SIAPS Quarterly Report

Project Year 5, Quarter 3

April-June 2016

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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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Systems for Improved Access to Pharmaceuticals and Services
Pharmaceuticals and Technologies Group
Management Sciences for Health
4301 North Fairfax Drive, Suite 400
Arlington, VA 22203 USA
Telephone: 703.524.6575
Fax: 703.524.7898
E-mail: siaps@msh.org
Website: www.siapsprogram.org

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ACRONYMS AND ABBREVIATIONS

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

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

WHO	World Health Organization
XDR-TB	extensively drug-resistant tuberculosis

INTRODUCTION

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

The program's five result areas are as follows:

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

This report presents highlights of SIAPS's activities organized both by intermediate result area, representing multiple countries where we work, as well as by our global, regional, and country portfolios for the April through June 2016 period.

SELECT PROGRESS TOWARD RESULT AREAS

IR 1. Pharmaceutical Sector Governance Strengthened

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

Policy, Legislation, and Contractual Agreements

SIAPS is collaborating with international and local partners to assist the national medicines regulatory authority (DNPL) in **Guinea** in revising the national pharmaceutical legislation. During this reporting period, SIAPS supported meetings of the national committee mandated by the DNPL to revise the pharmacy law and helped in the review of relevant documents collected within Guinea and the region to identify text that can be incorporated to enhance the existing draft. Next, the DNPL will convene a meeting to present the final version of the draft bill to the larger technical group. Once validated, the bill will then be submitted to the Minister of Health's Office for transmission to the National Assembly for adoption.

In **South Africa**, SIAPS facilitated a three-day consultative workshop to develop a pharmaceutical services policy for the Department of Correctional Services (DCS). A draft has now been circulated to DCS regional coordinators for health/HIV and AIDS for review.

In addition, several policies and legislative instruments developed or updated with assistance from SIAPS were finalized and approved during this reporting period:

- In **South Africa**, the director general of the National Department of Health (NDOH) signed the policy for issuing authorizations to nurses to perform functions listed in Section 56(6) of the Nursing Act 33 of 2005. SIAPS is now part of the team assisting the NDOH to implement this policy which addressed the uncertainty related to the authority of a nurse to examine a patient, make a diagnosis, and prescribe medicines. Activities include describing the competencies of nurses to perform these functions and the development of software to support the process.
- In **South Sudan**, the National Malaria Control Program (NMCP) finalized the national malaria policy which provides strategic direction for all malaria control interventions in

the country and will enable NMCP staff to better coordinate and accelerate scale-up of program interventions.

- In **Ukraine**, the MOH order regulating the foundation and functioning of the Competition Committee, which will be responsible for conducting the competition-based selection of candidates for the National Essential Medicines (NEML) Expert Committee, was approved. This is an important step in fostering good governance in the selection process of committee members. The process of selecting members began in May 2016.

Standards, Guidelines, and Procedures

In this reporting period, SIAPS assisted several countries in developing, revising, and implementing a variety of lists, guidelines, and standard operating procedures (SOPs) that provide the foundation for good governance and better practices in pharmaceutical systems.

- In the **Philippines**, the Department of Health secretary signed and endorsed *The Practical Guide for the Management of Pharmaceuticals and Health-Related Commodities,* an action-oriented reference on pharmaceutical management developed by SIAPS and the National TB Program.
- SIAPS drafted the *Adherence Strategy for Namibia* and presented it to other members of the **Namibian** Adherence Technical Working Group, which includes the Ministry of Health and Social Services (MoHSS) Directorate of Special Programs and other partners, for adoption.
- In **Sierra Leone**, SIAPS helped the Directorate of Drugs and Medical Supplies to accelerate revision of the NEML, which is now at an advanced stage of development. SIAPS also worked with the Directorate to develop an inventory of policy guidelines that need to be reviewed and updated, and discussions are underway with the Directorate to set priorities for revisions in the coming weeks.
- The fourth edition of the *Adult Hospital Level EML and STGs* was finalized and published on **South Africa's** NDOH website. SIAPS supported this activity from the development of medicine reviews to final editing of the document.
- SIAPS assisted PROMESE/CAL, the government logistics agency in the **Dominican Republic,** to finalize and validate SOPs for programing, procurement, and distribution and to develop an implementation plan, which SIAPS will support in the next quarter.
- As part of continuing efforts to strengthen supply management, SIAPS supported **Mali's** central medical stores (*Pharmacie Populaire du Mali*, PPM) to update 18 SOPs for ordering, validation, storage, and shipping of pharmaceutical products.

Transparency and Accountability

SIAPS has provided long-term technical assistance to help the **Ethiopian** Government institutionalize the Auditable Pharmaceuticals Transactions and Services (APTS) by developing regulations that support the further expansion and ultimately the sustainability of this initiative; these efforts culminated this quarter with the enactment of APTS regulations by the Afar Regional State Cabinet. All eight regions that received help from SIAPS to develop directives for APTS have now enacted them. APTS, which was introduced to achieve greater transparency and accountability in the management of pharmaceuticals and related finances, is now being

implemented in 54 health facilities throughout the country. Recent monitoring visits to APTS-implementing health facilities in the Tigray Region found that the wastage rate has been reduced to well below the national target of 2% and that internal audits are being performed regularly and corrective measures implemented based on the findings. In the Amhara Region, the status of expiry at APTS-implementing hospitals was between 1.18% and 0.01%, which is much lower than the national target.

In **Cameroon**, SIAPS has been collaborating with Positive-Generation, a local civil society organization (CSO) to leverage advocacy, monitoring, and reporting efforts to increase transparency and accountability and ultimately improve patients' access to critical HIV-related medicines and products. Positive-Generation publishes reports on the availability of medicines and diagnostics at health facilities throughout the country in its weekly newsletter. SIAPS has been assisting Positive-Generation to develop a dashboard that will enable the CSO to generate the weekly reports more easily, secure store data, and improve dissemination of information. The dashboard is well advanced and is expected to be launched in August.

The Pharmaceutical Leadership and Governance Initiative launched in **South Africa's** Free State Province in September 2014 concluded this quarter with 33 participants presenting the results of their endeavors to senior managers from the Provincial Department of Health. The initiative, an adaptation of the Pharmaceutical Leadership Development Program (PLDP), was developed by SIAPS in response to a request from the Pharmaceutical Services Directorate in the province for assistance in addressing issues identified in the auditor general's report. Participants worked in teams to implement quality improvement projects that focused on improving contract management at the medical depot, stock management, and medicine availability and reducing expired stock and over-expenditure on pharmaceuticals.

In **Sierra Leone**, SIAPS has been helping the Directorate of Drugs and Medical Supplies, the Ministry of Health and Sanitation Directorate responsible for oversight and support in the pharmaceutical sector, to review its organogram and define roles and responsibilities of its constituent units. The revised organogram and terms of reference for the different units, which will clarify roles and responsibilities and enhance accountability within the Directorate, are now ready for submission to senior management for concurrence. Once approved, SIAPS will help the Directorate develop a plan and budget for implementation.

Coordination, Partnership, and Advocacy

In the **Philippines**, SIAPS is assisting the Quezon City Health Department to scale up the Barangay Health Management Council (BHMC) initiative in all six city districts. The initiative brings together community-based groups, officials, and health providers to improve TB program management and service delivery in urban-poor settlements (barangays). In this reporting period, SIAPS assisted five new BHMCs to develop annual work plans for their first year of operations. To support expansion and sustainability of the initiative, SIAPS jointly facilitated the workshops with district medical officers and supervisors as part of efforts to build their capacity to plan and establish new BHMCs. In addition, SIAPS worked with BHMC members to draft a guide for establishing BHMCs which will be handed over to the Quezon City Health Department and other stakeholders to support the scale-up of BHMCs in the city and other areas of the country.

Other examples of coordination efforts supported by SIAPS to promote more informed decision making, foster transparency and accountability, streamline supply chain management and service delivery, and improve the efficiency of planning, allocation, and mobilization of government and donor resources include the following:

- SIAPS assisted **South Sudan's** MOH to convene six meetings of the pharmaceutical technical working group and one meeting of the malaria technical working group. These partner coordination mechanisms provide a platform for sharing pharmaceutical information to support more-informed decision making and are a critical component of the country's efforts to address gaps in essential medicines stock management.
- In **Benin**, SIAPS assisted the MOH's Department of Pharmacy and Medicines to organize the semi-annual meeting of the national procurement and supply management committee. The findings and recommendations of the national supply chain assessment conducted in 2015 with assistance from SIAPS and the five-year supply chain strategic plan (2016-2020) were presented, discussed, and validated by committee members.
- With support from SIAPS, the NMCP in the **Democratic Republic of Congo (DRC)** held a supply coordination meeting to evaluate the stock status of antimalarial commodities within the country and share the findings of the end user verification (EUV) exercises. The meeting aimed to better align implementing partners' contributions with needs identified in the national antimalarial quantification exercise.
- In **Mali**, SIAPS helped the family planning technical working group update and adjust national supply plans for public and social marketing for changes in consumption. Similarly, at the regional levels, SIAPS assisted the Regional Directorate of Health to organize six quarterly coordination meetings to review and address supply chain bottlenecks. Stock managers from districts and regional levels, USAID implementing partners, and CSO staff that attended the meetings discussed, analyzed, and validated logistics data district-by-district and used the OSPSANTE dashboard to monitor efforts to improve product availability at the lowest level of the health system.
- **Angola's** National Directorate of Medicines and Medical Equipment organized two meetings of the logistics, operations, and procurement subcommittee, with support from SIAPS, to discuss nationwide shortages of key medicines and commodities in the context of the national financial crisis and the yellow fever epidemic. The committee provided inputs to the list and quantities of medicines to be included in a MOH emergency order.

Strategic Planning

As a result of technical assistance provided by SIAPS, in 2014, the Faculty of Pharmaceutical Sciences (FOPS) in **DRC** finalized the faculty's first-ever strategic plan. This was a notable achievement as FOPS was the first faculty in DRC to develop a strategic plan to enable it to better govern its operations and work toward achieving its objectives of ensuring that pharmacists are well trained and ready to support the public health needs of the country. In this reporting period, SIAPS assisted FOPS staff to present the strategic plan, the accompanying operational plan, and the competency framework developed for pharmacists at a meeting in Chicago to members of the US Accreditation Council for Pharmacy Education (ACPE) and academic members and curriculum experts from five Chicago-based universities. FOPS, with

help from SIAPS, has now incorporated the feedback received to enrich and update the strategic plan.

In Namibia, SIAPS assisted the MOHSS Division of Pharmaceutical Services in reviewing the country's National Pharmaceutical Masterplan (NPMP). The NPMP is the implementation plan for Namibia's National Medicines Policy.

Regulatory Systems Strengthening

With SIAPS support, the Pharmacy Department (PD) in **Mozambique** developed a monitoring and evaluation (M&E) plan for monitoring its performance across the key regulatory functions in its mandate and progress toward institutional goals. To support implementation of the plan, SIAPS assisted the PD's M&E staff to present the results of the first data collection at their board meeting and prepare the quarterly report. In addition, SIAPS M&E specialists from the SIAPS Arlington office held a workshop on using information on results (e.g., indicators) for accountability, reporting, and reassessing the design, resourcing, and implementation of key activities with relevant PD staff to build capacity; they also performed a data quality assessment of the PD M&E data system. With the data and indicator results now available as a result of the introduction of an M&E system, the PD has been able to identify positive and negative changes in their performance and progress, such as improvements in the number of days to register products and a decline in responsiveness of the Pharmacovigilance Unit to adverse drug reaction (ADR) reports, which management can use to define priorities and take appropriate actions.

This quarter, SIAPS continued to provide extensive technical support to strengthen the medicine registration system in **Mozambique**. SIAPS conducted a follow-up training workshop with staff from the medicine registration unit on how to improve the quality of review reports by using the newly launched electronic system, PharmaDex. Also in the workshop, progress was made on the development of an implementation plan to improve the medicine registration system and adoption of the Southern African Development Community's (SADC) harmonized guidelines for product registration. During the workshop, participants agreed upon the specifications of the variation and renewal modules to be included in an updated PharmaDex in the next quarter. In preparation for the inclusion of these modules in the software, SIAPS supported the PD to transfer the product registration information required to perform renewals and variations for marketing authorization from the physical archive to the electronic archive. This effort, which resulted in 2,185 files being made available electronically, will streamline the renewal and variations process and reduce the registration time for those particular applications. Additionally this quarter, SIAPS provided training for PD information technology (IT) staff on how to independently perform system configuration, management, and first-line support to maintain PharmaDex without remote support from SIAPS Arlington. Two manuals were developed to assist the IT staff in these responsibilities. SIAPS hired a consultant to strengthen the capacity of super users and support the PD staff in performing weekly system updates and maintenance. Collectively, these activities in medicine registration positively contributed to a reduction in the number of days to approve a product registration application from 275 days in December 2015 to 176 days as of June 2016.

In **Bangladesh**, SIAPS continued its support of the Directorate General of Drug Administration (DGDA) in its on-going effort to improve the medicine registration system by implementing the Common Technical Document (CTD) application format and new electronic software to manage the application review process (PharmaDex). This quarter, on-the-job training was provided to 22 DGDA officials to deploy PharmaDex and adopt CTD-based medicine dossier submission. Four workshops were conducted, which included practical sessions for DGDA officials and pharmaceutical companies on how to review a CTD-based medicine dossier through PharmaDex. To assist them, two SOPs for applicants and DGDA staff were developed, which will be used in conjunction with the PharmaDex user manual. Furthermore, a user/applicant request form was developed and sent to 40 pharmaceutical companies to collect all the necessary data on users and their companies that are required to launch the system. DGDA has assumed full ownership of PharmaDex and will select pharmaceutical companies to partner with for beta-testing of the software. Next quarter, DGDA is planning to send out an official letter to selected manufacturers requesting them to submit CTD-based applications to register medicines through PharmaDex.

SIAPS assisted the DPM in **DRC** to hold their quarterly registration session, during which 160 out of the 184 dossiers received were reviewed. Of those that were evaluated, 67 (41.8%) were registered and authorized, 81 did not have sufficient information to complete registration (and thus were deferred to next session), and 12 dossiers (7.5%) were rejected. This brings the total number of registered medicines in DRC to 4,486, up from approximately 400 in 2011 at the beginning of SIAPS. Notably, one of the medicines registered this quarter was SAYANA PRESS, an easy-to-use contraceptive that is suitable for community-based distribution, as women can administer it to themselves through self-injection. The product will improve access to a safe and effective contraceptive option in DRC, which has an estimated contraceptive prevalence of only 11%. Moreover, the DPM has now gained full ownership of the quarterly registration sessions, and other partners are providing financial support to the institution to ensure the sessions continue. The medicine registration session this quarter was jointly supported by SIAPS and a new partner, the Association de Santé Familiale.

In **Angola**, SIAPS conducted a four-day workshop with DNME staff to review progress of the medicine registration process being initiated and provide on-the-job capacity building. Insufficient human resources and the absence of a legal framework continue to hamper plans to collect data on all medicines imported over the last three years as a starting point for implementing a national medicine registration process.

SIAPS provided technical assistance to the MOH in **Swaziland** to continue the process of controlling the quality of medicines imported and to review the implementation plan for the new national medicines regulatory authority (NMRA). SIAPS participated in a two-day meeting for the technical working group responsible for developing the NMRA implementation plan and specifically provided input on the African Union Model Law on the Harmonization of Medicines Regulation. The meeting was led by the new partnership for Africa's development (NEPAD) agency of the African Union. SIAPS was nominated by the chief pharmacist in the MOH and invited to represent the SADC.

To help advance the post-graduate regulatory affairs training program in **Ethiopia,** SIAPS organized and facilitated a study tour for two officials from the Ethiopian Food, Medicine and

Health Care Administration and Control Authority and two officials from the School of Pharmacy, Addis Ababa University (SOP/AAU), to visit institutions in South Korea and the United States. During the study tour, the delegates visited 14 institutions and met with 60 experts, providing them with a comprehensive view of best practices in the area of regulatory education and training. One of the main lessons learned was the need for strong collaborations and partnerships between SOP/AAU and regulatory authorities, industry, and other academic institutions outside of Ethiopia. Formal collaborations will provide opportunities for SOP/AAU to formally engage these partners in teaching and advising students. In the next quarter, SOP/AAU is expected to sign memorandums of understanding with several of the overseas teaching institutions, as agreed during the study tour visits.

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

Lack of qualified pharmaceutical professionals, institutions for pharmaceutical training, and updated curricula are challenges faced by resource-constrained countries. SIAPS collaborates with stakeholders to assess their capacity to manage pharmaceuticals at all levels, identifies areas for improvement, and develops interventions to strengthen the system and build capacity. To date, SIAPS has trained over 43,800 professionals from 22 countries in several areas of pharmaceutical management—31 % female and 62% male (Figure 1).

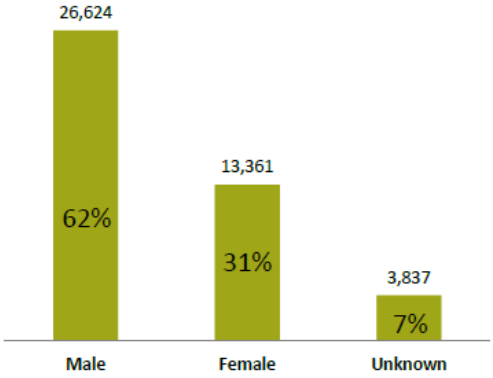

Figure 1. Breakdown of persons trained in pharmaceutical management through June 2016 (by gender)

Pre-service Training

In June, SIAPS **Dominican Republic** completed the final module of the Certified Course (diploma) on Rational Use of Medicines; 31 students completed the course. SIAPS will assess the performance and results of the course during the next quarter.

In April 2016, three members from the Faculty of Pharmaceutical Sciences (FOPS) of the University of Kinshasa and two SIAPS **DRC** staff participated in a highly technical consultation meeting to complete the FOPS curriculum review process. At the meeting, the DRC team presented three products: the FOPS five-year strategic plan, the operational plan, and the competency framework for pharmacists. As a result of the meeting, 1) the FOPS five-year strategic plan was updated, 2) the FOPS competency framework for pharmacists was refined to better align with the DRC public health priorities, and 3) guidance was given to the DRC team on how the curricular mapping should be developed, using the updated competency framework, to guide the entire curricular revision process.

In April and June 2016, 9 pharmacists and 36 pharmacist assistants (PAs) graduated from University of Namibia's School of Pharmacy (UNAM-SoP) and Namibia's National Health Training Centre (NHTC), bringing the cumulative number of HCWs who graduated from a pre-

service training institution or program to 163 (LoP target of 164). SIAPS **Namibia** has been supporting NHTC and UNAM-SoP in the training of PAs and pharmacists to improve leadership skills in pharmaceutical management and build Namibia's institutional capacity in pharmaceutical human resources training for sustainable control of the HIV and AIDS epidemic. These pharmacists and PAs have been exposed to various modules including pharmaceutical supply management, pharmaceutical regulatory affairs, rational use of medicines, pharmacovigilance, and pharmacoeconomics—all developed with SIAPS support. In June 2016, UNAM-SoP also launched the masters in pharmacy (clinical pharmacy), which was endorsed by SIAPS and other stakeholders.

SIAPS **South Africa** worked with faculty at the Sefako Makgatho Medical University (SMU) to facilitate the pharmacoeconomics module for 12 students in the MPharm program (public health pharmacy and management) program. The university was supported in the development of assessment tools. This module has now been fully transitioned to the university.

In-service Training

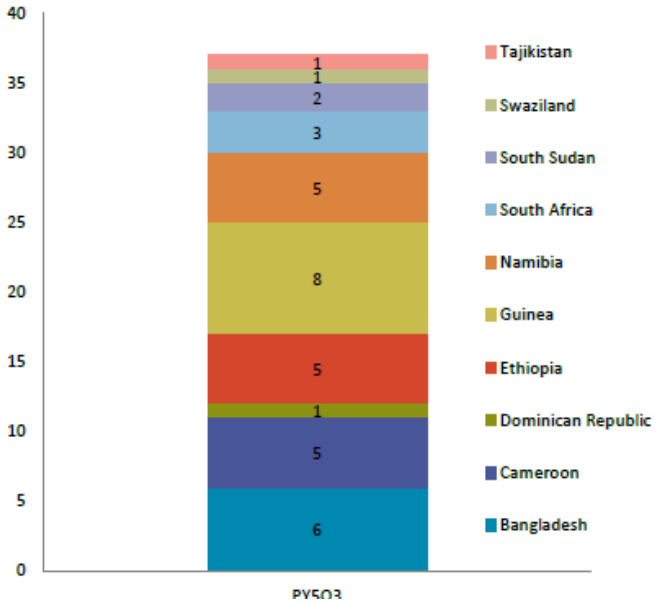

Figure 2. Number of in-service health professional training curricula developed or reformed with SIAPS assistance

Through the end of June 2016, SIAPS worked on the development of in-service training programs to improve capacity for pharmaceutical supply chain management and services. To date, 10 countries have developed or revised 37 in-service health professional training curricula with SIAPS assistance (Figure 2).

SIAPS **Angola** assisted the Provincial Health Division of Luanda (DPS) to organize a five-day training on HIV and AIDS, its pharmaceutical management, and its commodities. A total of 31 participants from 8 PEPFAR-supported health facilities, municipal focal points, and DPS Luanda were trained. As a result of the training, participants gained knowledge on the biological cycle of HIV and the pathogenesis of AIDS and were able to describe the pharmaceutical management cycle of HIV and AIDS products. They also learned about the use of product management tools and acquired the necessary skills to improve pharmaceutical management practices in their work settings.

SIAPS **Benin** provided technical assistance to the MOH's Directorate of Pharmacy, Medicines and Laboratory to organize a three-day quantification workshop of Ebola- and Lassa fever-related commodities. Participants were from major health programs (HIV and AIDS, TB, malaria, FP/RH, immunization), the National Blood Transfusion Agency (ANTS), and Central

Medical who are members of National Procurement and Supply Management Committee (CNAPS). The first day of the meeting focused on quantification practices including definition of the term, use of quantification software and methods, and data collection and validation. The remaining two days of the workshop were dedicated to quantification of Ebola commodities.

SIAPS **Burundi** supported the National Malaria Control Program (PNILP) and the National Reproductive Health Program (PNSR) in training 103 trainers on IPTp policy. These trainers assisted in the training of 846 health care providers on IPTp policy implementation in 18 health districts. So far, all health districts planned for FY16 have been trained, for a total of 30 health districts.

In March 2016, in collaboration with the National Medicines Supply Program (PNAM) and the National AIDS Program (PNLS), SIAPS **DRC** provided training to health workers on the management of ARV medicines and other HIV and AIDS commodities for the 11 PEPFAR-supported saturation zones located in the province of Haut Katanga. A total of 74 health workers (39 females and 35 males), including pharmacists, nurses, doctors, and pharmacy assistants, participated in the training. A post-training action plan was developed by participants and validated by the Provincial Health Division (DPS).

SIAPS **Ethiopia** provided a 5-day training to 36 pharmacists from Oromia RHB and all zones. The pharmacy experts trained are expected to support, supervise, and mentor health facilities to establish and strengthen DTCs, DIS, clinical pharmacy services, antimalarial and other drugs management and strengthen the rational use of medicines.

Additionally, 11 training events were organized on APTS (5), SOP for pharmacy ART information management (3), AMR (2), and RMNCH TOT (1). In total, 494 professionals (148 females and 346 males) attended the events. Particularly, to strengthen regional capacity for APTS implementation, 166 pharmacy and finance professionals participated in 2 training of trainers (TOT) events in Amhara and Oromia Regions.

As reported previously, SIAPS **South Africa** worked with the Pharmaceutical Services Directorate in the Free State to implement the Pharmaceutical Leadership and Governance Initiative (PLGI), which helped address challenges related to medicine supply management identified by the auditor general. PLGI was finalized this quarter; 33 participants (roving pharmacists, district and regional hospital pharmacists, and medical depot staff) presented the results of their projects, which included a measurable reduction in expired stock and capacitation of pharmacists to monitor expenditure on pharmaceuticals.

SIAPS **South Sudan** delivered a pharmaceutical management and rational medicine use training workshop to 48 HCWs (13 female, 35 male) in the former Western Equatoria State and to 25 HCWs (5 female and 20 male) in the former Central Equatoria State. The objective of these trainings was to enhance the capacity the HCWs in pharmaceutical supply management and rational use of medicines. The participants developed 140 post-training action plans for both trainings.

Supportive Supervision and Mentoring

SIAPS **Swaziland** conducted site supervision visits to 79 HIV treatment and care facilities (15 in Manzini, 26 in Shiselweni, 24 in Hhohho, and 14 in Lubombo), providing mentorship on stock management and good pharmacy practice to at least 200 HCWs. HCWs were mentored on LMIS data collection and reporting, pharmaceutical management, and general warehouse management.

In **Mozambique**, a SIAPS PharmaDex programmer conducted a short-term technical assistance (STTA) to train the Pharmacy Department (PD) IT team on system management and configuration and provide first-line support to maintain PharmaDex (since the PharmaDex IT expert can only provide support remotely). Two manuals were developed to aid IT at the PD. In addition, SIAPS hired one consultant to support implementation of PharmaDex at the PD site and strengthen the capacity of super Users to submit and review registration dossiers. This activity has positively contributed to the number of days to approve a product registration application (275 days during the first quarter versus 176 days during this third quarter).

Institutional Capacity Building

SIAPS **Guinea** conducted training on quantification techniques and tools for the PSM-TWG members. This training was a first of its kind in Guinea and laid the foundation for developing accurate national forecasts and supply plans for antimalarial commodities using best-practice tools, namely, Quantimed and Pipeline. Eight staff from PNLP, DNPL, PCG, and CRS participated in the trainings. Building on the training outcomes, SIAPS supported the PNLP to carry out a multi-year forecast of antimalarial commodities by using both consumption and morbidity/service statistics data. To date, preliminary forecast results have been developed that will be used to develop subsequent supply plans and help the program identify the financial resources required to support malaria program activities through 2022.

SIAPS **Mali** supported DPM to conduct two training sessions on storage, use of stocks cards and logistic reporting tools, the requisition form, and calculation of commodity needs according to the LMIS SOPs; 32 staff (12 females and 20 males) from PPM and national hospitals participated in the training. The number of health workers trained on pharmaceutical management increased from 1,645 to 1,677 out of 1,650 planned as the project target.

In collaboration with NTP and NCPR, SIAPS **Philippines** trained 38 study investigators and health staff (25 females and 13 males) from 10 working in program management at drug-resistant TB facilities. The participants were trained on clinical management of patients on bedaquiline (BDQ) and other new anti-TB medicines with a focus on essential requirements for active drug-safety monitoring and management. In May 2016, the Department of Health, USAID, and J&J launched BDQ as one of the new MDR-TB medicines on the market.

SIAPS **Sierra Leone** supported a national quantification workshop held May-June 2016. The three-segment workshop targeted administrators, program managers, and technical personnel. A first set of 53 participants, which will constitute the first National Quantification Committee (NQC), were introduced to the fundamentals of quantification. In addition to establishing the NQC, seven technical working groups (TWGs) that will be responsible for technical aspects of

quantification according to health programs were also established. Out of the 53 workshop participants, 30 were trained on the principles, processes and methodologies of quantification of health products. Out of these 30 participants, 15 were trained on the use of Quantimed and PipeLine for forecasting and supply planning. Pre- and post-test scores showed a knowledge increase of 23% for the 30 participants and a 30% increase for the 15 participants.

Tools for Capacity Building

SIAPS **Bangladesh** provided on-the-job training for 22 officials from the Directorate General of Drug Administration (DGDA) on medicine registration to effectively deploy PharmaDex and to adopt CTD-based medicine dossier submission in DGDA. Moreover, 4 workshops were organized on how to review CTD-based medicine dossiers through PharmaDex and their functional roles in PharmaDex; 73 DGDA officials and representative from pharmaceutical companies participated in the workshops.

In collaboration with Supply Chain Management System (SCMS) and the DPML, SIAPS **Burundi** trained 24 trainers (at the district level) on new LMIS procedures and tools. These trainers collaborated with those trained in the prior quarter to train 121 health managers and stock managers at health-center level. A total of 409 health managers and stock managers from 12 health districts were trained on the new LMIS procedures and tools, which is 96% of targeted participants.

SIAPS Burundi also assisted the PNILP in training 14 staff on advanced Excel, focusing on techniques for data analysis. The training equipped staff with the ability to capture and analyze malaria indicator data for timely and appropriate decisions.

SIAPS **Ethiopia** has continued supporting the Ethiopian ART program by continually providing information for decision making. The PMIS has manual and electronic versions. In Ethiopia, EDT is operational in approximately 210 ART sites, while more than 800 use the manual system. To effectively use the tools to identify, prevent, and manage treatment errors for patients on ART, it was necessary to train government stakeholders such as RHBs, ZHDs, and the PFSA. To achieve this objective, 2 3-day trainings were organized for 17 (from Harari, Diredawa, Somali, Afar and Oromia Regions) and 29 (from Amhara Region) pharmacy and IT professionals.

SIAPS **Namibia** developed a facility electronic stock card (FESC), installed it in 15 hospitals, and scaled it up to all 35 hospitals at the district level. During site-level technical assistance, SIAPS oriented 30 health workers (pharmacists, PAs, and pharmacy support staff) in 15 district hospitals on use of the FESC during a 5-day facility-based on-the-job training. FESC will automate the ordering process on the basis of consumption and will further improve the indicator on accuracy of pharmaceutical ordering, if health facilities implement it in full. The FESC tool is expected to enhance the visibility of facility-level stock status data to improve decision making for pharmaceutical services at the health-facility level. FESC will be officially launched by the minister of health in June 2016.

In **South Africa**, 157 participants from Gauteng Province (GP) (130) and KwaZulu-Natal (27) were trained on RxSolution. The trainings covered stock management, dispensing modules, and

reports. SIAPS also trained 39 individuals in GP and Eastern Cape on customization of reports. More workshops on reports are planned for PY5Q4 with Mpumalanga and Limpopo Provinces. SIAPS has initiated the review of the RxSolution reports catalogue which should be used as a guide for proper usage of RxSolution-generated reports and assist in informed decision making.

In addition, SIAPS **Swaziland** continued to provide support to facilities implementing RxSolution to monitor availability of essential health products. Bug fixing/troubleshooting and mentorship support was provided to sites at six ART facilities and two central warehouses. SIAPS also provided onsite training to six HCWs on using the web-based commodity tracking system for monthly reporting and ordering of laboratory commodities from the Central Warehouse.

IR 3. Utilization of Information for Decision Making Increased

SIAPS's approach to management information systems is to harmonize and integrate the collection and presentation of accurate, quality pharmaceutical and other commodities data in a timely and consistent manner. This data is intended to assist decision makers and health workers at all levels of a country's health system make evidence-based decisions, 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' pharmaceutical management information tools, such as RxSolution, Pharmadex, e-TB Manager, QuanTB, OSP-SANTE, OSPSIDA, Electronic Dispensing Tool (EDT), the PV Data Collection and Analysis Tool (DCAT), and the recently launched Pharmacovigilance Monitoring System (PViMS), support both product and patient information. The demand for these tools in SIAPS and non-SIAPS countries keeps growing, and SIAPS is working with various partners to expand the use of these tools.

Data Utilization

Data use project-wide has improved significantly since the beginning of SIAPS; this determination has been made on the basis of country-level indicators, such as the "percentage of health facilities that used consumption data to inform ordering at last assessment", which, during PY5Q3, reached 92% of all SIAPS health facilities (Figure 1).[1]

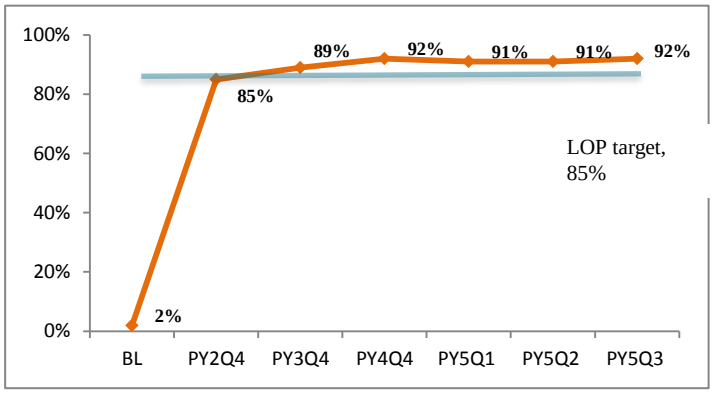

Figure 1. Percentage of health facilities that use consumption data to inform ordering at last assessment

[1] Cohen, M. Mahadevan, V. Ostrega, A. SIAPS Quarterly PMP review: PY5 Quarter 3.

In April 2016, SIAPS **Mali** submitted a procurement planning and monitoring report for malaria (PPMRm) after collecting stock data with OSPSANTE from the national and health-facility levels. The data was used to assess the current and future situation of malaria commodities. The major findings and recommendations of the report were:

- National stock levels of malaria commodities are currently sufficient
- Population Services International (PSI) should accelerate the transfer of 1 million artemether/lumefantrine 6 × 4 packs to the central medical store warehouses to avoid possible future stock-outs
- The National Malaria Control Program (NCMP) should elaborate a distribution plan based on commodities transferred by PSI to the central medical store

The stock-out rate for contraceptives at the service delivery-point (SDP) level in **Bangladesh** has remained steady at less than 2%, as reported through the Ministry of Health and Family Welfare's (MOHFW) Supply Chain Management Portal. The Directorate General of Family Planning (DGFP), with the use of the dashboard (a routine follow-up and analysis tool developed by SIAPS), showed a reduction in stock-out rates for contraceptives at the SDP level from 1.22% in PY5Q2 to 0.94% in PY5Q3.

In the **Dominican Republic**, the SIAPS-supported unified national pharmaceutical management system (SUGEMI, by the Spanish acronym) continued to operate as expected in this quarter with 99% (1,388/1,400) of health facilities reporting their data and receiving feedback.

In **Swaziland**, 88% of ART facilities completed and submitted the SIAPS-supported ART LMIS report for the quarter ending June 2016. The reporting rate from ART facilities has been slowly declining since PY5Q1 when it was 98%; however, the laboratory LMIS reporting rates have been consistent and have maintained at 100% for PY5Q3.

In **Burundi,** SIAPS trained 14 National Malaria Control Program (PNILP) staff in advanced Excel with a focus on data analysis. The training equipped the staff with the ability to analyze malaria epidemiologic and logistic data for decision making.

SIAPS completed and submitted the report on the end-user verification (EUV) survey conducted in March 2016 and the PPMRm. The EUV showed that the surge of malaria during the rainy season caused a considerable decline in stock levels of malaria commodities.

After a sharp decline of LMIS reporting from health facilities in PY5Q1, there has been a steady increase the following quarters. At the end of PY5Q3, with 98% of health facilities completing and submitting an LMIS report for the most recent reporting period, the reporting rate is as high as it has been since the end of PY3 (Figure 2).

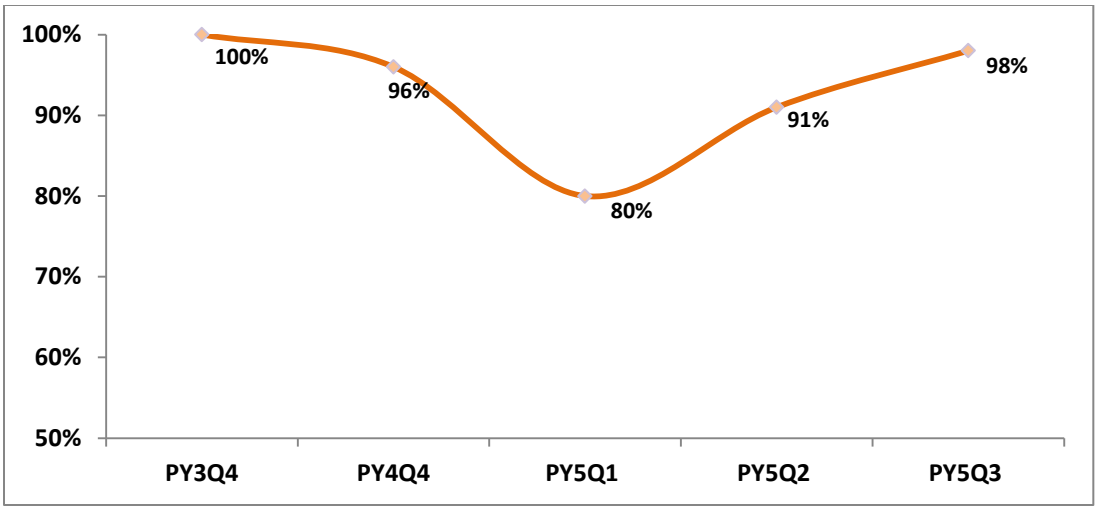

Figure 2. LMIS reporting in Burundi

SIAPS supported the **DRC**'s National Malaria Control Program (NMCP) for data collection of the EUV. Key findings included:

1) Availability of artesunate/amodiaquine (AS/AQ) and rapid diagnosis kits (RDTs) needs to improve; up to 40% of health facilities experienced at least three days of stock-outs for the four AS/AQ presentations and RDTs during the last reporting period
2) 56.5% of health facilities submitted monthly reports on time
3) 37% of health workers are trained in malaria case management according to the recent guideline including the use of rectal and injectable AS for severe malaria cases; this low percentage is attributed to high staff-attrition rates (mostly related to salaries and payment of those salaries)
4) 80% of malaria cases are confirmed with RDT or microscopy and 84% of malaria cases in children five years old or younger are treated with AS/AQ, suggesting that the NMCP's recommendations are being followed

Seven countries of the USAID-financed **Amazon Malaria Initiative** (AMI) reported stock levels of antimalarials for the January-March quarter. The availability of antimalarials in central warehouses remained at 75%, significantly less than the 85% reached by mid-2015. Some countries are still facing problems with the local procurement of antimalarials. These and other challenges were discussed during the regional AMI meeting in May 2016, where participants proposed and committed to full adherence to the PAHO/Strategic Fund (SF) pooled procurement as the only feasible mechanism to confront this problem.

Through SIAPS' continued technical support to **Namibia**, there has been a 185% increase in the percentage of health facilities using consumption data to inform ordering, thanks to the roll-out of a new order book and facility electronic stock card (FESC).[1] FESC has automated the ordering process based on consumption and is expected to further improve the indicator on accuracy of pharmaceutical ordering. It is also expected to enhance the visibility of stock status data to improve decision making for pharmaceutical services at the health-facility level. FESC has been installed in 15 hospitals and will be scaled up to all 35 hospitals at the district level. SIAPS

supported the Ministry of Health and Social Services (MoHSS) to enhance stock data visualization through a pharmaceutical dashboard that will be linked to the FESC and other SIAPS-supported tools such as EDT.

Data Quality

During PY5Q3, 100% (n = 488) of total sites at the sub-district level in **Bangladesh** maintained high data-quality standards, as measured by the completeness of the data and its accuracy; of the same number of sites, 97% reported on time. In addition, 83% (n = 255) of e-TB Manager sites are maintaining high data-quality standards. SIAPS assisted the National Tuberculosis Program (NTP) in introducing a surveillance calendar to monitor and improve data quality. According to this calendar, the NTP reviews e-TB Manager-generated patient data on a weekly basis and identifies inconsistent data (incomplete/missing) and reverts back to the field for corrective measures. Since the launch of the surveillance calendar, the accuracy of patient data has significantly improved (epidemiological week 1 = 132 cases with data quality issues; epidemiological week 18 = only 14 cases with issues).

SIAPS supported the **Swaziland** MOH logistics data management unit (DMU) to conduct ARV and family planning products data validation from 50 HIV/TB treatment facilities. During these visits, health workers were mentored on completing the LMIS forms accurately. These visits are part of an action plan aimed at improving the quality of logistic data reported through the LMIS. Report timeliness from ART facilities improved from 56% in PY5Q2 to 63% in PY5Q3.

In the **West Africa Regional** portfolio, the quality of data is assessed by comparing prescription accuracy (EDT records against prescriptions) and stock accuracy (stock records in EDT against physical count). During the field supervision conducted in PY5Q3, 100% of EDT records and prescriptions at each of the four dispensing sites matched; 100% of stock accuracy was achieved in three of four sites, significantly improving from 67%, 0%, and 67%, respectively; however one of the four sites saw its stock accuracy decrease to 0% this quarter, in comparison to the 67% accuracy achieved last quarter.

SIAPS assisted **Burundi**'s malaria control program and Directorate of National Health Information System (DSNIS) in conducting the routine data quality assessment (RDQA) for malaria logistic and epidemiologic data in 18 selected health districts. The objective of the RDQA was to evaluate the functioning of the reporting system and the quality of malaria data reported and to suggest recommendations to improve reporting routines and practices for malaria data. The RDQA found that indicators, data collection tools, and reporting guidelines are available and roles and responsibilities are defined; however the RDQA highlighted existing parallel reporting systems for logistics information; irregular quality assurance mechanisms; and data backups only where DHIS2 is implemented.

Information System Design and Collaboration

The MOH in **Guinea**, through the National Directorate of Pharmacies and Laboratory and assisted by SIAPS, organized a workshop with all supply chain stakeholders to define a list of LMIS-related performance indicators. These indicators will be used to gauge the performance of

the Guinea pharmaceutical supply system and will be integrated within the overall reporting system of the MOH. Under the leadership of Bureau de Stratégie et Développement/Système National d'Information Sanitaire, a follow-up workshop took place in May 2016 whereby the list of national indicators for health management information, including LMIS indicators, were agreed upon.

In partnership with **Namibia's** MoHSS, SIAPS, and other partners such as Intra-Health, are collaborating on harmonizing the data from the EDT and electronic Patient Management Systems. Implementation of the EDT cellphone-based patient short messaging system (SMS) adherence reminder service was scaled up to eight additional sites. There are now a total of 10 sites implementing the SMS reminder system. The SMS service allows automated short messages to be sent to ART patients reminding them about their pharmacy appointments and encouraging adherence to treatment.

SIAPS continued to roll out the Commodity Tracking System at laboratory facilities in **Swaziland**. The software was installed at four additional laboratory facilities, and making functionality upgrades on the software, including customizable product lists per facility, modifiable data entry forms (limited to the system administrator), and updated algorithms for calculating the average monthly consumption, also continued.

A facility-level treatment register to capture key information such as consumption and RMU data was designed by SIAPS **Sierra Leone** and received buy-in from the Directorate of Drugs and Medical Supplies and the LMIS working group. Based on comments received from the technical working group and Continuous Results Monitoring System (CRMS) exercises, the register has been revised and is being printed and used in the first cohort of CRMS districts. The CRMS is a dynamic and comprehensive indicator-based supportive supervision and performance improvement approach developed by SIAPS that tracks key pharmaceutical management indicators for strengthening pharmaceutical management, improving health outcomes, and promoting ownership through a stakeholder review process.

In **South Africa**, significant progress was made during PY5Q3 by finalizing the functional specifications and prototypes for the five modules and master data of the Essential Medicines List Tool (EMLT). The EMLT will strengthen governance and efficiency of the medicine selection process. It is expected that the EMLT will be completed in PY5Q4. SIAPS continued to support the development of the Tender Management Module and Master Procurement Catalogue (MPC). The development of the interface between bid response and the tender module database is near completion. The interface will allow seamless flow of MPC updates to RxSolution and other systems. User acceptance testing will commence in PY5Q4. During PY5Q3, SIAPS installed RxSolution in 26 new sites, bringing the total to 442 sites. Currently, an additional 51 hospitals are in process for the roll-out of RxSolution across 8 provinces.

Finally, during PY5Q3, SIAPS **Mali** worked with the OSPSANTE developer, the Directorate of Pharmacy and Medicines, known as Direction de la pharmacie et du medicament, and other stakeholders to include HIV and AIDS commodities in OSPSANTE. Through two consensus workshops, stakeholders agreed on the forms and reports to inform HIV and nutrition commodities that should be included in OSPSANTE; a working group for nutrition and HIV has

been set up. The nutrition and HIV commodities portal was developed during PY5Q3 and will be tested with the support of SIAPS.

