38 pilot facilities and starting to use the MMM on a routine basis was not as fast and smoothly as it was planned, so the MMM pilot was finished two months later than expected. In addition, the difficulties from last quarter in verifying downstream data still remain. The recommendations on simplifying the system and streamlining the processes of data entry and monitoring are included in a Technical Report "Piloting the Medicines Management Module of e-TB-Manager in Ukraine."

Objective 2. Improve Pharmaceutical Services for the TB and HIV and AIDS Programs

As of the end of September, the draft report for Drug Utilization Review (DUR) in TB sector pilot was finalized. By the end of October, the final translated report will be presented in a round table for TB dispensary (where the pilot was implemented), the MOH State Expert Center (SEC), and the UCDC.

Two more facilities (Chernihiv Oblast AIDS Center and Kyiv City AIDS Center) have joined the DUR HIV sector. In this quarter, the memorandums of understanding with these facilities were mutually signed. On August 6, the stakeholders' meeting was held and the protocol was presented and discussed. Based on the recommendations received, the protocol was finalized and piloted in mid-September. After the piloting, the protocol was approved by the ethical committees of both facilities.

In late September, nine workers of these two AIDS centers were trained on data collection. Data collectors were selected in September as a result of an open competition process, and the data collection is expected to start in October 2015.

SIAPS Ukraine continued piloting of the Pharmacovigilance Automated Information System (PAIS) in AIDS centers. As of the end of September, 158 cases of adverse reaction/lack of efficacy were entered in the system. Cumulatively, over three quarters there were 210 cases entered into the system.

The next meeting on intermediary results of PAIS piloting was held on September 15. In addition to the current implementation, the transition plan was discussed. All regional representatives of SEC and AIDS centers participated in the meeting. The transition plan will ensure the rollout of PAIS in all oblasts, and so regional SEC PV representatives from all oblasts will be trained on PV reporting through PAIS in October.

In late August, the contract with the developer of the data protection system for PAIS was signed by MSH HQ, and work has officially begun on developing the data protection system. The piloting of PAIS will continue until the data protection system is in place (preliminarily till the end of Q1PY5). Once the data protection system is developed the pilot will end, and PAIS will be handed over to SEC. Then normal usage of the system will begin.

Partner contributions

The major contributor for implementing DUR in AIDS facilities is SEC, which helped in reviewing and finalization of the DUR/HIV protocol.

MOH, SEC, UCDC, and HIV/AIDS Alliance in Ukraine all actively participated in PAIS implementation.

Objective 3. Improve Pharmaceutical Management Governance

The PV Guideline Working Group has resumed their work and continues developing new modules of the National PV Guideline. Two new modules are now being developed and are expected to be finalized and sent for adoption in December 2015. The PV Guideline Working Group wasn't able to meet in September due to polio outbreak in Ukraine—the PV department was completely engaged in developing an emergency national vaccination campaign.

The final versions of the National Essential Medicines List (EML) and EML Expert Committee regulations were approved by the MOH and submitted for approval to the Ministry of Justice.

Methodology for selection of medicines for National EML is still under development, and the expected date of posting the methodology for public discussion has changed to end of October. Because of the month-long delay in approving the regulations mentioned above, the work on the methodology was resumed only in September.

When the regulations are approved by the Ministry of Justice (expected in October 2015), the selection of the EML Expert Committee will start. Afterwards, the EML Expert Committee will develop the EML, which will be approved by the Decree of Cabinet of ministers of Ukraine, which is envisioned for PY5Q2 (FY 2016).

In the reporting quarter, the contract with the vendor for developing web-based price monitoring tool was signed; development of the tool has started and the working prototype is already in place. As of the end of September, the tool is being tested by stakeholders to eliminate all possible bugs and errors. It is expected that transferring of the tool from SIAPS Ukraine to the end-user (presumably, the Network of People Living with HIV and AIDS (PLWHA) will happen in PY5Q1.

Partner contributions

The SEC, international and local manufacturers, and other members of the PV Guideline Working Group, worked together on new PV Guidelines modules.

The MOH Working Group on Deregulation has approved the EML regulations, which can now be sent for approval to Ministry of Justice.

The PLWHA Network participated in developing and testing the web-based price monitoring tool.

Constraints to progress

The PV department of the MOH was fully engaged in processes related to emergency response to the polio outbreak in Ukraine and development of an emergency national vaccination campaign, thus the PV Guideline Working Group was not able to meet in September.

Objective 4: Improve Management of Supply Chain Services

Starting July 6, a new team member joined SIAPS Ukraine as a Senior Technical Advisor for Supply Chain.

In July 2015, SIAPS Ukraine has organized and led the meeting in Poltava to facilitate the experience exchange between Poltava and Dnipropetrovsk health facilities. Representatives of Poltava oblast shared their strategies for successful framework contracting, which the representatives from Dnipropetrovsk oblast appreciated as they were going to announce a tender later that month. Additionally, at that meeting, SIAPS Ukraine reiterated the importance and benefits of framework contracting and provided additional information regarding the operational aspects of this procurement technique. Due to high level of procurement centralization in Dnipropetrovsk within just one entity and with huge volumes of commodities to be procured, it was critically important to make things go smoothly in Dnipropetrovsk.

