

SIAPS Quarterly Report

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About SIAPS

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

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ACRONYMS AND ABBREVIATIONS

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

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

INTRODUCTION

The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program, awarded by USAID in September 2011, strengthens the management of essential medicines and health supplies so that more people can access the health care they need. Now in its sixth year, SIAPS works with local counterparts and partners in 13 countries and 2 regional programs during the third quarter. SIAPS takes a comprehensive approach to improving pharmaceutical systems: enhancing countries' capacity to procure and distribute high-quality medicines and health technologies, while working with local partners to develop strong systems for pharmaceutical financing, human resources, governance, information, service delivery, and pharmacovigilance. By promoting local ownership of wide-ranging initiatives, stronger, more sustainable health systems overall are fostered.

The program's five result areas are as follows:

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

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

SELECT PROGRESS TOWARD RESULT AREAS

Intermediate Result 1. Pharmaceutical Sector Governance Strengthened

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

Policy, Legislation, and Contractual Agreements

SIAPS concluded its long-term collaboration with international and local partners to assist the national medicines regulatory authority (DNPL) in **Guinea** with revising the existing national pharmaceutical law, which dates from 1994. The draft pharmacy bill was finalized at a SIAPS-supported workshop and has been sent to the Minister of Health for review and endorsement. Once approved, the bill will be presented to the National Assembly for adoption.

In **Sierra Leone**, the parliament enacted the National Medical Supplies Agency Act, which transforms the National Pharmaceutical Procurement Unit (NPPU) into a parastatal body—the National Medical Supplies Agency (NMSA). SIAPS supported the process to reform the NPPU, provided comments on the draft bill, and participated and provided clarifications in the subsequent parliamentary committee discussions. The act is now awaiting presidential assent.

At the recent National Pharmacists' Forum that is held annually in **Namibia**, SIAPS facilitated an all-day session with 38 pharmacists and managers representing 12 of the country's 14 regions to review the national medicines policy (NMP). This activity forms part of SIAPS' technical assistance to the Division of Pharmaceutical Services of the Ministry of Health and Social Security (MOHSS) to update the NMP.

Standards, Guidelines, and Procedures

In this reporting period, SIAPS country teams worked with partners and counterparts to revise, finalize, and implement a number of guidelines, lists, and standard operating procedures (SOPs) which provide the foundation for good governance and improved practices in pharmaceutical systems.

- As part of technical assistance efforts to strengthen Drugs and Therapeutics Committees (DTCs) in **Sierra Leone**, SIAPS helped draft a DTC operational manual that was shared and validated at a DTC progress workshop with representatives from hospitals, the Directorate of Drugs and Medical Supplies (DDMS), the United Nations Children’s Fund (UNICEF), and the World Health Organization (WHO).
- The secretariat of the national essential medicines list (NEML) committee in **Mozambique** reviewed the edited proof of the newly revised NEML with support from SIAPS. Once the MOH approves the corrections, the NEML will be printed and disseminated.
- In **Benin**, the SOP manual for the management of health commodities for Ebola and other viral hemorrhagic fevers was finalized. SIAPS helped the Department of Pharmacy, Medicines, and Laboratory (DPMED) and the Department of Public Health (DNSP) organize a workshop in Ouidah to validate the SOP manual, which is now ready for printing and dissemination.
- SIAPS/Amazon Malaria Initiative (AMI) helped the National Directorate of Medicines in **Peru** revise and finalize the pharmaceutical management SOPs that were developed in the previous year in preparation for a nationwide roll-out to all public pharmaceutical service delivery points.
- In **Namibia**, SIAPS worked with partners to develop and orient staff on SOPs that set-out the processes for dispensing antiretroviral (ARV) medicines to community-based antiretroviral therapy (CBART) groups to support implementation of differentiated models of care at high-volume antiretroviral therapy (ART) sites.

Transparency and Accountability

SIAPS has been supporting the DDMS in **Sierra Leone**, which is the directorate within the Ministry of Health and Sanitation (MOHS) responsible for oversight and support in the pharmaceutical sector, to review its organogram and define the roles and responsibilities of its constituent units. The new organogram for the DDMS, which defines the structural framework for implementing the agency’s mandate, was approved this quarter. The terms of reference (TOR) for the newly established four key functional units—Governance, Human Resources Management, Products and Technologies, and Administrative and Finance—were also approved. The organogram and TOR will help clarify roles and responsibilities and enhance accountability within the directorate.

Also in **Sierra Leone**, as a result of SIAPS advocacy, the 2017 MOHS mid-year health sector performance review included a dedicated session on the pharmaceutical sector for the first time. A panel of stakeholders, which included representatives from civil society organizations, participated in a facilitated discussion on key issues affecting the sector.