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

During this quarter, SIAPS supported countries by forecasting quantities of medicines needed for disease-specific supply plans, identifying national fiscal gaps, and working as an advocate for health care financing reform and the inclusion of private sector in health insurance systems. By encouraging collaboration, SIAPS continued to strengthen the capacity of countries to develop proposals and plans for medicine procurements from the Global Fund. Moreover, SIAPS promoted transparent financial transactions at hospitals and health facilities, highlighting the need to develop alternative procedures for resource allocation after analyzing medicines utilization and spending.

Mobilizing Additional Financial Resources

In collaboration with the Central Procurement Agency for Medicines and Medical Supplies (CECOMA), SIAPS assisted **Angola**'s National Reproductive Health Program (NRHP) in receiving donations of RH and FP commodities from UNFPA and USAID. After NRHP and its partners conducted a physical inventory of donated commodities, SIAPS, working alongside UNFPA and CECOMA, conducted a three month stock take of FP commodities. A distribution plan for the donated products is being drafted on the basis of available stock at the provincial level and the size of target populations. In addition, SIAPS facilitated the donation of antimalarial products by PMI to address a shortage. Through further advocacy, SIAPS emphasized the need to establish a national quantification technical working group (TWG) for antimalarial commodities to improve stakeholder collaboration, budgeting, resource allocation, and supply planning.

In **Burundi**, SIAPS, in collaboration with the USAID-funded Leadership, Management, and Governance (LMG) Project, assisted the National Malaria Control Program (Programme National Intégré de Lutte contre le Paludisme; PNILP) in preparing for the implementation of an approved Global Fund grant. Seven PNILP staff learned how to use TOMPRO financial management software to configure, generate, and print required Global Fund financial reports. Additional support was provided to the newly established National Commodity Security Committee and the PNILP to evaluate stock levels of malaria commodities, resulting in revision of the gap in malaria commodities from 40% to 53%. Using updated figures, SIAPS worked with partners, including the Global Fund, to ensure the timely delivery of an emergency ACT procurement. The recent influx of malaria commodities will restore stock levels until additional quantities are received in the next quarter from the Global Fund.

This quarter, SIAPS/**Guinea** worked alongside the National Malaria Control Program (PNLP) to conduct a multi-year antimalarial commodity forecast. Preliminary results from the forecasting activity will be used to develop succeeding supply plans and calculate the future program costs and funding requirements. SIAPS is working closely with PNLP to identify malaria program

activities, including drug procurements, which could seek support from PMI and the Global Fund.

SIAPS/**West Africa** reviewed OSPSIDA quantification and procurement reports generated by Togo's National AIDS Control Program (PNLS) to identify potential stock-outs and expiries. As a result of the analysis, PNLS sent in a procurement request for efavirenz 600 mg tab and nevirapine 10 mg/mL to the Global Fund's Project Management Unit. The activity, which highlighted products by high, medium, and low risk of stock-out, enabled PNLS to plan procurements in advance of impending stock-outs.

Analyzing and Tracking Costs

SIAPS' intervention for improved financial accountability of medicines expenditure and availability, Auditable Pharmacy Transaction Services (APTS), continues to garner the support of the Government of **Ethiopia** as it has been added to the priority agenda of the Federal MOH's (FMOH) Health Sector Transformation Plan. This quarter, the APTS regulation was enacted by the Afar Regional State Cabinet, increasing the number of regional states enacting APTS regulations to eight. During the same period, APTS was introduced at three hospitals in Tigray and one hospital in both Addis Ababa and the SNNPR. As of this quarter, APTS is operational in 54 health facilities throughout Ethiopia. Currently, 36 facilities track the sale of medicines and send reports to their respective regional health bureaus and the FMOH. A total of 315 health care professionals participated in APTS training in the East and West Amhara Regions, Addis Ababa, and SNNPR. Two university hospitals, the Black Lion Hospital in Addis Ababa and Wolaita Sodo Hospital in SNNPR, have adopted APTS this quarter. The medicines wastage rate among hospitals using APTS in Tigray has fallen well below the national target of 2%. Hospitals in Tigray are able to provide patients with medicines at affordable prices, and their overall profit has risen over time. Similar progress in reducing medicines expiry below national targets is evident at hospitals implementing APTS in the Amhara Region.

As a member of Ethiopian Insurance Agency's national TWG, SIAPS led efforts to conduct a nationwide assessment of the Government of **Ethiopia**'s health insurance initiatives and the pharmaceutical supply chain, pharmacy benefit management practices, and systems in the public and private sectors. During this quarter, data was collected related to rational medicines use, pharmacy benefit management, and pharmaceutical financing through site visits, key stakeholder interviews, and document review. The assessment will cover over 100 public and private sector health facilities and hospital and community pharmacies in five regions of Ethiopia. The final report on the nationwide assessment is forthcoming.

As part of support to the National Health Insurance Authority (NHIA) and the National Malaria Control Program (NMCP) in **Ghana,** SIAPS, in collaboration with the Logistic Management Institute (LMI), finalized an in-depth quantitative analysis of NHIA electronic claims records. The NHIA provided SIAPS and LMI with one year of electronic claims data for analysis. The output of the activity included an analysis of malaria medicine utilization disaggregated by dosage form, prescriber type, and age. The ABC and therapeutic class analyses components of the activity revealed that the top 20% of medicines used by insurance clients were for chronic

diseases and palliative care. Preliminary results are to be shared with the NHIA, NMCP, and USAID in the coming quarter.

In partnership with **Swaziland** Health Laboratory Services (SHLS), SIAPS analyzed the first quarter of the supply plan for laboratory agents, identifying a funding gap. Available government funding to procure laboratory commodities is anticipated to cover only 25% of the total volume of laboratory agents needed as outlined in the supply plan. SIAPS is conducting a budget gap analysis to share with the MOH and the Ministry of Finance in Swaziland to advocate for additional funds. Suggestions were made to SHLS to identify priority activities and allocate additional funds from specific budgetary lines for the procurement of laboratory commodities.

IR 5a. Supply Chain Management

During quarter 3, SIAPS supported capacity building through formal training, mentoring, deploying tools, and supporting supervision for building stronger supply chain management systems in 17 countries. SIAPS conducted quantification and stock status updates of health commodities to identify funding gaps, inform procurement and distribution plans, and mitigate stock-outs and expiry of products in 12 countries and the regional portfolios of LAC AMI and West Africa. In partnership with key government stakeholders, SIAPS assisted seven countries and LAC AMI to bolster processes and systems to improve procurement, warehousing, distribution, and inventory management. SIAPS provided technical assistance to carry out supply chain assessments in Bangladesh, Benin, Mali, Ukraine, and West Africa Region. Logistics management tools, such as SOPs, manuals, and guides, were developed in Angola, Bangladesh, Benin, Cameroon, Mali, Philippines, Sierra Leone, South Sudan, Tajikistan, and Uzbekistan.

In collaboration with the National Directorate of Medicines and Medical Equipment in **Angola**, SIAPS facilitated two Logistics, Operations, and Procurement subcommittee meetings this quarter. Subcommittee members engaged in discussions on medicine stock-outs affecting the country's response to the ongoing yellow fever and malaria epidemics. A list of the quantities needed of essential health commodities to be included in an emergency procurement was developed and submitted for approval to Angola's Ministry of Health (MOH). In partnership with Provincial Health Authority Luanda and the United Nations Development Program, SIAPS conducted trainings on the management of HIV/AIDS commodities for health professionals working at select PEPFAR-focused health facilities, the health authority Luanda, provinces, and municipalities. Participants acquired skills and competency on the use of HIV/AIDS commodity management tools, ensuring compliance with good dispensing standards and related general pharmaceutical management practices. The training supports the continuous mentorship provided at PEPFAR-focused health facilitates, which has resulted in more transparent and reliable stock data being used in monthly logistics reports and procurement requisitions.

Additionally, SIAPS assisted Angola's National Malaria Control Program and family planning stakeholder organizations in conducting stock analyses. Based on the analysis results, financial resources were mobilized to address a generalized stock-out of antimalarial products. The quarterly procurement plan and monitoring report (PPMRm) were completed and submitted to PMI for use in making procurement and delivery decisions. SIAPS supported physical inventory

of family planning commodities at CECOMA and two sites in the Huambo province, facilitating oversight for consistent use and accuracy of stock cards and improved warehousing and inventory management practices. To avoid stock-outs of family planning commodities, SIAPS assisted the National Reproductive Health Program with receiving donations of commodities from the United Nations Population Fund and USAID. SIAPS supported Angola's MOH to develop their first comprehensive National Supply Chain Strategy for health commodities. In June 2016, a multi-stakeholder workshop was held to develop the strategic plan, which should outline priority gaps in the supply chain system and recommend locally appropriate interventions for strengthening Angola's health supply chain system.

In line with SIAPS' framework for capacity building, training and technical assistance was provided in **Bangladesh** to various health professionals and officials of two MOH directorates on pharmaceuticals management and systems strengthening. Additionally, SIAPS facilitated the inaugural basic logistics management training for supply chain officers of the Central Medical Store Depot. The most updated version of Upazila Inventory Management System (UIMS) has been rolled out in 488 upazilas. Using UIMS, the Directorate General of Family Planning (DGFP) has attained a 97% timely submission rate on logistics reports from upazilas. The stock-out rate has also been reduced to less than 1% at the upazila level. SIAPS provided direct support to 6 DGFP and 21 Director General of Health Services' health facilities on proper pharmaceutical waste disposal. Through this activity, 94,040 cubic feet of space was freed up in health facilities, which facilitated adopting good warehousing and inventory management practices. Using QuanTB, SIAPS conducted a quantification exercise on tuberculosis (TB) medicines. The result generated from the exercise was used to submit an order to the Global Drug Facility. Medicines to treat multidrug resistant TB (MDR-TB) were not included in the order since the exercise showed that there was already 20 months' worth of stocks of these medicines available.

Burundi's civil unrest has had a significant impact on health commodities supply management. Although the security situation improved this quarter, the rainy season has caused an upsurge in malaria cases. Both of these events lead to declines in the stock levels of malaria commodities throughout Burundi, according to the end use verification survey conducted in March 2016. To improve stock-outs and ensure uninterrupted availability of malaria commodities, SIAPS assisted the integrated malaria control program—Programme National Intégré de Lutte Contre le Paludisme—in processing the delivery of emergency orders of more than 715,000 treatments of ACT purchased by the President's Malaria Initiative (PMI). Also, SIAPS assisted the Malaria Commodity Security Committee to reevaluate the supply gap based on current epidemiological and stock levels, which supported the justification for additional emergency purchase orders to cover the gap of 53% for 2017 budget year. In the coming quarter, PMI plans to deliver 2,549,143 ACT treatments and 30,412 rapid diagnostic tests (RDTs).The Global Fund expects to supply 2,667,100 treatments. SIAPS will continue to work with all partners to advocate for more funding and coordinated procurement to narrow and eventually completely fill the identified 2017 supply gap.

In **Cameroon**, SIAPS improved the capacity of 132 ART and Prevention-of-Mother-to-Child Transmission (PMTCT) facility staff to manage HIV commodity stocks and comply with good storage conditions. PEPFAR-funded PMTCT and the Accelerated Treatment Initiative

commodities were successfully distributed in the different regions. To the extent possible, distribution of these commodities was integrated with distribution of other health commodities. During this quarter, in collaboration with the HIV control program and Directorate of Pharmacy, SIAPS organized a workshop to revitalize the quantification committee and adopt a methodology to conduct monthly and quarterly stock monitoring. This quarter, there were significant improvements in the accuracy of stock cards and storage conditions at health facilities with 86% supported by SIAPS having accurate stock cards and 96% complying with basic storage conditions, compared with 57% in February 2015. The above activities translated into significant improvements in availability of commodities at service delivery facility level. Only 10% of health facilities experienced stock-outs of tracer HIV commodities this quarter.

In **Ethiopia**, SIAPS assisted six health facilities in Amhara, Oromia, and Tigray regions to undertake ABC/VEN analyses this quarter. There is evidence that medicines expiries have reduced because of continuous ABC/VEN analysis as part of the implementation of Auditable Pharmacy Transaction and Services (APTS) and the use of this data for procurement and inventory management decision making. In Amhara region, the status of expiry at APTS implementing hospitals was between 1.18% and 0.01%, well below the target of 2%.

In collaboration with **Guinea's** National Directorate of Pharmacy and Laboratory (DNPL) and other partners, SIAPS helped to develop a matrix of supply chain priorities at the request of the Global Fund to Fight AIDS, Tuberculosis and Malaria. Additionally, SIAPS continued to support the coordination of quantification and procurement planning activities at the central level. SIAPS contributed to the organization and technical guidance of the Procurement and Supply Management Technical Working Group (PSM-TWG), which assessed the supply status of malaria commodities. Eight members of the PSM-TWG developed greater competencies in quantification processes, methodologies and tools, laying the foundation for accurate national forecasts and supply plans of antimalarial commodities. After the training, multiyear forecasts of antimalarial commodities were conducted using consumption and morbidity methods to determine the financial resources required to support the malaria program activities through 2022. At the request of USAID, SIAPS took over the management and oversight of the storage, distribution, and use of contraceptives from USAID|DELIVER, which supports DNPL. SIAPS established a distribution calendar to ensure timely distribution of commodities to regional depots and districts on a quarterly basis. In addition, SIAPS Guinea facilitated multiple working sessions with national malaria control program and Catholic Relief Services (CRS) Guinea to identify the quantities needed of health commodities for the review of the proposal to PMI for the Malaria Operational Plan 2017.

SIAPS is working with La Direction de la Pharmacie et du Médicament in **Mali** to build pharmaceutical management capacity by training Pharmacie Populaire du Mali (PPM) and national hospital staff members on storage, use of stock cards and logistic reporting tools, and calculation of commodity needs according to standardized protocols. The cumulative number of health workers trained on pharmaceutical management was 1,677—exceeding the quarterly target of 1,650 for the quarter. SIAPS collaborated with PPM to finish a product catalog containing comprehensive information on commodities for procurement and providing references for products available for health facilities patients. In collaboration with Imperial Health Services, SIAPS provided technical assistance to PPM to help select a vendor to construct

the foundation for a pre-fabricated warehouse about to be procured with USAID support. Additionally, SIAPS supported the Family Planning TWG in Mali to update national supply plans. Recommendations on commodities procurement were made based on up-to-date stock and shipment status. PPMRm and PPMRc reports were submitted to USAID with information on quantities of commodities in the supply pipeline for malaria and family planning programs.

In support of **Swaziland's** MOH objectives, SIAPS helped avoid shortages of ARV products at the health facility level through the use of systems for continuous monitoring, supervision, and coordination of supply chain activities. Accurate and timely information has allowed challenges to be identified early and addressed in a coordinated manner. For example, supply plan revisions this quarter showed a stock-out of nevirapine 240 ml suspension at the CMS level. On the basis of this information, SIAPS is currently working with the USAID/PSM procurement mechanism to fast track the delivery of the product as per an order placed in April 2016. Additionally, SIAPS supported Swaziland's Health Laboratory Services (SHLS) to conduct quarterly supply plan reviews and updates for laboratory reagents and supplies. Stock-outs of HIV rapid test kits were identified at the SHLS warehouse. SIAPS has updated the supply plan for commodities, making suggestions on how to prioritize MOH funds in the next quarter to address funding gaps and overcome challenges presented by suppliers. A more in-depth funding gap analysis is currently being undertaken and will be shared with the MOH and Ministry of Finance. In the meantime, an emergency order has been placed through USAID/PSM to avert the stock-out situation. A supply plan for TB medicines has also been prepared and submitted to MOH for generating orders. The funding gap that the supply plan for TB medicines identified will be mitigated by the Global Fund HIV/TB grant.

This quarter**,** SIAPS **Sierra Leone** successfully kicked-off the Continuous Results Monitoring System (CRMS) in the Bombali and Bo Districts. CRMS is a comprehensive indicator-based supportive supervision and performance improvement approach developed by SIAPS that tracks key pharmaceutical management indicators for strengthening pharmaceutical management to improve performance outcomes and promote ownership through a stakeholders review process. In each district, a one-day workshop was conducted to orient district supervisory teams on CRMS process and linked indicators. A total of 235 health facilities were reviewed during this period, which comprised of almost 100% of health facilities within the two districts. A number of technical issues and challenges were identified, while practical solutions were discussed. Corrective actions were taken on site to alleviate some of the challenges identified during the CRMS visits. SIAPS held a 3-phase, 2-week workshop on quantification in Sierra Leone to train a total of fifty-three key supply chain personnel on an array of topics related to quantification, such as the general principles, processes, methodologies and tools, such as Quantimed and Pipeline. The first training workshop of its kind in Sierra Leone is meant to lay the foundation for developing more systematic and coordinated national quantification efforts for health commodities. During the same workshop, Sierra Leone's National Quantification Committee (NQC) and seven program specific technical working groups (TWGs) were established. The members of the newly established NQC include program-specific managers, administrators, and technical personnel. The committee has validated the draft Terms of Reference for the NQC and TWGs.

IR 5b. Pharmaceutical Services Improved to Achieve Desired Health Outcomes

SIAPS improves pharmaceutical services by using a holistic approach that ensures that patients receive medicines optimized to their clinical needs in doses that meet their individual requirements for an adequate time and at the lowest cost to them and their community. During this quarter, SIAPS provided support to countries through various technical areas and strategies including pharmacovigilance (PV), rational medicine use (RMU), pharmaceutical care, essential medicines lists (EMLs), formularies, standard treatment guidelines (STGs), drug information and patient education, antimicrobial resistance (AMR), drug and therapeutics committees (DTCs), medicine use reviews, and treatment adherence.

Pharmacovigilance

During this quarter, SIAPS worked to increase awareness and use of key pharmacovigilance tools across multiple countries. In **Ethiopia**, SIAPS talked to stakeholders at 16 health facilities in the Amhara and Oromia regional states about raising awareness and furthering the dissemination of several pharmacovigilance tools including adverse drug event (ADE) report forms. More than 1,120 forms were distributed. Twenty-two ADR reports were sent to FMHACA from four facilities in the West Amhara region; three of these reports (14%) were related to product defects.

In the **Philippines**, SIAPS continued to build the capacity of the National Tuberculosis Program (NTP), FDA, NCPR, and other TB stakeholders to monitor the safety and effectiveness of the nine-month MDR-TB treatment regimen and bedaquiline by supporting operational research studies. Thirty-eight study investigators (25 women and 13 men) from 10 TB facilities were trained on clinical TB management and active drug safety monitoring and management, and were informed of South Africa's experience in introducing bedaquiline. Also this quarter, SIAPS worked with the FDA to align the recently developed active PV surveillance SOPs with the drug safety monitoring and management framework and the requirements for the bedaquiline operational study.

In **Swaziland**, SIAPS continued to monitor and disseminate information on adverse drug reactions (ADRs) in an effort to improve the safety and effectiveness of medicines. SIAPS conducted a feedback meeting with stakeholders from nine facilities providing MDR-TB services to share pharmacovigilance system updates and disseminate ADR job aids and the *Medicines Safety Watch* newsletter. SIAPS also developed and submitted two abstracts on SIAPS Swaziland's work in strengthening patient safety monitoring which were accepted for presentation at the International AIDS Conference (July 18–22, 2016, in Durban, South Africa) and the Union World Conference on Lung Health (October 26–29, 2016, in Liverpool, United Kingdom).

This quarter, SIAPS Swaziland also conducted a causality assessment for 115 ADRs reported in the previous quarter. More than 3,700 patients (52% women, 48% men) have been enrolled in active surveillance from June 2013 to May 2016, and nearly 1,200 ADRs have been reported in 66% of patients on anti-TB medicines and 34% of patients on ARVs. SIAPS also continued to support the MOH in reporting ADRs to WHO's Uppsala Monitoring Centre (UMC) Vigibase®

system. Sixty-five ADR reports have been received from health facilities through the passive reporting system and are being analyzed for reporting through the *Medicines Safety Watch* newsletter.

In **Bangladesh**, the DGDA Adverse Drug Reaction Monitoring (ADRM) cell has been making significant progress in strengthening their adverse event reporting system. As a part of the activities, SIAPS and ADRM cell organized two joint visits to public hospitals this quarter. Between January and April 2016, more than 200 adverse event reports have been received from 30 public and private hospitals. The Adverse Drug Reaction Advisory Committee's Subcommittee held a technical session on June 5, 2015, to analyze the ADE reports which will be validated during the next technical meeting planned for July 2016. SIAPS also supported two members in attending the PV training course organized by the WHO UMC held in Uppsala, Sweden, May 16–27, 2016. Finally, to communicate to the public on the progress made in strengthening PV systems and to share medicine safety news, the first PV newsletter is in the final stage of production and is expected to be distributed to health care stakeholders in the coming weeks.

During this reporting period, SIAPS **Philippines** completed a readiness assessment of central agencies and facilities to determine the necessary IT infrastructure, data migration, human resource, and quality control requirements for the adoption and implementation of the SIAPS-supported Pharmacovigilance Monitoring System (PViMS). PViMS is a web-based application which streamlines and simplifies data collection and analysis processes for active surveillance. SIAPS facilitated several workshops with NTP, FDA, and other TB stakeholders to plan for the implementation of the pharmacovigilance tool and to discuss next steps and activities. PViMS implementation is planned for the Lung Center of the Philippines by September 2016. SIAPS also supported FDA in standardizing the data to be collected for active pharmacovigilance surveillance of TB patients.

Rational Medicine Use

This quarter, SIAPS continued to work to ensure that pharmaceutical systems support and reinforce the rational use of medicines. In particular, progress was made in **Ethiopia** where SIAPS supported rational dispensing and use of RMNCH medicines and worked to increase awareness of appropriate referral processes through the collaborative development of training materials. These materials were shared at a training-of-trainers workshop for stakeholders from universities, regional health bureaus (RHBs), Pharmaceuticals Fund and Supply Agency, Ethiopian Pharmaceutical Association, and SIAPS.

In **South Sudan**, SIAPS conducted a pharmaceutical management and rational medicine use training workshop for 48 health care workers (13 women, 35 men) in the former Western Equatoria State (WES) and for 25 health care workers (5 women, 20 men) in the former Central Equatoria State (CES). SIAPS also disseminated copies of the training manuals, tools, and handouts. As a result of the trainings, 140 post-training action plans were developed. SIAPS also delivered a malaria case management and rational medicine use training workshop to 70 health care workers (27 women, 43 men) in the former CES. All the participants were provided with

copies of the Malaria Case Management and Training Guidelines and also developed post-training action plans.

In **Dominican Republic**, the final module of the certified diploma course on rational medicine use was completed on June 11, 2016. Thirty-one students completed the course. In the next quarter, SIAPS will assess the performance, results, and feedback from the course; and adjust accordingly while planning for the second offering of the course.

In April, SIAPS' abstract on "Strengthening pre-service pharmacy training on rational medicine use, antimicrobial resistance, and pharmacovigilance" was accepted by International Pharmaceutical Federation for presentation at their 76th World Congress of Pharmacy and Pharmaceutical Sciences 2016. SIAPS will present the work during the conference in August-September 2016.

Pharmaceutical Care

In **Ethiopia**, clinical pharmacy services continue to gain acceptance and enable improvements in patient therapy in supported health facilities. During this quarter, nine hospitals served a total of 1,899 patients. Of the 880 (46.3%) with a patient medication profile form, 340 drug therapy problems were identified, leading to recommended interventions in 281 (82.6%) of these cases. Nearly 93% of the recommendations were fully accepted and acted upon. To strengthen the patient-centered pharmacy services, clinical pharmacists participated in multi-disciplinary team and ward rounds (147 and 327, respectively), as well as pharmacy only rounds (4 morning and 22 ward rounds).

Clinical pharmacy services were initiated in wards of 10 health facilities where mothers and children are treated. Debre Markos Referral Hospital, for example, provided clinical pharmacy services in maternity and pediatric wards, while Motta Hospital did so in the pediatric ward, resulting in 614 instances of pharmaceutical services for mothers and children. In these instances, 120 drug therapy problems were identified, and for which 105 (87.5%) of the recommended interventions were fully accepted by prescribers.

SIAPS also supported 29 health facilities to identify and manage treatment errors, adherence, and pharmaceutical care. The 488 prescribing and dispensing errors included regimen change, unnecessary or prolonged medication use, inappropriate dosing, and dispensing errors. This information will be used by the DTCs to guide measures to minimize medication errors.

In **Angola**, following training of the pharmacy staff at the health facility level, some facilities have authorized the dispensing of antiretroviral therapy (ART) from the health facility pharmacy to reduce the burden of HIV and AIDS services at the hospital level and to mitigate the stigma that was associated with patients visiting HIV-specific facilities every time they needed to refill their medicines. Health facilities implementing this change include Cajueiros Hospital and Kilamba Kiaxi Hospital. In Divina Providencia Hospital, Ana Paula Health Center, and Kilamba Kiaxi hospital, antiretroviral medicines are now managed by the pharmacist together with other medicines while the clinical and nursing staff members focus on their routine patient care duties.

STGs, EMLs, and Formularies

During the reporting period, SIAPS supported several countries in developing, revising, and disseminating EMLs, formularies, and standard treatment guidelines (STGs). In **DRC**, SIAPS initiated the dissemination of the STGs for the referral hospital level. SIAPS also supported the NTP in printing 1,500 copies of the TB Medicines Management Guidelines (PATIMED III) and is preparing for the dissemination of these guidelines next quarter.

In **Mozambique**, SIAPS continued to make progress on providing support for the revision of the national EML which is undergoing final editing and technical review. SIAPS also supported the development of a plan for future EML revisions and updated the terms of reference for the national EML committee.

In **Sierra Leone**, SIAPS supported the Directorate of Drugs and Medical Supplies in developing a revised draft of the national EML which is expected to help harmonize the types of medicines and supplies procured for the government's free health care initiative.

Significant progress was also made in **South Africa** in developing the Essential Medicines List Tool (EMLT), which is a web-based platform that assists in improving the efficiency of the Essential Drugs Program through transparency and automation of processes. EMLT is designed to manage and track all the transactions involved in the development and review and implementation of the essential medicines list, standard treatment guidelines, and medicines formularies. All data generated by the system are exported into a data warehouse to generate outputs such as updated EML, STGs, formularies, reports, etc. It is expected to be finalized soon and launched in September during the celebrations of 20 years of EML in South Africa.

In April, the fourth editions of the South Africa Adult Hospital-Level EML and STGs were finalized and published on the NDOH website. SIAPS South Africa supported the process from development of medicine reviews to final editing, including the creation of an Antibiotic Appendix and a list of medicines deleted, added, and retained on the EML/STG. To support the dissemination of these documents, SIAPS helped to create academic detailing slide decks for communicating with and educating health professionals on all the changes in the STGs and EML and the underlying rationale for those changes. The slides will be made widely available via the NDOH website. SIAPS also participated in the planning for a mobile application of the adult EML and STGs which is being developed by Open Medicine Project on behalf of the Essential Drugs Program (EDP). SIAPS presented a poster on this area of work entitled "Strengthening the implementation of standard treatment guidelines to improve rational use of medicines in South Africa" at the Health Systems Trust Conference in May 2016.

In **Swaziland,** SIAPS worked with the National Essential Medicines Committee to establish processes to review the STGs and EML developed during SIAPS Program Year 1. The planned revision to these documents will consider the new ARV and TB medicines which have recently been introduced in the country and will assign some medicines to lower levels of the health system in alignment with the national health care package requirements. SIAPS also supported the finalization, printing, and dissemination of the bedaquiline and delamanid clinical and pocket guidelines.

In **Ukraine**, the MOH approved the methodology for selecting which medicines should be included in the national EML and approved the establishment of a Competition Committee which will identify the 12 experts to be assigned to the EML Expert Committee.

SIAPS **Swaziland**'s abstract "Comparison of selected prescribing indicators measured before and after the implementation of standard treatment guidelines in Swaziland" that was submitted has been accepted for an oral presentation at the Second Medicines Use Research in Africa (MURIA) Group Meeting in Botswana July 25–27, 2016.

Drug Information and Patient Education

Supporting expanded access to information on medicines, fostering patient education, and increasing awareness on medicines use issues are key in strengthening the quality of pharmaceutical services. In **Ethiopia**, SIAPS facilitated the delivery of informational materials to 20 hospitals to support provision of Drug Information Services which are important sources of information for providers and patients.

Also in Ethiopia**,** 32 health facilities in six regions conducted 305 patient education sessions that reached a total of 19,194 people (50.7% were women). Thirteen topics were discussed, including RMNCH, AMR, safety of multiple drug administration, chronic care management, anti-diabetes medicines use, effective use of ART drugs, and medicine storage in the home.

In response to a recent rise in malaria cases, SIAPS **Burundi** assisted the MOH in conducting an awareness campaign on malaria prevention, early diagnosis, and treatment. SIAPS helped to produce and disseminate messages through various radio and newspaper outlets.

As in previous years**,** SIAPS **South Africa** supported the Pharmacy Council and EDP to finalize the topic for Pharmacy Week. The theme "Use Medicines Safely" was accepted by all stakeholders. During this quarter, SIAPS provided input on possible pharmacy week concepts and supported EDP in a meeting with relevant stakeholders. Previous Pharmacy Week themes included "Understanding generic medicines" and "Use antibiotics wisely."

Antimicrobial Resistance and Infection Prevention and Control

SIAPS continued its efforts to combat AMR in multiple countries by increasing awareness and supporting advocacy efforts, and developing local AMR action plans.

To increase public awareness on the importance of RMU in combatting AMR, SIAPS **Ethiopia**, together with Food, Medicine, and Health Care Administration and Control Authority (FMHACA), regional health regulators, and mass media agencies conducted two trainings on AMR and RMU in Amhara and SNNP regional states for 37 and 41 journalists, respectively, who are producing and disseminating messages in print and electronic media in the public and private sectors. SIAPS also supported the AMR Containment Commemoration Day on June 18, 20 in Hawassa, in collaboration with the Ethiopian Pharmaceutical Association, Southern Nations RHB, Nationalities and Peoples Region (SNNPR) RHB, the Ethiopian Pharmaceutical

Students Association, the FMOH, FMHACA, PFSA, and WHO. The theme of the 2016 AMR day was: "Preserve Antimicrobials: Contain AMR!"

In **South Africa**, SIAPS supported the Gauteng and KwaZulu-Natal (KZN) provinces in the development and operationalization of provincial antimicrobial resistance plans in alignment with the National AMR Strategy Framework and National AMR Implementation Plan. In KZN, SIAPS helped establish an interim AMR task team in collaboration with the provincial AMR representative and the Pharmaceutical Services Head Office.

In **Namibia**, SIAPS is a member of the national steering committee on containment of AMR and prevention of hospital acquired infections, which is helping to advocate for the establishment of antibiotic stewardship committees in the regions. Also in Namibia, SIAPS began abstracting data for the 2016 HIV-DR Early Warning Indicator (EWI) analysis in June 2016. An abstract on the 2015 EWI analysis was accepted for a poster presentation at the International AIDS Society Conference. The report on the 2015 EWI analysis has been finalized and shared with the MOHSS.

In Swaziland, SIAPS assisted the MOH to develop terms of reference to guide the formation of the National Antimicrobial Resistance Containment Committee, the mechanism through which the National Antimicrobial Resistance Containment Plan/Strategy will be drafted. In April 2016, the committee members were appointed and met for the first time. The committee includes representatives from hospitals, laboratory services, ministry of agriculture, WHO Swaziland country office, academia, and SIAPS.

During this quarter, SIAPS completed revisions to the AMR Part 1 course for USAID's Global Health eLearning platform. New infographics were developed in collaboration with Knowledge 4 Health (K4Health) and added into the course. The revised content was reviewed by a course manager at K4Health, and was sent to SIAPS' AOR team at USAID for review. Following USAID review, SIAPS will finalize and coordinate dissemination of the course with K4H through development of related blog posts, social media posts, and emails to key industry email lists (HIPnet, HSS Network, etc.). The follow-on course, AMR Part 2, expands upon the concepts presented in AMR Part 1 and was published in November 2015. As of June 28, 2016, 238 global health staff have completed the course and earned certificates (109 women, 129 men). Staff members come from 42 countries including the United States (71), Nigeria (47), Fiji (15), Kenya (13), and Rwanda (6).

As mentioned in the previous quarter, SIAPS worked with the Ecumenical Pharmaceutical Network (EPN) headquarters in Nairobi to finalize three results-oriented proposals from EPN member organizations on topics related to antimicrobial stewardship and AMR. Following approval of these proposals by USAID, the awardees have begun implementing the activities, and interim progress will be reported in the next quarter.

In May 2016, a SIAPS technical staff member attended the Ecumenical Pharmaceutical Network (EPN) Forum 2016 which was held 19-21 May in Tubingen, Germany. SIAPS presented during a plenary session on "Containing Antimicrobial Resistance to Realize the Goals of Universal Health Coverage." SIAPS also collaborated with EPN and the ReAct Group to help develop,

print, declare, and distribute a Call to Action (CTA) document as one of the key outputs of the forum. The CTA was published on the SIAPS website and shared externally through social media channels and the MSH newsletter. The CTA was further shared through a blog post developed by SIAPS staff which was published on the SIAPS and MSH websites and disseminated through MSH's *Health Impact* newsletter.

Drug and Therapeutics Committees

As a key strategy for improving rational medicine use, promoting cost efficiency, combatting AMR, and ensuring patient safety, SIAPS works to support drug and therapeutics committees (DTCs) at the national and facility levels in many countries.

In **Mozambique**, SIAPS worked to strengthen hospital-level DTCs by training hospital pharmacists on how to collect, analyze, and report data on prescription indicators, medications errors, and aggregate consumption. Three province-level hospitals and two central-level hospitals then collected the data and analyzed the results. The results include the following findings:

- At least one antibiotic prescribed at most visits (51%–88% of visits).
- Antibiotics have the highest consumption rate of any therapeutic group among the health facilities (32%–50%).
- Ferrous sulfate with folic acid is one of the most used medicines in the hospitals.

The DTC members discussed the results as well as potential causes for the issues identified and developed facility-specific interventions that could help address the issues.

In **Swaziland**, SIAPS continued to support facility-level pharmacy and therapeutics committees (PTC) to improve medicine use and slow the emergence of AMR. SIAPS has helped establish and continues to support 14 PTCs. During the reporting period, six health facilities PTC had at least one meeting to discuss patient safety and therapeutic effectiveness. Eleven PTCs have implemented AMR containment advocacy activities.

SIAPS DRC's abstract submitted on "Providing a study-based evidence to advocate for a large-scale establishment of effective Drug and Therapeutic Committees in referral hospitals in Democratic Republic of Congo" has been accepted for poster presentation at the Second Medicines Use Research in Africa (MURIA) Group Meeting being held in Botswana from July 25–27, 2016.

Drug Use Review/Medicine Use Evaluation

In **Bangladesh**, SIAPS introduced drug use reviews (DUR) in three TB hospitals and conducted a DUR orientation in June for stakeholders from the hospitals, NTP, and WHO. The participants will assist in data collection over the next six months and then disseminate findings to help make improvements to the national DR-TB program.

In **Namibia,** SIAPS supported the Therapeutics Committee (TC) in the Kunene region to complete a medicines use evaluation (MUE) technical report. Results from the MUE show high (83%) compliance to STGs, which was higher than 26.2% compliance to STGs found during

national STG post assessment in 2013. The Regional Pharmacist attributed the high compliance and oversight on medicines use to more TC meetings held with agenda as per MOHSS established terms of reference, and enhanced TC activities such as quarterly ward visits. Prior to the MUE, SIAPS supported the Kunene region to train 11 members from three TCs. SIAPS also developed a MUE manual to encourage TCs to assess medicines use and encourage compliance to Namibia's STGs and ART guidelines. SIAPS is planning to provide an orientation to health workers on the MUE manual in July 2016. Additionally, the results from the Kunene MUE will be shared via panel presentation at the Second Medicines Use Research in Africa Group Meeting.

In **Ukraine**, SIAPS held a stakeholder meeting on April 6, 2016, to present final DUR reports conducted in both the HIV and TB sectors. Stakeholders approved the reports and also expressed an interest in expanding DUR implementation to other health facilities (AIDS centers and TB dispensaries).

Treatment Adherence

In **Namibia**, SIAPS is collaborating with other partners (Project Hope, IntraHealth, and the US Centers for Disease Control and Prevention) in supporting the MOHSS Directorate of Special Programs to implement Namibia's adherence strategy. SIAPS developed the adherence strategy for Namibia and presented it to the adherence technical working group (TWG) for adoption. On the group's recommendation, SIAPS supported the implementation of the EDT SMS reminder system at 10 sites in Namibia based on lessons learned during the pilot of the system at two sites. SIAPS also developed a process and monitoring mechanism for ARV dispensing via community-based groups.

Case Management

To promote early detection and treatment of malaria cases among children under five, SIAPS **Burundi** continued to collaborate with CARITAS Burundi in assisting the PNILP to scale up the Integrated Community Case Management (iCCM) of children's diseases. Thus far 212 community health workers (CHW) have been trained and equipped to start treating malaria in three of five health districts planned for FY16. Two health districts started reporting on treated cases. Overall, 90% of malaria cases have been seen and treated by CHW in the two health districts within 24 hours of the onset of fever.

Portfolios and SIAPS IRs in the Year 5, Quarter 3 Report

COUNTRY/PORTFOLIO	IR1	IR2	IR3	IR4	IR5
Africa					
Angola	•	•	•		•
Benin	•				
Benin Ebola					
Burundi	•	•	•		
Cameroon	•		•	•	•
Democratic Republic of Congo	•	•	•		•
Ethiopia	•		•	•	
Guinea	•	•	•	•	•
Mali	•	•	•		•
Mali Ebola		•			
Mozambique	•		•		
Namibia	•	•	•	•	
Niger	•				
Sierra Leone	•	•	•		
South Africa	•	•	•		•
South Sudan	•	•	•	•	
Swaziland	•	•	•	•	
West Africa Regional	•	•	•		
Asia and Middle East					
Bangladesh	•	•	•		
Philippines	•		•		•
Europe and Eurasia					
Tajikistan	•	•	•		
Ukraine	•	•	•		
Uzbekistan			•		
Latin America and the Caribbean					
Amazon Malaria Initiative	•	•	•		
Dominican Republic	•	•	•	•	•
Haiti					•
Core Portfolios					
Cross Bureau	•	•	•	•	•
Malaria Core	•		•	•	
MCH Core	•	•	•		
NTD Core	•	•	•		
TB Core		•	•		•

TB Add-On					•
TB Rapid Response					•
Total Portfolios	26	21	26	9	13

CROSS BUREAU

Objective 1: Pharmaceutical Sector Governance Strengthened

On December 2, 2015, the eLearning course Good Governance in the Management of Medicines developed by SIAPS with assistance from the Knowledge for Health (K4H) Project, was launched on USAID's Global Health eLearning Center (GHeL). In this quarter, SIAPS finalized two additional animations to replace the text versions in the course and the animations have now been uploaded. Since it was launched, 146 learners from 38 countries have completed the course. This number includes 54 people from Sudan's MOH National Medical Supplies Fund (NMSF), which is the national center for procurement and distribution of medicines in Sudan. The director completed the eLearning course and made it compulsory and part of a performance evaluation for pharmacists working at the NMSF. The K4H Project is preparing a video of user case studies which features an interview with the director of NMSF; the video will be released on the K4H website in the next quarter.

Also in the area of governance and collaboration with international organizations on key pharmaceutical governance, at the invitation of the World Health Organization (WHO), SIAPS is participating in a working group to assist WHO's Good Governance for Medicines (GGM) Program to revise and expand their assessment instrument for measuring transparency in the public pharmaceutical sector. In this quarter, discussions were held with WHO on SIAPS potentially assisting the GGM Program in piloting this assessment instrument in one of five or six planned countries. This activity is now pending further discussion between WHO headquarters and WHO regional teams.

Partner Contributions

The K4H Project helped upload the new animations and also assisted SIAPS in following up with the director of Sudan's NMSF, regarding his feedback and use of the eLearning course developed by SIAPS for organizational development.

Constraints to Progress

SIAPS' support to the WHO GGM Program activities is pending completion of the next steps by WHO.

Objective 2: Capacity for Pharmaceutical Management and Services Increased and Enhanced

One of the African Medicines Regulatory Harmonization (AMRH) Initiative's strategic objectives and key activities is to increase the capacity of the regulatory workforce in Africa to perform key regulatory functions. Regional centers of regulatory excellence (RCOREs) were designated by a selection committee to be the institutions or partnership of institutions with specific regulatory science expertise as well as training capabilities on the continent. Once

designated as an RCORE, the institution or partnership of institutions adopts strengthening the regulatory workforce in Africa as its mission.

Following a conference call this quarter with AMRH, it was agreed that SIAPS will collaborate with the New Partnership for Africa's Development (NEPAD) to review RCORE eligibility and selection criteria. At the request of the NEPAD/AMRH team, SIAPS developed a SOW for a consultancy to develop a system, including eligibility criteria and key performance indicators, for monitoring, evaluating, and selecting AMRH-designated RCOREs. SIAPS also evaluated the CVs of two consultant candidates proposed by NEPAD.

Also during this quarter, SIAPS expanded the draft of the pooled procurement guidance document to incorporate additional materials and began internal technical review. This document will provide faith-based organizations (FBOs) with guidance on creating a pooled procurement system in their own settings, on the basis of the Ecumenical Pharmaceutical Network (EPN) Cameroon experience. In the next quarter, SIAPS will complete the document and work on editorial finalization.

In 2015, the review and alignment of the two common technical documents from West Africa Health Organization (WAHO) and the West African Economic and Monetary Union (UEMOA) by WHO and the Mentoring/Twinning Program for all national medicine regulatory authorities (NMRAs) in region were completed. The second steering committee meeting of the Economic Community of West Africa States (ECOWAS) Medicines Regulatory Harmonization (MRH) from April 18-20, 2016, was preceded by a two-day technical workshop to validate the harmonized Common Technical Document (CTD) prepared by WHO.

The second steering committee meeting and validation workshop for the CTD of ECOWAS MRH were co-sponsored by SIAPS and the World Bank. The SIAPS program director participated in the Steering Committee meeting and a SIAPS senior technical advisor participated in the working group meetings and provided technical advice on reviewing the draft medicine registration guidelines. SIAPS will follow the progress of developing the harmonized CTD guidelines in ECOWAS member countries and, funds permitting, will provide necessary technical support to review and further develop the draft harmonized medicine registration guidelines.

Objective 3: Information for Decision-Making Challenges Addressed in the Pharmaceutical Sector

In this quarter, SIAPS finalized the manuscript that reviews the literature on pharmaceutical systems and pharmaceutical systems strengthening (PSS), which proposes definitions and components deemed critical for tracking progress in systems strengthening; the manuscript was submitted to the peer-reviewed journal *Health Policy and Planning*. Also, an abstract based on the manuscript was submitted by SIAPS to the Fourth Global Symposium on Health Systems Research (Vancouver, Canada, November 2016) and was accepted for oral presentation.

Also in this quarter, SIAPS technical experts reviewed the candidate indicators compiled by SIAPS partner Boston University School of Public Health (BUSPH); the criteria for this review

were identified in the previous quarter to select candidate indicators for measuring progress in PSS for each of the seven critical components of a pharmaceutical system. BUSPH developed a prototype data entry form which includes indicator definition and meta-data reference pages and worked on populating the datasheets for the selected indicators for piloting. A one-day meeting with Boston University is planned for early July to finalize the selection for piloting and also the methodology for piloting.

Partner Contributions

BUSPH applied agreed-on indicator selection criteria to identify candidate indicators for inclusion in a tool for measuring PSS, developed a prototype data entry form which includes indicator definition and meta-data reference pages, and started populating the worksheets for candidate indicators.