Following this event, the Dnipropetrovsk Oblast Base of Special Medical Procurement has advertised the framework contracting for bids on infusion solutions (8 lots, 3 INNs in different dosage). The bidding for six out of eight lots was successful, with total contracts value up to 116,200 USD. The medicines are to be delivered during 2015–2016. The framework agreement is expected to be signed not later than on November 1, 2015.

Additionally, SIAPS Ukraine worked during this quarter in few other areas apart from Framework Contracting, though directly connected to reaching Objective 4.

Starting the end of July, SIAPS Ukraine worked on preparation for the National Supply Chain Assessment (NSCA). This included budgeting and adaptation (localization, translation) of the standard toolset for the assessment. Extensive efforts were dedicated to finalizing main attributes of the assessment, such as the tracer commodities list, the list of key performance indicators, the methodology of sites selection, and the list of functional areas and cross-cutting elements which will be assessed with Capability Maturity Model (CMM) Diagnostic Tool. As of the end of September these documents are being finalized.

To formalize the cooperation between SIAPS Ukraine and the MOH as the main stakeholder of the NSCA, an MOU was drafted and is expected to be signed in October 2015.

To streamline the collection of data within the assessment, an electronic tool to support use of CMM was developed to be used on tablets. The need for procurement/rental of these devices is being discussed.

Moreover, SIAPS Ukraine provided comments on medicines list and their registration status in Ukraine for UNICEF procurement of ARVs. These medicines will be supplied to the eastern territories of Ukraine that are temporarily not controlled by GOU (occupied by Russia). SIAPS Ukraine provided recommendations on applying the waiver procedure for importing of these ARV medicines.

Furthermore, in response to the MOH request, SIAPS Ukraine has provided TA in drafting the request for procurement services for UNICEF, and provided information on patent status of ARV drugs. These medicines will be procured at the expense of the state budget, according to the recently adopted Law of Ukraine on transferring the procurement of medicines to the international institutions.

Last quarter, SIAPS Ukraine helped UCDC to complete the application for additional supply of ARVs through the PEPFAR's Emergency Commodity Fund (ECF). The application was submitted (August 28, 2015) and approved (September 25, 2015). The total value of ARVs equals USD 10.443.756.05.

The Senior Technical Advisor for Supply Chain was listed as a member of the working group on Compulsory Licensing, which is now being formed under MOH and will work around improving the legislation on compulsory licensing of medicines.

Partner Contributions

Dnipropetrovsk Oblast Base of Special Medical Procurement has announced a framework agreements tender.

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 supported the National TB Pharmaceutical Management Working Group in data analysis collected during the pilot Drug Use Review (DUR) program in three TB facilities of Tashkent. The draft report of the DUR has been developed. SIAPS organized a workshop/round table with representatives of these TB facilities to present and discuss the results of DUR and the improvement plan, which includes educational and operational interventions. SIAPS continued support of roll out of the early warning and quantification system. On September 15–17, SIAPS conducted training on use of QuanTB for representatives of seven oblasts. Also three staff members of Project HOPE were trained. Country-wide rollout of the system is expected to start in October 2015, which will be based on the experience from the pilot regions and will be managed by the NTP. Project Hope will support the four regions.

Objective 2: Strengthen Pharmaceutical Services for the NTP of Uzbekistan

SIAPS supported the National TB Pharmaceutical Management Working Group to analyze the data collected during the Drug Use Review (DUR) program pilot in three TB facilities of Tashkent city. The draft report on DUR also was developed and it is currently being finalized. SIAPS organized a workshop/roundtable where the representatives of all three DUR pilot TB facilities were invited. The findings of the DUR were presented and discussed during the workshop, and an improvement plan was elaborated in the workshop. It includes both educational and operational interventions.

Partner Contributions:

TB Pharmaceutical Management Working Group was the main partner in implementation of this activity.

Objective 3: Strengthen Supply System of anti-TB medicines

Since January 2015, an information management system using QuanTB for quantification and early warning is being piloted in 3 regions (Samarkand, Khorezm and Fergana oblasts) and Tashkent City, which is managed and coordinated by the central level. The system enabled taking remedial actions at the district levels to avoid stock-outs or surplus SLDs leading to losses due to expiry. On September 15–17, according to the system rollout plan that was developed at the working group meeting in May 2015, SIAPS conducted a training on the use of QuanTB for representatives of seven oblasts in Uzbekistan. Three staff members of Project HOPE were trained as well. Countrywide rollout of the system is expected to start in October 2015. It will be managed by the NTP. Also, Project Hope will support the system implementation in four regions of Uzbekistan

Partner Contributions

As mentioned above, SIAPS trained Project HOPE staff who will be in charge to follow up on the early warning and quantification system implementation in four regions of Uzbekistan. Project HOPE will organize a training on the use of QuanTB for remaining three oblasts representatives on September 20–22, the trainers were the national staff from the central level and Khorezm Oblast who were trained by SIAPS.

Constraints to Progress

There may be high turnover of the trained staff that may cause problems in the early warning and quantification system function as experienced by the Samarkand oblast.