Objective 4: Strengthened Financing Strategies and Approaches

In Q3, a review of the structure, flow, and completeness of the universal health coverage (UHC) policy paper was undertaken. Two meetings with SIAPS technical leads were held to define the key pharmaceutical management considerations for UHC. The meetings determined the necessity of aligning the UHC and medicines technical brief with critical pharmaceutical systems components—pharmaceutical products and services, policy laws and governance, regulatory systems, financing, human resources, information and innovation, and research and development, as illustrated in the SIAPS paper, *Defining and Measuring Pharmaceutical Systems Strengthening*. The identified technical writer and the final reviewers will assist in finalizing the production of the paper by the end of August 2016.

SIAPS notified the GHeL of its interest in developing an eLearning course on key design considerations for pharmaceutical management in UHC. A draft course outline had been developed, but will not be shared with GHeL until the final version of the UHC policy paper is completed.

In this quarter, SIAPS has continued to work on the pharmaceutical expenditure tracking activity. Due to delays on the part of WHO technical team, the activity timeline has been redefined and extended. This new longer time horizon will be used by the Health Finance and Governance (HFG) Project implementing partners (IPs) to pre-test the standard capabilities of the WHO/OECD System for Health Accounts tool for capturing pharmaceutical expenditures in Ethiopia, Benin, and Zambia. SIAPS offered to collaborate in facilitating access to key personnel and information sources in these three countries and guide the conversation on the data collection when possible. It is expected that this pre-testing exercise will be useful in better understanding the gaps in the existing tool and the constraints and opportunities in expanding its scope moving forward.

Partner Contributions

HFG is a key partner in the activity for establishing an institutionalized mechanism for tracking pharmaceutical expenditures.

Constraints to Progress

Delays in finalizing UHC policy paper will cause delays with development of the eLearning curriculum.

Objective 5: Quality of Pharmaceutical Products and Services Improved

During this quarter, SIAPS completed revisions to the AMR Part 1 course for USAID's GHeL platform. New infographics were developed in collaboration with K4H and added into the course. The revised content was reviewed by a course manager at K4H and was sent to SIAPS' AOR team at USAID for review. After USAID's review, SIAPS will finalize and coordinate dissemination of the course with K4H through development of a related blog post, social media posts, and emails to key industry email lists (HIPNet, HSS Network, etc.). The follow-on course, AMR Part 2, expands upon the concepts presented in AMR Part 1 and was published on November 11, 2015. As of June 28, 2016, 238 learners have completed the course and earned certificates (109 female, 129 male). Learners come from 42 countries, including the US (71 learners), Nigeria (47 learners), Fiji (15 learners), Kenya (13 learners), and Rwanda (6 learners).

As mentioned in the previous quarter, SIAPS worked with the EPN headquarters in Nairobi to finalize three results-oriented proposals from EPN member organizations on topics related to antimicrobial stewardship and AMR. Following approval of these proposals by USAID, the awardees have begun implementing activities, and interim progress will be reported next quarter.

In May 2016, a SIAPS technical staff member attended the EPN Forum 2016 which was held in Tübingen, Germany. SIAPS presented during a plenary session on "Containing Antimicrobial Resistance to Realize the Goals of Universal Health Coverage." The presentation can be accessed and downloaded at http://siapsprogram.org/2016/05/24/siaps-delivers-plenary-presentation-at-epn-forum-2016/. SIAPS also collaborated with EPN and the ReAct Group to help develop, print, declare, and distribute a call to action (CTA) document as one of the key outputs of the forum. The CTA was published on the SIAPS website and shared externally through social media channels and the MSH newsletter. The CTA can be accessed and downloaded at http://siapsprogram.org/2016/05/24/siaps-joins-epn-in-issuing-call-to-action-against-antimicrobial-resistance/.

SIAPS continued to make progress on the improving medication adherence through systems strengthening approaches documentation. Based on the input of technical reviewers, the SIAPS medication adherence framework was refined along with extensive revision and shortening of the draft contents. The document is undergoing a final round of internal reviews and will subsequently be sent to the SIAPS AOR team at USAID for review.

SIAPS also continued to make revisions to the building local coalitions for containing drug resistance guidance document. The guide will next undergo internal revisions.

SIAPS also finalized a technical brief on pharmaceutical care and a technical report on SIAPS infection prevention and control activities. Both documents are currently undergoing editorial

review and formatting before being published and disseminated via SIAPS' website, social media, and other appropriate channels.

In April, SIAPS' abstract on "Strengthening pre-service pharmacy training on rational medicines use, antimicrobial resistance, and pharmacovigilance (PV)" was accepted by the International Pharmaceutical Federation (FIP) for presentation at their 76th World Congress of Pharmacy and Pharmaceutical Sciences 2016 to be held August-September 2016.

As in previous quarters, the SIAPS headquarters team continued to provide guidance and oversight to field offices in implementing AMR and RMU activities.

The options analysis guidance document, *Analyzing Options for Strengthening Pharmaceutical Systems*, was completed and finalized this quarter. Dissemination of the digital copy has begun and the hard copy is currently being professionally printed for additional distribution.

During this quarter, SIAPS and NEPAD resumed discussions on the development of an AMRH-specific regulatory assessment tool that can be used for baseline assessment and routine M&E of countries actively involved in medicines regulatory harmonization efforts. NEPAD approved the SOW that SIAPS proposed for the activity, and both organizations shared the names and qualifications of potential candidates for the consultancy. Work on the indicators and associated tools, which will draw upon existing regulatory assessment tools, namely the WHO Global Benchmarking Tool and SIAPS' Regulatory System Assessment Tool (RSAT), is expected to begin early next quarter. As part of this effort to develop this tool, SIAPS has continued to make revisions to RSAT on the basis of an internal technical review and discussions with WHO. The tool is on track to be a more concise version of the original RSAT that complements existing regulatory assessment tools, but is distinct in its orientation toward less developed, low-functioning regulatory systems and its less resource-intensive implementation for both baseline assessment and on-going monitoring. SIAPS will share the draft with technical partners in the next quarter for comment and will consult with the program's electronic tools and communications teams to explore different platforms to make the tool, including data collection and analysis, as user friendly and practical as possible.

Partner Contributions

EPN headquarters collaborated with SIAPS in the development and review of the CTA document and supported additional reviews by EPN members.

K4H provided technical support by reviewing the AMR Part 1 course and finalizing its content on USAID's GHeL platform.

Constraints to Progress

WHO has been in the process of revising its Global Benchmarking Tool (GBT) for regulatory systems and thus has not been able to share a finalized list of indicators with SIAPS. Without this final list, SIAPS has been unable to make significant progress on the harmonization of RSAT indicators with those in the WHO-GBT—one of the main objectives of updating and revising

RSAT. The ongoing revisions of WHO's GBT have also impacted NEPAD's readiness to move forward with the development of an AMRH-specific tool, as AMRH will want to incorporate WHO indicators as much as possible.

Objective 6: Contributed to the Generation of New Knowledge and Dissemination of Evidence-Based Approaches and Best Practices

Human Info has continued to make steady improvements to the portal. In May, they began working on the implementation of a document submission module to improve document search performance and management of document classifiers. They also began adding new functionality to the user interface that will enable the import and export of publications in batches in CSV and XML.

In Q3, the collection of publications in the portal increased from 5,297 to 5,401 documents. Google Analytics shows that of the 1 million users that visited the portal during the current reporting period (April to June 2016), nearly 80% were new visitors, which signifies no change from last quarter's metrics. Analytics also showed that the majority of users (83.6%) accessed the portal through Google search, while only 10% found the portal by visiting the URL directly – a slight decrease from last quarter (Google – 83.9%; direct access – 11.6%). The metric on Google searches does not include 2% of searches conducted using Android mobile devices to access the portal.

Similarly to last quarter, the majority of the portal visitors during this time frame were overwhelmingly from Latin American countries, such as Mexico, Colombia, Peru, and Venezuela. Visitors from Mexico were responsible for the majority (21.15%) of active sessions on the portal. The page with the highest number of page views (nearly 41,000) consisted of the second edition of the *WHO Model Prescribing Information: Drugs used in Parasitic Diseases* publication (in Spanish).

This quarter, SIAPS engaged a consultant to perform a gap analysis of the WHO Essential Medicines and Health Products (EMP) Information Portal. The consultant's scope of work consisted of data collection, review, and analysis and development of recommendations. As indicated last quarter, the gap analysis aims to (1) identify which pharmaceutical management technical themes are missing in the portal and determine which should be considered priority themes, (2) identify potential sources (i.e., organizations) that can be solicited to collect documentation for the identified priority technical areas, and (3) provide recommendations for alternative processes for screening and capturing national EMLs, national medicines policies, and other resources.

The consultant began the gap analysis work in early May by collecting relevant data to identify priority themes, gaps, and potential publication sources. She also had preliminary discussions with SIAPS staff, the WHO EMP team, and the Human Info team. Based on the information collected, the consultant developed a draft methodology for addressing the objectives of the gap analysis, which was reviewed by the SIAPS and WHO teams. The methodology consists of three major steps: (1) quantitative analysis, (2) two rounds of interviews with MSH staff, WHO EMP

staff, Human Info, and other respondents identified from earlier discussions (i.e., MOHs, partner organizations), and (3) analysis and development of the report.

The consultant has completed the first round of interviews with SIAPS staff and is in the process of conducting second round interviews. The gap analysis work was to be completed by June 30, but due to constraints with scheduling interviews particularly with non-SIAPS staff, the consultant will extend her time to complete the report by July 8.

This quarter, SIAPS, in collaboration with USAID's Promoting the Quality of Medicines (PQM) program, proposed revisions to Module 6: "Medical Products, Vaccines and Technologies" of the *Health Systems Assessment Approach* (HSAA) manual. These revisions, along with those made by other IPs, were channeled through colleagues at the HFG Project, who are coordinating IP revisions of the entire manual, to the USAID Office of Health Systems for review.

In the meantime, USAID and WHO have expressed interest in collaborating on health systems assessments (HSAs) to make it easier for countries to conduct and use HSAs, with a focus on common language and harmonization across institutional tools. To foster this collaboration, WHO is coordinating a review by the relevant groups within WHO of the HSAA chapters that USAID IPs revised. WHO reviewers will evaluate and include suggestions (in track changes) of additional references to WHO tools, publications, and other resources, and will note any instances of lack of alignment in substantive technical area(s). WHO reviews will be completed by mid-July 2016. After HFG receives the WHO inputs, they will conduct a second quick review and identify important issues that require discussion with SIAPS and other relevant IPs. The next IP meeting will be held in mid-August 2016.

While this collaboration has delayed the HSAA manual revision timeline somewhat, it is expected that the final product will be more useful and set the stage for further USAID-WHO collaboration on HSAs.

Women Deliver, a global organization that campaigns for improving the health and welfare of women and children, organized its fourth global conference for May 16–19, 2016, in Copenhagen, Denmark. Participants from around the world gathered to present best practices and lessons learned on improving the reproductive, maternal, newborn, child, and adolescent health (RMNCAH) through their programs. SIAPS staff in attendance participated in sessions on best practices for improving access to quality maternal and child health products and services by increasing access to family planning, quality maternal health care, and potential and proven interventions to improve neonatal and child health. SIAPS also participated in sessions on health financing, progress made under the Millennium Development Goals, and the global transitioning to the newly laid out Sustainable Development Goals (SDGs). Most notably, SIAPS presented on a panel briefing for congressional staff on the broader, global context of RMNCAH needs of women and girls, and development successes and challenges globally and in key regions of the world. For that panel, SIAPS provided an overview of the SIAPS Program on women's and girls' health in South Asia and how pharmaceutical management and services improve the health of women and girls worldwide. SIAPS also presented at a breakfast event and a partners' reception on the program's success and lessons learned.

Since 1998, the WHO Department of Essential Medicines and Health Products has organized an annual technical briefing seminar intended for people working on medicine issues in pharmaceutical and health sector programs in low- and middle-income countries. This year's seminar was held from May 9-13 in Geneva, and gathered about 50 participants from several Francophone countries. The seminar's sessions were organized around key issues in medicine policy. This year, SIAPS shared its experience in strengthening Pharmaceutical Management Information Systems (PMIS) in West Africa (i.e., use of data for decision making). SIAPS's presentation raised a lot of interest from participants, all of whom requested access to SIAPS web-based dashboard (OSPSANTE) for decision making.

SIAPS staff attended the biennial Uppsala Forum at the Uppsala Monitoring Center (UMC), May 30-31, 2016, to represent the SIAPS Program in discussions on the forum's central theme of PV's role in rapid, access to safer drugs. In addition to participating in the forum, which was attended by experts from WHO-CC, National Institutes of Health (NIH), US Food and Drug Administration (FDA), Janssen Pharmaceuticals, WHO-UMC, and NMRAs from numerous low- and middle-income countries, (e.g., Bangladesh, Kenya, Philippines, Sierra Leone), SIAPS held side meetings with counterparts about key PV activities and opportunities for improved coordination and collaboration.

Partner Contributions

- WHO continues to contribute to the WHO EMP portal's management and improvements, as well as ongoing gap analysis.
- For the HSAA activity, HFG and the USAID PQM Program have supported progress.

Constraints to Progress

Due to constraints with scheduling second-round interviews, the consultant will extend her time to complete and submit the final portal report by July 8. To also maximize the number of responses from non-SIAPS staff, particularly members of MOHs in country, the methodology was also revised to include an electronic questionnaire sent to potential respondents of interest.

East African Community Medicines Regulation and Harmonization program (EAC-AMRH) Portfolio

In collaboration with the EAC Expert Working Group (EWG) on Pharmacovigilance and Post-Marketing Surveillance, EAC secretariat, and NMRAs of EAC partner states, SIAPS is providing technical assistance for the development of standard M&E tools. Using the Indicator-Based Pharmacovigilance Assessment Tool (IPAT) and the WHO PC indicators, SIAPS conducted a workshop in Kigali, Rwanda, to work with the EAC-EWG on PV and PMS to develop harmonized PV indicators and assessment tools for the EAC. The updated tool will be used to conduct a baseline review of PV systems and subsequent M&E by EAC-NMRAs in support of PV system strengthening.

Key activities SIAPS completed in this quarter include:

- Facilitated a workshop to develop standard indicators and an M&E tool
- Trained and assisted assessment teams in individual member states to prepare for baseline reviews, understanding results, and writing reports
- Finalized EAC PV indicators and M&E tools
- Conducted a training of trainers workshop to build the capacity of EWG members to conduct a baseline assessment (including data collection, data analysis, and report writing) in their respective countries and to train their in-country assessment teams

GLOBAL PROGRAMS

Malaria

Goal: Improve access to and appropriate use of quality-assured malaria commodities to reduce the malaria burden

Overall Quarter Progress

Under the first objective, SIAPS is documenting its contribution in controlling malaria through systems strengthening approaches in five countries. Under the second objective, SIAPS facilitated PMI procurement decisions by reporting on stock status of malaria commodities (PPMRm) from Angola, Burundi, Ethiopia, Guinea, Kenya, Mali, South Sudan, and Uganda.

Objective 1: Strengthen Pharmaceutical Sector Governance

To document how pharmaceutical systems strengthening approaches and activities support efforts to control malaria, a desk review of documented activities and results across all eight countries was conducted. The review was followed by key informant interviews with project staff, government stakeholders, other implementing partners, and beneficiaries. The data was triangulated with other relevant sources to support evidence of SIAPS's achievements. The document is undergoing internal review.

Objective 2: Increase Utilization of Pharmaceutical Information for Decision Making

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, the End Use Verification survey was conducted in Angola.

Objective 3: Strengthen Pharmaceutical Financing Strategies and Mechanisms to Improve Access to Medicines and Services

No activity during this quarter.

Neglected Tropical Diseases

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

Overall Quarter Progress

The SIAPS NTD portfolio hosted two SCM workshops in Lagos and Abuja, Nigeria, in late March; 78 people attended the two workshops from all 37 states and the federal capital. The assessment of the Senegal NTD SCM is complete and translated and with RTI for a final debrief that will be held in July 2016.

Objective 1: Strengthen NTD Global Coordination and Oversight Mechanisms

SIAPS attended and presented at the NTD Supply Chain Forum meeting in Darmstadt, Germany.

Partner Contributions

RTI ENVISION and USAID/Washington assisted with review and comments for the presentations SIAPS delivered at the NTD SCF meeting.

Objective 2: Support NTD capacity-building initiatives

The SIAPS NTD portfolio hosted two SCM workshops in Lagos and Abuja, Nigeria, in late March; 78 people attended the two workshops from all 37 states and the federal capital. SIAPS completed the post-workshop report and submitted it to USAID and the participants with feedback from the workshop. SIAPS will follow-up with the participants in mid-2016 to determine progress. SIAPS NTD is coordinating with RTI and End in Africa to host the next workshops in Benin and Guinea in August 2016. Initial contacts have been made and the names of participants, dates for the workshop, and specific topics for further discussions are currently being worked out. The assessment of the Senegal NTD SCM is complete and translated and with RTI for a final debrief that will be held in July 2016.

Partner Contributions

SIAPS met with members of RTI, FHI360, and USAID to discuss the Francophone workshop logistics and the invitation list to ascertain who would get the most out of the workshop.

Objective 3: Support NTD Medicine Safety Programs

During this quarter, SIAPS supply chain experts have completed a review of the first draft of the guidelines and SOPs, and now SIAPS NTD is revising it based on their comments.

Partner Contributions

SIAPS sent the SOPs to RTI and USAID for review and general comments with the understanding that it still needs editorial review.

MNCH

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

Overall Quarter Progress

SIAPS/MNCH continued to contribute significantly at the global and country levels to ensure the availability of quality medicines and supplies and effective pharmaceutical services to reduce maternal, newborn, and child mortality. A major highlight of this quarter is the finalization and dissemination of the "Guidance for Planning the Introduction of New Reproductive, Maternal, Newborn, and Child Health Medicines and Supplies." The purpose of the document is to provide guidance to program managers in ministries of health at the national and subnational levels and other stakeholders on actions to take and factors to consider when expanding access to essential RMNCH commodities. It addresses several pharmaceutical management issues (e.g., pharmaceutical policies, effective medicine management, regulatory systems, information needs, and product quality and safety practices) that are often overlooked when introducing new products.

SIAPS/MNCH also continued to be 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.

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

This quarter, SIAPS continued discussions with Milka Dinev and the Maternal Health Technical Resource Team (MHTRT) co-conveners regarding the transfer of activities from the MHTRT to the Maternal Health Supplies (MHS) Caucus of the Reproductive Health Supplies Coalition (RHSC). SIAPS contributed to a draft of the rationale for the transfer, which will be shared with members of the MHTRT and the MHS Caucus. On June 15, 2016, SIAPS hosted and co-facilitated a joint meeting of the MHS Caucus and the MHTRT. During the next quarter, SIAPS will begin planning for the next MHS Caucus meeting, which will be held in Seattle in October 2016.

SIAPS senior technical advisors attended the Women Deliver conference in May and several side events organized by various groups associated with the UN Commission on Life-Saving Commodities (UNCoLSC). Flash drives containing resources and tools developed by various UNCoLSC technical resource teams were distributed at the conference. Also during the quarter, SIAPS participated in and presented on maternal health supplies at the semi-annual meeting of the Systems Strengthening Working Group of the RHSC, participated in a meeting on post-partum hemorrhage organized by the Maternal and Child Survival Program, and facilitated a session on commodities.

SIAPS participated in a meeting in Nairobi, Kenya, for countries scaling up the Integrated Community Case Management of Child Diseases (iCCM) under the Global Fund. At that

meeting, country teams submitted their technical assistance (TA) requests. This quarter, SIAPS reviewed the TA requests and mapped them to the bottlenecks identified in the Procurement Supply Management session co-facilitated by SIAPS during the meeting. During the May 16 Supply Chain Management (SCM) subgroup of the CCM Taskforce, the TA requests were discussed, and the group explored mechanisms to clarify TA needs. The TA requests were also discussed at the May 19 iCCM Financing Task Team (FTT) meeting. Based on the mapping, it was decided that the SCM subgroup would link the FTT with partners providing SCM support in the countries requesting TA.

SIAPS, as chair of the SCM subgroup, also prepared a draft of the subgroup plan that was finalized during the June SCM meeting. In addition, SIAPS coordinated, organized, and presented a webinar on waste management at the community level. This webinar, which was presented on June 23, provided an overview on general considerations of waste management followed by examples from Rwanda and Madagascar.

Also during this quarter, SIAPS was invited to a May 5–6 WHO consultation in Geneva on medicines for children. Key issues related to supply shortages, formulation, availability, and pricing of commodities were discussed. As a result, WHO requested that SIAPS review their guidance document on UN lifesaving commodities for reproductive, maternal, newborn, and child health.

At the April Countdown to 2015 meeting of technical experts in New York, SIAPS presented its review of current pharmaceutical management policies and systems that affect access to essential MNCH medicines and supplies. The review was well received, and comments are being collected. SIAPS also met with WHO authors and representatives of the scientific review group of Countdown to 2015 to clarify final goals and next steps. While a revised version was produced following the New York Countdown meeting, key comments are still pending from two WHO reviewers. Once those comments are received, the article will be revised and submitted to a BioMed Central journal.

Finally, SIAPS is working with USAID to develop a supply chain session during the Community Health Conference and will continue to assist with the planning of this conference during next quarter.

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

The subnational procurement assessment tools were further updated based on feedback from the Health Commodities and Services Management (HCSM) project team in Kenya and the local consultant who was hired. Data collection training materials and manuals were also developed, and the local consultant was trained on the tools. The data collection was completed in the three selected counties, and the data were submitted in June. During the data collection, some data were not available. As a result, there will be some follow-up with the counties to collect the remaining data. The SIAPS technical advisor will coordinate with the HCSM team to collect the data and complete the analysis during the next quarter.

This quarter, SIAPS finalized and disseminated the guideline for national program managers to introduce new and under-used medicines and supplies for MNCH. During the next quarter, SIAPS will continue to disseminate this guideline through other media.

A draft framework, including the purpose, objectives, and proposed methodology to conduct the assessment, was developed and shared with USAID. Based on feedback received, the framework was revised. The countries short-listed for the activity include Nepal, Bangladesh, Ethiopia, Uganda, Kenya, and Ghana. SIAPS also developed a draft of the assessment tools, which are still being finalized. In addition, letters from USAID/DC to the missions and from the missions to the MoH in the target countries were drafted. USAID/DC will be sending these letters to the missions to get their agreement before starting the actual data collection process. The MNCH team will also review the subnational procurement data collected in Kenya and Bangladesh to extract information relevant to the financial flow assessment. The list of countries will be finalized once confirmation is received from the USAID Mission.

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

In support of the UNCoLSC, SIAPS continued to participate in meetings of the MHTRT, the Supply Chain Technical Resource Team, the Chlorhexidine Working Group (CWG), the Injectable Antibiotics Working Group, and the Diarrhea and Pneumonia Working Group, which includes the amoxicillin and zinc subgroups. SIAPS also provided country support for UNCoLSC activities in Democratic Republic of Congo (DRC).

In addition to participating in monthly MHTRT calls, SIAPS received final comments on the report on the integration of oxytocin into the EPI cold chain, which is now being finalized. SIAPS also coordinated with MHTRT members to prepare the flash drives that were distributed at the Women Deliver conference. As mentioned previously, SIAPS, along with the MHS Caucus of the RHSC, hosted a joint meeting between the MHTRT and the MHS Caucus. During the meeting, the merger of the two groups was agreed upon, and a plan of action through the RHSC annual meeting in October was developed. During the next quarter, SIAPS will finalize the oxytocin in the cold chain document, assist in drafting the MHTRT legacy document, and plan for the October meeting.

The French version of the webinar on the RMNCH quantification supplement was held on May 18. SIAPS and two colleagues from JSI presented to 28 participants. The presentation and recording are available at lifesaving.org. SIAPS also co-facilitated an in-person Supply Chain Technical Resource Team (SCTRT) meeting in June. The purpose of that meeting was to review progress on SCTRT activities and plan close-out steps. During the next quarter, SIAPS will work to draft the SCTRT legacy document.

SIAPS/MNCH senior technical advisors continued to participate in and contribute to the biweekly CWG calls as well as attended the in-person meeting in May. During the in-person meeting, SIAPS presented country implementation updates for DRC and Afghanistan. SIAPS also continued to support CWG-related activities in DRC. SIAPS assisted the DRC team to prepare for the CHX use sustainability meeting, which was organized by the CWG and held in

Addis Ababa June 15–16, and facilitated attendance by DRC Ministry of Health representatives. SIAPS further provided technical support to the DRC team in finalizing the protocol for the CHX use survey and coordinated conference calls between the DRC Drug Regulatory Authority and GlaxoSmithKline to facilitate the final process for the technical dossier submission for CHX registration in DRC.

SIAPS attended the June 8–10 Diarrhea and Pneumonia Working Group meeting in New York and presented the DRC study on job aids and dispensing envelopes for amoxicillin DT at both the amoxicillin subgroup meeting and the plenary session. During the next quarter, SIAPS will review PATH's English translation of the French DRC report and disseminate the amoxicillin DT job aids and dispensing envelopes study in DRC at partner meetings and RMNCH technical committee meetings.

Finally, this quarter, SIAPS reviewed the implementation guidelines of the new newborn sepsis management recommendations at WHO's request and presented the DRC landscape analysis and the study on amoxicillin job aids for pneumonia. During the next quarter, SIAPS will finalize the DRC protocol and instruments for dissemination.

TB Core

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

Overall Quarter Progress

Substantial progress was made this quarter in completing a number of activities ahead of the SIAPS program close-out. This quarter, SIAPS participated in several capacity building workshops including a Global Drug Facility (GDF) consultant training on QuanTB in Marrakesh, Morocco, meetings on the introduction of new pediatric TB medicines, and a WHO collaborating center course held in Cepina, Italy.

SIAPS continued to work on the QuanTB eCourse and provided technical support to countries implementing our QuanTB and e-TB Manager tools. This quarter, technical support included quantification workshop in Tanzania and support to Bangladesh in implementing the desktop version of e-TB Manager.

Objective 1: Assure the Availability of Quality Pharmaceutical Products and Effective Pharmaceutical Services to Achieve Global TB Goals

Activity 1.1.1

This quarter, the SIAPS consultant worked with the GDF quality manager to finalize drafts for all SOP-related documents. Throughout the process, various GDF staff members were assigned to contribute to the SOP-related documents, which were then presented to the SIAPS technical consultant for updating and finalization. Approximately 94 documents were updated, written as new procedures, embedded in other documents, or combined to clarify their use.

SIAPS conducted a GDF consultant training on QuanTB this quarter in Marrakesh, Morocco, from April 11 to 14, 2016. In addition, SIAPS participated in a pediatric specific meeting organized by Management Sciences for Health in collaboration with TB Alliance, GDF, and WHO for the introduction of new TB formulations from April 15 to 16, 2016. A total of 44 participants attended the workshop (20 men, 24 women); all based in different countries and globally supporting GDF to conduct monitoring missions in different geographical regions. This workshop helped to build capacity of GDF consultants to effectively use the QuanTB tool for quantification and early warning systems (EWS) for TB medicines in countries that procure from the GDF. On day 5 of the workshop, 16 additional participants joined the meeting to discuss plans for introduction of new pediatric TB formulations which recently became available through GDF procurement mechanism.

Activity 1.2.1

Several SIAPS TB Core staff members were informed this quarter of acceptance of their submissions last quarter to the upcoming Union Conference in Liverpool, UK. Out of the 20 submissions of workshops, symposia and abstracts, 12 there were accepted. SIAPS will present at two half-day workshops, two symposia and eight abstracts.

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

Activity 2.1.1

During quarter 3, the SIAPS Principal Technical Advisor for TB traveled to Cepina, Italy, May 1 through May 6, 2016, to facilitate sessions on TB pharmaceutical management for the course, "Implementing New Stop TB Strategy: Skills for Managers and Consultants (TB, MDR-/XDR-TB, TB/HIV)." This course was designed by the WHO Collaborating Centre for Tuberculosis and Lung Diseases in Tradate, Italy, with the goal of further developing the necessary skills to plan, implement, and evaluate a TB control program, based on the Stop TB Strategy in the era of MDR- and XDR-TB and HIV for country TB managers, international consultants, and donor representatives. With USAID funding, SIAPS developed sessions on pharmaceutical management, and has been supporting the course since its inception in 2001.

Also during this quarter, pharmaceutical management training materials were updated to include recent changes in TB control strategy and pharmaceutical management with a main focus on the introduction of new TB medicines and novel regimens. The day-long session on TB/TB-HIV pharmaceutical management was attended by 20 participants (10 men, 10 women) from 12 countries, which included Namibia, Guinea Bissau, Iran, Sierra Leone, Ukraine, Sudan, Kingdom of Bhutan, Nigeria, the Philippines, and Italy. The first half of the session commenced with a general introduction to TB pharmaceutical management frameworks and a description of challenges and good practices for the introduction of new TB medicines. The sessions utilized case studies and group work to make the training interactive for adult learners. The second half of the day focused on quantification using the SIAPS-developed QuanTB tool. Participants practiced quantification using pre-defined exercises to learn how the tool works. The main purpose of the exercise was to expose countries to QuanTB tool as an option for their country quantification and EWS needs.

Activity 2.2.1

Significant progress was made during quarter 3 in developing the online training for QuanTB. All module 1 units, including pre- and post-tests and knowledge checks, were developed in Articulate Storyline. Several SIAPS staff members reviewed all module 1 units to test and provide feedback on the content and navigation, resulting in improvements in features to allow easier navigation in the course. Additional modifications to the course took place during the quarter to improve it for learners including a left hand side bar, development of a glossary and uploading of resources. Following the review, module 1 was then entered into the LeaderNet platform. In addition, the script for the introduction was created and voice-over recorded for the introduction unit. Step-by-step videos for the following units in Module 2 were created and recorded by SIAPS team: QuanTB installation on PC and MAC, customizing medicines lists, customizing regimen lists, and quantification using QuanTB. The videos were provided to the eCourse developer for insertion into the module 2 units. The team is moving forward with review of module 2 units to finalize the course in preparation for loading to LeaderNet. Finally, the certificate of completion for participants was designed and the process to automatically generate the certificate is being researched. Next quarter, module 2 units are expected to be loaded into

LeaderNet, updates to the course completed for the release version 4 of QuanTB, final testing of all modules and units, development of a marketing campaign for the course, finalization of the certificate of completion, and course publication.

Constraints to Progress

SIAPS anticipates delays in the completion and publishing of the eCourse due to the fact that QuanTB current version (v3) is undergoing revision, and the updated version (v4) is expected to be released during July 2016. Module 2 will not be finalized until the new version is released and updates are incorporated in the eCourse, therefore SIAPS has adjusted the timeline for the QuanTB eCourse publishing to end of July/early August 2016. Currently, the modules play well on PC and MAC laptops, iPad, Android phones, and tablets, but there is an issue with the course using iPhones. The LeaderNet team is still checking with the technical team on this, but SIAPS does not anticipate this to be a major issue as the majority of our users have Android devices.

Objective 3: Improved Utilization of Information for TB Control Decision Making

Activity 3.1.1

e-TB Manager use has reached an all-time high, with the system managing over a half a million cases worldwide. e-TB Manager has been continuously improved with additional functionalities and general fixes for enhanced use. Updated versions have been regularly released and shared with selected countries using the system. e-TB Manager is currently operating at a total of 1,557 sites in 11 countries. Globally, 2,876 active users are managing 571,613 TB cases, DR-TB cases, and presumptive TB individuals. e-TB Manager version 3.0 with enhanced functionalities and ability to run in portable devices is currently under development and the first prototype is planned to be released as a beta version by quarter 4 for user acceptance and testing in eligible countries. Additional work this quarter included the successful implementation of TB LMIS (a customized drug management module of e-TB Manager) at the central level in Bangladesh and a planned scale-up during the coming quarter. Also in Bangladesh, SIAPS provided technical support for e-TB Manager desktop version to maintain functionality at selected sites. Support for e-TB Manager in Nigeria included critical technical support for corrections of the system and continued progress on providing the complete set of system customizations required for system scale-up as defined during the Challenge TB work planning meetings attended in January 2016. SIAPS will continue to provide technical support in the coming quarter to countries that are implementing e-TB Manager.

By the end of quarter 3, there were more than 370 downloads of QuanTB version 3.0 alone from the SIAPS website; bringing the total downloads to more than 1,400 since the tool's inception. Development of QuanTB version 4.0 with enhancements and new functionalities for supply planning continued this quarter and this new version is expected to be released next quarter. Also this quarter, SIAPS provided a final report with recommendations regarding supply management for TB commodities to the 2016 Joint Program Review coordination committee in the Philippines to be included in the upcoming national strategic plan.

Activity 3.2.1

Over 1,300 complete responses to all 18 questions from 9 countries of the ongoing multi-country e-TB Manager user satisfaction survey have been received. Currently, the survey is ongoing in Brazil, Cambodia, and Indonesia. We reached a near saturation of responses among all e-TB Manager users in Bangladesh, Namibia, and Nigeria. Survey data cleaning, data quality check, and interim analysis is ongoing. Synthesis and documentation of e-TB Manager implementation with achievements, challenges, and lessons learned continues.

Partner Contributions

Activity 3.1.1

Country and international partners have provided continuous feedback for both e-TB Manager and QuanTB enhancements. SIAPS country presence and strong linkages with local partners for system implementation and monitoring have been critical to achieve desired outputs.

Activity 3.2.1

USAID Challenge TB project in Indonesia implemented by KNCV and Palladium Group in Cambodia has collaborated with USAID/SIAPS TB Core portfolio to implement the e-TB Manager user satisfaction survey.

Constraints to Progress

Activity 3.1.1

Constraints this quarter included suboptimal in-country support for e-TB Manager implementation and monitoring (e.g., high staff turnover and deficiency of dedicated local MIS, IT, and TB specialists) in some countries.

QuanTB constraints included lack of and unreliable data regarding TB cases and inventory at the country level to feed into QuanTB for regular update and analysis for strategic decision making. Some countries are unable to follow SIAPS recommendations to improve TB procurement and supply management based on QuanTB results and early warning system due to factors unrelated to the quantification and forecasting processes.

Activity 3.2.1

Due to scheduling conflicts, the planned in-depth review of Indonesia's experience in implementing e-TB Manager through a country visit could not take place. Attempts are being made to secure qualitative information via skype calls with Challenge TB project staff.

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

Activity 5.1.1

During quarter 3, SIAPS continued to provide ongoing support to the National TB Program (NTP) in Tanzania to enhance TB medicines quantification capacity. This quarter, SIAPS provided technical support in organizing and facilitating a three-day quantification review meeting which took place in Dar es Salaam April 5, 6, and 8, 2016. The participants included the NTP (three participants), Medical Stores Department (one participant), Pharmaceutical Services Unit (one participant), NACP (one participant), and representatives from John Snow, Inc. (JSI)/SCMS and the MDR-TB facility. The meeting provided an opportunity to review patient targets for 2016 and 2017 based on enrollment trends for procurement purposes, update the TB medicines forecasting conducted in March 2015 based on the revised assumptions, and analyze current TB stock status. In addition, the TB medicines supply plan was updated in line with the actual enrollment trend and current expansion plans and shared with the GDF. A quantification review report was developed and shared with the NTP. The process helped to prevent potential wastage through postponing and splitting some shipments, particularly for second-line TB medicines.

SIAPS also continued to provide technical assistance to Tanzania and Uganda in the implementation of the EWS to prevent wastage or stock-out of TB medicines. TB stock analysis was conducted based on the QuanTB files shared by the two countries in April 2016. Two country-specific medicines availability reports were produced; they formed part of the SIAPS QuanTB quarterly and EWS rollout report submitted to USAID in June 2016. Based on the generated quarterly QuanTB reports, SIAPS worked with Tanzania to make a cross border transfer of RH 60/30 mg and RHZ 60/30/150 mg from Tanzania to Zimbabwe to prevent wastage of excess stocks.

Following the successful launch of the New Funding Model (NFM), the Global Fund organized a three-day regional meeting April 20–22 in Maputo, Mozambique, which brought together GF recipient countries including Ethiopia, Kenya, Mozambique, Tanzania, Uganda, Zambia, and Zimbabwe. These countries are also USAID TB priority countries that currently receive SIAPS direct technical assistance through TB core funding. This meeting was held to provide a forum for sharing experiences and innovative solutions to common challenges in the implementation of the NFM. As a part of SIAPS and GDF's ongoing collaboration in strengthening TB supply chain, SIAPS was requested to represent GDF in this important meeting. Apart from attending plenary discussions, SIAPS was able to participate in the breakout session and contributed to discussions on program management, TB procurement, and supply chain. The meeting also provided an opportunity to interact with NTP managers, GF staff members, and other key stakeholders to discuss possible solutions to challenges related to TB procurement and supply chain management.

In addition, SIAPS was requested by WHO Africa regional office to participate in the Zimbabwe TB Program review held May 30 to June 10, 2016, as part of the external reviewers' team focusing on procurement and supply management (PSM). During the review, a rapid assessment

of TB medicines supply chain and commodities management system was conducted. The process involved interviews with key stakeholders at NTP, DPS, Procurement Coordination Unit, the national medical stores (NatPharm) and health facility levels. The PSM document review was also done which include supply plans, inventory control cards, and summary Zimbabwe Informed Push system delivery reports. Storage conditions were also assessed during the facility visits and at NatPharm stores. Finally, a stock analysis was conducted based on the current patients' enrollment trends and stock levels at NatPharm stores as of May 31, 2016.

Activity 5.1.2

Quarter 3 saw great progress in the economic impact of stock-out activity. The models were refined and underwent , a sensitivity analysis, a draft report was written and reviewed by SIAPS staff members. During a visit to the Philippines in June 2016, SIAPS staff reviewed the model and key assumptions with SIAPS/Philippines staff and the TB Expert Group (including members of the NTP). During this meeting, additional data was collected and changes made to the model. SIAPS and local SIAPS staff presented the findings to USAID/Philippines, which was pleased with the work. USAID requested an updated version of the presentation, which SIAPS prepared with help from local SIAPS staff and the co-researchers and sent to USAID. Finally, a meeting was arranged with the NTP Manager for June 29 in Manila to go over the findings. No work was done on the other country analysis during the quarter, as it was more important to focus on completing the Philippines analysis.

Constraints to Progress

Activity 5.1.2

The only challenges have been the absence of published evidence on some key assumptions and the need to spend more time with the Expert Group to gather their opinions. This is, however, somewhat expected since this is new research.

TB Add-On

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

DRC

During this quarter, SIAPS collaborated with the UNION to provide technical support to the NTP during the quantification exercise for anti-TB medicine needs for 2017. SIAPS also supported the NTP to complete quantification exercises for companion TB medicines for the remainder of 2016 and to develop indicators for supply chain and strengthen the pharmaceutical management in-country.

South Sudan

During quarter 3, SIAPS supported the NTP to generate an EWS report in May 2016; these action points were shared with stakeholders. Among the key recommendations was the immediate initiation of procurement of adult anti-TB medicines that were getting low. No stock-out was experienced during the quarter. In addition, SIAPS provided technical assistance for quantification of MDR-TB medicines required for the initial 40 patients expected to be enrolled for MDR-TB treatment starting in November 2016. Programmatic management of drug-resistant TB program will be based on the WHO approved short-course treatment regimen. SIAPS also provided support to initiate procurement by filling the MDR-TB procurement request form and technical agreement to pave the way for procurement from GDF.

This quarter, SIAPS also drafted a concept note for LMIS. The note is to be used by the NTP to procure services for development of a web- and mobile-based reporting system. The concept note is expected to be finalized during a planned SIAPS senior technical advisor trip from June 27 to July 5, 2016. SIAPS has also developed draft SOPs and simple job aids targeting staff managing TB medicines at the peripheral level. These will be finalized following inputs by the NTP and partners during the planned trip.

Zambia

SIAPS continued to support Zambia to address challenges in TB medicines supply, such as the lack of reliable information for decision making and limited skills in forecasting and quantification. This quarter, SIAPS supported the program to ensure that EWS reports were generated regularly and used to make decisions and overcome challenges that hinder access to TB medicines. Following the quarterly EWS report generated in May 2016, action points were shared with the NTP. The report on monitoring medicines availability was also shared with NTP. Throughout the quarter, SIAPS continued to engage with the NTP to follow up on EWS action points and recommendations of the PSM technical assistance mission to Zambia that was done in March 2016. A follow-up trip is planned in quarter 4 to address the key interventions.

Kenya

During quarter 3, SIAPS supported Kenya to generate and disseminate EWS reports in April and May 2016. These reports were shared with stakeholders during the monthly commodity security committee meeting and members were assigned action points. Some of the key achievements were fast tracking of delivery of pending stocks of second-line medicines, which prevented imminent stock-out of levofloxacin and capreomycin. SIAPS continued to provide technical support to the program to transition to the new pediatric formulations of anti-TB medicines.

From April 15-17, SIAPS took part in a meeting organized by WHO and GDF to provide orientation to field advisors on the new formulations and the support needed by the TB program to transition smoothly. SIAPS also played a key role in supporting the NTP to source funds from TB Alliance to finance the printing of revised pediatric guidelines and conduct sensitizations for health workers.

To improve the country TB LMIS, SIAPS has been providing support to integrate LMIS into DHIS 2. During the quarter, SIAPS took part in two workshops. The first workshop took place May 23–27 during which customization of tools and design of indicator dashboards took place. The second workshop was held from June 20–24, 2016 to pre-test the tools. A nationwide sensitization of pharmaceutical staff is expected to commence next quarter. In addition, SIAPS provided technical inputs to the first draft of pharmaceutical supply management guidelines for Global Fund-supported programs in Kenya. This was done during a workshop conducted in May 2016. The guidelines are meant to improve the procurement and supply management for program commodities.

Nigeria

This quarter, SIAPS provided continuous technical assistance for PSM and programmatic activities for Global Fund and USAID TB projects. Support was also provided to the NTP for planning the introduction of the new pediatric formulation and shorter DR-TB treatment regimens in Nigeria. SIAPS also supported the NTP and partners to use QuanTB for quantification, EWS, and pipeline monitoring to prevent stock-outs this quarter.

Mozambique

This quarter, the NTP and the national warehouse staff have collected data regarding TB cases and inventory to update QuanTB. The NTP conducted the annual quantification meeting for 2017 procurement using QuanTB figures and no support was requested of SIAPS. NTP did not share QuanTB files or supply management information with SIAPS. SIAPS and the NTP are currently discussing what technical support is needed to close out activities.

Myanmar

SIAPS staff resumed regular communication with the NTP and SCMS/Myanmar. Parties agreed on short-term technical assistance for next quarter:

- To review and validate countrywide data required for forecasting and quantification

- To update QuanTB and generate national TB medicines needs for 2017–2018 along with supply management recommendations
- To build the capacity of the NTP staff to use QuanTB
- To identify with SCMS/Myanmar potential counterparts who can continue to support NTP with forecasting and TB commodity management as SIAPS assistance is withdrawn from the country.

Zimbabwe

SIAPS continued to provide technical assistance to Zimbabwe in the implementation of early warning system to prevent wastage and stock-outs of TB medicines. This quarter, a TB stock analysis was conducted based on the QuanTB files shared in April 2016. A country specific medicine availability report was produced and formed part of the SIAPS QuanTB quarterly and early warning system roll out report submitted to USAID in June 2016. Based on the generated quarterly QuanTB report, SIAPS worked with Tanzania and Zimbabwe to make a cross border transfer of RH 60/30 mg and RHZ 60/30/150 mg to prevent wastage of excess stocks in Tanzania and stock-outs in Zimbabwe.

Constraints to Progress

Nigeria

Constraints in Nigeria this quarter included relying on partners for implementation of activities, inadequate number of personnel and central level training to address skill and knowledge gaps for pharmaceutical management, delays in approval and delivery of shipments and delays in carrying out next steps by NTP and partners.

Mozambique

Few local human resources led to a lack of regular data collection to update QuanTB and generate figures for decision making this quarter.

Myanmar

Myanmar faced challenges in communication from the central level NTP to request pharmacists to collect data on inventory to accurately update QuanTB and use the data to make decisions at the national level.

TB Bedaquiline Implementation Program

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

Overall Quarter Progress

Pharmacovigilance Monitoring System

With support from a biostatistician consultant, the pharmacovigilance monitoring system (PViMS) clinical portal testing was completed and analytical portal testing began during this quarter. A draft user manual was prepared and is currently under review by the SIAPS technical team. PViMS version 1.0 was released and training materials are being developed. During this quarter, SIAPS introduced the system to the Pharmacovigilance (PV) committee in Georgia, who then participated in a demonstration of the system. The first training and deployment of the system will take place in Georgia during quarter 4.

Georgia

During quarter 3, the National Center of TB and Lung Diseases issued a ministerial order requiring TB facilities to report serious adverse events to the PV committee. Starting in 2014, at the request of the National TB Program (NTP), SIAPS helped with training TB doctors to build their capacity in adverse event management and reporting, and also to assist with training other essential personnel. Overall, the NTP needs to train about 200 representatives of the TB program, including doctors and other supporting staff from all existing 68 TB facilities countrywide.

Another training planned for the next quarter will consist of two parts—clinical management of adverse events and recording and reporting of adverse events. The clinical management piece will be based on training materials developed by SIAPS and used to conduct clinical management training for select clinical personnel in August 2015. For the adverse events recording and reporting piece, training materials are being developed and should be finalized by the active Drug Safety Monitoring and Management working group during quarter 4. Based on the experience and recommendation of USAID Georgia TB Prevention Project, SIAPS will contract with the Association of Phthisiologists and Pulmonologists of Georgia to provide logistics support for the remaining trainings during quarter 4 of this year.

Philippines

A major achievement of this quarter is that the first patients consented to treatment with bedaquiline and started treatment using bedaquiline provided by the USAID/Janssen donation program. During quarter 3, SIAPS and partners from the NTP and the National Center for Pulmonary Research (NCPR) of the Lung Center of the Philippines (LCP) conducted a three-day clinical training workshop on the introduction of new medicines and novel regimens focused on bedaquiline, delamanid, linezolid, and imipenem. The background, safety data, toxicity and other clinical considerations were outlined for each drug. Other topics discussed included drug-drug interactions, adverse drug events and management, PV, and the SIAPS-developed PViMS. The

workshop featured case studies and real life cases experienced by each of the training sites. The experience of Dr. Francesa Conradie, an expert from One Johnson and Johnson, on the BDQ adoption, implementation, and use in South Africa was shared with the group. Following the training, SIAPS staff and training participants attended a media event for the launch of the Bedaquiline Donation Program in the Philippines, sponsored by Johnson and Johnson. SIAPS is also supporting the NTP and other partners in their work on "Assessment of the Programmatic Approach in the Introduction of Bedaquiline for Drug-Resistant Tuberculosis Treatment in the Philippines: An Operational Study."

Kenya

This quarter, SIAPS worked on developing a bedaquiline clinical guideline document for use at health care facilities. Once the document is ready, the draft will be shared with key stakeholders for wider review.

Uganda

Bedaquiline arrived in Uganda and is awaiting clearance pending the receipt of necessary documents for quality assurance. The clinical guideline document for use at the health care facilities in Uganda has been shared with the NTP and is currently undergoing in-country review and revisions.

Swaziland

Patient enrollment and treatment on bedaquiline is ongoing. To date, about 50 patients have been enrolled on BDQ and delamanid in Swaziland.

Partner Contributions

Georgia

The PV committee at the National Center for TB and Lung Diseases collaborated on implementing PViMS for serious adverse events monitoring and management. In addition, the USAID-funded TB Prevention Project implemented by University Research Co. in Georgia collaborated closely with SIAPS in elaboration of the training plan for adverse events clinical monitoring and recording and reporting. However, this project has ended and an official close-out ceremony was held on June 7, 2016.

Médecins Sans Frontières, France, implementer of the post-marketing program and the endTB observational study, finalized adverse events recording and reporting forms along with the instructions and introduced them to the active drug safety monitoring and management working group for endorsement.

REGIONAL PROGRAMS

LAC AMI

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

Overall Quarter Progress

Seven countries reported stock levels for antimalarials for the January–March quarter. The availability of antimalarials in central warehouses remained at 75%, significantly less than the 85% reached by mid-2015. Some countries are still facing problems with the local procurement of antimalarials. These and other challenges were discussed during the regional AMI meeting in May 2016. Participants proposed and committed to a full adherence to the Pan American Health Organization (PAHO) Strategic Fund (SF) pooled procurement as the only feasible mechanisms to confront this problem.

Objective 1: Pharmaceutical Sector Governance Strengthened

In Colombia, SIAPS visited Cauca and Antioquia to conduct evaluations of the malaria control strategies using an adequacy approach, and held workshops to develop plans to close the performance gaps. In the next quarter, SIAPS will visit three additional departamentos to implement the same agenda. A consolidated technical report will be developed afterwards.
On December 2014, SIAPS supported the monitoring of the performance of the malaria control strategies in nine Brazilian states. The participants developed "gap closure" plans to be implemented during the following 12 months. During the previous quarter, SIAPS collected information to assess the progress. On May 2016, SIAPS facilitated a workshop to present the results of the assessment and develop plans to close the performance gaps. A technical report was drafted and distributed among local counterparts and SIAPS partners.

Objective 2: Pharmaceutical Management Information Available and Used for Decision Making at Different Levels of the Health System

Seven countries reported stock levels for antimalarials for the January–March quarter. During the regional AMI meeting on May 2016, the lower stock levels and concerns that some countries are still having issues with local procurement of antimalarials were discussed. Participants proposed and committed to a full adherence to the PAHO/SF pooled procurement as the only feasible mechanisms to confront this problem. As of mid-June 2016, six countries had submitted their requisitions to the SF. For the next quarter, SIAPS will support the SF to implement all activities leading to a pooled procurement of antimalarials.

Partner Contributions

The presentation and discussion of current problems in access to antimalarials during the AMI Regional Meeting was moderated by PAHO and SIAPS

Objective 3: Pharmaceutical Services Improved to Achieve Desired Health Outcomes

During this quarter SIAPS visited Peruvian departamentos of Ucayali, Piura, and Tumbes to gather information for developing pharmaceutical management standard operational procedures, and for the implementation of good storage practices to reduce the temperature in local pharmacies. For the next quarter, SIAPS will complete a draft version of the standard operational procedures, and will assess the structural improvements to reduce temperature in health facility pharmacies.

SIAPS completed an assessment on the situation of access to malaria treatment in Roraima gold mining areas as the basis for designing interventions. Based on the situation analysis, SIAPS will visit Roraima in the next quarter to discuss, the most feasible interventions to confront the lack of access to malaria diagnosis and treatment in gold mining areas.

During the last quarter, SIAPS supported three regional orientation workshops in Guatemala: Escuintla, Alta Verapaz, and Zacapa, for a total of about 150 people from 15 health regions. During the workshops, the participants from health regions and districts were introduced to posters and guides on managing medicines and supplies for malaria, a reporting system for monitoring availability at the community level, and a procedures manual on management of malaria medicines and commodities. The outcome of the workshop was an implementation plan for each health region to introduce the reporting and monitoring system and the job aids for their community volunteers and their supervisors over the coming months. SIAPS will support the orientation of a new medicines specialist in the malaria program to provide follow-up and support to the health regions.

Additionally, SIAPS supported the malaria program and the health logistics unit to revise the forecast and supply plan for antimalarials and to prepare an order for the PAHO/SF mechanism.

Constraints to Progress

The systematization of interventions to improve access to malaria diagnosis and treatment in Brazil has been delayed because of 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 target West Africa countries.

Overall Quarter Progress

SIAPS and National AIDS Control Program (PNLS) of Togo visited the five pilot sites where the Electronic Dispensing Tool (EDT) is currently implemented to discuss issues users were facing and also to install the new version of EDT. SIAPS also provided technical assistance to the PNLS to prepare and hold the monthly procurement and supply management (PSM) technical meeting, which was focused on assessing the stock status of ARVs and other HIV and AIDS medicines and medical supplies using the OSPSIDA dashboard.

SIAPS worked closely with West African Health Organization (WAHO) and National AIDS Control Commission (CNLS) of Cameroon, which have been identified as final host for the tool, to accelerate the transition process so that it can be accomplished within the timeline set to close out SIAPS activities in West Africa, including Cameroon. SIAPS worked in collaboration with Supply Chain Management Systems (SCMS) to conduct the second phase of the assessment of WAHO's ARV buffer stock initiative.

SIAPS presented OSPSIDA at Word Health Organization (WHO) Francophone Technical Briefing Seminar on Medicine Policy held May 9-13 in Geneva, Switzerland.

SIAPS submitted an abstract entitled "Use of an HIV and AIDS Commodity Management Tool (dashboard) to identify the risk and prevent stock-outs of ARVs in West Africa– the Togo experience" which has been selected for presentation as a poster exhibition at the 21th International AIDS Conference to be held in Durban, South Africa, July 18–22, 2016.

SIAPS attended the Regional Health Office's partners meeting where SIAPS provided input on the USAID Regional Health Office's Project Appraisal Document (PAD) and also presented its strategy to transition OSPSIDA to WAHO.

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

In May, the SIAPS Regional Project Director and two staff from the National AIDS Control Program (Pharmacist Chief, IT Specialist) visited five antiretroviral (ARV) treatment sites where the EDT was piloted. Prior to the site visit, SIAPS reviewed feedback from users and PNLS about the version of EDT which was in use in the five sites and also released in May a new version of EDT that addresses the concerns by PNLS and EDT users about the previous version and also meets PNLS requirements.

SIAPS and PNLS installed the new version in four piloting sites, except at the Hôpital Be where the dispenser who was the sole software user has left.

SIAPS also supported PNLS to develop an Excel Model to automatically convert EDT summary reports from tablet to box as unit of measure as requested by PNLS and EDT users.
SIAPS also assessed quality of data through two indicators —concordance between EDT record and prescription and concordance between stock in EDT and physical count— using the supervisor's checklist conducted in April 2016 by PNLS.

The results showed that the concordance between EDT record and prescription in each of the four dispensing sites was still 100%. The concordance between stock in EDT and physical count has also significantly been improved. In each of the three following sites (Centre Hospitalier Regional Tsevie, Aides Medicales et Charite de Lome, and Centre Hospitalier Universitaire Tokoin), it was 100% compared to 67%, 0%, and 67% from previous supervision, respectively. But the agreement between stock in EDT and physical count at Espoir-Vie-Togo (EVT) decreased from 67% (previous supervision) to 0% (current value). SIAPS advised PNLS to reinforce supervision at EVT to improve quality of data.

SIAPS continued implementing new functionalities for OSPSIDA, including accommodating WAHO security stock. Transitioning OSPSIDA to WAHO to ensure sustainability in West Africa and improve management of WAHO buffer stock initiative. A transition pre-requisite document regarding IT and human resources to manage the tool has been shared with both WAHO and CNLS Cameroon, which is positive step for Cameroon.

WAHO has a server in France which can be accessed remotely and is ready to host OSPSIDA. A checklist of activities to accomplish during the transition phase has been shared with WAHO to keep the transition will be on track. As for Cameroon, despite the fact that CNLS has the necessary IT equipment (server, etc.), the data center is not ready yet.

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

SIAPS assisted an SCMS consultant working on the second phase of WAHO buffer stock assessment to meet and discuss with the Ghana MOH procurement unit head and the head MOH's Central Medical Stores. These two officials were key persons involved in transferring ARVs from Cote d'Ivoire to Ghana when Ghana Central Medical Stores burned down.

SIAPS also assisted the SCMS consultant to travel to Togo and facilitate its meeting with the Central Medical Stores (CAMEG) to discuss the efficiency of WAHO buffer stock initiative. Togo requested assistance from WAHO to get ARVs to avoid stock-outs which happened in December 2014, but this request was unsuccessful as other countries sought and received the WAHO buffer stock.

SIAPS also worked with the SCMS consultant to better understand this strategy of setting physical regional buffer stock to quickly respond to stock-out situations in West Africa before the consultant met with WAHO management to discuss the buffer stock initiative.

The WHO Department of Essential Medicines and Health Products invited SIAPS to participate in its annual French Technical Briefing Seminar, held May 9-13, in Geneva, Switzerland. Over

50 participants gathered from countries including Burundi, Cameroon, the Democratic Republic of Congo, and Mali. SIAPS delivered a presentation entitled *Strengthening Pharmaceutical Management Information Systems for Decision Making: Applications from West Africa*, in which SIAPS shared the program's approach to strengthening pharmaceutical information systems for decision making using OSPSIDA.

From May 23–24, WAHO held its annual partners' meeting during which SIAPS was asked to present its transition and handover of management of OSPSIDA to WAHO. SIAPS' presentation outlined what has been accomplished thus far:

- Setting up transition committee's roles and responsibilities
- Assessing human resources and IT capacities
- Agreeing with WAHO to expand OSPSIDA to the Economic Countries of the West African States (ECOWAS) and include other health products,
- Listing the technical assistance required to fully transition the tool to WAHO

A few challenges still exist such as funds to support transition and placement of technical advisor within WAHO.

Objective 3: Enhance Capacity for Pharmaceutical Supply Management

In preparation of monthly PSM meeting in Togo, SIAPS provided technical assistance to PNLS to review OSPSIDA reports, quantification, and procurement reports; and to identify issues to be discussed in group with all partners involved in HIV and AIDS commodity management.
The review of national stock status as of April 2016 combined with pipeline information provided the following information:

- No stock-out has been reported at the national level
- Three products were in a high risk of stock-out as they had less than six months of stock (MOS). The medicines at risk were efavirenz 600 mg tablets—5.6 MOS; lamivudine/zidovudine/nevirapine 150/300/200 mg tablets—2.3 MOS; and nevirapine 10 mg/ml syrup—5.3 MOS. As for lamivudine/zidovudine/nevirapine 150/300/200 mg tablets, the PNLS decided to switch all patients to tenofovir/lamivudine/efavirenz 300/150/600 mg tablets—this is the reason why no major order has been placed for this product. The other two drugs were part of the list of items to procure which has been transmitted by PNLS to Global Fund's Project Management Unit (UGP).
- Nine ARVs are in medium risk (from 6 to 12 MOS). Orders are already placed for five among the nine ARVs.
- Five ARVs are at low risk of stock-out (from 12 to 24 MOS) and an order has been placed for only tenofovir/lamivudine/efavirenz to prepare the switch since the average monthly consumption will increase as soon as PNLS switched patients to another regimen.
- Three ARVs (darunavir 600 mg/tablet; efavirenz 200 mg/tablet; lopinavir/ritonavir 100/25 mg/tab) are overstocked with risk of expiry.

SIAPS also built the capacity of PNLS to integrate PMTCT medicines and medical supplies into OSPSIDA for close monitoring of their stock status. The new list of items which has been included into OSPSIDA has been approved by the PSM technical committee members.

COUNTRY PROGRAMS

Angola

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

Overall Quarter Progress

During the past quarter, SIAPS continued to support the National Directorate of Medicines and Medical Equipment (DNME) in organizing two meetings of the Logistics, Operations, and Procurement Subcommittee (Sub-Comissão para a Logística, Aprovisionamento e Operações, SCLAO in Portuguese) as the official forum to jointly coordinate activities of all key public supply chain management stakeholders, including the national public health programs, the Central Procurement Agency for Medicines and Medical Supplies (Central de Compras de Medicamentos e meios medicos de Angola or CECOMA), and MOH partners. During one meeting held in April, all the national hospitals were invited to discuss the ongoing yellow fever and malaria epidemics and the generalized stock-out of medicines affecting the entire country, especially Luanda. The MOH communicated an emergency plan to procure some essential medicines and requested that the meeting review the list and quantities of medicines to be included in this emergency order.

Using USAID/PMI funds, the program assisted DNME and CECOMA to initiate preparations for a multi-stakeholder workshop to develop the national pharmaceutical supply chain strategy. CECOMA also organized three senior management meetings to review newly developed key documents, namely CECOMA internal regulations for acquisition of medicines and medical devices, in line with the public tendering statute 20/10 (Regulações internas dos concursos públicos) together with the necessary bidding documents with all the appendices; the annual procurement plan; and the CECOMA quality manual. In addition, in a bid to improve quality in malaria case management reports, the National Malaria Control Program (NMCP) was assisted in conducting formative supervisions and data quality assessments in the 12 health facilities (HFs) in Luanda, Huila, and Lunda Sul provinces.

SIAPS collaborated with the Health Provincial Office of Luanda (Gabinete Provincial de Saúde, GPS) to conduct a five-day training in pharmaceutical management of HIV- and AIDS-related commodities for selected PEPFAR-focus HFs and their respective HIV municipal focal points. Facilitators were from the National HIV and AIDS Control Institute (Instituto Nacional de Luta Contra o Sida, INLS), GPS Luanda, and SIAPS. The same INLS and SIAPS training material was also used by UNDP (the HIV Global Fund Principal Recipient) to capacitate provincial supervisors from the country's 18 provinces. SIAPS collaborated with the organizers in facilitating some sessions. The program also collaborated with NMCP to continue monitoring stock status of antimalarial commodities, submit the quarterly procurement plan and monitoring report (PPMRm) to the global database managed by USAID | DELIVER, and collect end use verification (EUV) data in five provinces. The results will be included in the final planned EUV report. In the reproductive health program, SIAPS collaborated with other local stakeholders in

family planning commodities (UNFPA, CECOMA, and the National Reproductive Health Program [NRHP]) to conduct the physical inventory of all FP commodities, facilitate receipt of UNFPA and USAID donated products, and conduct two site visits in Huambo to improve management of the FP warehouse and the timeliness and quality of FP commodity reporting.

Objective 1: Pharmaceutical Supply Chain System Governance Strengthened

During the reported quarter, SIAPS continued to support coordination among pharmaceutical supply chain stakeholders. In April and June 2016, the program supported DNME to organize two bimonthly meetings of the SCLAO to jointly discuss and identify specific bottlenecks that affect public health supply-chain services. Issues of nationwide stock-outs of key public health commodities were deeply discussed (representatives from all national hospitals participated), especially in light of the ongoing national financial crisis and malaria and yellow fever epidemics. The MOH circulated a list of medicines with quantities that were being proposed as an emergency order for participants to provide their inputs. In addition, the current epidemic of yellow fever was also discussed at large.

A SIAPS senior technical advisor from the home office conducted a four-day workshop to provide on-the-job capacity building in medicine registration systems for DNME staff and to review progress of the medicine registration initiation process in Angola. Insufficient human resources and the absence of a legal framework continued to hamper the planned data collection to identify all medicines imported in the last three years as a starting point for the national medicine registration process.

At the INLS level, SIAPS supported the development of the national standard operating procedures (SOPs) manual for managing HIV and AIDS commodities. A team was set up to develop this manual, and key representatives of HFs were invited to provide their input at a one-day workshop. Once the manual is finalized and approved by INLS, the program will assist in disseminating it in the nine PEPFAR-supported HFs in Luanda.

Through short-term technical assistance provided by a SIAPS principal technical advisor and a local consultant, the program assisted CECOMA and DNME to prepare for a three-day national stakeholders workshop to develop the national pharmaceutical supply chain strategy that will serve as a guiding document to identify and prioritize issues in the pharmaceutical supply chain. Efforts were made to build the necessary ownership of this strategy by the Government of Angola and its partners through high-level advocacy meetings with MOH senior officials, other ministries that are involved directly or indirectly in the pharmaceutical supply chain, United Nations agencies, donors (including USAID, the World Bank, and the Global Fund), the private sector, and other implementing partners, such as Population Services International (PSI) and World Vision. The Minister of Health personally supported this activity and appointed the secretary of state for health to follow through to ensure its finalization and implementation.

Partner Contributions

- DNME: leadership role in organizing SCLAO meeting and other meetings to advocate for strengthening medicine regulatory systems

- DNME and CECOMA: coordination role in the preparation of the national pharmaceutical supply chain strategy development stakeholders workshop
- INLS: coordination role in the development of the SOPs manual for managing HIV and AIDS commodities

Constraints to Progress

- Low participation of public health programs in SCLAO meetings
- Competing MOH priorities

Objective 2: Local Capacity for Pharmaceutical Management Enhanced

During the last quarter, SIAPS assisted DPS Luanda to organize a five-day training on HIV and AIDS and the pharmaceutical management of HIV and AIDS commodities. In total, 31 participants from eight PEPFAR-supported HFs, municipal focal points, and DPS Luanda were trained. At the end of the training, participants had updated their knowledge on the biological cycle of HIV, the pathogenesis of AIDS, ART, and monitoring patients living with HIV and were able to describe the pharmaceutical management cycle of HIV and AIDS products. They had mastered the use of product management tools, learned about the importance of pharmacovigilance in HIV patient management and good dispensing practices, and acquired the necessary skills to improve pharmaceutical management practices in their specific work settings. Facilitators were from INLS, SIAPS, and GPS Luanda.

SIAPS continued its mentoring program in all HFs that have been selected to receive direct support from PEPFAR (except Hospital Pediatrico de Luanda) to address issues in the pharmaceutical management of HIV and AIDS commodities. The mentoring team continued to monitor stock levels of these commodities, to support the pharmacy team in dispensing ARVs, implementing stock cards in HF warehouses and the weekly ARV consumption forms in HF dispensaries. This has resulted in more transparent and reliable stock data, which results in improved monthly logistics reports and more accurate requisitions.

The program continued to second a full-time consultant to CECOMA to finalize all the necessary documents and tools to build the warehouse's institutional capacity, as well as the staff's capacity as individuals, in line with best medicine procurement practices and in accordance with current public procurement regulations and procedures. CECOMA organized a senior management meeting to review and validate these documents.

Partner Contributions

- INLS and DPS Luanda: in the preparation and conducting of HIV and AIDS and pharmaceutical management training
- CECOMA: in the current consultancy in developing some guiding documents in medicine procurement
- Management in selected PEPFAR-focus HFs: for coordination in the SIAPS mentorship of their pharmacy staff

Constraints to Progress

- Insufficient skilled human resources at CECOMA and HFs
- Poor dispensing conditions in some HFs and poor storage conditions for pharmaceutical products
- Bureaucratic hurdles/challenges that have delayed initiation of support to the Hospital Pediatrico de Luanda
- HF staff still facing difficulties in independently using pharmaceutical management tools in the absence of SIAPS
- Inadequate internal supportive supervisions to reinforce the use of pharmaceutical management tools

To address these constraints, SIAPS is advocating for HF management to avail additional staff, improve storage conditions for HIV and AIDS commodities, and conduct more internal supportive supervision and mentoring.

Objective 3: Information for Pharmaceutical Management Decision Making Improved

SIAPS continued to support the NMCP in compiling all provincial reports through malaria provincial supervisors to ensure regular updates of the NMCP database for case management and logistics data that is compiled at the national level. At the same time, feedback on their reports is being sent to all 18 provinces to improve the completeness and quality of the reports. These data were shared with the PMI team, including CDC, to quantify the increase in simple and severe malaria cases and associated deaths, especially in Luanda. In the same quarter, SIAPS facilitated site visits at selected HFs to conduct data quality assessments and to improve the staff capacity in data collection and reporting. The visited HFs include five in the province of Huila, five in Lunda Sul, and two in Luanda (Hospital Kapalanga and Hospital Municipal do Cacuaco).

EUV data was collected and analyzed in 44 HFs, including provincial and municipal warehouses, to provide a snapshot of the availability and use of antimalarial products. The program used for the first time an electronic collection tool called SurveyCTO. During this exercise using electronic data collection tool, health facilities were coded and their geographical coordinates recorded automatically to show that the team reached the area. This approach made data compilation and analysis much easier and faster.

The program completed and submitted one quarterly PPMRm in April 2016, after collecting stock information from national and provincial levels. This stock analysis allowed NMCP and CECOMA to mobilize necessary resources to address the generalized stock-out of antimalarial products, among other health commodities.

The program assisted the NRHP in receiving some donations from UNFPA and USAID. In total, 43,920 cycles of Microlut, 126,000 cycles of Microgynon, and 57,600 Noristerat+Soloshots, 4,874,400 male condoms, and 8,880 Norlevo have been donated by UNFPA. USAID donated 491,400 cycles of Microgynon, 97,200 cycles of Microlut, and 97,200 ampoules of Depo-Provera. A meeting was held with the newly appointed director of the National Public Health

Program, together with the NRHP coordinator to discuss the importance of involving their staff in SIAPS activities to ensure sustainability after SIAPS closes out. A distribution plan is being prepared based on the available stock at the provincial level and the size of their target population to use these commodities. SIAPS worked also with UNFPA and CECOMA to conduct three monthly stock takes of FP commodities. CECOMA has become more consistent in the use of stock cards, compared to the past when physical counts did not usually correspond to the recorded quantities.

Finally, the program assisted the eight PEPFAR-supported HFs and the provincial warehouse of Luanda to compile and submit their monthly logistics reports for ARV products and other HIV commodities and to do their requisitions.

Partner Contributions

- NMCP and provincial malaria teams: coordinated data collection of malaria case management and monthly stock status
- UNFPA, CECOMA, and NRHP: conducted physical inventory of FP commodities
- NRHP: analyzed provincial monthly reports of FP commodities and their use

Constraints to Progress

- Delays in sending monthly reports from the provinces due to unreliable, intermittent internet connectivity and not using collected data in monitoring and/or informing decisions to improve the provinces' daily activities
- Lack of recognition of the importance of validating data at the HF level to minimize reporting inconsistencies and improve the quality of the data
- Staff shortages, resulting in not using the proper patient registers and stock cards at the HF level to capture all EUV indicators
- Remote collection of stock status data by telephone or email limits the possibility of validating these data for PPMRm through field visits
- Insufficient human resources at NMCP, NRHP, and CECOMA due to the current national financial crisis

SIAPS will continue to advocate for adequate staffing at the national public health program levels and to collaborate and capacitate the available staff to sustain the gains of SIAPS interventions. The mandatory use of pharmaceutical management tools at all levels will also be reinforced by supportive supervision and mentoring inside the HFs. SIAPS is also organizing targeted field visits to support provincial teams that are having challenges in producing quality and timely reports.

Objective 4: Pharmaceutical Service to Achieve Desired Health Outcomes Improved

During the reported period, the program worked with different HFs and other PEPFAR implementing partners in coordination with INLS and DPS Luanda to improve the availability of HIV and AIDS commodities. Following training of the HF pharmacy staff, some facilities have

authorized the dispensing of ARTs from the pharmacy to reduce the burden of HIV and AIDS services and to mitigate the stigma associated with patients going to a specific HIV service every time they come to refill their medicines. This has tremendously improved patient flow inside hospitals because a stable patient no longer needs to go to the clinician every time a refill is needed. At Divina Providencia Hospital, Ana Paula Health Center, and Kilamba Kiaxi Hospital, ARVs are now managed by the pharmacist together with other medicines, while the clinical and nursing staff focuses on routine patient-care duties. This has allowed proper management of HIV and AIDS commodities. During the same period, some products were at high risk of expiring because their procurement was not based on real consumption data, which is still a big challenge for quantification. SIAPS facilitated exchange of products to mitigate stock-outs in HFs with high needs and to prevent expiration and wastage due to overstocking of supplies with short remaining shelf-life in others. Some facilities were also advised to discontinue use of TDF/FTC/EFV which has a distant expiry date and use its clinical equivalent, TDF/3TC/EFV, instead, which was about to expire. The program also supported the active distribution of male condoms by HF pharmacies. The program also worked directly with the HFs and the provincial warehouse of Luanda to prepare their quarterly requisitions and supported distribution of these products to HFs that were short or did not have proper means of transport available.

With regard to malaria commodities, the program supported stock-level monitoring and participated in advocacy meetings to mobilize necessary resources to address a generalized shortage of antimalarial products. SIAPS also facilitated the receipt of antimalarial products donated by PMI/USAID and distribution to eight selected provinces with high needs. The program continued to advocate with CECOMA, NMCP, PMI, and Global Fund for the official establishment of the national quantification technical working group for antimalarial commodities as a mechanism to improve stakeholder coordination and supply planning and avoid duplication of efforts.

Partner Contributions

- INLS, DPS Luanda, and selected HFs in the active distribution of selected HIV and AIDS commodities to avoid wastage due to imminent expiration
- NMCP in stock monitoring of antimalarial commodities

Constraints to Progress

- Continuous gap between quantities of supplies needed by HFs and what is actually issued and distributed by the central and provincial levels because of poor stock management at the HF level, insufficient stock at the national level, and the lack of reliable data on consumption (poor logistics reporting and requisitions)
- Inadequate human resources in the HFs to work with SIAPS mentors: occasionally SIAPS mentors take on more workload than they should in the pharmacy because the local staff have competing HF tasks
- Less involvement of HF management in the pharmacy area (pharmaceutical management)
- Use of a "push" commodity management system (rather than using a customer-driven "pull" system, based on the real needs of HFs and provinces) for malaria commodities, especially

when the country does not have enough stock, which is resulting in under- or overstocking at user facilities

Bangladesh

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

Overall Quarter Progress

Stewardship in the Ministry of Health and Family Welfare (MOHFW) is the essence of good government and encompasses the task of defining the vision and direction of health policy, exerting influence through regulation and advocacy, and collecting and using information (World Health Organization, 2000). The country's strategic investment plan (SIP) is going through its final revision to ensure approval before the end of 2016. This document emphasizes that stewardship is critically important to oversee maintaining optimum availability of essential medicines and family planning contraceptive in the country, especially through the procurement and supply functions in the ministry and other involved entities.

SIAPS started working to set up Procurement and Logistics Management Cell (PLMC) as an overarching body of procurement and supply chain functions in the MOFHW and its' key entities. The cell was formed in August 2012 and was functioning well with Government of Bangladesh (GOB) officials deputed from different ministries. However, the challenge was to create permanent staff positions for PLMC, and SIAPS worked hard to organize several workshops and regular meetings with the MOHFW officials to take this issue to the concerned ministry. In this quarter, SIAPS efforts and advocacy finally generated results as the Ministry of Public Administration approved new permanent positions for the MOHFW, including several slots for PLMC. It is a big achievement for SIAPS, as well as for the sector development plan, the Health, Population and Nutrition Sector Development Plan, to create permanent positions for a cell which would lay the ground for functional and sustainable PLMC.

There was much activity in the condemnation process this quarter as a total 27 health and family planning facilities condemned their unusable items and have recovered approximately 94,040 cubic feet space for storing valuable items.

SIAPS has been providing continuous effort to enhance the functionality and applicability of Upazila Inventory Management System (UIMS). The latest updated version has been rolled out in 488 upazilas with minimal cost in this quarter. Field-based technical advisors organized trips to the districts and provided a technical session with all users and installed the updated version. The effort resulted in 97% accurate and timely logistics reports in the system for Directorate General of Family Planning (DGFP) and reduced stock-out rates of less than 1%.
The other implementing partners of USAID are increasing their use of SIAPS electronic supply chain systems. Recently, SIAPS, together with Engender Health, Bangladesh Knowledge Management Initiative, DGFP, and USAID, developed a national strategy for distributing social behavior change communication (SBCC) materials which will eventually be tracked by the electronic logistics management information system (eLMIS)/supply chain management portal (SCMP) at the upazila level.

The ALFA version of asset management system developed and was tested in one district. SIAPS, the World Bank (WB), and GOB officials visited the district and checked the functionality. The

WB attached a disbursement-linked indicator (value: USD 10M) on the pilot of an asset management system in Moulvi Bazar for November 2016.

SIAPS organized five knowledge sharing sessions for 95 officials of Directorate General of Drug Administration (DGDA) and pharmaceutical companies on how to review common technical documents (CTD), as the companies will be required to submit these with their online applications through PharmaDex to register medicines online. DGDA took over the ownership of PharmaDex, and in this role, will review all online applications to ensure that they comply with medicine registration requirements. Currently, DGDA is selecting the relevant pharmaceuticals company for the beta testing of this new online application system.

As part of capacity building, during this quarter, SIAPS provided training to 492 officials from different directorates and the ministry officials on pharmaceuticals systems strengthening.

Objective 1: MOHFW Supply Chain Management Systems and Component Procuring Entities Strengthened

SIAPS achieved a milestone success this quarter in that the Ministry of Public Administration (MOPA) approved several new permanent positions for the MOHFW, including seven permanent positions for PLMC. It was a long pending issue with the MOPA and other ministries. SIAPS formed the cell and started advocating with the MOHFW to make it a permanent set up. SIAPS has worked to get these permanent positions at the PLMC to ensure a sustainable PLMC for the MOHFW. The SIAPS technical adviser in the PLMC has provided numerous opinions on different procurement issues raised in the MOHFW to strengthen the procurement process. PLMC endorsed the SCMP's sustainability plan and its related tools, technologies, and methodologies. SIAPS organized a five-day IT training for 11 MOHFW officials in the last quarter, and MOHFW then requested that SIAPS provide further training for the same officers to build confidence and enhance their knowledge and skill on SCMP management.

The PLMC is reviewing the updated Pricing Guide (table of equipment), which had been submitted to MOHFW in the last quarter. In addition, a SIAPS process report on Pricing Guide draft has been reviewed by HQ and is back with SIAPS for finalization. The PLMC has given feedback on the draft table of equipment of 500 beds. SIAPS worked on the feedback provided by the PLMC and resubmitted the draft to PLMC on June 18, 2016. Meanwhile, HQ has vetted the process report of the draft table of equipment of 10, 20, 50, 250, and 500 beds hospitals. The next step involves printing the table of equipment, and orient health managers, clinicians, procuring entities, operational Line Directors.

As part of continuous improvement of the UIMS, SIAPS acted as a central collection point for required information from GOB and consolidated the information into reports to allow regular users easier and faster access to data needed for decision making. Accordingly, SIAPS updated the UIMS and further rolled out to 488 upazilas through district base technical sessions. Accordingly the reporting rate (based on timeliness and completeness) has reached 97% (N = 488) using the UIMS and warehouse inventory management system (WIMS).

Management of unusable and unserviceable items at the various health facilities is a big challenge for Directorate General of Health Service (DGHS). During this period, SIAPS provided technical assistance to the GOB officials for condemnation efforts in 6 DGFP stores and 21 DGHS health facilities which have recovered approximately 94,040 cubic feet space for practicing good warehousing system. SIAPS was able to convince the Director of Barisal Medical College—one of the biggest medical colleges in the southern Bangladesh—to condemn most of the unusable items.

SIAPS facilitated the first ever basic logistics management training for Central Medical Store Deport (CMSD) supply chain related officials on March 31, 2016. A total 23 supply chain-related officials including the director, additional director, desk officers, and store keeper participated in the training. The participants developed a post-training action plan to follow for the better warehouse management in CMSD. SIAPS also facilitated a coordination meeting for CMSD senior managers to discuss further actions for continuing to improve the CMSD.

As a good example of partnership, SIAPS along with Engender Health, Bangladesh Knowledge Management Initiative, DGFP, and USAID developed a national strategy for rational distribution of SBCC materials using DGFP existing distribution channels. After several discussions, the pertinent partners decided that SBCC line items will be tracked at upazila level and will be incorporated in eLMIS/SCMP.

In this connection, the Director of Information, Education and Motivation (IEM) requested that SIAPS orient staff on information, education, and communication/behavior change communication materials. On April 4, 2016, SIAPS successfully disseminated the results of "District-Level Assessment of Pharmaceutical Management of Life-Saving RMNCH Commodities: Lakshmipur, Bangladesh" through a national session. SIAPS, in partnership with Save the Children, made a presentation on the availability of key RMNCH commodities in given MOHFW health facilities. Also covered was the need for standard operating procedures and standard treatment guidelines required for clarifying the roles and responsibilities of the service providers and making maternal lifesaving commodities available at service delivery points. SIAPS conducted a system study and finalized the customization/configuration of a health information system (HIS) for the Khulna Shishu Hospital (KSH). The web-enabled HIS tool has been used for lab testing and planned for real-time implementation in June. This tool has the potential to improve real-time, patient-reported data for augmenting clinical decision making. Based on an USAID request, SIAPS has developed an "Enhancing Quality of Referral Care for Newborn and Children in Southern Part of Bangladesh: Action plan for systems strengthening of KSH and staff's capacity building." The draft plan recommended a rapid appraisal visit for Prof. Mohammad Shahidullah and SIAPS-led health system strengthening team on May 13 to Khulna and Kustia.

Using QuanTB, SIAPS team members successfully performed forecasting and quantification for first-line TB drugs; the order was eventually submitted to Global Drug Facility (GDF) on April 19, 2016. Second-line drugs were not included in this order because of an adequate supply of multidrug-resistance (MDR) drugs in the country at the time to cover a 20-month regimen. However, based on future recalculation of the new regimens, additional orders for MDR drugs

need to be submitted. The expansion of e-TB Manager in all MDR sites has been providing real-time complete patient data.

SIAPS conducted a procurement and supply management (PSM) working group meeting in April. According to a PSM decision, SIAPS worked with the newly appointed PSM expert to understand hands-on quantification techniques.

Last quarter, SIAPS introduced a drug utilization review (DUR) system in three chest disease (CHD) hospitals (National Institute of Chest Disease Hospital (NIDCH), Dhaka; CDH Sylhet, and CDH Khulna) and disseminated three months of DUR data to the relevant stakeholders. To sustain the DUR process, SIAPS oriented 15 participants from the three CDHs, the national TB program, NTP, and the World Health Organization (WHO) on June 5, 2016, on DUR data collection instruments and process. The stakeholders will collect additional data for six months (May–August 2016) and will disseminate findings to further improve the national DR-TB program.

The SIAPS TB team visited six upazila health complexes in four districts and two CDHs for two different DR-TB sites to monitor the performance of the electronic recording and reporting system and review how well the sites work with the system. SIAPS TB Team arranged a meeting with USAID for sharing the updated DR-TB patients' data in e-TB Manager.
The DGHS' Integrated Management of Childhood Illnesses (IMCI)-New Born (NB) and Bangladesh Neonatal Forum (BNF) organized an Emergency Triage Assessment and Treatment and Sick Newborn Care Training for Nurses in Bangabandhu Sheikh Mujib Medical University May 15–19, 2016. SIAPS coordinated the five-day training of two senior staff nurses from KSH.

Partner Contributions

KSH has agreed to hire a new IT person to operationalize the HIS system.

Constraints to Progress

- The MOH takes a long time to review and approve SIAPS policy documents.
- Delay on getting MOH approval for the Table of Equipment 500 bed pricing guide, condemnation, etc.
- Frequent turnover of procurement desk officers and director and other senior staff at CMSD makes it difficult to handle the amount of work involved with procurement in CMSD/DGHS.

Objective 2: Systems for Evidence-Based Decision Making Established

SIAPS Bangladesh participated in the first Inter-Country Conference on Measurement and Accountability for Health held on April 26–28, 2016, in Dhaka, Bangladesh. The event was organized by WHO, USAID, Deutsche Gesellschaft für Internationale Zusammenarbeit, the Asia e-Health Information Network , and MOHFW.

Based on the guidance from the WB and USAID, SIAPS has configured the ALFA version of asset management system and tested its functionalities in Moulvibazar district. SIAPS shared the lessons learned with USAID officials and gathered input to improve the system and policy

guidance. SIAPS also presented the asset management system at the Donors Consortium meeting to gain consensus on the next steps. The WB put a disbursement linked indicator- DLI (Value: USD 10M) to MOHFW on a pilot of asset management system in Moulvi Bazar by November 2016.

SIAPS organized technical sessions with professionals from the MOHFW, DGHS, Bangladesh Medical and Dental Council (BMDC), the technical working group (TWG) for logistics reporting and tracking systems for MNCH priority commodities, and the National TWG for Newborns in April. The technical session focused on the updates of the eLMIS implementation in five districts and lessons learned from introduction of eLMIS for tracking priority MNCH medicines. Among the participants, the Program Manager, IMCI suggested to scale up nationwide so that decisions related to forecasting, procurement and supply chain management of live saving MNCH commodities can be made based on real time data. After the live demonstration on the DHIS2 and SCMP, the Additional Director General of DGHS suggested to create a feature to drill-down up to community clinic level for tracking the stock position of priority MNCH medicines.

During this quarter, SIAPS has effectively streamlined the master facility list for DGHS eLMIS data collection points to align with DHIS2 platform. SIAPS also incorporated the reports and updated the dashboard in SCMP.

At the same time, SIAPS has enhanced the current UIMS with newer features and upgraded to UIMS V3.5; rollout of the new version is underway.

An analysis shows that 100% (N = 488) of total sites (sub-districts) are maintaining high quality data standards (completeness and accuracy) as of April 2016; of which 97% sites have uploaded reports on time. Also, the stock-out rate for contraceptives at the SDP level has remained less than 2% for last couple of quarters. DGFP has been able to keep the stock-out rate at the low SDP level with the use of the dashboard; another routine follow-up analysis showed reduction in stock-out rates for contraceptives at SDP level from 1.22% in January 2016 to 0.94% in April same year, representing 0.26% decrease.

With the technical support from SIAPS, NTP rolled out e-TB Manager to 254 sites (reached 218 upazila health complexes) including six GOB DR sites in Bangladesh. SIAPS assisted NTP to introduce a surveillance calendar in January 2016 to monitor and improve data quality. NTP reviews the e-TB Manager generated patient data on weekly basis (following the surveillance calendar) and identifies inconsistent data, i.e., gaps in individual patient data (incomplete/missing data) and send back to the field for taking corrective measures. Since inception of the surveillance calendar), the accuracy of patient data has significantly improved (132 cases in epidemiological week 1 versus 14 cases (which were found to have data quality issues) in week 18).

SIAPS conducted an e-TB Manager user experience survey via email with NTP that revealed that 74.3% of respondents (n=149/203) are satisfied with e-TB M. 72% of respondents agreed that e-TB Manager helps in patient case management while 56.4% agreed strongly with this

comment. Also, 71.8% of respondents agreed that their workplace productivity improved because of e-TB Manager while 78.7% of respondents agreed that e-TB Manager is reliable. The first quarter of 2016 e-TB Manager site performance analysis shows that 83% (n = 255) of total sites are maintaining the data quality standard according to "A" category (the difference in the number of registered cases between paper-based TB card and electronically-generated reports are equal or less than to 5 cases).

The International Conference for Family Planning 2016 decided to join the DGFP for the campaign on "Take Stock" Initiative. SIAPS assisted DGFP to determine the commitment targets to eliminate stock-outs of family planning commodities by utilizing the SDP dashboard module under SCMP/eLMIS.

Partner Contributions

SIAPS organized a successful national technical session with professionals from the MOHFW, DGHS, Bangladesh Medical and Dental Council (BMDC), Technical Working Group (TWG) for logistics reporting and tracking systems for MNCH priority commodities, and the National TWG for Newborn on April 4, 2016.

Constraints to Progress

The NTP is not ready to take over the responsibility of e-TB Manager, so the preparation for the transition plan for e-TB Manager is delayed.

Objective 3: Pharmaceutical Regulatory Systems Strengthened

SIAPS provided on-the-job training to 22 DGDA officials on medicine registration to effectively deploy PharmaDex and to adopt the CTD-based medicine dossier submission in DGDA. Four workshops were organized (73 participants) with practical session for DGDA officials and pharmaceutical companies on how to review CTD-based medicine dossiers through PharmaDex and their functional roles in PharmaDex. Also as a part of the positioning of PharmaDex, a user/applicant request form was developed for DGDA, which has been sent to 40 pharmaceutical companies to collect information to build the necessary database required to launch the system. Additionally, two standard operating procedures for the applicant and for DGDA staff has been developed that will be used as a work aid in conjunction with the PharmaDex user manual. Two workshops have been conducted for the established master trainers on how to design capacity development plan for all the stakeholders to achieve sustainable capacity building results. The CTD guidelines and other training resource package were provided to them. The next step for piloting PharmaDex will involve DGDA sending out an official letter to selected manufacturers requesting them to submit CTD-based applications for the registration of medicine through PharmaDex.

At the request of USAID, SIAPS has been coordinating with USAID's Promoting the Quality of Medicines (PQM) to initiate assistance to the National Control Laboratory of Bangladesh located in Dhaka and Chittagong. This will compliment SIAPS' ongoing technical assistance to the DGDA in the area of quality testing (pre- and post-approval) government-procured drug

samples. SIAPS collaborated with PQM to conduct an assessment of the NCL from April 8-25, 2016. SIAPS specifically worked with PQM to ensure that any future activities do not duplicate SIAPS activities; PQM's future work plan will reinforce SIAPS' assistance to DGDA. This collaboration has led to USAID's commitment to continue SIAPS technical assistance to the DGDA to strengthen the technical capabilities and sustainability of DGDA and the laboratories. As a follow up, SIAPS will review the draft of the laboratories assessment report when it has been completed by PQM.

With SIAPS technical assistance, the DGDA Adverse Drug Reaction Monitoring (ADRM) cell has made significant progress in strengthening their adverse event reporting system. As a part of the activities, SIAPS and the ADRM cell frequently organize joint visits to public medical college hospitals to promote PV awareness and two hospitals were reached this quarter. Between January and April 2016, more than 200 reports have been received from the 30 public and private hospitals. A technical session of the Adverse Drug Reaction Advisory Committee (ADRAC) Sub-Committee was facilitated on June 5, 2015, to analyze 108 adverse drug event reports. These reports will be further validated by the full committee in the next technical meeting planned for July 2016. SIAPS continues to provide assistance for the optimal functioning of ADRM cell and therefore, sponsored an ADRM cell staff member and another member to attend the 18th international PV training course organized by the WHO Uppsala Monitoring Center held in Uppsala, Sweden, May 16-27, 2016. The training course focused on learning and collaboration, acquisition of theoretical and practical knowledge, and skills essential to continue to develop PV. Finally, to communicate to the public on the progress made in strengthening PV system and convey medicine safety news, the first PV newsletter is in the final stage of publishing to be distributed to health care professionals by the end of June 2016.

Partner Contributions

DGDA organized the training for PharmaDex.

Constraints to Progress

Continuous challenges with the senior managers of DGDA on using computers, including skills and time.

Benin

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

Overall Quarter Progress

The SIAPS Program provided technical assistance to the Ministry of Health's (MoH) Department of Pharmacy and Medicines (DPMED) to organize the semi-annual National Procurement and Supply Management Committee (*Comite National d'Approvisionnement des Produits de Sante* – CNAPS) workshop. The event, which is a high-level platform to discuss supply chain-related issues in Benin, enabled SIAPS to obtain approval from CNAPS for its national supply chain assessment and strategic planning.

SIAPS held a series of meetings with various partners to agree on priority interventions that would strengthen pharmaceutical systems in Benin and identify areas of collaboration to avoid duplication of efforts.

Objective 1: Enhance the Capacity of Benin's MoH for Effective Pharmaceutical System Management

SIAPS provided technical assistance to DPMED to conduct a national supply chain assessment in August 2015. SIAPS presented the results of that assessment to a large group of CNAPS member stakeholders. The presentation focused mainly on the assessment methodology, key findings, and recommendations to strengthen supply chain management of health products. This presentation was coupled with another that focused on a five-year (2016–2020) national strategic plan to address supply chain-related issues that were identified in the SIAPS assessment and/or previous studies.

After the SIAPS presentation, participants were divided in three groups and tasked with reviewing the national supply chain assessment and strategic planning. Comments from each group were presented at the plenary session.

All participants validated the key findings and recommendations of the national supply chain assessment as well as the 2016–2020 strategic plan. Participants agreed on next steps of budgeting and organizing stakeholder meetings for resource mobilization.

SIAPS also presented activities to strengthen supply chain management as agreed upon with USAID in the FY16 work plan. The objective of this presentation was to inform partners about SIAPS key interventions through the end of the project to seek opportunities for collaboration and avoid duplication of efforts among partners.

This desire for collaboration guided SIAPS to hold individual meetings with key partners (DPMED, Agence de Medicine Preventive, and the USAID-funded ARM3 and ANCRE Program) about SIAPS-supported interventions to identify accomplishments and next steps. As an immediate outcome of these consultations, SIAPS developed a detailed matrix that indicates

the status of each activity, the remaining tasks, the responsible party, the timeline for implementation, and partnerships. This activity matrix has been shared with USAID.

Benin Ebola Portfolio

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

Overall Quarter Progress

The SIAPS Program provided technical assistance to the Ministry of Health's (MoH) Commission to respond to the Ebola outbreak through the Pharmacy and Medicines Department (DPMED) by quantifying Ebola and other hemorrhagic fever commodities, including Lassa fever. This quantification exercise was coupled with capacity building of the national quantification committee and led to a list of Ebola- and other hemorrhagic fever-related products. SIAPS also met with the USAID-funded Advancing Newborn, Child, and Reproductive Health (ANCRE) Program to discuss opportunities to collaborate and maximize efforts to strengthen Ebola commodity management at the peripheral level.

Objective 1: Enhance the Capacity of Benin's MoH for Effective Pharmaceutical System Management

SIAPS provided technical assistance to the MoH's Directorate of Pharmacy, Medicines and Laboratory to organize a three-day quantification workshop on Ebola- and Lassa fever-related commodities.

The workshop included participants from major health programs (HIV/AIDS, TB, malaria, FP/RH, immunization); the National Blood Transfusion Agency; and central medical members of the National Procurement and Supply Management Committee (*Comite National d'Approvisionnement des Produits de Sante*). Other national institution members of the Ebola Response Commission created by the MoH and its partners, including the World Health Organization and other USAID-funded projects, also attended the meeting.

The first day of the meeting was dedicated to an overview of quantification. Participants learned the definition of quantification, including forecasting and supply planning; the use of quantification software; quantification methods; data collection and validation; and how to make assumptions when performing quantification. Participants were also made aware of indicators of both good and bad quantification (stock-outs and overstock) that can result from the use of inaccurate data. Finally, participants learned about the characteristic of health products that could be quantified, including Ebola-related commodities.

The remaining two days of the workshop were dedicated to the quantification of Ebola-related commodities. After agreeing to a list of key Ebola interventions related to prevention, diagnostics, and care and treatment by site category (Ebola treatment center, isolation room,

national laboratory, entry points [borders], and rapid intervention team), participants reviewed the list of items to consider for quantification purpose and determined the usage rate for each item depending on the site category. This exercise will help SIAPS complete the Excel model that was developed to determine quantity per item and cost.

Participants agreed that the immediate next step would be to have a large group of stakeholders validate the quantification.

A meeting was held with the ANCRE Program and led by its Chief of Party in Benin. SIAPS and ANCRE agreed to leverage efforts to support activities related to Ebola supply chain system strengthening, such as conducting an inventory of Ebola commodities from the central and low levels; building capacity in Ebola commodity management; strengthening the storage, distribution, and logistics of Ebola commodities; and management information systems. Through DPMED, SIAPS will provide technical assistance and ANCRE will provide financial support to assist the Ebola commission to accomplish these activities.

Burundi

Goal: Contribute to a 75% reduction in malaria-related morbidity and mortality Burundi by 2017

Overall Quarter Progress

After a year of civil unrest, the security environment in Burundi improved this quarter. However, the country has challenges ensuring access to donor funding because access to foreign currencies, including US dollars, is not currently allowed. The security of malaria commodities that are not directly procured by donors or partners is still at risk; the upsurge of malaria during the rainy season caused a considerable decline in the stock levels of malaria commodities funded by donors, according to the end use verification (EUV) survey conducted in March 2016.

In collaboration with the Leadership, Management, and Governance (LMG) Project, SIAPS assisted the National Malaria Control Program (PNILP) in strengthening the capacity of PNILP staff in the use of required TOMPRO software for financial management of the Global Fund grant. The workshop enabled the configuration of the software to accommodate the PNILP's action plan as well as formats that will generate financial reports required by the Global Fund. SIAPS assisted the PNILP to organize the celebration of World Malaria Day, the theme being "End Malaria for Good."

To ensure uninterrupted availability of malaria commodities, SIAPS assisted the PNILP in clearing and receiving of 715,300 ACT treatments purchased by PMI. Although obtaining planned quantities of ACTs for FY16 has been achieved, SIAPS assisted the Malaria Commodity Security Committee in reevaluating the gap based on current epidemiological and stock-level data. This analysis led to more emergency orders to cover the gap due to an increase in malaria cases of 53%. In the coming quarter, PMI plans to deliver 2,549,143 ACT treatments and 30,412 rapid diagnostic tests (RDTs), and the Global Fund expects to avail 2,667,100 treatments.

SIAPS completed training for 409 persons in 12 health districts on the new Logistic Management Information System (LMIS) manual and formats. This quarter, 145 persons were trained, including 24 district-level trainers and 121 health center level health-and-stock managers. SIAPS trained 14 PNILP staff in advanced Excel and in epidemiological surveillance. The training equipped PNILP staff with the ability to analyze malaria epidemiologic and logistic data for decision making and use it to set up epidemic thresholds.

SIAPS completed and submitted the report for the EUV survey conducted in March 2016 and the procurement planning and monitoring reports for malaria commodities (PPMRm).

For malaria services, SIAPS worked with the PNILP to scale up and complete trainings of health care providers on the intermittent preventive treatment in pregnancy (IPTp) strategy. So far, 846 workers at the health center level have been trained to implement the strategy in 13 provinces. To promote early detection and treatment of malaria among children under 5 years of age to reduce mortality related to malaria, SIAPS continued to collaborate with CARITAS Burundi in assisting the PNILP to scale up integrated community case management (iCCM) in Burundi.

Thus far, 212 community health workers (CHWs) have been trained and equipped to start treating malaria in three of five health districts planned for FY16. Two health districts started reporting on treated cases; 90% of children under 5 years seen by CHWs were diagnosed and treated with ACTs within 24 hours of the onset of fever.

To create ownership of the iCCM and IPTp strategies by communities and local leaders and to address the upsurge of malaria, SIAPS worked with the PNILP to implement specific behavior change communication activities. SIAPS assisted in conducting sensitization campaigns for 298 local administrators and leaders, producing and disseminating key messages on malaria prevention through spots and panels aired by mass media and by training 1,440 CHWs on communication techniques and key messages on malaria prevention. These CHWs will sensitize communities within their catchment areas.

Objective 1: Leadership and Governance for Key Institutions (PNILP, DPML, CAMEBU [Central Medical Store], and districts) Improved

SIAPS collaborated with LMG to assist the PNILP in training four operations personnel on the Tompro software used for financial management. The training aimed at building the capacity of the PNILP management unit in configuring, running, producing, and printing financial reports required the Global Fund's grant. The training allowed the PNILP to have seven persons competent in using the software.

SIAPS assisted the PNILP and MOH in organizing the celebration of World Malaria Day on April 29, 2016. The year's theme is "End Malaria for Good." The MOH emphasized strategies to control malaria including mass distribution of long-lasting insecticide-treated nets (LLINs), appropriate diagnosis, and early treatment. On this day, the MOH delivered certificates to health managers and providers trained in IPTp and malaria behavior change communication by SIAPS. CHWs trained on case management of malaria received material to be fully operational and start treating children under 5 years with onset of fever.

Partner Contributions

Population Services International (PSI) contributed awards for health centers that are correctly managing LLINs funded by PMI for pregnant women and children under one year.

Objective 2: An Uninterrupted Supply Chain Mechanism for Malaria Commodities is in Place

SIAPS assisted the newly established National Commodity Security Committee and the PNILP to evaluate stock levels for malaria commodities and identify gaps as part of efforts to respond to an upsurge of malaria. Available data revealed an increase of 53% of malaria cases, more than originally predicted. SIAPS used malaria commodity stock status information to produce and submit the PPMRm to PMI in April 2016. Based on the findings, SIAPS worked closely with the quantification committee to mobilize donor funding and thus USAID and the Global Fund agreed to procure needed quantities of ACTs to increase in-country stock levels according to plan (a minimum of four months and maximum of nine months of stock at CAMEBU).

Emergency orders were completed and will be delivered June through August: 2,549,143 treatments and 760,300 RDTs from USAID/PMI and 2,667,100 treatments from Global Fund.

During the quarter, SIAPS organized clearance and receipt of 62,175 treatments for infants, 308,925 treatments for toddlers, 120,975 treatments for children, and 223,225 treatments for adults procured by USAID | DELIVER with PMI funds.

SIAPS assisted the PNILP and CAMEBU in continuous distribution of malaria commodities from CAMEBU to the 46 health districts. SIAPS staff worked closely with the PNILP team to analyze monthly requisitions and provide feedback to districts. A weekly communication email was sent to ensure that districts are adhering to CAMEBU's distribution plan.

To build human resources capacity, SIAPS collaborated with SCMS to assist the DPML in roll-out of new LMIS procedures and tools; trainers' and participants' guides were approved in February. To roll-out the LMIS in 12 districts, SIAPS and SCMS conducted TOT for 24 trainers at the district level. Later, these trainers conducted cascade trainings in their catchment zone; 121 health managers and stock managers were trained on the new LMIS. At the end of June, all 409 health managers and stock managers (96% of targeted participants from 12 health districts) were trained on the new LMIS procedures and tools as planned through strong collaboration of SIAPS and SCMS. Next quarter, the plan is to supervise the 12 districts and reinforce competence to complete new formats and report on time complete and accurate information on essential medicines including ARVs and ACTs.

SIAPS continued to reinforce capacity of the PNILP in data analysis and use for decision making. During the quarter, SIAPS trained 14 persons on advanced Excel and epidemiological surveillance in collaboration with the WHO Africa regional office. At the end of June, staff at the PNILP was equipped with the ability to capture and analyze data on key malaria indicators for timely and appropriate decisions. Furthermore, PNILP and DSNIS together reviewed definitions of key malaria indicators, harmonized collection and reporting tools, and identified missing indicators to be added to existing HMIS reporting tools.

SIAPS assisted the PNILP in finalizing data analysis and writing the report of the EUV survey conducted in March 2016. Key findings from the EUV: 100% of malaria cases have been treated with ACT after confirmation by either RDT or microscopy; 98% of cases of children under five diagnosed malaria positive have been treated with ACT. In March, stock levels of malaria commodities were low in-country due to the surge of malaria and new taxes introduced that delayed customs clearing of Global Fund-funded shipments; through the EUV survey, it was found that few facilities were implementing good dispensing practices and only 50% of staff are trained in malaria standard treatment guidelines, use of RDTs and microscopy, and stock management.

SIAPS assisted PNILP and the Directorate of National Health Information System in conducting an RDQA for malaria logistic and epidemiologic data in 18 selected health districts. The objective of the RDQA was to evaluate the functioning of the reporting system and the quality of malaria data reported and to suggest recommendations to improve reliability and accuracy of

routine data reported at the peripheral level. Data collection was conducted using a questionnaire developed from Measure Evaluation.

Objective 3: Pharmaceutical Services are Improved to Ensure Best Practices in Malaria Case Management

This quarter, SIAPS continued to assist the PNILP and Programme National de Santé de la Reproduction (National Reproductive Health Program, PNSR) in scaling up IPTp with sulfadoxine-pyrimethamine (SP); 103 district staff were trained on IPTp policy and conducted cascade trainings for 846 health care providers in 18 districts. As of this date, IPTp is implemented nationwide.

To increase community engagement in fighting malaria, SIAPS collaborated with PNILP and PNSR in sensitizing 298 local authorities on prevention measures to fight malaria, such as IPTp, correct use of LLNIs, hygiene, and indoor residual spraying. This step aims to engage local authorities in mobilizing the population to change their behavior as malaria is still a leading cause of morbidity and mortality in Burundi. Radio spots were also aired on local and national radio stations and articles were published in local newspapers in the local language to educate and communicate the general population on how to prevent malaria.

SIAPS, in collaboration with CARITAS Burundi, assisted the PNILP and Directorate for the Supply and Demand of Health Services (DODS) in scaling up ICCM in Burundi. During the quarter, 56 health care providers were trained as well as 91 CHWs on community case management of malaria. To date, 212 CHWs have been trained and equipped with tools and are fully operational in three health districts. The 212 CHWs are capable of detecting malaria early and treating all positive malaria cases in children under 5 years with fever. Through monthly reports, it was determined that 90.14% of children under 5 that were diagnosed with RDTs were treated with ACTs within 24 hours of onset of fever.

During the quarter, SIAPS assisted the PNILP and DODS in conducting supportive supervision visits for 122 CHWs and conducted refresher trainings on correct use of RDTs.

SIAPS assisted the PNILP in training 1,440 CHWs on key messages related to malaria prevention; 48% CHWs trained are women. Those CHWs will sensitize their communities on those messages related to IPTp; the value of seeking services early; proper hygiene; and correct use of LLINs to change behavior and reduce malaria morbidity.

Partner Contributions

CARITAS contributed in availing trainers on ICCM.

Cameroon

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

Overall Quarter Progress

In June 2016, SIAPS/Cameroon finalized the implementation of most technical activities of the current approved work plan. Project close-out and hand-over will be implemented in the period July to September 2016.

Achievements of SIAPS/Cameroon in the last quarter include that out of 35 indicators that have been used by SIAPS/Cameroon since Program Year (PY) 1, 26 (74%) show end-of-project target achievement, 7 (20%) significant progress, and only 2 (6%) not achieved. Project achievements are generally associated with the interventions implemented at the regional and health facility levels, while achievements at the central level have been more problematic during the project life.

SIAPS has contributed to improving the capacity of 132 ART and Prevention of Mother to Child Transmission (PMTCT) sites to manage HIV commodity stocks and to comply with good storage conditions. Results include—

- HIV health facilities experiencing stock-outs progressively decreased from 100% at end of PY3 to 10% at the end of PY5.
- 86% of health facilities supported by SIAPS had accurate stock cards, compared to 15% in PY3.
- 90% of the health facilities keep complete HIV patient information, compared to 15% at the beginning of the project, and 72% comply with reporting requirements within the timeline.
- 96% of the health facilities have complied with basic storage conditions, compared with 57% in February 2015.
- Data availability in the regional dashboard, OSPSIDA, has improved significantly with 98% of health facility reports available (similar to Q2), out of which 82% were completed on time (58% in Q2), and 50% of regional warehouses stock status reports were completed on time compared to 17% in Q2.

The capacity of health facilities to maintain adequate stock levels (within maximum and minimum predefined stock levels) showed progress but improvements are still needed. As such, currently 49% of the health facilities are able to maintain adequate stock levels, compared to 29% in December 2015. The long administrative procedures and lead times needed to mobilize stocks from the central level to the regional and health facility level, in addition to storage limitations, are the main obstacles to improving this indicator.

At the central level, SIAPS/Cameroon did not achieve the expected results in improving stock monitoring of HIV commodities which is one of the functions of the Quantification and Stock Monitoring Committee. Since January 2015, one of SIAPS technical assistance objectives for the

committee was to standardize reports and methodology to conduct HIV commodities stock monitoring. Although the committee members finally agreed on the standard indicators to be periodically reported to the Ministry of Health and partners, the process for data collection was not approved as a consequence of the lack of autonomy and leadership of the committee itself. PEPFAR-funded commodities to support PMTCT and the Accelerated Children Treatment Initiative were successfully distributed in the different regions. To the extent possible, distribution was integrated within other health commodities. However, in many instances the regional warehouses needed to accommodate the distribution strategy to the program needs because a significant number of PMTCT sites that are not part of the government health system, thus not benefiting public supply chain system. At submission time of this report, the first shipments of the new pediatric formulation of lopinavir-ritonavir pellets were received and ready for distribution. Cameroon will be the first country introducing this new formulation.

Objective 1: Pharmaceutical Sector Governance Strengthened

For PY5, SIAPS/Cameroon aimed to improve pharmaceutical governance and transparency through three levels of intervention. First, strategic collaboration was sought among national and international partners through the SIAPS-led medicine cluster and SIAPS support to other committees, such as the PMTCT Task Force, the LMIS Committee, and the Regional Funds for Health Promotion Partners Committee. Second, the efficiency of the Quantification and Stock Monitoring Committee was improved by standardizing reports as per donors and partner requirements (though this committee continues to face leadership and governance issues which act as bottlenecks to making it efficient). Third, enhanced collaboration with the civil society organization, Positive Generation, helped improve data quality of its Treatment Access Watch magazine and enhance the joint analysis of indicators.

Since its establishment in 2014, the HIV Quantification and Stock Monitoring Committee's functions have lacked leadership to maintain an adequate participation in and frequency of meetings, especially to regularly monitor HIV commodities stock. Overall quantification exercises were conducted through a consultative process with participation of main technical representatives, and following an adequate adopted methodology. However, stock monitoring exercises were mostly conducted unilaterally by the HIV program, and when meetings were scheduled, participants, including key institutions, were often absent. In addition, the methodology for analyzing stock status was inadequate. During this quarter, SIAPS in collaboration with the HIV Program and Directorate of Pharmacy organized a workshop to revitalize the quantification committee and to agree on the methodology to conduct monthly and quarterly stock monitoring. Unfortunately, the workshop was not as successful as expected for reasons including motivation of participants that expected remuneration to be committee members, resistance to report information considered as problematic (such as expirations), and unfeasibility for the committee to access HIV commodity-specific data from the regional warehouses, as this was considered a bypass of the systems in place. In conclusion, in addition to the lack of leadership, the officially established Quantification and Stock Monitoring Committee was not given the required level of autonomy to be functional.

As part of the Medicines Cluster, SIAPS put together the first draft for the interventions on pharmaceutical governance strengthening to be submitted to the Global Financing Facility (GFF)

based on a performance-based-financing methodology. The proposal was presented to technical and financial partners, as well as to the main pharmaceutical institutions that will benefit from the interventions, which are the National Quality Control Laboratory (LANACOME), the Directorate of Pharmacy, the General Inspection of Pharmacy and the medical stores (CENAME). Discussions with the World Bank confirmed that a total amount of USD $4 million had already been reserved to finance the pharmaceutical governance strengthening interventions as part of the investment case that the country needs to submit in September.

Together, Positive Generation and SIAPS launched the 2015 Treatment Access Watch (TAW) report during a joint ceremony where both Positive Generation and SIAPS presented indicators related to access to HIV treatment and services for 2015 compared with previous years, and eventual future risks related to access in Cameroon were also discussed. Thanks to the dramatic decrease of stock-outs, access to ARVs no longer a barrier identified by patients. However, according to TAW, financial barriers, especially those related to laboratory services, as well as quality of services at health facility, are considered main obstacles to accessing HIV services. These findings are consistent with SIAPS observations on the long waiting time patients experience when trying to full prescriptions. The wait can sometimes be need more than four hours; also, dispensaries may have up to 300 patients per day (75 on average).

Finally, the TAW Dashboard that is being designed with the assistance of SIAPS is almost complete and will be launched in August. This dashboard will allow Positive Generation to easily produce the TAW weekly reports, to secure data, and to improve the spread of information.

Partner Contributions

The French Agency for Development and the German Technical Agency have significantly contributed to advocating for pharmaceutical governance interventions to become part of the GFF.

Constraints to Progress

As part of the close-out plan, it is expected that SIAPS will assist in a final review of the quantification of HIV commodities to ensure that any required adjustment is made before the hand-over process. Given the difficulties observed in mobilizing the quantification committee, the review may be conducted only with the National HIV Program and key partners.

Objective 3: Use of Information for Decision Making

In PY5, SIAPS/Cameroon is implementing activities aiming at improving the capacity of health facilities and regional institutions to improve management of HIV commodities with the use of available records and reported information. This involves supervision and on-site training for dispensers and stock keepers at the health facilities, and also holding regional meetings for ART and PMTCT clinics coordinators, as well as regional managers. Data and information is captured through routine reports and during the supervision visits. In addition, this objective also includes

activities aimed at improving timeliness and accuracy of the information reported in OSPSIDA for the four PEPFAR-supported regions.

SIAPS' strategy to strengthen regional leadership and governance in the four PEPFAR-supported regions is contributing to the progressive decrease of stock-outs. In this quarter, only 10% of the health facilities faced stock-outs compared to 23% in the last quarter. All other indicators related to management information and reporting also have continued to show progress. These results were submitted in an abstract to the International AIDS Conference 2016, and accepted for poster presentation.

A key element in ensuring sustainability of SIAPS interventions is the capacity of regional ART sites to conduct internal supervision of the pharmacy activities, and the integration of this internal supervision in routine activities. During the past year, SIAPS promoted this concept at the regional review meetings. In this quarter, nearly 70% of ART site coordinators of health facilities conducted internal supervision using SIAPS proposed tools and methodology.

To ensure availability of registers and tools to maintain stock monitoring, dispensing registration, and monthly reporting, SIAPS printed out a year's worth of tools. This activity was agreed with the National HIV Program and also with USAID. Some of the tools will be distributed to the health facilities in need during the last regional feedback meetings in July, and the remaining will be deposited at each of the HIV Regional Delegations as a buffer stock.

SIAPS initiated this quarter the process for handing over the administration of the dashboard OSPSIDA to the National HIV Program. SIAPS' regional office in Guinea facilitated the checklists to self-assess the capacity of the National HIV Program to meet IT and other criteria to transfer the administration of the tool. This process will be completed during the close-out period, and will require a field visit from the regional IT adviser.

This quarter, SIAPS proposed to health facilities, regional medical stores, and the Regional Delegation of the HIV program the use of a customized Excel tool that could be used for either estimating the next requisition order based on minimum and maximum recommended stock levels, or to validate commands. The tool was gladly accepted by the various structures. If computers were not available, the tool can be implemented at the statistics and administrative services of the health facility.

Objective 4: Financial Barriers Reduced

During this quarter, SIAPS was asked by the National HIV Program to assist in accommodating a donation of HIV commodities from the Spanish government that aims at reducing the gap of commodities and services identified in the strategic plan submitted to the Global Fund.
In addition, as explained under Objective 1, thanks to the contribution of SIAPS, the World Bank has reserved USD $4 million out of the USD $32 million that will be released for implementation of the GFF in support to pharmaceutical governance interventions.

Constraints to Progress

As anticipated, the mobilization of financial resources under the new funding mechanism for pharmaceutical management strengthening activities did not progress much as it required the Ministry of Health to coordinate in other capacities with the HIV program.

During this quarter, the Office of Inspection General of the Global Fund conducted an audit. Results from the audit point to unjustified transactions of donated medicines at CENAME, some of them affecting the HIV program.

Objective 5: Pharmaceutical Services Improved to Achieve Desired Health Outcomes

For PY5, this objective includes activities aiming at ensuring efficient distribution of PEPFAR-funded commodities to the regional medical stores and to ART and PMTCT sites. In addition, SIAPS assists GIZ and national partners in an on-going initiative that intends to standardizing the stores procedures manual

During this quarter, SIAPS finalized the technical chapters of the procedures manual to harmonized operations of the 10 autonomous regional warehouses in Cameroon. Initially SIAPS was going to play only a reviewer role in developing the manual with responsibility for overseeing the technical chapters, while other partners would contribute to the administrative and financial sections. However, given the delays in recruiting the consultants to lead the process of producing a complete procedures manual, SIAPS decided to move forward in agreement with GIZ and the Ministry of Health, and harmonize the technical chapters before the end of the project. This section was handed over to the Ministry of Health to be integrated with the rest of the manual's sections.

During this quarter, SIAPS completed the distribution of PEPFAR-funded PMTCT commodities initiated in the previous quarter. The decision of the Ministry of Health of expanding PMTCT Option B+ to all health facilities in the country, whether public, private, or faith based, did not consider the logistic consequences for the regional warehouses that serve only the public sector. Therefore, the regional medical stores needed to expand their distribution strategy to cover a significant number of additional sites. However, distribution has been completed to more than 80% of to the PMTCT registered sites, and all scaled-up and sustained PEPFAR sites have received their commodities as per initial plans. The South West region, although registering a lower rate of distribution covering 75% of the 327 sites, has implemented the most sustainable approach by integrating the distribution within the essential medicines deliveries, and following up on consumption through telephone calls. The North West is also moving towards integration, while the Center and the Littoral with 939 and 526 health facilities, respectively, should offer PMTCT services need to use a district approach. By combining refresher trainings on PMTCT Option B+ and distribution of commodities, more than 90% of the expected health facilities were reached.

Democratic Republic of the Congo

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

Overall Quarter Progress

During this quarter, a team comprising three members of the Faculty of Pharmaceutical Sciences (FOPS) of the University of Kinshasa and two SIAPS staff members participated in a meeting in Chicago April 4–14, 2016, to complete the curriculum review process.

The team presented three deliverables produced by the DRC team: i) the FOPS five-year strategic plan; ii) the operational plan; and iii) the competency framework for pharmacists, which was enriched by the US team. The US team comprised members from the US Accreditation Council for Pharmacy Education (ACPE) and academic members and curriculum experts from five Chicago-based universities, including the Chicago State University School of Pharmacy, the University of Illinois at Chicago College of Pharmacy, Rosalind Franklin University of Medicine and Science, Dewitt Baldwin Institute for Interprofessional Education, and Midwestern University of Chicago. During these consultation meetings, the three documents were analyzed and updated. The DRC team was given directives and guidance on developing curricular mapping and on the revision process.

The DRC team also used this opportunity to visit three of the Chicago-based universities to discuss long-term partnerships. During the next quarter, SIAPS will assist FOPS in finalizing the curricular revisions and establishing these partnerships.

As part of the effort to fight HIV/AIDS in the DRC, all Global Fund (GF)-supported health zones in Haut-Katanga are being shifted to the US President's Emergency Plan for AIDS Relief (PEPFAR). To prepare for the management of stocks at risk of expiry that the GF will hand over to PEPFAR, SIAPS initiated meetings with National HIV/AIDS Program (PNLS) provincial coordinators and all stakeholders to explore ways to mitigate stock expiry risks.

Objective 1: Pharmaceutical Sector Governance Strengthened

With SIAPS support, the National Malaria Control Program (NMCP) convened the NMCP supply coordination meeting May 10–11, 2016. The aim of the meeting was to evaluate the stock status of antimalarial commodities within the country. The main outcome of that meeting was aligning all implementing partners with the national quantification session of antimalarial commodities, which would mitigate the inadequate availability of malaria commodities throughout the country. SIAPS also shared key findings and recommendations from the March 2016 end-user verification (EUV) survey.

Continuing its support of the drug regulatory authority registration processes, SIAPS recruited an information technology consultant to maintain and ensure the proper function of the *Système Intégré de Gestion Informatisée pour l'Autorité de Régulation Pharmaceutique*/Computerized Integrated Management System for the Pharmaceutical Regulatory Authority software.

During this quarter, SIAPS also continued its support of the Directorate of Pharmacy and Medicines to strengthen DRC's medicine registration process, including holding an April 2016 quarterly registration session at which 184 dossiers were received and 160 were analyzed. Of those that were analyzed, 67 were registered and authorized; 81 had insufficient information to complete registration and were deferred to the next session; and 12 were rejected. This brings the total number of registered medicines in DRC to 4,486, from approximately 400 at the beginning of the SIAPS project in 2011.

Among the medicines registered this quarter is Sayana Press, an easy-to-use contraceptive that requires minimal instruction. It is suitable for community-based distribution, and women can administer the medicine through self-injection. The product will improve access to a safe and effective contraceptive option and increase women's autonomy to use a modern contraception method. This is particularly important in DRC, which has a contraceptive prevalence of only 11%.

The drug regulatory authority has taken full ownership of this activity, and other partners are now providing financial support. The medicine registration session was jointly supported by SIAPS and the Association de Santé Familiale (ASF) and contributed to the implementation of the SIAPS transition plan.

In light of the recent DRC territorial demarcation, SIAPS continued providing support to the Provincial Health Division to establish or strengthen the medicine provision working groups, previously known as provincial medicine committees. New medicine provision working groups were established in Lomami, Haut-Lomami, Lualaba, and Tanganyika. The medicine provision working groups have the mandate to coordinate the procurement, distribution, and use of medicines in their respective provinces and to coordinate the Ministry of Health's partner support to ensure the appropriate distribution and utilization of pharmaceuticals in the provinces.

Partner Contributions

Deliver Project/USAID, Santé Rurale/SANRU/Global Fund, IMA World Health/DFID, Integrated Health Program Plus/USAID, US President's Malaria Initiative (PMI)-Expansion/USAID

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

Since SIAPS started providing support to the FOPS of the University of Kinshasa, several significant milestones have been achieved. The support is one of the key interventions SIAPS/DRC began in June 2014 with ACPE. A roadmap for the implementation of the recommendations was developed, and SIAPS has been providing support to FOPS for its completion. These recommendations include the development of the FOPS strategic plan and the pharmacist competencies-based framework.

With technical support from SIAPS, NMCP convened a June 15–16, 2016, quantification workshop on malaria commodities. The workshop used the latest reviewed guidelines for the

quantification. Artemether/lumefantrine (AL) was added to artesunate/amodiaquine (ASAQ) for managing uncomplicated malaria cases. The combination (70% for ASAQ and 30% for AL) will be ordered for 2017 and used for the first time across urban health zones.

All partners involved in the procurement of antimalarial commodities have agreed to conduct a joint quantification that will take into account all combinations needed for malaria case management in DRC.

As part of its support to PNLS, SIAPS, with the assistance of the National Medicines Supply Program and PNLS, provided training to health workers on the management of antiretroviral (ARV) medicines and other HIV/AIDS commodities. The training, which took place March 21–25, 2016, focused on the 11 PEPFAR-supported saturation zones of Haut-Katanga. It aimed to help build the capacity of health workers at PEPFAR-supported sites for the management of medicines. A total of 74 health workers participated in the training. Participants included pharmacists, nurses, doctors, and pharmacy assistants. At the end of the training, a post-training action plan was developed by participants and validated by the Provincial Health Division.

During this quarter, SIAPS began disseminating the pilot standard therapeutic guidelines (STGs) at the referral-hospital level in DRC. These STGs were written in response to the gaps identified in the hospitals' Drug and Therapeutics Committee during baseline assessments. The STGs will be scaled up to the whole country to promote proper case management and rational medicine use throughout DRC.

Partner Contributions

ACPE

Objective 3: Utilization of Information for Decision Making Increased

As announced in the previous quarterly report, SIAPS supported the NMCP for data collection of the EUV. Key findings of this EUV included:

- The availability of ASAQ and rapid diagnostic tests (RDTs) could still improve with less than 40% of health facilities experiencing at least 3 days of stock-out for the four ASAQ presentations and RDTs during the last three months. For that reason, a combined pull and push system should continue.
- The timeliness of stock reporting at the health-facility level remains a challenge. Only 56.5% of health facilities submitted their monthly reports on time, which contributed to the high levels of over- and under-stocking of malaria commodities in these facilities.
- Only 37% of health workers are trained in malaria case management that follows the recent malaria case management guidelines, including the use of rectal and injectable artesunate for severe cases. This was highlighted in the previous EUV report, and the trend continues because of high attrition rates caused by low salary scales and issues of actual salary payments. SIAPS has suggested that for the coming malaria operational planning process in DRC, the PMI should consider an incentive mechanism, such as results-based financing, to motivate health workers.

- Malaria case management has improved significantly. As recommended by the NMCP, 80% of malaria cases are confirmed with RDT or microscopy, and 84% of malaria patients under the age of 5 are being treated with ASAQ.

SIAPS provided financial and technical support to the National Reproductive Health Program (NRHP) to hold a meeting to adopt the procurement planning and monitoring report for contraceptives for the second quarter of 2016. The meeting was attended by 22 experts. The supply monitoring data review showed the following:

- There were stock-outs of female condoms and intrauterine devices (IUDs) at the central level in United Nations Population Fund (UNFPA)-supported zones.
- There were under-stocks of Depo-Provera, No Logo male condoms, microlut, and noristerat at the central level in UNFPA-supported health zones.
- In USAID-supported zones with family planning implementing partners, emergency contraception pills and implants were available.
- There were over-stocks of combination 3 and microlut in USAID-supported programs in DRC.
- The Depo-Provera marketing authorization, which was granted to USAID through Population Services International (PSI), has expired.

The following recommendations were made:

UNFPA will:

- provide an update on the approved orders for 200,000 female condoms
- conduct stock monitoring for female condoms to accelerate service
- facilitate the fast delivery of 48,500 IUDs granted in 2016
- monitor under-stock contraceptives to accelerate service

USAID will:

- renew the Depo-Provera marketing authorization
- dispatch the current stock of 40,800 doses of Norlevo in June 2016 to maintain an uninterrupted supply
- maintain the stock shipment of 1,000,000 doses of combination 3 cycles while ensuring that the closest expiry date is May 2020
- maintain the stock shipment of 100,080 doses of microlut while ensuring that the closest expiry date is January 2019

Partner Contributions

IHP-Plus, PMI-Expansion (PSI and CARITAS), UNFPA, IMA World Health/DFID, Clinton Health Access, ASF/PSI, D5, NRHP

Constraints to Progress

Logistic issues and poor documentation in health facilities have made EUV data collection challenging.

Objective 5: Pharmaceutical Services to Achieve Desired Health Outcomes Improved

During this quarter, SIAPS continued to support PNLS and the provincial central medicine stores (CDRs) in Katanga province to ensure that ARVs are appropriately managed, distributed, and used. Following the rationalization process determined by PNLS regarding the allocation of provinces and health zones to be covered and supported by different partners, the GF is handing over responsibility for Katanga province to USAID. To better control the stock of ARVs under the GF and USAID, SIAPS conducted a stock-taking exercise at the CDR CAMELU (regional medicine stores in Katanga province), where all medicines, including ARVs, from Ministry of Health partners are stored. The stock-taking exercise revealed a large quantity of ARVs with short shelf lives, particularly the fixed-dose combination of tenofovir/lamivudine/efavirenz for adults. Based on the number of patients per treatment regimen, the available quantity was equivalent to 22 months' consumption but had a shelf life of six to seven months. Therefore, approximately 75% of the available stock was at high risk of expiry. To address this issue, SIAPS provided technical and financial support to PNLS to hold a meeting with all stakeholders and partners involved in PEPFAR activities to find ways to avoid and prevent wastage due to expiry of these ARVs. During this meeting, it was decided that the majority of patients should be shifted to tenofovir/lamivudine/efavirenz as per the National HIV Treatment Guidelines as a matter of urgency plan, and SIAPS will continue to support the redistribution of this short shelf-life stock of ARVs to avoid wastage.

During this quarter, SIAPS received TB medicines that had been ordered with USAID funding in 2015. SIAPS had a mandate to provide support to the national TB program for the quantification, obtainment of importation documents, customs clearance, and monitoring of deliveries of these commodities.

SIAPS provided technical and financial support to the national TB program to print 1,500 copies of the TB Medicines Management Guidelines (PATIMED III). The dissemination of these guidelines will be conducted next quarter during follow-up visits to USAID-supported provinces.

Partner Contributions

DSFGS, NRHP, School of Public Health (ESP)

Constraints to Progress

Logistical issues

Dominican Republic

Goal: Increase the availability of critical medicines and diagnostic materials including the ones used for HIV and AIDS and tuberculosis 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 99% of health facilities reporting their data and receiving feedback (1,388/1,400). Adult ARV availability in health facilities remains high (93%). SIAPS supported estimating needs of medicines (including ARVs) and supplies for the 2017 procurement.

Objective 1: Pharmaceutical Sector Governance Strengthened

During this quarter, SIAPS finalized medicines and medical supplies catalogues and electronic applications which were used for the decentralized estimation of needs exercise for the procurement in 2017. Information from health facilities was aggregated at regional and central levels to produce a consolidated national estimate. The final results were presented to national health authorities. SIAPS provided support to disease control programs (HIV/AIDS and TB included) for the estimation of needs and programming for 2017 procurement. For the next quarter, SIAPS will support the elaboration of a technical report including a financial gap analysis.

During this quarter, SIAPS collected information to develop a strategic plan for the incorporation of diagnostic technology for TB and HIV/AIDS. A technical report will be completed for next quarter.

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

The final module of the certified course (diploma) on the rational use of medicines was completed on June 11, 2016. Thirty-one students completed the course. For next quarter, SIAPS will assess the course's performance and results, adjust the educational modules, and plan a second course for the last quarter of 2016.

In April, SIAPS supported a training of trainers for a cascade integration of nine additional hospitals to SUGEMI. The participants developed implementation work plans during the workshop. For the next quarter, SIAPS will support the monitoring of the implementation in these hospitals.

Partner Contributions

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

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

SIAPS finalized the development and validation of three standard operational procedures for PROMESE/CAL (Programing, Procurement and Distribution), and agreed on the implementation plan with PROMESE/CAL authorities and technicians. For the next quarter, and after PROMESE/CAL publishes the SOPs SIAPS will provide technical assistance for the implementation.

Early this year, PROMESE/CAL and the National Health Service signed a service contract including a requisition and dispatch report, which PROMESE/CAL must submit monthly with information on the correspondence between requisitions made by health facilities (the client) and dispatches by PROMESE/CAL. For the next quarter, SIAPS will support the publication and dissemination of this report.

Objective 4: Improved Allocation of Resources for Procurement and Pharmaceutical Management-Related Operations

No activities were planned for this quarter. The estimate on needs and budget requirements for the 2017 procurement were completed by the end of June 2016. For the next quarter, and once the official budget figures are released, SIAPS will support the financial gap analysis, if a gap remains, for the procurement of medicines and supplies for disease control programs (HIV/AIDS included), hospitals and primary health facilities.

Objective 5: Pharmaceutical Services Improved to Achieve Desired Health Outcomes

SIAPS finalized its technical assistance for integrating the first eight hospitals into SUGEMI. All hospitals reached around 90% of the integration requirements. On April 2016, SIAPS supported a training of trainers for the integration of the hospital network to SUGEMI. By the end of the workshop, work plans were developed for the integration of nine additional hospitals.

During this quarter, the Ministry of Health (MOH) issued a decree making compulsory the integration of Disease Control Programs (DCP) into SUGEMI. SIAPS developed a proposal for the scheduled integration, which was discussed with the Vice-Minister of Health on June 2016. For the next quarter, SIAPS will support a meeting with DCP directors and technicians to develop strategic and operative plans to complete transition within the next three years.

The MOH and the Global Fund requested technical assistance for implementing a national system for transporting laboratory samples for HIV/AIDS and TB and the delivery of results. SIAPS prepared a proposal considering co-financing for the implementation. Last quarter, the proposal was submitted to the MOH and the Global Fund for its approval. No reply has been provided yet.

Partner Contributions

If approved, the implementation of a national system for the transportation of laboratory samples for HIV/AIDS and TB and the delivery of results will be financed by the Global Fund, the MOH and SIAPS/USAID.

Ethiopia

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

Overall Quarter Progress

During the quarter, SIAPS Ethiopia has seen substantial progress in meeting targets in various technical areas. The Afar Regional State Cabinet enacted regulation on Auditable Pharmaceutical Transaction and Services (APTS) in May 2016. This brings the total number of regional states supported by SIAPS to enact APTS regulation to eight, which is 100% of the life-of-project target. APTS implementation was initiated at five hospitals in three regions: Tigray (3), SNNP (1), and Addis Ababa (1). As of the end of this quarter, APTS is being implemented in 54 health facilities throughout the country. Of these, 36 (66.7%) APTS-implementing facilities track their sales of medicines and send reports to the regional health bureaus (RHBs) and FMOH on a regular basis.

In Q3, SIAPS supported an experience-sharing visit to South Korea and the United States by two key individuals from the Ethiopian Food, Medicine, and Health Care Administration and Control Authority (EFMHACA) and two from the School of Pharmacy, Addis Ababa University (SOP/AAU). The study tour was overwhelmingly successful, and the team gathered a wealth of information to help advance the post-graduate regulatory affairs training program in Ethiopia. The number of institutions visited (14) and experts met (60) provided a comprehensive view of best practices in the regulatory arena. Some of the key lessons learned include the need for strong collaboration between regulatory authorities and the AAU; development of in-house, short-term training programs; and creation of partnerships among industry, academia, and regulatory authorities to teach and advise students. Next steps include getting memorandums of understanding agreed upon during the visit signed between overseas teaching institutions and SOP/AAU.

Experts from SIAPS and FMHACA also attended the 29th Global GS1 Healthcare Conference in Dubai, United Arab Emirates, a key event for sharing information and experiences on global standards with the GS1 Healthcare community. Health care leaders from government agencies and private industries presented on the progress of worldwide efforts to implement GS1 standards that improve patient safety, supply chain security, and efficiency. During the conference, the Ethiopian delegates met with the vice president of GS1 Healthcare Standards and agreed to organize a national consultative meeting on global health care standards in Addis Ababa in July 2016. A steering committee, technical working group, and workshop organizing committee have been formed for this purpose.

Pharmacy clinical services continue to gain acceptance and enable improvements in patient therapy in supported health facilities. During this quarter, 9 hospitals served 1899 patients. Of the 880 (46.3%) with a patient medication profile form, 340 drug therapy problems were identified, leading to recommended interventions in 281 (82.6%) of these cases. Nearly 93% of the recommendations were fully accepted and acted upon. To strengthen the patient-centered pharmacy services, clinical pharmacists participated in multidisciplinary teams (147), ward

rounds (327), and pharmacy-only rounds (4 morning and 22 ward rounds). Clinical pharmacy services were initiated in wards of 10 health facilities where mothers and children are treated. Debremarkos Referral Hospital, for example, provided clinical pharmacy services in maternity and pediatric wards, and Motta Hospital did so in the pediatric ward, resulting in 614 instances of pharmaceutical services for mothers and children. Of these, 120 drug therapy problems were identified, for which 105 (87.5%) of the interventions were fully accepted by prescribers.

Objective 1: Pharmaceutical Sector Governance Strengthened

As APTS has become one of the priorities in the Health Sector Transformation Plan, FMOH is committed to scaling up APTS to emerging regions. In line with this initiative, FMOH and SIAPS provided viable and necessary support for the Afar RHB to enact regulation to facilitate implementation of APTS. In addition, APTS vouchers were customized to reflect regional requirements.

The Ethiopian Government and SIAPS are working together closely on implementation of APTS and clinical pharmacy services (CPS), resulting in operational and clinical improvements. To share experiences and facilitate exchange of best practices between hospitals, two workshops were organized in Hawassa (for SNNPR) and Axum (for the Tigray Region), focusing on APTS and CPS. At Hawassa, 113 professionals representing 34 hospitals, the SNNPR RHB, and Hawassa branch of PFSA participated. At Axum, 55 professionals from 17 hospitals, Tigray RHB, and Pharmaceuticals Fund and Supply Agency (PFSA) Mekele Branch participated in the workshop. Participants in both workshops provided examples of how far hospitals have progressed in terms of delivering quality pharmaceutical services. Key leadership from facilities also participated in sessions, where participants shared their achievements and challenges in implementing APTS, CPS, and other interventions including DTCs, DIS, ADE/PV, and PMIS. Their inclusion was key to creating consensus on the way forward.

SIAPS supported the FMOH Malaria Unit to organize a malaria review meeting with key stakeholders at Axum, Tigray Region. The objective of the meeting was to evaluate the performance of malaria control and prevention activities, including antimalarial drug management (AMDM) in the regions and at the national level and to create an experience-sharing forum for the regions to learn best practices and challenges from each other. Participants from the FMOH included representatives from the Directorates: Disease Prevention, Pharmaceuticals and Health Technologies, and Human Resources; the PFSA; eight RHBs; Adame Tulu Pesticide Share Company; and SIAPS.

To strengthen and build the capacity of regional- and zonal-level pharmacy experts on pharmaceutical services (RMU, DTC, DIS, APTS, AMDM/Continuous Results Management System [CRMS], CPS), SIAPS provided a 5-day training to 36 pharmacists from Oromia RHB and all zones. The pharmacy experts trained are expected to support, supervise, and mentor health facilities to establish and strengthen DTCs, DIS, CPS, AMDM, management of other drugs, and RMU at health facilities.

Partner Contributions

The RHBs in SNNP and Tigray have been actively involved in organizing and leading discussions of the clinical pharmacy and APTS experience sharing workshops.

Constraints to Progress

Aligning the RHBs' schedule to SIAPS's schedule has proved to be challenging. The RHBs were continuously involved in other meetings and conferences at regional and federal levels, but repeated negotiations with the RHBs have significantly helped.

Objective 2: Pharmacy Services at Facility Level Improved

In FY16Q3, 11 training events were organized: APTS (5), SOP for pharmacy ART information management (3), AMR (2), and RMNCH TOT (1). These events were attended by 494 professionals, of which 148 (30 %) were female. To strengthen regional capacity for APTS implementation, 166 pharmacy and finance professionals participated in 2 TOT events in Amhara and Oromia Regions.

To strengthen human resources capacity to provide better ART services, training materials were revised and final drafts submitted. To refine the materials, a national workshop was organized to get feedback from key organizations (RHBs, universities, PFSA, partners). The final documents have been produced and are ready for use.

SIAPS provided support to equip private sector pharmacists for rational dispensing and use of RMNCH medicines and create awareness of appropriate referral. SIAPS used an inclusive approach to develop the training materials, including conducting two workshops to engage relevant stakeholders in reviewing the materials. In collaboration with the Ethiopian Pharmaceutical Association (EPA), SIAPS supported a TOT for participants from universities, RHBs, PFSA, EPA, and SIAPS, resulting in certification of 22 professionals.

SIAPS participated in joint supportive supervision (JSS) visits with the Oromia RHB malaria team to 15 sites, including zonal and district offices, and health centers and health posts in West Shewa, Jimma, and Illuababora zones of the Oromia Region. Discussion and feedback were aimed at sustaining good practices and ways of improving observed gaps.

To increase awareness of pharmacovigilance, face-to-face discussions were held at 16 health facilities (10 in Amhara, 6 in Oromia) with 279 health providers. Pharmacovigilance tools and documents, such as the 1,120 ADE report forms and 1,600 newsletters, were distributed to the regions. A total of 22 ADR reports were sent to FMHACA from 4 facilities of West Amhara region; 3 of these reports (14%) were related to product defects.

SIAPS supported 29 health facilities to identify and manage treatment errors, adherence, and pharmaceutical care. The 488 prescribing and dispensing errors included regimen change, unnecessary or prolonged medication use, inappropriate dosing, and dispensing errors. This information will be used by the DTCs to guide measures to minimize medication errors.

In Q3, 32 health facilities in 6 regions conducted 305 sessions on medicine use education. In these patient education sessions, 19,194 people benefited, of which 9,728 (50.7%) were females; 13 topics were discussed, including RMNCH, AMR, safety of multiple-drug administration, chronic care management, diabetics medication use, effective use of ART drugs, and medicine storage at home.

SIAPS facilitated the delivery of DIS materials to 20 hospitals to initiate provision of evidence-based medicines information to providers and patients. Hospitals from Oromia (6), Tigray (5), Amhara (4), SNNP (3), and 1 each from Addis Ababa and Diredawa Regions received the support.

To increase public awareness and advocacy about RMU, SIAPS, together with FMHACA, regional health regulators, and mass media agencies conducted two trainings on AMR and RMU at Amhara and SNNP Regions for 37 and 41 journalists, respectively, who are producing and disseminating messages in print and electronic media in the public and private sectors.

SIAPS supported organizing AMR Containment Commemoration Day (AMR Day) on June 18, 2016, at Hawassa, in collaboration with the EPA; Southern Nations, Nationalities, and Peoples Region (SNNPR) RHB; the Ethiopian Pharmaceutical Students Association; FMOH; FMHACA; PFSA; and WHO-Ethiopia. The theme of the 2016 AMR Day was "Preserve Antimicrobials: Contain AMR!".

Partner Contributions

- The health facilities are covering expenses for renovation of the dispensaries/pharmacies in all APTS implementing sites.
- FMOH and RHBs continued covering the costs for printing financial vouchers and receipts.

Constraints to Progress

- Human resource shortages and commitment and Internet unavailability in most health centers make it difficult to share reports in a timely manner.
- Some health facilities are working hard to improve their services but all are not on the same pace and awareness; formats are supplied and supported on how to document and communicate results to concerned bodies.

Objective 3: Capacity to Use Information for Decision Making Strengthened

SIAPS has continued supporting the Ethiopian ART program by providing information for decision making. The PMIS has manual and electronic versions. The EDT is operational in approximately 210 ART sites, while more than 800 use the manual system. To effectively use the tools to identify, prevent, and manage treatment errors for patients on ART, it was necessary to train relevant government stakeholders, such as RHBs, zonal health departments, and PFSA. Moreover, apart from the capacity building efforts, these trainings contribute to the eventual ownership of the PMIS at the RHB level. Hence, two three-day trainings were organized for 17

(from Harari, Diredawa, Somali, Afar, and Oromia Regions) and 29 (from Amhara Region) pharmacy and IT professionals, respectively, to materialize these objectives. The basics of the tools, how they can be used for facilitating dispensing activities, and further utilized to help prevent medication errors and monitor patients' adherence to medications were discussed.

To ensure continuous patient information recording at health facilities and generation of various reports for decision making, onsite training was provided for four pharmacists and IT professionals. In Q3, the patient uptake and regimen breakdown report included data collected from 681 and 380 health facilities, respectively. According to this report, 362,236 patients were on ART, of which 316,834 patients were covered in the regimen breakdown report (87.5% of those covered under the patient uptake report).

To facilitate patient information recording at the health facilities and generation of various reports for decision making, SIAPS supplied two health centers in Oromia Region with computers, and EDT was installed to implement real-time dispensing. In addition, 42 health facilities were visited through supportive supervision for hardware and software maintenance.

During the quarter, 33 participants from 20 health centers, 2 general hospitals, and 5 primary hospitals in the Tigray Region were trained. These pharmacy professionals were trained on the SOP for managing information on ARV drugs and patient medication records, and each trainee received the SOP manual to be used as a reference.

In the quarter, health facilities in East Shewa, Arsi, Bale, West Arsi, Borena, and East and West Hararghe zones of the Oromia Region were supported to organize CRMS graduation. The process at each health facility started by forming a team composed of pharmacy, laboratory, outpatient department, and head of the facilities, followed by mentoring on use of the CRMS tool, collecting data with health-facility teams, entering the data, and finally generating reports. Following installation and mentoring in these health facilities, staff produced their own monthly CRMS reports. The next step will be supporting these health facilities on using the CRMS-generated information for decision making, how to conduct regular facility-based CRMS review meetings, and monitoring their performance on a regular basis to ensure ownership.

Partner Contributions

- Oromia regional, zonal, and woreda health bureaus facilitated CRMS graduation events.
- RHBs and PFSA hub staff's interest in taking over PMIS activities and their commitment and awareness helped to improve implementation.
- Some health facilities allocated one of their own computers for implementation of EDT.

Constraints to Progress

- Discrepancies in quality of data and reports coming from some health facilities
- Frequent power interruptions, affecting data capturing and updating
- Frequent trained staff turnover at some health facilities
- Frequent hardware and software failures

- Poor commitment observed at some health facilities and weak follow-up of activities from program implementers

Objective 4: Revenue from Sales of Medicines Increased

In this quarter, APTS was implemented at five hospitals in three regions, i.e., Tigray (3), SNNP (1), and Addis Ababa (1). As of the end of this quarter, APTS is being implemented in 54 health facilities throughout the country. Out of these 54 health facilities, 36 (66.7%) track their sales of medicines by using APTS and report regularly to respective regions and FMOH.

APTS trainings were organized for health center professionals in East and West Amhara Regions, Black Lion Hospital (in Addis Ababa), and Wolaita Sodo Hospital (in SNNPR). A total of 315 professionals (213 male and 102 female) drawn from these facilities attended. In Amhara Region, a huge effort is underway to scale up APTS to health centers. The health centers are now at the preparatory stage and providing training has helped them advance the preparation in a well-organized manner. Black Lion and Wolaita Soddo Hospitals implemented APTS in this quarter. Because these are university hospitals, they serve a huge number and range of population, and hence are expected to contribute substantially to the overall improvement in quality of services and scale-up to other hospitals.

Six hospitals (Bishoftu, Mehal Meda, Lalibela, Melkaoda, Debre Markos, and Mekelle) conducted ABC/VEN analysis. There is some evidence that expiry of medicines was reduced as a result of the ABC/VEN analysis, thereby meeting the HSDP's target of below 2% in 36 APTS implementing health facilities.

SIAPS provided technical support to monitor medicines expiry and damage rate in health facilities in Tigray and Amhara Regions. In all hospitals in Tigray that implemented APTS, the wastage rate has been reduced to well below the national target of 2%. They were able to provide medicines to patients at affordable prices (an average of 49.80 birr per patient) and their gross profit is increasing from time to time. Regular internal audit was performed and corrective measures were taken on the basis of the findings. In Amhara Region, the status of expiry at APTS-implementing hospitals was between 1.18% and 0.01%, which is much lower than the national target.

In Q3, a countrywide assessment was conducted to provide an overall strategic understanding of the dynamic relationship between the Government of Ethiopia's health insurance initiatives and the pharmaceutical supply chain, pharmacy benefit management practices, and systems in the public and private sectors. As a member of the national technical working group led by the Ethiopian Insurance Agency, SIAPS/Ethiopia contributed in facilitating data collection and entry, as engaged staff and a consultant provided support on RMU, pharmacy benefit management, and pharmaceuticals financing. The assessment covers close to 100 health facilities, hospitals (private and government), health centers, and community pharmacies (private, NGO, and government owned) in five regional states of the country. In addition, key stakeholder interviews were conducted with federal government agencies, community-based insurance scheme management offices, hospitals management, private importers and distributors,

chain pharmacies' management, and development partners. The report on the findings of these assessments and interviews is being drafted.

Partner Contributions

- FMOH played a leading role to initiate APTS at Tikur Anbesa Specialized Hospital. The management of the hospital has shown exceptional commitment to familiarize the hospital staff (especially prescribers) with APTS and to fulfill the minimum requirements for implementing APTS including human resources, facilities, and supplies.
- Health facilities conducted ABC/VEN analysis on the weekends.

Constraints to Progress

- The absence of incentive packages related to APTS and the shortage of pharmacy professionals in some district hospitals, which is compromising pharmacy service provision (counseling, appropriate evaluation, and documenting).
- High turnover of pharmacy accountants resulting in delay/absence of monthly report generation.

Guinea

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

Overall Quarter Progress

During this quarter under review, SIAPS/Guinea made good progress on most of its key objectives. Under the strengthening of the pharmaceutical sector governance (Objective 1), SIAPS continued to support the Direction Nationale de la Pharmacie et du Laboratoire (DNPL) in finalizing the draft of the pharmaceutical law and regulatory texts. For this purpose, SIAPS/Guinea supported a series of meetings of the national committee that aimed to improve the content of the existing draft, taking into account the laws and legislation from other countries in the region.

At the request of the Global Fund, SIAPS/Guinea, in collaboration with other stakeholders such as European Union (EU)/Projet d'Appui a la Santé (PASA), World Health Organization (WHO), and Catholic Relief Services (CRS), supported DNPL in developing a matrix of the supply chain priorities for Guinea; activities in the matrix are pulled from the DNPL strategic roadmap and the Pharmacie Centrale de la Guinée (PCG) strategic plan, both supported by SIAPS in 2014. SIAPS also met with DNPL, USAID, and other key supply chain stakeholders to introduce the upcoming national supply chain assessment, gather expectations and input to inform the scope of work, and secure buy-in from all key counterparts.

To improve the capacity for pharmaceutical supply management and services (Objective 2), SIAPS facilitated working sessions of the Procurement and Supply Management Technical Working Group (PSM-TWG) to assess the malaria commodity supply status. The working sessions served to review the commodity estimates as proposed in the document shared with the country by the PMI team while planning for the Malaria Operational Plan (MOP) 2017. Under the same objective, SIAPS/Guinea conducted training on quantification techniques and tools for the PSM-TWG. This training, a first of its kind in Guinea, laid the foundation for building the capacity within the PSM-TWG to develop accurate national forecasts and supply plans for antimalarial commodities. Building on the training outcomes, SIAPS supported the Programme National de Lutte contre le Paludisme (PNLP) to carry out a multi-year forecast of antimalarial commodities by using both consumption and morbidity/service statistics data. To date, preliminary forecast results have been developed that will be used to develop subsequent supply plans and help the program determine the financial resources required to support malaria program activities through 2022 (PMI- and Global Fund-funded-procurements).

To improve the availability of pharmaceutical management information for decision making (Objective 3), SIAPS/Guinea started gathering the users' system requirements for the automated Logistics Management Information System (LMIS) to be implemented in Guinea. A coordination meeting was held with DNPL and PCG, and one-to-one meetings took place with all the various MOH vertical programs including PNLP, the Programme National de Lutte Anti-Tuberculeux (PNLAT), the Conseil National de Lutte contre le SIDA (CNLS), etc. Additionally, SIAPS/Guinea participated in the national workshop convened by the Système National

d'Information Sanitaire (SNIS) department of MOH, which helped develop the guidelines for the DHIS-2 system customization as well as the first draft of the standard operating procedures (SOPs) manual for the Health Management Information System (HMIS).

In support of Objective 4, the discussion with in-country partners (DNPL, USAID, PCG, PNLP, PNLAT, CNLS, PNLS, CRS, EU/PASA, WHO, World Food Program [WFP], etc.) on the forthcoming national supply chain assessment also included the evaluation of the distribution costs for antimalarial commodities that will be carried out concomitantly.

In terms of improving pharmaceutical services to achieve desired health outcomes (objective 5), SIAPS jointly conducted regional quarterly review meetings with DNPL and the UNFPA for reproductive health commodity security in the regions of N'zérékoré, Mamou, Labe and Boke.

SIAPS/Guinea took part in technical meetings with PNLP, STOP Palu, and CRS to coordinate the logistics of the LLITNs mass distribution campaign. In line with this, SIAPS/Guinea attended the celebration of World Malaria Day, which coincided with the launch of the LLITN mass distribution.

The COMU Unit progressed with implementing the annual procurement plan and completed recruitment of three additional staff (accountant assistant, procurement associate, and administrative assistant).

Objective 1: Pharmaceutical Sector Governance Strengthened

Improve DNPL's Governance

To strengthen the governance of the pharmaceutical sector, several meetings took place with support from SIAPS, particularly with the national committee that's revising the pharmaceutical law. This committee collected documents from the country and the region, reviewed them thoroughly, and pulled relevant content to enhance the existing draft. As a next step, DNPL will convene a meeting for a larger technical group to present the final version of the draft law and legislation, which, once validated, will be submitted to the minister's office for transmission to the National Assembly for adoption.

Following a request by the Global Fund, SIAPS/Guinea, in collaboration with other stakeholders such as EU/PASA, WHO, and CRS, supported DNPL in developing a matrix of supply chain priorities for the next two years. The selected activities were prioritized on the basis of their relevance in addressing the most prevalent gaps in the Guinea supply chain system today. Activities, such as the national supply chain assessment and strengthening of the national quantification committee, supported by SIAPS, were included in the matrix. It should be noted that this initiative also helped DNPL identify existing supply chain initiatives from different actors in the Guinea supply chain system as well as potential funding sources in addition to the Global Fund.

Improve Governance of PCG

With technical support from SIAPS/Guinea, PCG organized a one-day workshop to review and analyze system requirements for the computerization of PCG operations vis-à-vis SAGE 100L, the warehouse management system selected for its warehousing and financial functions. This workshop involved the PCG director, heads of all departmental units, SIAPS staff, and the service provider. The one-day meeting served also as the official handover of the software installation kit to the PCG director.

After the workshop, it was necessary to review in detail PCG operational and financial processes. Thus, additional visits were organized for six of the nine operational units identified. As a result, a compendium of the system's functional and operational requirements was produced and the terms of reference for the project team were drafted alongside a project schedule and a risk register. On the top of the review of operational processes at the PCG's main warehouse in Conakry, additional visits were made to the regional depot of Labe, the Ebola Logistics Unit, the Quality Assurance Department, and the Coordination of Regional Depots to gather more requirements to inform the setup of the SAGE L100 system. The review of PCG's requirements for the payroll structure and asset management has started and will conclude in June.

Improve Accountability and Transparency of the National Pharmaceutical Supply Chain

As part of the forthcoming national assessment of the Guinea pharmaceutical supply system, with support from the SIAPS/HQ principal technical advisor (SCM Cluster), SIAPS conducted the literature review and carried out preliminary meetings with all supply chain stakeholders in country (DNPL, PCG, PNLP, PNLAT, WFP, CRS, WHO, PNLS, etc.). As a result, the assessment scope was clarified, engagement from key stakeholders was secured, and critical information was collected that will inform the assessment design and timeline. The next phase consists of collecting pharmaceutical operational data and is planned to start in August; dissemination of the assessment results is planned for September.

Partner Contributions

DNPL, PCG, PNLP, PASA/UE, USP/PQM, CRS, WHO

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

During this quarter, SIAPS/Guinea continued to support the coordination of quantification and procurement planning activities at the central level. Two monthly meetings of the PSM-TWG were held under the leadership of PNLP to assess the supply status of all malaria commodities in country, considering stock available, reported consumption, and shipments on order. In response to a request by the PMI team, SIAPS/Guinea facilitated multiple working sessions with PNLP and CRS to review the commodity forecast estimates prepared by the PMI team. The review consisted of collecting consumption and morbidity data, analyzing it for completeness and accuracy, and developing reasonable estimates of commodity requirements for 2016 through 2018.

SIAPS/Guinea also led training on quantification techniques and tools for the PSM-TWG members. This training, a first of its kind in Guinea, targeted eight participants from PNLP, DNPL, PCG, and CRS. It helped equip the staff with knowledge and skills to develop accurate national forecasts and supply plans for antimalarial commodities by using the best practice tools Quantimed and Pipeline. Building on the training outcomes, SIAPS/Guinea supported the PNLP to carry out a multi-year forecast of antimalarial commodities using both consumption and morbidity/service statistics data. To date, preliminary forecast results have been developed that will be used to develop subsequent supply plans and help the program identify the financial resources required to support malaria program activities through 2022.

Partner Contributions

PNLP led the process to launch the quantification process and collect required data, PCG facilitated the collection of inventory data, and CRS provided data on Global Fund's planned procurements.

Constraints to Progress

Consumption and morbidity data, though available, were not complete and of the desired quality.

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

To implement the Guinea LMIS, the MOH, through DNPL and assisted by SIAPS, organized a workshop with all supply chain stakeholders to define a limited list of LMIS-related performance indicators that will be used to gauge the performance of the pharmaceutical supply system and will be integrated within the overall reporting system of the MOH. Under the leadership of Bureau de Stratégie et Développement (BSD)/SNIS, a follow-on workshop took place in May in which a list of national indicators for health management information, including LMIS indicators, was agreed. SIAPS was part of the designated team that drew the indicators list and later developed the indicators catalog as well as the SOP for management of health information which outlines roles and responsibilities across the health system pyramid.

Furthermore, SIAPS/Guinea attended different working sessions and a workshop organized by SNIS, focusing on the DHIS2 project. The objective was to figure out whether the automation of LMIS could be built into the DHIS2 reporting platform. With DNPL and MOH programs, it was agreed that a desk review of existing electronic LMIS should be conducted and that a roadmap for the automation of the LMIS is developed as a sub-system of SNIS. The results of these preliminary activities are described in a project-approach document, which was submitted to the BSD/SNIS for endorsement.

Partner Contributions

DNPL, BSD/SNIS, PASA, PCG, CRS, all MOH programs, Measure and Evaluation, PCG

Constraints to Progress

No EUV was conducted this quarter because of the unavailability of PNLP staff. The ongoing LLITNs mass campaign has impacted PNLP's ability to effectively carry out other major planned activities.

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

A dialogue was initiated with in-country partners (DNPL, USAID, etc.), introducing the forthcoming national supply chain assessment; this assessment will also evaluate the distribution costs for antimalarial commodities. During this quarter, the literature review and drafting of the SOW for this evaluation were completed.

Objective 5: Pharmaceutical Services Improved to Achieve Desired Health Outcomes

Availability of Pharmaceutical Commodities Improved

At the request of USAID, SIAPS took over management oversight of storage, distribution, and use of contraceptives, from USAID | DELIVER, in support to DNLP. In preparation of this move, a consultation meeting was held between DNPL, UNFPA, and SIAPS to define the collaboration framework, especially around the upcoming distribution cycle. A calendar was established so that supplies will be distributed to districts on a quarterly basis, and PCG regional depots will have pre-positioned stocks to resupply districts in case of stock-out threats.

From May 30 through June 12, 2016, regional performance review meetings on family planning commodity security took place in Nzérékoré, Labé, Mamou, and Boké regions. These meetings were attended by participants from all districts in the four regions and were facilitated by central-level staff from Direction Nationale de la Sante Familiale (DNSF), DNPL, PCG, and partners (SIAPS, UNFPA, WHO, and Jhpiego). Data presented included the utilization of contraceptive methods over 2014, 2015, and the first months of 2016 and the consumption data over March, April, and May 2016 as well as the stock on hand at the end of May 2016. These meetings and field visits provided SIAPS with a pictogram of the strengths and weaknesses of the current supply system for RH commodities. The current supply system operates a push model through quantity allocation which at times leads to supply interruptions since most facilities have not been regularly placing their orders. The central level presently has no visibility into the supply system since no reports come from the lower levels. Consequently, it's difficult to accurately estimate the commodity requirements while making quantity allocations for health centers, hospitals, and health posts.

Follow-on activities to the field visits and regional meetings will include:

- A meeting at the central level to review and validate data collected from the field meetings
- The first round of quarterly distributions of RH commodities

- Supervisory visits at the district level to review reported data

In support to PCG for proper storage, management, and distribution of USAID-funded health commodities (including malaria commodities), SIAPS provided technical support to PNLP and PCG for the decentralization of the storage and facility resupply functions at the regional depots in Boke and Labe. In addition, quarterly distributions were conducted with SIAPS support in the districts of Dinguiraye, Coyah, and Dubreka and some health facilities in Conakry where stock-out threats had been identified.

Partner Contributions

DNPL, DNSF, UNFPA, WHO, AGBF (Association Guinéenne du Bien-être Familial), Jhpiego (Health Service Delivery Project/USAID funded)

Haiti

Goal: Improve access to and appropriate use of quality malaria commodities to reduce the malaria burden

Objective 2: Strengthening National Supply Chain System

As part of efforts to strengthen Haiti's public health supply system, the US Agency for International Development (USAID)-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program has been providing technical assistance for supply chain cost and operational analyses to generate information for making decisions about the appropriate model for the integrated public health supply system (SNADI). During the last quarter, SIAPS presented the results of supply chain analyses to members of the SNADI Steering Committee (SC) at a meeting chaired by Haiti's Minister of Health.

The committee deliberated on the results of the analyses and on contextual information provided by the Department of Pharmacy. Members then discussed a transitional arrangement proposed by the technical committee. The proposal is to use the Program on Essential Medicine and Supplies and Supply Chain Management System warehouses as central warehouses, representing the planned central warehouse of the integrated supply system (the centrale nationale d'approvisionnement et de distribution des intrants under SNADI), and to implement a direct active distribution system from central to healthcare institutions with the addition of private logistics service providers (3PLs) to distribute priority health program products. The proposal also includes adding another distribution system that relies on departmental warehouses (CDAIs) with a flow from central to CDAIs to health institutions for other essential medicines distributed as part of the cost recovery system. The SC approved this proposal as an interim measure pending construction of the central and regional warehouses. SC members adopted this proposal for the distribution of all medicines to health institutions.

At the same time, the Minister requested an analysis of an additional SNADI network configuration that would involve active distribution by 3PLs from a central-level warehouse to departmental warehouses and then to health facilities, which was identified as Option #4. SIAPS completed this additional analysis during the last quarter. During this quarter, the results of the additional analyses were shared with key stakeholders to determine the appropriate model for SNADI. A comprehensive report on the complete analyses, including information on the status of implementation of the planned SNADI when SIAPS' technical assistance concludes, will be finalized in quarter four.

Mali

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

Overall Quarter Progress

During this quarter, the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program supported the Ministry of Health (MoH) in implementing activities to strengthen pharmaceutical governance and services, build the pharmaceutical management capacity of individuals and institutions, and make logistics data available for decision making. As part of pharmaceutical governance, this support helped to improve the coordination, transparency, and accountability of the pharmaceutical supply chain sector.

SIAPS support allowed the family planning (FP) technical working group (TWG) to update 18 national supply plans for public and social marketing, which met the target. Orders and shipments from the United Nations Population Fund (UNFPA) and the US Agency for International Development (USAID) were updated in the pipeline, and recommendations on commodities procurement were made based on stock and shipment status. At the regional level, coordination meetings were held in Kayes, Koulikoro, Sikasso, Segou, Mopti, and Bamako to address supply chain bottlenecks by analyzing data and logistics management information system (LMIS) reports through OSPSANTE. Through these meetings, the number of civil society organizations (CSOs) participating in monitoring pharmaceutical management increased to 26, exceeding the project target of 24 and contributing to improved pharmaceutical management oversight and accountability.

With SIAPS support, the Pharmacie Populaire du Mali (PPM) finalized a comprehensive product catalog that will provide information on commodities to procure, as well as accurate customer guidance. PPM's relevant standard operating procedures (SOPs) were also updated to improve pharmaceutical management. The number of SOPs developed with SIAPS support increased from 12 to 28. As part of its five-year strategic plan, PPM planned to set up a logistic management unit (LMU) to improve the use of logistics information for evidence-based decision making. Drawing on a shared vision, SIAPS finalized the conceptualization of the LMU and organized the first advocacy meeting with PPM and the Directorate of Pharmacy and Medicines (DPM). To build capacity, DPM conducted two training sessions with SIAPS support for employees of PPM and national hospitals on the LMIS SOPs. The total number of health workers trained in pharmaceutical management increased from 1,645 to 1,677, exceeding the target of 1,650.

In collaboration with Imperial Health Sciences (IHS), SIAPS provided technical assistance to PPM to strengthen the overall supply chain management system, including warehousing and inventory management. The assistance allowed PPM to preselect a vendor for the warehouse in the box foundation. Continued support to 50 districts has enabled coaching and mentoring for health information and district warehouse managers on entering LMIS reports into OSPANTE. Through the emergency operation center (EOC), SIAPS supported the MoH in conducting a needs assessment for Interagency Pharmaceutical Coordination Group (IPC) commodities. This

increased the number of quantifications conducted with SIAPS support from 7 to 8, meeting the project target. To improve information availability for decision making, SIAPS supported DPM in analyzing monthly LMIS reports generated by OSPSANTE. The general reporting rate was 98%. DPM was also able to add nutrition and HIV commodities into OSPSANTE. A procurement planning and monitoring report for malaria (PPMRm) and a procurement planning and monitoring report for contraceptives (PPMRc) were also submitted to USAID to provide information on the supply of malaria and FP commodities. Those reports included recommendations relating to commodities security.

Finally, during this quarter, SIAPS continued to support the Direction Régionale de la santé (DRS) in conducting coaching visits to trainees in several districts to increase the number of trainees who successfully completed the post-training action plan and improve the use of management tools, including stock cards and LMIS reports.

Objective 1: Pharmaceutical Sector Governance Strengthened

In terms of governance, SIAPS provided technical support to the MoH to organize a May 11, 2016, meeting of the FP TWG to update national supply plans based on the logistics data (i.e., consumption, stock on hand, months of stock) generated by OSPSANTE. The national FP commodities supply plan needs to be updated regularly to ensure that commodity deliveries are adjusted in response to variations in consumption patterns. Participants from the MoH, UNFPA, USAID and its implementing partners, and CSOs attended this meeting. The orders and shipments from UNFPA and USAID were reviewed.

The primary recommendations from that workshop were to:

- plan a meeting between the World Bank project and DPM to check all received quantities
- ensure that UNFPA maintains a supply of 10,000 doses of Microlut for the public sector and 2,695,827 male condoms

At the regional level, SIAPS conducted similar efforts and supported the Regional Directorate of Health to organize coordination meetings to ensure the sustainability of the established coordination mechanisms and address supply chain bottlenecks. Stock managers from the district and regional levels, as well as USAID implementing partners and CSO representatives, attended those meetings. They discussed, analyzed, and validated district-by-district logistics data and used OSPSANTE to improve the availability of key products at the lowest level of the health care system. Discussions focused on data quality regarding the timeliness, completeness, and use of logistics management information for evidence-based decision making. Participants also shared information and best practices.

To help PPM collect comprehensive information on commodities to procure, store, and distribute, a product catalog will be developed during the first year of the PPM strategic plan implementation. During this quarter, SIAPS provided technical support to draft a catalog that will provide comprehensive information on commodities and accurate information to customers. The next step of the process will be editing the catalog and creating paper and electronic copies for PPM's clients.

To enhance pharmaceutical management, technical support was provided to PPM to review and update relevant SOPs to improve order and validation process, storage, and shipping of products. As a result, SIAPS and its IHS partners developed 28 relevant SOPs, guides, and lists for PPM.

Partner Contributions

- MoH, DPM, FP TWG
- Donors: USAID, Global Fund/Population Services International (PSI), UNFPA
- PPM staff

Constraints to Progress

The main challenges to supporting pharmaceutical governance were:

- donor commitments in the national supply plans
- the effective use of OSPSANTE-generated data for decision making

Objective 2: Capacity for Pharmaceutical Supply Chain Management and Services Increased and Enhanced

During this quarter, SIAPS supported DPM's effort to build individual and institutional capacity by training PPM and national hospital staff on storage procedures; the use of stocks cards, logistic reporting tools, and requisition forms; and calculating commodity needs based on the LMIS SOPs. Two training sessions were organized, and 32 individuals were trained. The Y5 work plan included continued technical and financial support to the MoH at the regional and district levels to support warehouse and health management information system managers in capturing monthly LMIS reports in the dashboard. Internet access was provided to warehouse managers in 50 districts and to 5 regional pharmacists and 6 regional information system managers.

PPM is struggling to operate efficiently and implement best practices because most of its warehouses do not meet the minimum standards for health commodity storage, including environmental controls, fixtures, layout, and storage space; in addition, some warehouses are dilapidated. To overcome these challenges, PPM needs to make structural and operational adjustments that will ensure proper management of key health commodities. As part of its five-year strategic plan, PPM will install a new central warehouse that will provide a quality storage environment and serve as a logistics platform for processing as many orders as possible in different situations. During this quarter, SIAPS collaborated with IHS to support PPM in strengthening the overall supply chain management system and continue the installation process of a new warehouse. Vendor preselection for this project was initiated during this quarter following resolution of the land issue.

SIAPS supported the MoH through the EOC to conduct a rapid situation analysis and arrange financial, technical, and logistical support in the regions of Kayes, Koulikoro, Sikasso, and Bamako. SIAPS regional technical advisor in Kayes, Koulikoro, and Sikasso accompanied the analysis team. One component of this analysis was the inventory of Ebola IPC commodities in health corridors/borders and facilities.

SIAPS helped to draft and finalize the consolidated report and participated in its dissemination. Through the EOC, SIAPS supported the MoH to conduct a needs assessment for IPC commodities, which took place June13–21, 2016. Representatives from the MoH (EOC/DPM), USAID and its implementing partners, and UN agencies attended this meeting and provided information and recommendations to improve the quantification and procurement plans of IPC commodities

Partner Contributions

- DPM, PPM, and national hospitals
- DRSs of Kayes, Koulikoro, Sikasso, Ségou, Mopti, and Bamako
- Fifty health districts of the Kayes, Koulikoro, Sikasso, Ségou, Mopti, and Bamako regions, including six districts in Bamako

Constraints to Progress

The main challenges are attributed to the trainees' effective implementation of the post-training action plan.

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

During the FY14 funding period, SIAPS provided technical assistance to the MoH (DPM, DRS, national malaria control program, and Division Santé de la Reproduction (DSR)) to develop and roll out a web-based dashboard for malaria, maternal and child health (MCH), and FP commodities. The dashboard was designed to capture, track, aggregate, and disseminate information about malaria, MCH, FP, and tracer drug products and to improve information availability and accessibility for better and faster decision-making at the national level.
MoH and relevant stakeholders have used the web portal to improve forecasting, supply planning, and procurement to support the continuous availability of malaria-, MCH-, and FP-related commodities. The portal also offers a platform to easily share information on funding flows and stock-out risks.

During the user acceptance testing of OSPSANTE, all stakeholders underlined the importance of including HIV/AIDS and nutrition commodities in the dashboard. During this quarter, SIAPS worked with the developer, DPM, and relevant stakeholders to add HIV/AIDS commodities to OSPSANTE.

Workshops were conducted under DPM leadership on March 8 and 10, 2016, to collect information and develop consensus on forms and reports being used in the country to report on HIV and nutrition commodities that should be included in OSPSANTE. To finalize data collection and address any remaining requests, a working group for nutrition and HIV was created. During this quarter, the nutrition and HIV commodities portal was developed, and it will be tested with support from SIAPS.
During this quarter, SIAPS submitted a PPMRm and a PPMRc to USAID after collecting stock information data from the national and facilities levels using OSPSANTE. The major findings and recommendations from these two reports included the following:

- The stock levels of general malaria commodities are adequate in the country.
- To avoid stock-outs, PSI should accelerate the transfer of 1,005,647 doses of AL 6X4 to PPM's central medical store warehouses.
- The National Malaria Control Program should expand its distribution plan for commodities transfer at central medical store warehouses through PSI.

Partner Contributions

- DPM, PPM, SG/HCNLS, CSLS, USAID, UGP/UNDP DPM, DNS, UNICEF, USAID and USAID/Service de Santé à Grand Impact (SSGI)/Save the children participated in the consensus meetings.
- PPM, PSI, DPM, DSR, USAID, KJK, 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 the Kayes, Koulikoro, Sikasso, Segou, Mopti, and Bamako regions participated in data collection and entry into OSPSANTE.

Constraints to Progress

The main challenges are attributed to the poor ownership of participants at all levels in data analysis and relevant decision making.

Objective 4: Pharmaceutical Services Improved to Achieve Desired Health Outcomes

To improve pharmaceutical services and achieve desired health outcomes, SIAPS worked with DRS to conduct coaching visits to trainees on the use of LMIS SOPs in the Kita district (Kayes region), Fana and Banamba districts (Koulikoro region), Bougouni district (Sikasso region), Baroueli district (Segou region), and Djenne district (Mopti region). During those visits, the coaching team evaluated the implementation of the post-training action plan, which will help improve the LMIS roll out and the implementation of the essential medicines procurement and distribution scheme and help strengthening the capacity of field-based health workers to use the reporting tools for medicine stock status, consumption, and treating patients.

Partner Contributions

- DRS, PPM regional warehouses, and the health districts of the Kayes, Koulikoro, Sikasso, Segou, and Mopti regions.

Constraints to Progress

The budget allocated by health facilities for medicine procurement is not sufficient. Even if the warehouse managers can calculate their needs and better manage their stock, they will continue to face stock-outs if sufficient procurement funds are not available.

Mali Ebola Portfolio

Goal: Ensure the availability of quality pharmaceutical products (infection prevention and control commodities) and effective pharmaceutical services to achieve desired health outcomes

Overall Quarter Progress

A technical visit on the ground conducted by the Emergency Operation Center (EOC) identified a need to improve the availability of equipment and infection prevention and control (IPC) commodities in the field. As a result, the SIAPS Program supported the Ministry of Health (MoH) to conduct an assessment and inventory of equipment and IPC commodities in the health facilities of regions located on the border with Guinea, including the Kayes, Koulikoro, Sikasso, and Bamako districts.

During this quarter, the MoH received support through the EOC to conduct a quantification of IPC commodities from June 13 to 21. The process was conducted by the quantification subcommittee, which included MoH institutions (Directorate of Pharmacy and Medicines, central medical store, National Direction of Health, Institut National de recherché en santé publique, and Centre national d'information d'éducation et de communication pour la santé) and partners, such as the US Agency for International Development (USAID), Centers for Disease Control and Prevention, Catholic Relief Services, International Medical Corps, and Medecin sans frontieres.

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

SIAPS supported the MoH through the EOC to conduct a rapid situation analysis and arrange financial, technical, and logistical support in the Kayes, Koulikoro, Sikasso, and Bamako regions. The SIAPS regional technical advisor for Kayes, Koulikoro, and Sikasso accompanied the rapid situation analysis team in the field. One component of this analysis was the inventory of Ebola IPC commodities in health corridors/borders and facilities.

The SIAPS team helped to write and finalize the consolidated report of the assessment and participated in disseminating the results. The MoH (EOC/DPM), USAID and its implementing partners, and United Nations agencies attended to the dissemination meeting and provided useful information and recommendations for better quantification and procurement plans of IPC commodities.

The next steps for this project include:

- defining and refining some assumptions, such as the number of Ebola treatment centers, the number of transit and observation centers, and the number of isolation rooms the MoH plans to open
- finalizing the evaluation of IPC commodity stocks on hand
- finalizing the quantification exercise, including the budget

- disseminating the quantification results to the national technical coordination committee
- writing and finalizing the technical report of the quantification
- presenting the quantification results to the MoH

Partner Contributions

All above mentioned partners contributed to the IPC commodities quantification exercise.

Mozambique

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

Overall Quarter Progress

During this quarter, the USAID-funded SIAPS program continued providing support to the Pharmacy Department of the Ministry of Health (MoH) to hand over the mechanism for the revision of the National Essential Medicines List (NEML). As a result, the NEML was sent to the home office for editing and independent technical review. A plan for future NEML revisions was also developed, along with an NEML monitoring plan and updated terms of reference (TOR) for the NEML Committee and the national medicine formulary (NMF). SIAPS support enabled several outcomes that will support the implementation of the Pharmacy Department's M&E plan, including presenting performance indicator results at a board meeting, expanding and submitting a second quarterly report, and holding a results-based management workshop and conducting a data quality assessment.

During this quarter, SIAPS supported the MoH to transfer product registration information necessary to perform renewals and variations of product registration from a physical to an electronic archive, which streamlines the renewal and variations process, reduces the backlog, and improves access to those medicines.

To strengthen the capacity of the Hospital Pharmacy Department (HPD) and improve the functions of hospital Drug Therapeutic Committees (DTCs) at the central and provincial levels, six supervision visits were made to hospital DTCs during the third quarter, and one technical report was finalized. Together, these activities show progress, as demonstrated by the following indicators: the number of days needed to approve a product registration application decreased from 275 in quarter 1 to 176 in quarter 3; 557 people were trained (81% of the life-of-project target); and 10 sites assisted by SIAPS implemented medicines safety activities and pharmacovigilance (125% of the life-of-project target).

Objective 1: Governance in the Pharmaceutical Sector Strengthened

SIAPS supported the MoH to initiate the development of the TOR of the NMF Committee and the NMF concept note. To implement the M&E plan, MoH M&E staff, with support from SIAPS, presented the results of the first data collection at their board meeting, collected the data, and prepared the second quarter report. In addition, SIAPS supported the MoH in holding a results-based management workshop delivered by SIAPS home office M&E specialists. These specialists also performed a data quality assessment for SIAPS on the MoH M&E data system. The results of the January–March 2016 data collection showed that the responsiveness of the central pharmacovigilance has continued to decline, and the number of days for granting registration by recognition has decreased. For NEML products, there was a 2% increase from the previous quarter.

SIAPS supported the Pharmacy Department in transferring the product registration information that is necessary to perform renewals and variations of product registration from a physical to an electronic archive. As a result, 2185 files are now stored electronically, which streamlines the renewal and variations process, reduces registration time, and improves access to those medicines

USAID and SIAPS provided regulatory short-term technical assistance (STTA) April 10–16, with a senior technical adviser supporting the registration sector staff to improve the quality of the medicine registration system. Users were trained on how improve the quality of review reports using PharmaDex and how to develop an implementation plan to improve the medicine registration system and adopt Southern African Development Community harmonized guidelines. As part of the STTA, a session was held to develop consensus on the specifications of the variation and renewal modules from a regulatory perspective. Because the IT experts of PharmaDex can only provide remote support, a SIAPS PharmaDex programmer conducted an IT STTA session April 25–May 6 to train MoH IT staff in how to perform system configuration, management, and first-line support. Two manuals were developed to assist the MoH IT staff. In addition, SIAPS hired a consultant to support the implementation of PharmaDex at the MoH. The consultant is strengthening the capacity of "Super Users" to submit and review registration dossiers. The consultant also supports MoH staff in performing weekly system updates and maintenance. This activity contributed to the decrease in the number of days needed for a product registration application.

Partner Contributions

Two MoH staff were active members of the technical working group, contributed to the workshop and the quarterly report, and coordinated with the DPC to introduce the impact indicators to the MoH.

The Committee secretariat put forth exceptional effort to finalize the NEML activities.

Constraints to Progress

- The poor availability of M&E staff who were not exclusively engaged in M&E activities. To overcome this constraint, SIAPS leadership is planning to hold a meeting to advocate for dedicated M&E staff from the MoH.
- The MoH computers use an internet provider that is very weak and does not have site control access.
- The legacy data collection may take longer than expected because collecting paper data and digitizing it for approximately 4,500 registered products, as well as pending application dossiers, is time consuming. In addition, there are administrative and logistical issues in accessing dossiers that are located in two different warehouses.
- The MoH PharmaDex server was shut down by a virus. PharmaDex was not affected by the virus, and the part of the server that was affected was recovered. SIAPS provided immediate technical assistance to remove the virus and to develop controls and procedures to avoid similar problems in the future.

Objective 3: Pharmaceutical Services Improved to Achieve Health Outcomes

To strengthen the capacity of the HPD to improve the functions of hospital DTCs, SIAPS provided support to HPD staff for training hospital pharmacists on how to collect, analyze, and report prescription indicators, medications errors, and aggregate consumption studies. This was done in three province and two central hospitals. In general, the results were similar among health facilities, including a high percentage of cases in which at least one antibiotic was prescribed (min, 51%; max, 88%); antibiotics being the therapeutic group with the highest consumption in health facilities (min, 32%; max, 50%); and ferrous sulfate with folic acid being one of most consumed medicines in hospitals. In all of the health facilities that were evaluated, DTC members agreed that noncompliance with good prescription standards is a major problem. The main contributors to this problem were concordant and, in some cases, complementary among health facilities and included:

- A poor culture of using primary health care facilities and political pressure to assist patients who were not referred from those facilities
- A lack of institutional mechanisms to address prescription problems
- An insufficient number of NMF medicines in the medical offices and wards
- An insufficient allocation of hospital staff by the Province Health Directorate
- Infrequent stock status updates
- A lack of adjusted protocols to each province and standard procedures for in-service training, induction of new hospital staff, and communication between medical and pharmaceutical staff

It was agreed to address those problems that were under the direct control of the health facility or those that the facility could influence for better results. The most common interventions planned by health facilities include:

- Designing a procedure to communicate identified prescription problems, solve these problems, and document the process to avoid future challenges
- Determining procedures to manage the hospital's NFM stock
- Quantifying the need for NFMs in the hospital and the hospital's requests to the Province Health Directorate
- Monitoring the availability of NFMs in the hospital
- Creating a group to share the stock status of the most consumed medicines in the hospital
- Expanding the hospital's protocol to treat anemia
- Exploring how to create a backward referral system for patients that can be controlled at primary health care facilities
- Training pharmacists and prescribers in the anemia treatment protocol and on how to use the procedure to communicate and solve identified medicine use problems
- Sharing the hospital's stock-out status at least twice daily using the WhatsApp platform
- Designing the terms of reference for supervision in ambulatory pharmacies and wards, a protocol to implement pilot hospital standard treatment guidelines in emergency services, and a standard procedure for medical staff induction and all staff in-service training.
- Supporting equity in patient distribution among staff

Partner Contributions

- The HPD contributed by training DTC members and co-facilitating the DTC workshops to identify medicine use problems, root causes, and interventions to address these problems.
- DTC members continued to report medication errors.

Namibia

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

Overall Quarter Progress

During this quarter, SIAPS continued assisting the Ministry of Health and Social Services (MoHSS) to strengthen the regulation of antiretrovirals (ARVs) and other essential medicines in the country by testing upgrades to the web-based PharmaDex system. This will contribute to improving efficiency and transparency in medicine registration. SIAPS also assisted the MoHSS to finalize the National Pharmaceutical Master Plan (NPMP). For better oversight and accountability in the use of medicines at health facilities, SIAPS continued supporting the Therapeutics Committees (TCs) to improve their effectiveness.

The SIAPS Year 5 targets for pre-service pharmaceutical training were achieved. With SIAPS support, nine pharmacists and 36 pharmacist's assistants (PAs) were trained. This contributed to building Namibia's institutional capacity in pharmaceutical human resources training for sustainable control of the HIV/AIDS epidemic. In quarter 3, SIAPS registered with the Health Professions Council of Namibia (HPCNa) as a provider of Continuing Professional Development (CPD) in-service trainings.

SIAPS supported the MoHSS to develop a Facility Electronic Stock Card (FESC) or electronic logistics management information system (eLMIS). The FESC will improve data reporting and availability at the national, regional and district hospital levels to minimize stock-outs and wastage of ARVs and other essential medicines. SIAPS is supporting the MoHSS to make stock data available through a dashboard that will be linked to the FESC and other SIAPS-supported tools, such as the Electronic Dispensing Tool (EDT). The FESC is expected to enhance the availability of facility-level stock status data to improve decision-making for pharmaceutical services. The dashboard and FESC were officially launched by Namibia's Minister of Health, and the US Ambassador to Namibia on June 23, 2016.

As a member of the MoHSS multistakeholder ART Adherence Technical Working Group (TWG), SIAPS collaborated with several partners the MoHSS Directorate of Special Programs (DSP) to implement Namibia's ART adherence strategy, which was drafted by SIAPS and later adopted by the TWG.

SIAPS conducted a quality assessment of ART data for newly enrolled patients and those actively undergoing ART between January and March 2016. SIAPS is analyzing the variances found between the EDT and the electronic patient management system (EPMS) data. The findings will guide the MoHSS TWG on strategies for improving the interoperability of the EDT and EPMS.

Objective 1: Quality and Safety of ARVs and Medicines for Opportunistic Infections Ensured

The MoHSS continues to view PharmaDex as a tool for improving efficiency and transparency in medicine registration. During this quarter, SIAPS continued to test upgrades made to PharmaDex. A tracker was created to document any request for changes to the system. Templates of Namibia Medicines Regulatory Council (NMRC) letters to acknowledge submissions of applications and identify any dossier deficiencies were also shared for uploading into the tool.

SIAPS provided technical assistance (TA) to the MoHSS Division of Pharmaceutical Services (Div:PhSs) for reviewing the country's NPMP. The NPMP guides the implementation of Namibia's National Medicines Policy. SIAPS provided TA for reviewing the plan to assist the MoHSS in planning activities to improve the management of pharmaceutical products, tools, and services. This includes promoting rational medicine use; managing the inventory of ARV medicines and other pharmaceutical products; and preventing antimicrobial resistance, such as drug-resistant TB and HIV-DR.

SIAPS supported the MoHSS to develop a user guide for an FESC or eLMIS and distributed it to district hospitals. The FESC will improve data reporting and availability at the national, regional, and district-hospital levels to minimize stock-outs and wastage of ARVs and other essential medicines. The FESC user guide brings the total number of pharmaceutical management guidelines, lists, and standard operating procedures developed or updated and submitted for adoption to 63.

SIAPS provided TA to the MoHSS for the addition of five new ARVs to be used in salvage regimens for patients failing on the first- and second-line ART regimens. Six new ARV formulations were also added to the Namibia Essential Medicine List to facilitate easier dosing and better adherence for children. These recommendations were submitted by SIAPS at the National ART Guidelines review meeting May 30–June 3, 2016, and will be used to inform changes to the current treatment regimens.

SIAPS continued supporting the TCs to improve functionality and provide oversight and accountability for medicine use at the health facility, district, and regional levels. SIAPS supported the MoHSS in appealing to the Global Fund for funding for TC-related activities. SIAPS technical advisors will be available to co-facilitate any training that MoHSS might conduct should funds be approved and released by the Global Fund.

Partner Contributions

- The NMRC provided feedback and support toward the implementation of PharmaDex for medicine registration.
- The Essential Medicines List Committee participated in the review and recommendation of changes to the Namibia Essential Medicine List.
- The MoHSS Div:PhSs participated in the review and finalization of the NPMP.

- The DSP of MoHSS participated in the National ART Guidelines review, including the addition of salvage regimens for patients failing on the first- and second-line ART regimens.
- Fifteen MoHSS district hospitals contributed to the implementation of FESC and ART data quality assurance.

Constraints to Progress

- The programmer identified to work on the NMRC website was involved in an accident, and work on redesigning the website has been delayed as a result.
- The absence of government-appointed members on the NMRC has slowed medicine registration in the country.

Objective 2: Human Resources Capacity in Pharmaceutical Management and Service Delivery Strengthened for Improved HIV and AIDS Treatment Outcomes

Following the annual pharmaceutical supportive supervisory visits in February 2016 and in collaboration with the MoHSS, SIAPS provided TA to the Div:PhSs to disseminate findings and recommendations to health facilities and MoHSS management. SIAPS continued to assist the MoHSS in compiling the comprehensive national feedback report and presenting the findings to various Ministry departments. The comprehensive report will be finalized in quarter 4. From these visits, it was noted that all 35 district hospitals that were visited had at least a qualified PA to manage pharmaceutical services. This 100% finding is an improvement over the 97% finding in 2015.

Nine pharmacists and 36 PAs graduated from the University of Namibia's School of Pharmacy (UNAM-SoP) and the National Health Training Centre (NHTC) in April and June 2016, bringing the number of health care workers who graduated from preservice training with TA from SIAPS to 163, against the length-of-program target of 164. SIAPS support to the NHTC and the UNAM-SoP has ensured that graduating PAs and pharmacists are competent in pharmaceutical management. These pharmacists and PAs are trained in various areas, including pharmaceutical supply management, pharmaceutical regulatory affairs, rational medicine use, pharmacovigilance, and pharmacoeconomics, for which training modules were developed with SIAPS support.

With assistance from SIAPS, the UNAM-SoP (pre-service training) compiled an abstract on "A pre-service curriculum for capacity development in medicines regulation at the University of Namibia: Process and outcomes", which will be presented at the Medicines Utilization Research in Africa Symposium at the University of Botswana July 25–27, 2016.

During this quarter, SIAPS registered with the HPCNa as a provider of CPD in-service trainings. This will enable registered professionals to get recognition and CPD points as part of professional advancement when they participate in SIAPS-supported trainings.

SIAPS reviewed existing documentation on its previous human capacity building work in Namibia to identify successes and areas of future support focusing on the regional and health facility levels. SIAPS also met with health facility staff to collect their feedback on the effect of SIAPS activities toward improving pharmaceutical service delivery, ensuring access to quality

ARV medicines, and managing patients on ART. Six success stories were developed, and two have been published on the SIAPS website.

SIAPS developed a technical brief, "Strengthening Namibia's Pharmacy Sector and Pharmacy Workforce," documenting a holistic approach to strengthening human resource capacity in Namibia. This document describes the short, medium, and long-term approaches that were employed to address the human resources situation in Namibia, the results, and the lessons learned. The lessons from this review will inform future work in this area.

Partner Contributions

- The UNAM-SoP provided preservice training of pharmacists.
- The NPCNa approved awarding CPD points for SIAPS training.
- The NHTC of the MoHSS provided preservice training of PAs.

Objective 3: Availability and Use of Pharmaceutical Service Data is Enhanced for Improved Quality of ART Services

SIAPS continued to provide routine information technology support to 50 MoHSS EDT sites and the national database, the RxSolution at Intermediate Hospital Oshakati, and the e-TB Manager to ensure optimal availability of data from these tools for improving pharmaceutical service delivery, particularly for people living with HIV/AIDS.

During a five-day, facility-based, on-the-job training session, SIAPS oriented approximately 30 health workers, including pharmacists, PAs, and pharmacy support staff, in 15 district and referral hospitals on the use of the FESC. The FESC will automate the ordering process based on consumption and is expected to further improve the accuracy of pharmaceutical ordering. It will enhance the availability of facility-level stock status data to facilitate timely decision-making on pharmaceutical services management.

SIAPS is a core member of the newly formed MoHSS Health Information System TWG. SIAPS, in collaboration with the MoHSS, IntraHealth Namibia, and other partners, is working to harmonize data from the EDT and the EPMS to link patient records and improve the interoperability of the two systems.

SIAPS continued providing on-the-job technical support to pharmacy staff at ART sites on the use of the EDT and mobile EDT for capturing and reporting data on ARVs and ART patients. The support has contributed to improving the availability of ARVs and the retention of patients on ART. For the most recent MoHSS-disseminated ART-PMIS quarterly feedback report, all 50 main EDT sites provided data obtained from the EDT.

SIAPS scaled up the implementation of the EDT cellphone-based patient short messaging system (SMS) adherence reminder service to eight additional sites in Namibia. Ten sites now use the SMS reminder system, which allows short, automated messages to be sent to ART patients reminding them about their pharmacy appointments and encouraging adherence to ART.

Partner Contributions

- The MoHSS Div:PhSs provided support to health facilities using the EDT and helped implement the FESC and dashboard.
- The MoHSS DSP provided support to primary health care facilities using the mobile EDT for ART data capture.
- MoHSS partners, including IntraHealth Namibia, provided TA on EDT and EPMS interoperability.

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

SIAPS supported the Kunene region's TC to complete the technical report for a medicines use evaluation (MUE) that the region implemented in the previous two quarters. The findings will guide action plans for medicine use improvement in the region. Results from the MUE showed 83% compliance to standard treatment guidelines (STGs), which was higher than the 26.2% compliance to STGs found during the national STG post-assessment in 2013. The regional pharmacist attributed the high compliance to better TC oversight on medicine use within the region. This was achieved through enhanced TC meetings and activities, such as quarterly ward visits, and regular SIAPS technical support. Prior to the MUE, SIAPS supported the Kunene region to train 11 members of three TCs. SIAPS also developed an MUE manual to encourage TCs to assess medicine use and promote health worker compliance to Namibia's STGs and ART guidelines. Orientation of health workers on the MUE manual is scheduled for July 2016. SIAPS supported the MoHSS to develop an abstract, "Promoting Rational Use of Medicines through Therapeutics Committees in Namibia: Evidence from Kunene Region", to share this success story and to encourage other TCs to be more active in promoting rational medicine use at health facilities.

SIAPS is a member of the multi-stakeholder national steering committee on the containment of antimicrobial resistance (AMR) and prevention of hospital-acquired infections (HAIs). SIAPS also supports TCs on promoting the rational use of antimicrobial medicines by providing on-the-job TA during annual supervised site visits. The MoHSS, through advocacy by the HAI/AMR steering committee, plans to set up regional antibiotic stewardship committees and to hold health care worker workshops on antibiotic stewardship. SIAPS will also support Namibians Against Antimicrobial Resistance (NAAR) in its AMR prevention advocacy role. A member of NAAR was invited to the most recent SIAPS-supported Essential Medicines List Committee meeting to stimulate interest in antibiotic use in Namibia.

As a member of the Adherence TWG, SIAPS collaborated with other partners, including Project Hope, IntraHealth Namibia, and the Centers for Disease Control and Prevention, in supporting the MoHSS DSP to implement Namibia's adherence strategy. SIAPS developed the Adherence Strategy for Namibia and presented it to the TWG for adoption. On the recommendation of the adherence TWG, SIAPS supported the implementation of the EDT SMS reminder system at 10 sites in Namibia based on lessons learned in the two-site pilot project. SIAPS also developed a process flow and monitoring mechanism for the dispensing of ARVs through community-based groups.

In June 2016, SIAPS began assisting the MoHSS with abstracting data for the 2016 HIV-DR Early Warning Indicator (EWI) analysis. A manuscript on the 2014 EWI analysis was developed, and an abstract on the 2015 EWI analysis was accepted for a poster presentation at the July 2016 International AIDS Society Conference in Durban, South Africa. The report on the 2015 EWI analysis has been finalized and shared with the MoHSS.

Partner Contributions

- The MoHSS HIV Case Management Unit and DSP provided support for ART adherence and retention initiatives.
- The MoHSS Kunene Regional Management Team conducted an MUE, updated a manual on conducting MUEs, and developed an abstract on MUE.

Niger

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

Objective 1. To Strengthen the Systems for Malaria Commodities Management Seasonal Malaria Chemoprevention

The National Malaria Control Program (NMCP) will implement seasonal malaria chemoprevention (SMC) campaigns in 27 districts (with 23 of those fully covered) out of 38 eligible districts using funding from the Achieving Catalytic Expansion of Seasonal Malaria Chemoprevention in the Sahel project, the United Nations Children's Fund (UNICEF), the World Bank, Médecins sans Frontières (MSF) Suisse, Islamic Relief Niger, and Bien-Être de la Femme et de l'Enfant au Niger. Approximately 2,621,879 eligible children (67%) will be covered during this campaign. The number of eligible children covered by SMCs increased from 205,909 in 2013 to 2,621,879 in 2016.

During this quarter, the SIAPS technical advisor and the NMCP followed-up on the procurement/ordering status of SMC commodities by each partner to ensure timely delivery of products. A supply pipeline was developed to organize and ensure the availability of products at the distribution site by July 15, 2016 (a week before the start of the SMC campaign).

The team also worked closely with UNICEF and other partners to quantify commodity needs and tools to implement the SMC campaign at the supported sites. This collaboration and support led to the emergency procurement of sulfadoxine/pyrimethamine and amodiaquine from CAMEG, the Burkina Faso central medical store, because the regular order from the manufacturer would not be delivered by the start of the campaign. Without this action and coordination, approximately 523,000 children would not receive antimalarial medicines this year.

Strengthening the Commodities Supply Chain in Niger

Under the supervision of the Country Coordination Mechanism, partners involved in the commodities supply chain have finalized the supply chain strengthening plan to be funded by the Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) through the tuberculosis health system strengthening grant. The following activities were proposed:

- Develop and implement a logistics management system and tools
- Support the extension of stock management and dispensing software after its development and pilot phase, which is funded by France Expertise Internationale and the HIV and AIDS Global Fund grant
- Develop a national supply chain strategic plan by September 2016 that will integrate current efforts from the Global Fund and the Sahel Women's Empowerment and Demographic Dividend Project into one document

A SIAPS technical advisor was involved in all discussions and made necessary contributions to strengthen the commodities supply chain.

In addition to these activities, specific actions to improve the malaria commodities supply chain have started, such as:

- Providing support to the malaria supply chain committee meeting
- Recruiting a procurement and supply manager at NMCP

Malaria Supply Chain Committee Meeting

During this quarter, the Malaria Supply Chain Committee held its first meeting of the year. The meeting offered an opportunity to share and discuss the stock status and supply plan for malaria commodities.

- Stock status: By the end of April 2016, there were stock-outs of rapid diagnostic tests (RDTs), artemether/lumefantrine for children, and artesunate injections at the central and district levels. There was also an overstock of artesunate amodiaquine (ASAQ) 25 mg, indicating underuse of the product.
- Supply plan: The supply plan review revealed delays in commodity delivery. Following the recommendations of the SIAPS technical advisor, an emergency order was placed through the Global Fund's procurement mechanism in December 2015. The order was partially delivered in March, but there were delays at customs in clearing the consignment that arrived in April, and a large part of the order, including the RDTs, is expected to arrive in July.

The committee recommended the following:

- The NMCP should work closely with the drug regulation authorities to identify the root causes of ASAQ non-use at health facilities and communicate more effectively with physicians and dispensers about using ASAQ to treat malaria.
- Collaboration among partners responsible for managing malaria commodities should be strengthened. A meeting to assess the supply plan to proceed with the rapid distribution of commodities before the rainy season is planned for July.

Long-lasting Insecticidal Net Mass Distribution Campaign in Niamey

Since April 2016, the NMCP and its partners have been preparing for a long-lasting insecticidal net (LLIN) mass distribution campaign targeting the Niamey region. LLINs were procured by both the government (30%) and the Global Fund (70%). For this campaign, 625,811 vouchers were distributed to 194,127 families. During the five-day distribution campaign, 571,311 LLINs were distributed to 174,298 families (for approximately 1,028,000 individuals with a ratio of 1 LLIN for 1.8 people), resulting in a coverage rate of 89%. However, because some LLINs were still not distributed, the distribution continues at health facilities.

Supply Chain Workshop for Global Fund-funded Countries

Representatives from six French-speaking countries (Chad, Guinea, Guinea Bissau, Mali, Niger, and Senegal) and partners met in Dakar, Senegal, April 12–14, 2016, to discuss and share experiences on supply chain management and develop a supply chain strategic plan. Each country was represented by delegates from its Ministry of Health, National Drug Authority Malaria and HIV programs, central medical stores, and Global Fund principal recipients. UNICEF, Expertise France, the World Health Organization (WHO) and L'Association Africaine des Centrales d'achats de Médicaments Essentiels and other partners also participated.

One key message shared during this workshop was that the Global Fund would like countries to develop national supply chain strategic plans to build and strengthen their supply chains with a high impact on the three priority diseases supported by the Global Fund.

Coordination with Partners

During this quarter, SIAPS supported the NMCP in conducting meetings with partners involved in malaria management, including supply chain management. The SIAPS technical advisor also contributed to the revision of SMC commodities management tools. Coordination meetings took place with all partners involved in commodities supply chains to discuss activities and develop a work plan to strengthen commodity management in Niger by implementing community case management and SMCs.

Constraints to Progress

- The lack of supply chain stock analysis, lack of supply chain staff capacity at NMCP, improper stock management, and delays on Global Fund and government procurements could result in repeated stock-outs of malaria commodities this year if these issues are not addressed.
- The NMCP lacks essential staff to properly manage medicines, including malaria commodities. In addition, the NMCP lacks the organizational capacity to effectively manage the program and achieve desired results. To better achieve its objectives, the NMCP management team needs more leadership and management training. The newly developed NMCP activities and capacity strengthening plan will address some weakness over the next two years.
- Partners' commitments and SMC funding are still insufficient to meet the 2016 SMC targets. Planning for the 2017 SMC should start earlier (by August 2016) to ensure coverage of at least 80% of eligible children.
- Improving coordination and communication between the NMCP, Catholic Relief Services, UNICEF, WHO, MSF, and other partners will help to alleviate challenges and achieve results, particularly in medicine management.

Philippines

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

Overall Quarter Progress

SIAPS continued to work with National Tuberculosis Program (NTP) to strengthen pharmaceutical and health technology management systems. The focused areas of work were laboratory network management; community health leadership, management, and governance; pharmaceutical management capacity at pharmacies and laboratories; the pharmaceutical supply chain management information system; and pharmacovigilance (PV) system.

SIAPS continued to provide technical support to the National Tuberculosis Reference Lab (NTRL) for the decentralization of laboratory training. A series of consultative meetings were organized to enhance the basic microscopy training of trainers (TOT) design, session guides, and training materials and to enhance the capacity of the senior trainers.

SIAPS completed data gathering activities for the laboratory network assessment. Data verification, collation, and analysis are ongoing, and the first draft of the report is expected by the end of July 2016. In addition, SIAPS is also providing additional support to the NTP to write the report writing for the recent 2016 Joint Program Review of the TB program.

SIAPS is providing technical assistance to the Quezon City Health Department (QCHD) in strengthening the community health leadership, management, and governance through the Barangay Health Management Council (BHMC) initiative. In April 2016, SIAPS, in collaboration with QCHD, facilitated the 2017 planning workshops of five newly organized BHMCs in the city's five districts.

At the request of the NTRL, SIAPS is providing technical assistance to strengthen management of laboratory supplies. SIAPS supported NTRL in the review and enhancement of standard operating procedures (SOPs) in laboratory supply management.

SIAPS continues to support NTP, the Food and Drug Administration (FDA), the National Center for Pulmonary Research (NCPR), and other key TB stakeholders in the implementation of the two PV operational research studies. In collaboration with NTP and NCPR, 38 study implementers and health staff from selected programmatic management of drug-resistant TB (PMDT) facilities were trained on clinical management of bedaquiline and other new anti-TB medicines.

The Practical Guide for the Management of Pharmaceuticals and Health-Related Commodities (PGMP), an action oriented reference on pharmaceutical management developed by SIAPS and NTP, is now signed and endorsed by the Department of Health (DOH) secretary. Next steps will be the dissemination of PGMP along with other pharmaceutical and (PV) manuals and tools to DOH central agencies and other key TB stakeholders.

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

SIAPS continued to work with the NTRL, regional offices (ROs), and city health offices (CHOs) to develop guidelines for decentralizing the NTP laboratory trainings. A guidance document was developed that describes the selection criteria for trainers, trainees, and standards for training facilities.

The TOT course and curriculum were modified and enhanced to improve the trainers' knowledge and competencies in the management of training. Session guides and training materials, especially smear slides, were developed and standardized for the new TOT. In these activities, SIAPS also provided guidance and support to the senior trainers to enhance their skills as trainers and training managers. In addition, training evaluation, post-training monitoring, and supervision mechanisms were also developed. As the next step, a national TOT for direct sputum smear microscopy is scheduled for July 2016.

SIAPS provided technical support to Quezon City to strengthen its capacity to lead and manage health programs, i.e., TB at the barangay level. SIAPS built the capacity of QCHD district medical officers and supervisors to plan and establish new BHMCs. SIAPS and QCHD also facilitated a planning workshop to assist the five new BHMCs in the development of their 2017 annual work plans. By leading the planning process, facilitators also became equipped to supervise and monitor BHMCs. SIAPS also worked with BHMC members to draft the guide for establishing BHMCs, which will be handed over to QCHD and stakeholders to aid in the scale-up of BHMCs in the city and other areas of the country.

SIAPS oriented USAID's Innovations and Multi-sectoral Partnerships to Achieve Control of Tuberculosis (IMPACT) Project regarding scale-up of BHMCs in other parts of the country. SIAPS conducted discussions with IMPACT staff and provided them with opportunities to observe the BHMC establishment and workshop planning processes.

In response to NTRL's request for assistance on laboratory supply management, a technical assistance plan was developed by SIAPS that includes following priority areas: (1) review and enhancement of the terms of reference (TORs) of key staff responsible for laboratory supply management, (2) review and enhancement of guidelines, supply management job aids, and monitoring tools, (3) enhancement of current inventory management processes, and (4) capacity building of NTRL staff. In this quarter, SIAPS reviewed NTRL's organizational structure, TORs, and institutional SOPs and started the enhancement of SOPs. SIAPS also assisted NTRL in conducting a physical count of all laboratory management materials and supplies and supported NTRL to rearrange their storage rooms. The rearrangement will ensure safe storage and increase efficiency in laboratory supply management through utilization of first expire, first out (FEFO).

SIAPS continued its work with Region IV-A Office in strengthening its governance capacity on TB pharmaceutical management at the regional, provincial, and peripheral levels through the regional drugs and supplies management (DSM) working group. The recent meeting of the region-wide governance group has identified challenges in (1) management of overstock of laboratory staining kits, (2) delays in the distribution from the central courier service to the

provinces, and (3) discrepancies in the quantities of medicines allocated and delivered by the courier service. The working group, with the assistance of NTP and the Logistics Management Division (LMD) central office staff formulated actions to address these challenges, such as establishing a system for reporting laboratory supplies inventory and requirements and initiating a communication mechanism (i.e., mobile SMS) between the provincial health offices (PHOs) and the Region IV-A Office to report discrepancies in allocation and distribution. In the next quarter, the TORs for the regional working group will be finalized.

Partner Contributions

- Region IV-A Office facilitated the invitation of participants and provided the venue and meals for the regional DSM working group meeting.
- NTRL facilitated coordination with the relevant DOH ROs on all activities related to the laboratory training decentralization process.
- The DOH RO for Central Visayas (RO-7) provided logistical support in the use of the Cebu TB Reference Laboratory for several laboratory training decentralization meetings. The DOH-RO-7 and DOH Zamboanga Peninsula (RO-9) sent their experts to provide technical support for training on decentralization activities.
- A private medical technologist with expertise in laboratory network management at the LGU level is providing technical and management support for training development activities.

Constraints to Progress

Partial or incomplete deliveries of stock limit the ability of PHOs to respond to the actual needs of TB health facilities and establish a pull system. The project is providing assistance to NTP to mitigate barriers in procurement and distribution to avoid partial and incomplete deliveries.

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

At the request of NTP, SIAPS collaborated with DOH-Knowledge Management and Information Technology Services (KMITS) in developing a DSM module for the Integrated TB Information System (ITIS). One of NTP's challenges in the current DSM recording and reporting system is the manual consolidation of inventory data submitted by more than 100 PMDT facilities. This is crucial since the consolidated consumption data from the PMDT facilities forms the basis for the assumptions entered in QuanTB. QuanTB is a tool developed by SIAPS and adopted by NTP to forecast and conduct supply planning for second-line anti-TB medicines. In the meeting, KMITS proposed a solution to improve the ITIS inventory module, which can consolidate information on inventory levels and medicine utilization at the PMDT facilities. KMITS intends that the module be implemented by January 2017. SIAPS will also be working closely with KMITS in exploring the possibility of interoperability of the QuanTB tool with ITIS.

SIAPS continues to provide assistance to the NTP in reviewing the DSM reports and providing recommendations to improve the quality of data collected from PMDT facilities through regular meetings and consultations.

Constraints to Progress

KMITS is currently working on several system enhancements and additions to ITIS. The quantification feature necessary for QuanTB's interoperability with ITIS may be explored; however, is not a priority in their current annual work plan. The program is using an Excel-based tool as an interim arrangement.

Objective 3: Capacity of NTP to Deliver Pharmaceutical and Laboratory Services Improved

SIAPS built the capacity of NTP, FDA, NCPR, and other TB stakeholders to strengthen the PV system to monitor the effectiveness of medicine and patient safety for clients enrolled in the nine-month MDR-TB treatment regimen and bedaquiline operational research studies.

In collaboration with NTP and NCPR, SIAPS trained 38 (13 males and 25 females) study investigators and health staff from 10 PMDT facilities. The participants were trained on clinical management of patients on bedaquiline and other new anti-TB medicines with a focus on essential requirements for active drug-safety monitoring and management (aDSM). The participants also learned from South Africa's experiences regarding bedaquiline, which were shared in the training by the Johnson & Johnson (J&J) expert. In May 2016, the DOH, USAID, and J&J launched the availability of bedaquiline as one of the new MDR-TB medicines in the market. All TB implementing partners including SIAPS attended the launch.

In this quarter, SIAPS completed the readiness assessment of central agencies (FDA and NCPR) and PMDT facilities to determine the necessary IT infrastructure, data migration, and human resource and quality control processes for the adoption and implementation of the Pharmacovigilance Monitoring System (PViMS). PViMS is a web-based application that streamlines and simplifies data collection and analysis processes for active surveillance. SIAPS facilitated several workshops with NTP, FDA, KMITS, NCPR, Philippine Business for Social Progress (PBSP), Technical Assistance to Support Countries, and other TB stakeholders to (1) plan the implementation of PViMS, utilizing the results of the readiness assessment, (2) discuss the country's data collection and reporting requirements, and (3) finalize data migration and user testing plans. SIAPS also met with KMITS to plan interoperability between PViMS and ITIS. PViMS is targeted for implementation at the Lung Center of the Philippines-NCPR by September 2016. SIAPS also supported FDA in standardizing the data to be collected for active PV surveillance of TB patients.

In the first quarter of PY5, SIAPS and NTP developed the *Active PV Surveillance SOP: Drug Safety Monitoring for New Medicines and Novel Regimens of the NTP in the Philippines*. In this quarter, SIAPS worked with FDA in aligning the SOPs with the DSM framework for implementation and the requirements for the bedaquiline operational study.

At the request of NTP, SIAPS, with the support of the University of the Philippines Manila, the National Institutes of Health, and Gadjah Mada University in Yogakarta, Indonesia, conducted a study on the economic cost of patients not adhering to their TB medicines because of stock-outs and the resulting loss to follow-up in the public health sector and the society. SIAPS met with an

expert group composed of NTP and public sector providers and managers for results verification. SIAPS is currently finalizing the report and is scheduled to meet with NTP manager to discuss the next steps.

SIAPS participated in the Global Fund operational planning for 2017 and provided technical input in pharmaceutical management, including PV activities and strategies.

Partner Contributions

PBSP, the principal Global Fund recipient, cost-shared the 3-day accommodations for the 26 metro Manila-based participants attending the clinical management training on bedaquiline and other new anti-TB medicines.

Sierra Leone Ebola Portfolio

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

Overall Quarterly Progress

SIAPS/Sierra Leone is now fully engaged and recognized as a value-adding member of the pharmaceutical supply chain forum. Some of the expectations from partners are based on progress made within a relatively short time:

- The Continuous Results Monitoring System (CRMS) activity finally kicked-off in Bombali and Bo districts. The outlook to roll-out to all remaining 11 districts is promising.
- Almost simultaneously, a well-received and beneficial 2-week workshop (conducted in 3 phases) on quantification was held attended by 53 participants. This resulted in the establishment of a National Quantification Committee (NQC), technical working groups (TWGs), and a core group of personnel trained in the use of Quantimed and PipeLine**.**
- There is now a semifinal draft of a revised organogram for the Directorate of Drugs and Medical Supplies (DDMS), including the terms of reference (TORs).
- In addition to actively reviewing and revising the report, request, and issue voucher (RR&IV), SIAPS Sierra Leone provided technical assistance to DDMS in the design of a facility-based daily treatment register for capturing consumption, rational use, and patient data during every patient visit to the pharmacy.
- SIAPS/Sierra Leone was especially instrumental in accelerating and contributing to the revision of the National Essential Medicines List (NEML), which is now at an advanced stage of development. We have also worked with the DDMS to do a quick survey of guideline documents that may need to be similarly reviewed and the Directorate will be setting priorities in this regard in the coming weeks.
- SIAPS/Sierra Leone has quickly established itself as a credible "broker" on a number of common issues that require coordination between DDMS, the Pharmacy Board of Sierra Leone (PBSL), and the National Pharmaceutical Procurement Unit (NPPU). All stakeholders have agreed that this effort will be taken forward in another meeting to be organized soon.

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Objective 1: DDMS's Ability to Effectively Support Health Facilities is Strengthened

Governance and Leadership

The DDMS organogram development process, including the review of the TORs, for the different units is now at an advanced stage of development, with many structural issues clarified and consensus achieved. The next step is to formally submit the organogram and TORs to senior management for concurrence, followed by an implementation plan, including capacity building and budgetary implications.

SIAPS Sierra Leone Program Positioning

During the quarter, SIAPS Sierra Leone participated in two important MOHS strategic meetings that bear on the pharmaceutical sector:

- The Human Resources for Health Summit was attended by a wide range of partners
- MOHS's 24-month operational plan validation workshop. Our contribution helped the organizers clarify the relationship between the presidents' 10-24-month plan and the overarching MOHS 24-month plans, the former being a subset of the latter. The development of the two plans almost simultaneously was rather confusing.
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National Essential Medicines List

One of the mandates of DDMS is to revise and update policy documents, including the NEML. As part of this initiative, a draft of the NEML has now been finalized with input from SIAPS/Sierra Leone, including resolution of whether to include consumables in the list. It was eventually agreed that all non-medicines will be included as an annex, with an appropriate reference made to this in the foreword. The finalization of this process will help in harmonizing types of medicines and supplies to be quantified and procured for use in the free health care initiative of the government.

Reverse Supply Chain Guideline

The results of a survey carried out by SIAPS/Sierra Leone of expired products in the "last mile" of the supply chain indicate the need to clean out the stores of such products. SIAPS/Sierra Leone has therefore been mandated by the supply chain forum, coordinated by DDMS/CHAI, to help develop comprehensive guidelines for the process of reverse logistics.

Other DDMS Guideline Documents

An inventory of policy guidelines that need review or revision has been carried out and discussions are underway with the DDMS to identify and prioritize those that need to be revised and updated.

National Pharmaceutical Quantification

SIAPS supported a National Quantification Workshop which was held May 30 to June 10, 2016. The three-segment workshop targeted administrators, program-specific managers, and technical personnel. A first set of 53 participants, which will constitute the first NQC, were introduced to the fundamentals of quantification. This also resulted in the establishment of seven TWGs that will be responsible for technical aspects of quantification according to health programs. A second set of 30 participants drawn from the 53 were trained on the principles, processes, and methodologies of quantification of health products, and the last set of 15 participants drawn from the 30 were trained on use of Quantimed and PipeLine for forecasting and supply planning. The average pretest score for the 30 participants trained on the principles, processes, and methodologies of quantification was 66% and their post-test score was 89%. The increase in

knowledge of the 15 participants trained on Quantimed and PipeLine for forecasting and supply planning was 30.1%. The training ended with the issuing of certificates by the chief pharmacist at the DDMS.

Next steps will be the finalization of the TORs, dissemination to all program managers, and formal activation of the NQC. The first meeting of the NQC is currently slated for July, 7, 2016.

Partner Contributions

The DDMS continues to be very supportive of SIAPS/Sierra Leone and frequently acknowledges the partnership in public forums. This has helped SIAPS/Sierra Leone quickly assimilate in these forums and therefore make meaningful contributions. For example, SIAPS/Sierra Leone is now formally tabled to give regular implementation updates at the Free Health Care Partnership Forum.

The DDMS is helping to collect comments on the formation and TORs of the NQC. During the quantification workshop, the DDMS provided full secretarial services, including assignment of an IT specialist to help with issues that came up.

SIAPS/Sierra Leone continues to benefit from the allocation of an office space within the DDMS, even though we have now moved into our own premises. This not only facilitates the convening of meetings that we initiate, but also helps keep SIAPS/Sierra Leone visible and creates an environment of trust and working closely with DDMS as a trusted partner.

Constraints to Progress

The main constraints continue to be the numerous health sector program implementation activities that draw on the time of the same personnel. For example, the CRMS activity in Bo and Bombali districts was deferred on a number of occasions because of the response by the District Health Management Team (DHMT) to a measles outbreak and a pending expansion to Moyamba, Kailahum, and Port Loko districts had to be deferred because of an upcoming Mother and Child Week activity.

Objective 2: Strengthen Supply Chain Management from District to PHU Level

The CRMS is a comprehensive, indicator-based, dynamic supportive supervision and performance improvement approach developed by SIAPS that tracks key pharmaceutical management indicators for strengthening pharmaceutical management for improving performance and outcomes and promoting ownership through a stakeholder review process. CRMS activity took off in earnest in Bombali District (May 21 to 27, 2016) and Bo District (May 24 to 28, 2016), proceeded in each case by a one-day orientation workshop for the district health teams. A total of 235 health facilities (18% of national total), 107 in Bombali and 128 in Bo, were covered during this period. This represents almost 100% coverage of the two districts. The supervisory teams comprised district pharmacists, hospital pharmacists, local council representatives, and selected members of the DHMTs. The CRMS activity presented opportunities for mentoring health staff in many areas. During the process, many practical issues

and challenges were identified, including drugs being delivered with a short shelf-life, shortages of stock cards, inadequate storage space, telephone network not within range of the health facility, delays in delivery of health commodities, expired products being stored together with other medicines, inappropriate and inconsistent destruction or handling of substandard and expired drugs, drugs, such as oxytocin not being kept in the refrigerator, etc. Data collected is now being consolidated, organized, and prepared for analysis. In the meantime, the experience gained so far will be incorporated into the roll-out plan now in place for moving into the other 11 districts of the country in the next couple of months.

Partner Contributions

The DDMS and the DHMTs continue to give their full support and allow senior management time to work on the CRMS activity which they now recognize as adding value to their existing supervisory activities. The Bombali District DHMT provided the venue and the vehicles for the CRMS activity in their district. SIAPS/Sierra Leone contributed the fuel and the per diem for the teams.

Constraints to Progress

Same as objective 1.

Objective 3: Utilization of Information for Supply Chain Decisions is Increased

A facility-level treatment register that was needed to capture key information, such as consumption and RMU data, was designed by SIAPS/Sierra Leone and received buy-in from DDMS and the LMIS working group. On the basis of comments received from the TWG and CRMS exercises, the register is being printed and will be used in the first cohort of CRMS districts. Although the register is rudimentary and needs much more robust construction, preliminary data collected during a survey of RR&IVs and expiry dates was used in the quantification workshop to sensitize participants on the importance of data to guide supply chain processes. It is hoped that as the CRMS activity is further rolled out and data is analyzed, MOHS staff at the central and district levels will appreciate the register as a source of data for the CRMS and its ease of use.

At the end of the quantification workshop all participants in the third segment were given electronic copies of the tools, which they committed to using in their program implementation work.

Partner Contributions

DDMS and CHAI as key players in the LMIS working group provided critical input in the draft of the treatment register and included the validation and production of the register with the revised RR&IV to be financed by the Global Fund.

Constraints to Progress

At the moment, it appears that various partners are reaching out to the district/PHU levels with a number of narrow and parallel data/information collection requirements. These interventions may not necessarily, on their own, resolve the overarching national supply chain problems. The challenge for SIAPS/Sierra Leone from a systems strengthening point of view is how to identify and get all these interests to reconcile their varying focuses into a common systemic intervention.

South Africa

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

Overall Quarter Progress

During PY5Q3, SIAPS' support has been strategically focused on handover and sustainable close-out of activities in the next quarter as listed below.

SIAPS continued to support the National Department of Health (NDOH) in improving pharmaceutical services management through monitoring and evaluation (M&E) plan and tool development. In PY5Q3, the development of the software to support the pharmaceutical services management dashboard was well underway. This dashboard will improve the reporting process based on lessons learned from implementing the MS Excel-based version. In addition, SIAPS has reviewed the Central Chronic Medicine Dispensing and Distribution (CCMDD) Program M&E framework, developing a more comprehensive theory of change, indicator list, and reference guide. To date, four of the target five M&E plan documents were developed.

In PY5Q3, efforts in strengthening the capacity of pharmaceutical personnel have been focused on sustaining SIAPS interventions through tertiary and government institutions. The Medicine Access Initiative (MAI) in KwaZulu-Natal (KZN) is one such example. Although SIAPS support has been withdrawn, the province has indicated that the intervention will continue. The Pharmaceutical Leadership and Governance Initiative (PLGI) support in the Free State (FS) was finalized in this quarter, with the 33 participants presenting the results of their projects. The results included a measurable reduction in expired stock and the capacitation of pharmacists to monitor expenditures on pharmaceuticals. The overall achievement in capacity building efforts to date includes 1,206 persons trained in pharmaceutical management against the target of 1,104; 287 health care professionals completing the Leadership Development Program/Pharmaceutical Leadership Development Program (LDP/PLDP) against the target of 200; and 425 new health workers graduating from a pre-service training institution or program against a target of 340.

By PY5Q3, SIAPS had installed RxSolution in 442 of a target of 435 sites, which includes hospitals, primary health care (PHC) facilities, sub-depots, district offices, and tertiary institutions. This is an increase of 26 new sites from 416 sites reported in PY5Q2. In addition, the hospital dashboard activities accelerated to import data from 72 of the 75 selected facilities into the dashboard database and enable visualization of information relating to medicine availability. A significant achievement was at Dr. George Mukhari Academic Hospital (DGMAH) where the initial medicine availability was reflected as 69%. SIAPS embarked on a system strengthening intervention at the hospital, in collaboration with SCMS, which resulted in an improvement to 99.7% medicine availability.

In PY5Q3, significant progress was made with the development of the Essential Medicines List Tool (EMLT) with the finalization of the functional specification and prototypes for the five modules and master data. The EMLT will strengthen governance and efficiency of the medicine selection process. SIAPS also supported improved rational medicine use in South Africa with the

publishing of the fourth edition of the *Adult Hospital Level EML and STGs*. SIAPS also assisted in the planning for a mobile application (app) of the adult EML and STGs which is being developed by the Open Medicine Project on behalf of the Essential Drugs Program (EDP). Other support in this area was the creation of 17 out of 23 academic detailing slide decks for the *Adult Hospital Level EML and STGs* dissemination process.

Objective 1: Pharmaceutical Sector Governance Strengthened

In 2015, SIAPS began working with the NDOH to develop a national strategy for improved access to and availability of health products. During the quarter, SIAPS worked with NDOH and SCMS to produce a revised strategic framework which was shared with various stakeholders. Work continued on the final strategy document and concept notes. Technical support was provided in the development of job descriptions for the EDP as well as new posts funded by Global Fund.

Progress was made toward the development of a web-based tool to support the national pharmaceutical services management dashboard. SIAPS provided support in the writing of the scope of work, and appointed a service provider to develop the software. During the quarter, the service provider completed the system wireframe. The NDOH has been actively engaged since the beginning of the project, participating in all technical discussions and driving the development of the functional specifications. The NDOH team will be trained on the maintenance and use of the dashboard.

Using the standardized template for the terms of reference (TORs) of committees designed by SIAPS, the TORs for the National Health Insurance (NHI) task team responsible for the CCMDD Program were revised and submitted to the task team for consideration.

A challenge facing NDOH was the uncertainty related to the authority of nurses to examine a patient, make a diagnosis, and prescribe medicines. SIAPS worked with the Directorate: Affordable Medicines (DAM) and the units within NDOH that deal with PHC and human resource development to develop a policy for issuing authorizations to professional nurses to perform functions listed in Section 56(6) of the Nursing Act 33 of 2005. The policy was signed by the director general during this quarter and disseminated to stakeholders. SIAPS is working with NDOH as part of the team responsible for implementation of the policy. Actions include describing the competencies of nurses to perform these functions and the development of software to support the process.

SIAPS has been working with the DAM on several policies relating to pharmaceutical services. During this quarter the policy dealing with the allocation of medicine into therapeutic classes was finalized and endorsed by the Sub-Committee: Pharmaceutical Services of the National Health Council. The policy for the procurement of medicines that are not registered in South Africa was finalized and is ready for further input.

In PY5Q3, NDOH, in collaboration with SIAPS, facilitated a technical workshop entitled International and Local Initiatives to Improve Access to Chronic Medicines. The workshop explored practical approaches to designing and implementing interventions to improve access to

chronic medicines in the context of NHI implementation. Approximately 85 participants from NDOH, provincial departments of health, implementing partners, and the private sector attended the workshop. Presentations on the ADDO model were made by a representative from MSH Tanzania and the registrar of the Pharmacy Council of Tanzania. As part of the way forward, SIAPS is working with NDOH and other partners on the development of a guideline document for pick-up points for chronic medicine.

Continued support was provided on CCMDD reporting, data quality assurance, and M&E planning. In the next quarter, the consolidated M&E framework, indicator list, and reference guide will be handed over to NDOH. An abstract on the roll-out of the CCMDD in KZN was accepted for a poster presentation at the 21st International AIDS Conference.

SIAPS facilitated a three-day consultative workshop aimed at the development of a pharmaceutical services policy for the Department of Correctional Services (DCS). The workshop was attended by 34 participants including pharmacists, health coordinators, and representatives from the Aurum Institute. A draft policy was developed and circulated to regional health/HIV and AIDS coordinators within DCS for input.

SIAPS provided technical assistance in the drafting of the quarterly report (January–March 2016) from the Central Procurement Unit (CPU) to Global Fund-NDOH Principal Recipient.

During the quarter, SIAPS provided support to NDOH in the tendering and award of six contracts. The unit met its targets of processing of the tender for solid dosage forms—the largest national contract in volume and value. One medical-related contract was finalized and awarded by NDOH. Support was also provided in preparing specifications, estimates, and codification for two medical-related tenders.

A model was developed to structure and strengthen evaluation of bids received for technical and legal compliance. The assessment and evaluation process is being structured to assist the department to set up business rules for its long-term tendering system requirements post SIAPS.

Partner Contributions

- SCMS: Contract demand forecasting analysis, project planning for tenders, contract management for medical-related contracts, work on NDOH strategy and job descriptions
- CHAI: Provision and enhancement of supplier reporting tool for performance analysis and pipeline analysis
- Aurum Institute: Funded the DCS consultative workshop
- Health Systems Trust (HST) and Project Last Mile: CCMDD work on Access workshop, M&E and guideline document

Constraints to Progress

- Limited staff capacity at the contracting unit at NDOH
- Delays in CPU collection of information for generation of the report to meet deadlines

Objective 2: Capacity of Personnel for the Provision of Pharmaceutical Services Enhanced

As reported previously, SIAPS worked with the Pharmaceutical Services Directorate in the FS to implement the PLGI, which helped to address challenges related to medicine supply management identified by the auditor general. A total of 33 participants including roving pharmacists, district and regional hospital pharmacists, and medical depot staff completed the PLGI. Teams implemented quality improvement projects that focused on improving contract management at the medical depot, stock management, and medicine availability and reducing expired stock and over-expenditures on pharmaceuticals. During the quarter, teams presented their results to senior managers from the FS Department of Health.

Five podium presentations and two posters showcasing results achieved by groups who completed the LDP or PLDP were presented at the conference organized by HST in May. One of the posters was awarded the prize for the best poster at the conference.

Over the past five years, SIAPS provided support to KZN Pharmaceutical Services. Following the completion of PLDP in the province, the Provincial Pharmaceutical Services Office identified the need to sustain and scale up some of the interventions. It was decided during PY5Q2 that, because of funding constraints, the final intervention planned, the Medicine Access Initiative (MAI), which focused on further scale-up in the province, would be cancelled. The province indicated that they were confident that they would be able to move forward with this initiative independently. This activity was successfully handed over to the province.

SIAPS worked with faculty at the Sefako Makgatho Medical University (SMU) to facilitate the pharmacoeconomics module for 12 students in the MPharm (public health pharmacy and management) program. The university was supported in the development of assessment tools. This module has now been fully transitioned to the university. SIAPS also presented three sessions on medicine supply management to the same postgraduate students. Materials were handed over to the university to ensure that the content will be integrated into future sessions facilitated by the university. SIAPS did a presentation on pharmaceutical waste management to 64 SMU fourth-year pharmacy students as well as an overview of medicine supply management principles to 43 students from the same group.

The LDP has been integrated into the SMU Department of Pharmacy module Management of Pharmaceutical Services as part of the MPharm program (public health pharmacy and management). Its facilitation and all materials have been transitioned to the university.

SIAPS contributed to the development of sessions for the University of Western Cape's (UWC) online modules on pharmaceutical procurement, quantification, and logistics management information systems (LMIS). The modules are currently with UWC for review and finalization. UWC is taking the lead on all sessions for both the online course and Winter School.

SIAPS provided support to NDOH in the orientation of a group of community service pharmacists who will be assisting NDOH in the monitoring of medicine availability in the

provinces. Sessions on medicine supply management, M&E, and selected topics from the LDP were presented by SIAPS.

Partner Contributions

The faculty at SMU actively participated in ensuring a smooth transitioning of the pharmacoeconomics module and integration of the LDP.

Objective 3: Use of Information for Decision Making in Pharmaceutical Services Improved

The functional specification and prototypes for the five modules and master data for the EMLT were finalized. During the scoping process, the NDOH, service provider, and SIAPS worked closely to ensure a common understanding of functionalities required to build a system that is relevant today and well into the future. Since the inception of the project, the EDP has taken ownership of the process and has been actively engaged in the development of the functional specification, driving the client review meetings and ensuring that NDOH requirements are met. It is expected that the EMLT will be completed in PY5Q4.

SIAPS continued to support the development of the Tender Management Module and Master Procurement Catalogue (MPC). The development of the interface between bid response and the tender module database is near completion. The interface will allow seamless flow of MPC updates to various systems' modules, e.g., RxSolution and other systems. This will also eliminate different versions of the MPC due to manual updating process. Testing the database is a critical step in ensuring quality of the system. During the PY5Q3, SIAPS drafted the Tender Management Module test plan and test cases which allowed identification of defects. User acceptance testing will commence with NDOH users in PY5Q4.

SIAPS provided support to NDOH on monitoring medicine availability as part of the National Surveillance Centre by developing a hospital dashboard for the early detection of medicine stock-outs at 75 hospitals (10 central, 17 tertiary, 33 regional, and 15 district) across all provinces, in alignment with the relevant NDOH annual performance plan (APP) indicators. The hospital dashboard activities included designing the dashboard and its defined indicators; creating a linkage to import data from the selected facilities into the dashboard database; and visualizing the data. During the PY5Q3, 72 facilities were linked to the dashboard and are regularly exporting data for the dashboard display electronically (10 national central hospitals, 14 tertiary hospitals, 15 regional hospitals, 29 district hospitals, and 4 community health centers). SIAPS completed the design of the reporting template and getting all Western Cape hospitals to report to the dashboard on a weekly basis. The aim is to have the remaining tertiary hospitals and regional hospitals, as per APP, linked to the dashboard by the end of June 2016. SIAPS is working closely with NDOH on ongoing visualization improvements and feature updates.

By PY5Q3, SIAPS had installed RxSolution at 442 sites, including hospitals, PHC facilities, sub-depots, district offices, and tertiary institutions. This is an increase of 26 sites from the 416 sites reported in PY5Q2. Of the 10 central hospitals, 5 are using RxSolution and the rest are using other electronic stock management systems (ESMS). Currently, 51 hospitals are in process for

the roll-out of RxSolution across 8 provinces. The plan is to prioritize two of the remaining regional hospitals that are in process to meet the APP target.

On the basis of the results from the hospital dashboard, SIAPS worked with facilities to improve quality and integrity of data and alignment with the MPC. SIAPS, in collaboration with SCMS, also provided support at DGMAH on inventory management and optimal use of RxSolution. Reorder levels were recalculated and loaded on the system.

Provincial Medicine Procurement Units (PMPUs) have been established in Gauteng (GP), Limpopo (LP), and KZN. SIAPS is supporting the implementation of PMPUs in Eastern Cape (EC) (Mthatha and Port Elizabeth), FS, and North West (NW). All 13 sites identified for PMPU implementation in the EC and 11 sites in NW have been upgraded to the latest version of RxSolution. Of the 19 sites in FS, 14 sites have been upgraded to the latest version, 3 sites are using another ESMS, and the remaining 2 sites are in the process of being upgraded.

During the quarter, 157 participants from GP (130) and KZN (27) were trained on RxSolution. The trainings covered the stock management and dispensing modules and RxSolution reports. SIAPS also trained 39 individuals in GP and EC on customization of RxSolution reports. More workshops on reports are planned for PY5Q4 with Mpumalanga (MP) and LP. In addition, SIAPS convened training on different categories of the reports suite (data verification reports, management reports, orders, receipts, and ABC analysis) in GP and FS. The aim of the training is to improve use of RxSolution-generated reports for decision making. SIAPS has initiated the review of the RxSolution reports catalog which should be used as a guide for proper usage of RxSolution-generated reports and assist with informed decision making.

SIAPS is training facility IT officials on RxSolution with the aim that the officials will support the system post SIAPS. SIAPS has also started to compile systems source codes and updated training and systems manuals for the latest version for handover to USAID and NDOH.

SIAPS completed the analyses for the antibiotic prescribing practices study. A working session was held to capacitate the representative from the NW on how to clean and identify possible data issues; conduct relevant analyses; and interpret and discuss results. A technical document detailing all the steps has been developed and is being finalized.

During this quarter, SIAPS conducted coaching visits with the GP Pharmaceutical Services Directorate at all facilities that attended the ABC/VEN training in January 2016. The purpose of these visits was to provide guidance in addressing medicine use or procurement challenges that were identified during the workshop. More than 50% (n = 22) of facilities visited have already started collecting their data. The ABC/VEN project has been adopted as the main operational research project in the province for the year, and facilities have been requested to submit full project write-ups. From these project write-ups, facility teams to present at the Provincial Annual Conference to be held in September 2016 will be selected.

SIAPS and GP Pharmaceutical Services are currently analyzing the province's ABC over the past three months to determine whether any improvement in rational medicine use or procurement is visible. Facilities using RxSolution are using the procurement ledger to identify

changes. To ensure sustainability of expenditure monitoring and improving procurement practices, the province is assisting facilities with the establishment of functional Pharmaceuticals and Therapeutics Committees (PTCs). The ABC analysis is already a standing agenda item on PTC agendas and the ABC/VEN analysis has now been introduced to PTCs to provide a more detailed analysis of expenditure and procurement.

Eight representatives from the Provincial Pharmaceutical Services Directorate and two districts in KZN were capacitated on conducting an ABC analysis and using the information to make decisions on pharmaceutical expenditure for the province and its districts. SIAPS also assisted with the development of the quarterly ABC analysis for the province.

Partner Contributions

- Partner support during the quarter included assessments, training and installation of RxSolution: MatCH - eThekwini Metro in KZN, FPD - Tshwane Metro in GP, BroadReach - Ekurhuleni district in GP, ANOVA - Mopani district in LP
- SCMS provided support for improvement of inventory management and use of RxSolution at DGMAH

Constraints to Progress

- Significant decrease in support to sites due to budget cuts
- Inadequate provincial IT support for the sustainability of RxSolution at facilities
- Outdated infrastructure and a poor network affects the pace of roll-out
- Lack of ownership from pharmacy management at some facilities
- Poor quality of institutional data affecting quality of data on the hospital dashboard

Objective 5: Pharmaceutical Services Improved to Achieve Desired Health Outcomes

In April, the fourth edition of the *Adult Hospital Level EML and STGs* was finalized and published on the NDOH website. SIAPS supported the process from development of medicine reviews to final editing, including creation of an antibiotic appendix and list of medicines deleted, added, and retained on the EML/STG.

SIAPS assisted in creating 17 of 23 academic detailing slide decks for the *Adult Hospital Level EML and STGs* dissemination process. Academic detailing is a process whereby all the changes in the STGs and EML are highlighted and evidence for the change summarized. These slides will be uploaded onto the NDOH website for use by health care professionals.

A mobile application of the adult EML and STGs is being developed by the Open Medicine Project on behalf of the EDP. SIAPS supported the unit with a quality check on chapters loaded onto the phone app format.

In PY5Q3, SIAPS supported the EDP Unit's need to update the application form to a more user-friendly version for recruiting members of the Tertiary and Adult Expert Review Committees.

SIAPS also created a timeline for recruitment for both committees and provided input on the wording of the call for application and follow-up reminders. The application form was disseminated and review of applications will begin in PY5Q4.

SIAPS continues to provide input into the Selection, Formulary, and Procurement Subcommittee of the KZN PTC. On request of the subcommittee, SIAPS provided an evidence-based review presentation to clinicians at Inkosi Albert Luthuli Central Hospital outlining how a review should be conducted. A pharmacoeconomics short course was also provided to the clinicians to promote understanding of costing. After the presentation, the clinicians requested SIAPS assistance with medicine reviews, which will be provided through the Selection, Formulary, and Procurement Subcommittee of the KZN PTC.

SIAPS provided technical support to two provinces (GP and KZN) in the development and operationalization of provincial AMR plans in alignment with the National AMR Strategy Framework and National AMR Implementation Plan. In KZN, SIAPS facilitated the establishment of an interim AMR task team in collaboration with the provincial AMR representative and the Pharmaceutical Services Head Office.

SIAPS supported the Pharmacy Council and EDP to finalize the topic for Pharmacy Week. "Use Medicines Safely" was accepted as the theme by all stakeholders. In PY5Q3, SIAPS provided input on possible Pharmacy Week concepts and supported EDP in a meeting with relevant stakeholders.

SIAPS continues to promote dissemination of guidelines; for example, a poster entitled "Strengthening the implementation of standard treatment guidelines to improve rational use of medicines in South Africa" was presented at the HST Conference in May 2016.

Constraints to Progress

There have been delays in the development of the adult EML and STG academic detailing slides because of the need for consensus between relevant stakeholders.

South Sudan

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

Overall Quarter Progress

SIAPS distributed the USAID-procured malaria commodities and medical storage shelves to all counties in the former Central Equatoria (CES) and Western Equatoria States (WES). This activity was implemented to increase the availability of malaria commodities and improve medicines storage at the health facility level. In CES, SIAPS provided technical assistance to the medical store staff to receive four containers of long-lasting insecticide-treated nets (LLINs) from Mombasa procured by the Global Fund for mass distribution.

SIAPS rearranged theYambio County medical store and four health facilities. In the former CES, SIAPS de-junked the Terekeka County store and rearranged the main medical store at the Juba Teaching Hospital and two medical stores at El Sabbah Pediatric Hospital. SIAPS also provided support to the two hospitals to dispose of expired medicines.

SIAPS also updated the South Sudan pharmaceutical dashboard and mentored seven health care workers (2 female and 5 male) on how to use it. The dashboard provides the MOH with information on the availability of medicines in the health facilities and county medical stores and provides information for decision making on matters concerning pharmaceuticals.

SIAPS provided technical support to the National Malaria Control Program (NMCP) to commemorate World Malaria Day (WMD) held on April 25, 2016. The theme of this year's event was "Doubling Efforts to Prevent, Diagnose, and Treat Malaria." Mass media campaigns and test and treat campaigns were conducted as part of the commemoration. WMD is commemorated annually to showcase achievements in the fight against malaria, create community awareness about the disease, and advocate for support (both political and financial) for malaria control interventions.

SIAPS supported the MOH to host six Pharmaceutical Technical Working Group (PTWG) meetings and one Malaria Technical Working Group (MTWG) meeting. These meetings are a platform for sharing pharmaceutical information for decision making.

Objective 1: Pharmaceutical Services Improved to Achieve Desired Health Outcomes

SIAPS worked with the federal MOH logistician to obtain a tax exemption for 750,000 tablets of sulfadoxine-pyrimethamine (SP) that were procured by USAID for CES and WES for intermittent preventive treatment in pregnancy (IPTp). Following receipt of the SP consignment, SIAPS provided storage and later distributed the commodities to all 16 counties in CES and WES. SIAPS also received and provided storage for 535,650 doses of artemisinin-based combined therapy (ACT), 400,000 LLINs, and 250 medicine storage shelves, and distributed them.

SIAPS conducted supportive supervision in 10 counties and 26 health facilities in CES and WES. SIAPS also collected Continuous Results Monitoring System (CRMS) data for monitoring stock levels of tracer medicines and decision making. During the supervision, SIAPS provided stock cards to seven health facilities in Mvolo and Maridi Counties. SIAPS also provided on-the-job training on pharmaceutical management and RMU to 12 health care providers in CES and WES.

In response to an emergency order for medicines in Morobo County, SIAPS mobilized and delivered an assortment of medicines: 32,000 tablets of SP, 106,000 tablets of paracetamol 500 mg, 25,000 tablets of amoxicillin 250 mg, 15,000 tablets of ferrous sulfate, and 400 ampules of oxytocin injection. In collaboration with Jubek State MOH in the former CES, SIAPS supported the redistribution of over-stocked paracetamol 500 mg from Juba Teaching Hospital to Gurei and Munuki PHCCs to increase availability of these tracer medicines and to avoid wastage due to expiry.

Constraints to Progress

Most health facilities in CES and WES had been supported by the Integrated Service Delivery Project. Once the project closed, service delivery and CRMS activities were negatively affected.

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

During this quarter, SIAPS provided the *Public Sector Pharmaceutical Management Training Manual* to the Institute of Pharmacy Technicians. The training manual was developed by SIAPS in collaboration with the MOH and other partners.

SIAPS delivered a pharmaceutical management and RMU training workshop to 48 health care workers (13 female, 35 male) in the former WES and to 25 health care workers (5 female and 20 male) in the former CES. In addition, SIAPS delivered 50 sets of Pharmaceutical Management Information System (PMIS) tools and training materials (manuals and handouts) to the former WES. The participants developed 140 post-training action plans for both trainings.

SIAPS delivered a malaria case management and RMU training workshop to 70 health care workers (27 female and 43 male) in the former CES. All participants were provided with copies of the *Malaria Case Management and Training Guidelines*. The participants developed 140 post-training action plans.

Objective 3: Information for Decision Making Challenges in the Pharmaceutical Sector Addressed

SIAPS collected and analyzed the monthly tracer medicines' stock status reports for six states (four Health Pool Fund supported states, CES, and WES) that are supported by SIAPS. SIAPS presented these reports to the PTWG. The stock status report provides information on HIV commodities and tracer medicines at state and county levels.

SIAPS customized the South Sudan pharmaceutical dashboard. SIAPS also obtained MOH approval for the new template for generating reports on tracer medicines. The template will be disseminated to all stakeholders to ensure uniformity of data collected from counties across the country. This template has already been incorporated into the dashboard.

SIAPS gave a presentation to the WHO Health Cluster information technician and Central Medical Store (CMS) administration on the dashboard to ensure buy-in and adoption of the tool at the county level, as well as submission of stock status reports into the system to ensure availability of information for decision making. SIAPS trained seven staff (2 female, 5 male) on use of the dashboard.

SIAPS developed and shared guidelines for the redistribution of excess and near-expiry essential medicines between public health facilities. SIAPS worked with the Health Pool Fund to coordinate the distribution of pharmaceutical tools such as stock cards, dispensing registers, issue and receipt vouchers, way bills, and the monthly reporting template for tracer medicines.

SIAPS continues to support the use of the Electronic Dispensing Tool (EDT) at the Juba Teaching Hospital antiretroviral therapy (ART) center for generating antiretroviral (ARV) stock status reports. To improve the EDT's functionality, SIAPS installed solar panels at the ART center to address power outages that have greatly impeded use of the EDT. SIAPS also repaired faulty computers, installed antivirus software, and provided technical assistance to facilitate accurate stock transactions and quantification of ARVs.

Constraints to Progress

SIAPS is still unable to provide stock status reports for some states because they have never submitted reports to the Logistics Management Unit (LMU). The LMU is working with partners such as the Health Pooled Fund to ensure timey submission of stocks status data.

Objective 4: Scale-up of Malaria Interventions Accelerated, Better Coordinated, and Documented

SIAPS held a meeting with the MOH and partners (WHO, USAID) to discuss the status of the therapeutic efficacy testing (TET) study and training malaria sentinel surveillance-site staff. The TET study will provide information on the efficacy of antimalarials currently in use.

SIAPS supported the NMCP in holding MTWG meetings to share information on malaria interventions. SIAPS also finalized the South Sudan malaria control policy. The policy charts a strategic direction for all malaria control interventions in the country.

SIAPS contributed articles to the 2016 malaria newsletter, in addition to providing technical oversight for the production of the newsletter. Printing of the newsletter is pending MOH approval. The newsletter is an advocacy tool for showcasing achievements in the fight against malaria.

SIAPS provided technical assistance to the NMCP to edit and finalize the 2013 Malaria Indicator Survey (MIS) report. After final approval, SIAPs printed 1,000 copies and disseminated them to all stakeholders in the country. Meanwhile, SIAPS supported the NMCP in planning for the 2016 MIS study, which is expected to provide up-to-date, community-level information on malaria for decision making and future programming.

SIAPS continues to provide technical assistance to other USAID-supported partners to store and distribute USAID-procured malaria commodities. SIAPS also compiled and submitted the procurement planning and management report for malaria for the current quarter.

Constraints to Progress

Some partners submitted their articles for the malaria newsletter late, thus delayed finalization, approval, and printing. SIAPS is working with NMCP to ensure final approval and printing of the newsletter.

Swaziland

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

Overall Quarter Progress

The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program continues to provide technical assistance to the office of the chief pharmacist and the central medical store (CMS) in the Ministry of Health (MoH) to ensure the uninterrupted availability of commodities for HIV/TB prevention and treatment and the delivery of quality pharmaceutical services. The technical assistance is aligned with the country's HIV goals, which are based on the HIV National Strategic Framework and the National Health Sector Strategic Plan 2014–2018. SIAPS has also continued its support to the National TB Program (NTCP) and the Swaziland National AIDS Programme (SNAP).

Of the 133 antiretroviral therapy (ART) facilities supported by SIAPS, 50% maintained the required minimum-maximum levels for at least one ARV tracer product during this quarter. The Swaziland Health Laboratory Services Warehouse (SHLS) was out of stock of the Determine HIV, Chase Buffer and Unigold rapid test kits this quarter. The shortage of these rapid test kits can be attributed to many factors, including supplier delays in delivering the order in quarter 2 and an insufficient budget released by the government for the laboratory. Only 25% of the budget requirement was released in quarter 1, meaning that the SHLS should ration its orders. SIAPS worked with the NTCP to provide TB medicine management training to 24 nurses from TB initiating sites and multidrug resistant (MDR)-TB facilities. SIAPS also provided mentorship and site supervisions on supply chain and pharmaceutical services to at least 200 health care workers (HCWs) at 79 facilities across the four regions of the country.

SIAPS continued to scale-up the laboratory web-based Commodity Tracking System (CTS) rollout at the laboratory by installing CTSs at four additional laboratories. SIAPS also supported the CMS in conducting logistics data validation visits to 50 health facilities reporting on ARVs and family planning commodities.

During this reporting period, SIAPS worked with the NTCP to facilitate the introduction of bedaquiline, which is a novel drug for the management of MDR/extensively drug-resistant (XDR) TB.

SIAPS continues to be a responsive MoH partner on pharmaceutical systems-related technical assistance matters. Various meetings have been held with the chief pharmacist and the directorate for health services to advise on matters of medicine policy and rational medicine use. Collaboration with PEPFAR regional implementing partners on inventory management activities at clinics and health centers continues to be a SIAPS priority.

Objective 1: Strengthen Governance in the Pharmaceutical Sector

To ensure that good governance principles are embodied across all functions in the management of the pharmaceutical sector, SIAPS continues to support the MoH to facilitate meetings of the following key pharmaceutical committees that seek to address transparency and accountability:

- Pharmaceutical Importation and Exportation Committee
- Pharmaceutical Recruitment and Training Committee
- National Essential Medicines Committee (NEMC)

SIAPS also supported the National Medicines Quantification Committee meeting.
These committees support the office of the chief pharmacist in efforts to strengthen the pharmaceutical sector. The Pharmaceutical Importation and Exportation Committee has worked to establish systems to monitor the importation of narcotics for palliative care and maternal and child health. The Pharmaceutical Recruitment and Training Committee has continued to advise the National Higher Education entity of the Ministry of Education and Training on developing competency standards for pharmacy personnel training in Swaziland. This activity seeks to ensure that the training program supported by SIAPS at Nazarene University is accredited by the newly established authority.

SIAPS has also worked with the NEMC to advise on the processes to review the Standard Treatment Guidelines/Essential Medicines List (STG/EML) that was implemented in program year 1, including the process of collecting and collating facility submissions on medicines to be included and omitted in the revised STG/EML. This revision will also consider HIV and TB medicines that have recently been introduced in the country. Certain medicines will be moved to lower-level facilities as per the requirement of the national essential health care package as part of increased access to essential medicines.

SIAPS has worked with two pharmacists who were recently appointed to the interim medicines regulatory authority desk under the office of the chief pharmacist. The functioning of these committees continues to be transitioned to these officers for continuity, while SIAPS provides technical assistance and advice to the team.

Consultations have continued with the Swaziland Public Procurement Regulatory Agency and the MoH Procurement Unit to finalize the scope of work for procurement technical assistance. Consultant recruitment has been completed, and plans have begun to draft the procurement procedure manual and the procurement system strengthening plan for the next two years. This plan will be used by the MoH Procurement Unit to mobilize resources from the Global Fund and other partners.

SIAPS continued to provide technical assistance to the MoH to maintain the process of controlling the quality of medicines imported into Swaziland. This included technical assistance to the medicines regulatory authority (MRA) pharmacist and review of the MRA implementation plan. SIAPS also participated in and provided input regarding the African Union Model Law on the Harmonization of Medicines Regulation during a two-day meeting of the technical working group responsible for developing the MRA implementation plan. This meeting was led by the new Africa partnership for Africa's development, an agency of the African Union. SIAPS was

invited and nominated by the chief pharmacist to represent the southern Africa development community.

The five-year Swaziland pharmaceutical sector strategy plan (SPSP), which was drafted and approved in program year 1, is now due for review. During this reporting period, SIAPS has supported the MoH in drafting the terms of reference for a task team that will lead the SPSP update. The task team is expected to be appointed in quarter 4, and an action plan will be in place for implementation in collaboration with the World Health Organization (WHO) Swaziland country office.

Constraints to Progress

Delays in contracting a suitable procurement consultant. After completing the process of engaging the consultant, the period of performance has been extended to Sept. 2016.

Objective 2: Increase Capacity for Pharmaceutical Supply Management and Services

SIAPS continued to develop the skills of frontline HCWs in HIV/TB pharmaceutical supply management and services. During this reporting period, SIAPS worked with the NTCP and the USAID/AIDSfree project to provide supply chain trainings to 24 HCWs from TB initiating and MDR-TB facilities.

Mentorships and Site Supervisions

SIAPS conducted site supervision visits to 79 HIV treatment and care facilities and provided mentorship on stock management and good pharmacy practice to at least 200 HCWs. In total, 15 health facilities were visited in Manzini, 26 in the Shiselweni region, 24 in the Hhohho region, and 14 in the Lubombo region. HCWs were mentored on LMIS data collection and reporting, pharmaceutical management, and general warehouse management. SIAPS also continued to provide support for facilities that were implementing RxSolution, the electronic inventory management software, to monitor the availability of essential health products. Bug fixing/troubleshooting and mentorship support was provided to six ART facilities and two central warehouses. SIAPS also provided onsite training to six HCWs on using the CTS for monthly reporting and ordering laboratory commodities from the central warehouse. In addition, four HCWs were trained on the utilization of RxSolution for managing stock movement. SIAPS also supported the central laboratory warehouse to conduct physical stock take at the main warehouse in Mbabane and the spillover warehouse in Matsapha. Laboratory commodities were rearranged to optimize the limited storage space at both warehouses.

With support from SIAPS, 13 health facilities have conducted quality improvement plans (QIPs) as an approach to participatory and continuous performance improvement since the beginning of project year 3. In this reporting period, seven SIAPS-supported sites were implementing QIPs. Two facilities were implementing QIPs to improve passive ADR reporting, and five facilities were implementing QIPs to improve adherence to ARVs. All QIPs will be finalized in the next quarter.

SIAPS is currently developing a report of all capacity-building interventions to highlight achievements and future opportunities for improvement. This document will be used to advocate for the MoH to allocate more resources and personnel at lower-level facilities and provide pharmacists in the regions to oversee pharmaceutical activities at clinics.

Constraints to Progress

A shortage of personnel at primary health care facilities and large numbers of patients continue to be challenges to conducting mentorships.

Objective 3: Address Information Utilization for Pharmaceutical Management Decision-Making

During this quarter, SIAPS continued to scale-up the CTS rollout at laboratory facilities and installed the software at four additional facilities. SIAPS continued to make functionality developments on the software based on user requirements. Functionality upgrades included the ability to customize product lists by facility and modify data entry forms that have been published on the system (limited to the system administrator) and updates to the algorithms applied for calculating the average monthly consumption of commodities. The use of the web-based CTS has increased the reporting rate for LMIS reports from facilities. This in turn allows managers to make informed decisions on stock rotation and resupply.

SIAPS collaborated with The Luke Commission (TLC), a local faith-based organization, to deploy RxSolution in TLC's health facility (Miracle Centre) storeroom. With support from SIAPS, TLC conducted a physical stock count of all its medicines and generated an electronic drug list. SIAPS also collaborated with the Centre for HIV and AIDS Prevention Studies (CHAPS), a USAID medical male circumcision implementing partner, to implement RxSolution for managing medical supplies at its warehouse. The software will be deployed and centrally managed at the targeted warehouse during the next quarter. The implementation of RxSolution at TLC and CHAPS aligns with the MoH strategy of standardizing and harmonizing electronic tools in the public health sector

SIAPS identified a potential hosting provider for the Pharmacovigilance Monitoring System (PViMS) in Swaziland. This web-based software comprises part of the portfolio of tools used in the pharmacovigilance program. In the next quarter, SIAPS will focus on finalizing all required paperwork, resensitizing targeted facilities, and deploying and piloting tools.

During this quarter, SIAPS supported the MoH's logistics data management unit at the CMS to conduct data validation visits to 50 HIV/TB treatment facilities. The data validations were targeted at logistic data reported for ARVs and family planning products. This precedes a future action plan aimed at improving the quality of logistic data reported through LMIS. During these visits, health workers were mentored on completing the LMIS forms accurately.
While 88% of ART sites managed to complete and submit an ART LMIS report this quarter, this was a decline from quarter 2. Timeliness of reports for facilities providing ART services continues to be a challenge, with this quarter showing an on-time completion rate of 63%, which

was an improvement over the 56% rate for the previous quarter. The laboratory LMIS recorded a 100% reporting rate for quarter ending in June 2016, which was consistent with the previous quarter.

Partner Contributions

Harvard Pilgrim Health Care Institute continued to assist in building the local team's research skills. The data collection and analysis on the ART regimen switching study has been completed, and the process of report writing is under way.

Constraints to Progress

The methodological approach being carried out by the MoH (CMS Department) for warehouse management system selection and deployment remains a concern for the SIAPS team. There is minimal stakeholder involvement in the planning and implementation of project activities, including gathering system requirements, validating system specifications, selecting vendors and products/systems, and involving active users.

In an effort to support the ministry and avert potential risks, SIAPS has proposed a meeting with subject-matter stakeholders in the next quarter. The purpose of the proposed meeting is to address concerns around project implementation activities and reach consensus on pending activities. This would also assist SIAPS in planning the transition between RxSolution and the new warehouse management system.

Objective 4: Improve Pharmaceutical Services to Achieve Desired Health Outcomes

During this quarter, no facility reported a stock-out of ARV medicines. However, the CMS had a stock-out of nevirapine suspension 240-mL bottles. SIAPS is working with the USAID/procurement, supply, and management mechanism to fast track the delivery of this item per an April 2016 order.

SIAPS also supported the SHLS to develop a quarter 1 supply plan for laboratory reagents and supplies to generate orders for quarter 1 of the government fiscal year. The available funding for laboratory commodities of E9.6 million is less than the forecasted requirement of E39 million. This shortfall is already having a significant impact on the stock situation for key laboratory items. A laboratory budget gap analysis is being undertaken and will be shared with the MoH and Ministry of Finance to advocate for a larger disbursement in quarter 2. SIAPS has also proposed several options to assist the SHLS, including diverting funds from lower-priority activities within the SHLS budget to free up additional funding for the procurement of laboratory commodities. The FY2017/18 laboratory commodities forecast has begun with the process of gathering user information from clinical laboratories and public health programs (NTCP and SNAP). A forecasting committee meets weekly to review product lists and collect required information to generate forecasts. A supply plan for TB medicines has also been prepared and submitted to the MoH for generating orders. The funding gap for TB medicines has been filled

by a Global Fund HIV/TB grant. The Global Fund will purchase a few lines of MDR-TB medicines, including kanamycin, levofloxacin, and capreomycin.

SIAPS continues to monitor adverse drug reaction (ADR) surveillance in an effort to improve patient safety and therapeutic effectiveness and reduce the emergence of ADRs. SIAPS conducted a feedback meeting to present pharmacovigilance system updates and disseminated ADR job aids and Medicines Safety Watch newsletters at nine facilities offering MDR-TB services. Two abstracts documenting SIAPS Swaziland's work in strengthening patient safety monitoring were accepted for presentation at the 2016 International AIDS Conference and the Union Conference on Lung Health.

SIAPS also conducted a causality assessment for 115 ADRs reported in the previous quarter. A total of 3,759 patients (52% females; 48% males) were enrolled in active surveillance from June 2013 to May 2016; 1,195 ADRs were reported, with 66% of those patients on anti-TB medicines and 34% on ARVs. SIAPS also continued to support the MoH in reporting ADRs to the WHO-Uppsala Monitoring Centre (Vigibase® system). To date, 65 ADR reports have been received from health facilities through the passive reporting system and are being analyzed for reporting through the Medicines Safety Watch newsletter.

SIAPS continued to support the NTCP to introduce bedaquiline for managing MDR/XDR TB by:

- finalizing, printing, and disseminating clinical and pocket guidelines for bedaquiline and delamanid
- supporting the selection and monitoring of patients on bedaquiline and supporting the bedaquiline clinical access program expert committee

SIAPS continued support facility pharmacy and therapeutics committees (PTCs) to ensure improved medicine use and the slowed emergence of antimicrobial resistance (AMR). SIAPS has established and supports 14 PTCs. During this reporting period, the PTCs at six health facilities had at least one meeting to discuss patient safety and therapeutic effectiveness, and 11 PTCs have implemented AMR containment advocacy activities.

Constraints to Progress

The process of contracting a vendor to host the PViMS was lengthy and led to delays in launching the system.

Ukraine

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

Overall Quarter Progress

In the third quarter of the PY5, SIAPS Ukraine continued to advance toward all three objectives. Activities outstanding from PY4 are being successfully managed as well.

For Objective 1, the data collection and preliminary analysis for the National Supply Chain Assessment (NSCA) was completed and the discussion of the preliminary results has begun. For Objective 2, the technical reports on Drug Utilization Review (DUR) for both HIV and TB sectors were positively accepted by national stakeholders. Final versions are now being edited in HQ.

For Objective 3, the competitive selection process for members of the EML Expert Committee is going as planned, and there will be a final list of 12 members by July.

Additionally, SIAPS/Ukraine continues to provide TA to the government of Ukraine by contributing to the working groups that are involved in medicines procurement reform.

Objective 1: Support Improvements in National Supply Chain Management

Data collection, aggregation, and cleaning are completed. Data were analyzed and preliminary results were presented to stakeholders on June 22. The feedback from this meeting will be incorporated into further data analysis and report writing.

Partner Contributions

Data collectors provided additional comments and clarifications during data cleaning and analysis.

Objective 2: Improve Pharmaceutical Services for HIV and TB Programs

An inclusive stakeholders meeting was held on April 6 to present final versions of reports for Drug Utilization Review (DUR) in both HIV and TB sectors and to approve all amendments made to these reports as previously suggested by stakeholders. The reports were approved by stakeholders and sent to HQ for final review and editing. Stakeholders expressed an interest in expanding DUR implementation to other health facilities (AIDS centers and TB dispensaries). The preparation for the training for Drug and Therapeutic Committees continues. Trainings were rescheduled for September.

Partner Contributions

Stakeholders (MOH, UCDC, SEC, AIDS and TB facilities, and WHO) provided their inputs for final versions of the reports.

Objective 3: Improve Pharmaceutical Management and Governance

EML

The methodology for selecting medicines for National Essential Medicines List (EML) was approved by MOH and sent to other ministries for their approval.

The MOH order regulating the foundation and functioning of the Competition Committee (which will be responsible for conducting the competition-based selection of candidates for EML Expert Committee) was approved. The competition started in May. It is expected that by the end of June the list will be finalized.

A vendor was selected to deliver the training on health technology assessment for EML Expert Committee. The first phase of the training is planned for July 11–17. The second phase is planned for September.

PV Guidelines

There was no meeting of the working group on developing the National PV guidelines in this quarter (see Constraints).

Partner Contributions

The MOH, State Expert Center, and International Renaissance Foundation collaborated on selection of members of EML Expert Committee.

Constraints to Progress

EML

Due to resignation of the Minister of Health, the selection process for EML Expert Committee and approval process for the Methodology for selection of medicines to National Essential Medicines List was delayed significantly. When the Deputy Minister was appointed as Acting Minister, these processes resumed.

PV Guidelines

No changes since last quarter, the State Expert Center has been under the investigation of Ukraine Security Service (USS) since January. Their work in many areas is blocked. Thus, no advancement was made in developing PV Guidelines modules.

Other PY5 Q2 Activities

Price observatory

The contract with the developer of the web-based Price Observatory tool has been fulfilled. The tool now needs to be transitioned to the end-user (network of People Living with HIV), according to the Memorandum of Understanding. Google analytics was linked to the tool in May. It is expected that measurements required for reporting on SIAPS indicators will be available in quarter 4.

PAIS

The agreement on transitioning of PAIS to State Expert Center was sent to HQ in April. The official process of transitioning will begin after the agreement is finalized.

Workgroups

SIAPS/Ukraine continues providing TA to the MOH on developing the Concept of Reform for procuring medicines. The Concept has passed the public discussion in June. The next step is to go through the approval process with other ministries. When done, it will be submitted to the Cabinet of Ministers.

Partner Contributions

Work groups members.

Constraints to Progress

Price observatory

Bugs during warranty period fixed.

PAIS

The approval of the agreement on transitioning of PAIS to State Expert Center by HQ is taking longer than expected.

Workgroups

Due to resignation of the Deputy Minister of Health, who was the head of the working group on Reform Concept development, additional time is needed to engage new Deputy Minister into the process of moving forward the concept—the future of this working group remains unclear.

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 supports the country in the implementation of the early warning and forecasting/quantification system with the use of the QuanTB. Based on a request from Ministry of Health (MOH) officials, USAID Uzbekistan Country Office recently requested that SIAPS continue to assist the countrywide rollout of the early warning and quantification system using the QuanTB tool. In this regard, an amendment to the existing work plan was approved by the USAID Mission in Uzbekistan as well as by the Agreement Officer's Representative (AOR). In February 2016, the MOH officially accepted the National TB program's request to make mandatory regular reporting from the regions to the central level using QuanTB, which serves as a prerequisite for system's countrywide rollout.

During the reporting period, SIAPS accepted additional funds from USAID Uzbekistan Country Office to extend the program's presence in country to ensure the early warning system full rollout countrywide at the region level and pilot at the district level, where possible.

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 three regions (Samarkand, Khorezm, and Fergana oblasts) and Tashkent City, which is managed and coordinated by the central level. In September 2015, SIAPS trained representatives of remaining regional TB facilities and partner organization, Project HOPE, which implements USAID-funded TB program in four regions of the country and aims to implement the early warning system on how to use QuanTB. In February 2016, the MOH officially accepted the National TB program's request to make mandatory regular reporting from the regions to the central level using QuanTB, which serves as a prerequisite for system's countrywide rollout. In the reporting period, three regions (Andajan, Fergana, and Namangan oblasts) started to use QuanTB and conducted respective data collection and data entry. The TB pharmaceutical working group provided its assistance to these facilities, as the quality of system utilization is very low and requires intensive work with the local staff. To ensure adequate rollout of the system countrywide, SIAPS accepted the working group request to support regular supervision visits of the team of experts from the central level to all supported regional TB facilities.

In June 2016, SIAPS organized a meeting of the Pharmaceutical Management working group in Uzbekistan, where a SIAPS consultant introduced a draft of the TB pharmaceutical management manual and instructions on organization of reporting, collecting, and processing data for QuanTB. These documents are expected to discussed among the working group members, finalized, and then introduced to the MOH for endorsement and incorporation into the ministry's 2014 Universal Order, which regulates prevention, diagnosis, and treatment of TB and DR-TB patients in Uzbekistan but does not yet include TB pharmaceutical management aspects. At the

working group meeting, a detailed plan of early warning system rollout including a supervision plan was discussed and agreed upon.

After the working group meeting, SIAPS organized and facilitated training on use of the latest version of QuanTB for the pharmaceutical working group core team and specialists from the central level, who will be responsible for supervising regions and provide on the job training of the regional specialists who are directly responsible for implementation of the early warning system and reporting to the central level. Staff from Project HOPE also attended the training. This pharmaceutical working group will conduct supervision visits to all regions of Uzbekistan, including those, which are under the responsibility of Project HOPE. SIAPS will support the organization of visits for 10 regions through the local vendor, which is already selected and contracted. The other four regions will be supported by Project HOPE.

During the reporting period SIAPS accepted additional funds from USAID Uzbekistan Country Office and extended program's presence in country to ensure early warning system full rollout countrywide at the region level and pilot at the district level where possible. During the extension period, the TB pharmaceutical working group at the MOH and USAID Country Office expect to have support in other aspects of TB pharmaceutical management, such as the introduction of electronic Logistics Management Information System (eLMIS), implementation of Drug Use Review program at the regional TB facilities, and establishment of strong pharmacovigilance system in TB control.

An abstract entitled "Uzbekistan's new approach to tackle MDR-TB burden through an institutionalized early warning and quantification system," submitted to the 47th Union World Conference on Lung Health taking place in Liverpool, UK, October 26–29, 2016, was approved for poster presentation.

Partner Contributions

The national TB program acknowledged the importance of the rollout of early warning system countrywide and SIAPS' valuable role in this process, and requested the USAID country mission to engage with SIAPS for further support.

All above-mentioned activities are being done in close coordination with the Project HOPE and WHO Country office, which recently has been appointed to implement the Challenge TB program in Uzbekistan. It is agreed that SIAPS will provide its expertise to the TB Pharmaceutical Management working group to help implement the interventions that are agreed upon to be included in the work plan for the extension period. Project Hope will then implement recommended activities in its pilot regions accordingly.

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 seen in one of the oblasts.