In the **Philippines**, SIAPS is assisting the Department of Health (DOH) to strengthen the governance framework for supply chain management (SCM) in the public sector. In this reporting period, SIAPS worked with representatives from three DOH bureaus—Pharmaceutical Division, Logistics Management Division, and Knowledge Management Information Technology Services—and health programs, including the National Tuberculosis (TB) Program and Family Health Office, to identify roles and responsibilities of the proposed Supply Chain

Management Unit (SCMU) and other DOH offices involved in SCM. These representatives also proposed an organizational structure for the SCMU. At a second SIAPS-supported consultation workshop, the draft TOR for the SCM governance framework was reviewed and finalized. These steps represent important benchmarks toward establishing the SCMU and improving transparency and accountability for SCM in the country.

Coordination, Partnership, and Advocacy

In this reporting period, SIAPS supported the coordination efforts described below to promote more informed decision making; foster transparency and accountability; streamline SCM and service delivery; and improve the efficiency of planning, allocation, and mobilization of government and donor resources.

- SIAPS supported meetings of the National Medicines Quantification Committee and the Supply Chain Technical Working Group (SCTWG) in **Swaziland**. These groups provide platforms for fostering coordination among supply chain stakeholders in the country. SIAPS has served as the secretariat for both of these groups; however, in preparation for project closeout, secretariat responsibilities for the SCTWG were transferred to the Clinton Health Access Initiative.
- In **Mali**, SIAPS helped organize meetings to update the procurement plans for malaria and family planning commodities.

Strategic Planning

One of the topics under discussion at the 2017 National Pharmacists' Forum, organized in **Namibia** by the MOHSS with assistance from SIAPS, was the strategy to improve the performance of the Central Medical Stores (CMS). A focus group session enabled participants to provide input into the strategy, which will form the basis for development of a three-year strategic plan to reposition the CMS and improve the national public sector supply chain.

Regulatory Systems Strengthening

Following the launch of the online medicine registration system Pharmadex in **Bangladesh** in May 2017, SIAPS collaborated with the Directorate General of Drug Administration (DGDA) and the designated task force to finalize the action plan for fully implementing the online registration system. In accordance with the action plan, the DGDA circulated an official letter to the country's top 10 pharmaceutical manufacturers requiring them to submit new registration applications for cardiovascular products by using Pharmadex and to submit dossiers in the Common Technical Document (CTD) format. SIAPS and DGDA provided technical support to the selected manufacturers to assist them in meeting the new requirements, including a training session for 20 representatives from all 10 companies. With this support, ACI Pharmaceuticals Ltd. successfully submitted their dossier online, and DGDA was able to screen and initiate review of the dossier in Pharmadex.

In **Bangladesh**, SIAPS also participated in the WHO-led Coalition of Interested Parties (CIP) meeting to review and share the DGDA's strategy for strengthening the regulatory system,

which was developed with support from SIAPS in previous quarters, with development partners. The other CIP agencies in attendance included the USAID Mission, the USAID-funded Promoting Quality of Medicines (PQM) Program implemented by the United States Pharmacopeia (USP), UNICEF, UNFPA, and officials from the Ministry of Health and Family Welfare (MOHFW). The objectives of the CIP meeting this quarter were to identify support required for DGDA to achieve maturity level 3, based on the WHO global benchmarking tool (GBT) for regulatory systems and to ensure effective coordination of activities among partners working to address key regulatory functions. At the meeting, SIAPS presented its achievements in strengthening the capacity of DGDA and the regulatory system since the first CIP meeting in March 2016. The DGDA shared its institutional training plan for 2017-2018, which was developed with assistance from SIAPS on the basis of the DGDA's five-year strategic plan. The development partners were asked to identify the areas of human and institutional capacity building they can support within the plan.

SIAPS continued to work with the Pharmacy Department (PD) in **Mozambique** to roll out Pharmadex through updating and expanding the software and training applicants to use the new system. Uptake of the system by applicants has been limited to date as the system currently only allows for the submission of new registration applications whereas the majority of applications recently received at the PD are for registration renewals. To address this, the templates for registration renewals and variations were finalized and sent to the developer this quarter and are expected to be deployed at the beginning of next quarter.

As part of its on-going effort to strengthen the PD's capacity to monitor and evaluate the regulatory system in **Mozambique**, SIAPS helped the monitoring and evaluation (M&E) staff collect data to calculate key performance indicators and prepare the latest quarterly report. In addition, SIAPS and the PD visited two provinces during the quarter to conduct data quality checks and verify the reliability of the main indicators. Some inconsistencies and user errors were detected during the visits, which the team addressed with the relevant staff.

The **Namibia** Medicines Regulatory Council (NMRC) also received support from SIAPS this quarter to implement the web-based version of Pharmadex. SIAPS installed updates on the NMRC server, helped finalize new letter and report templates to be incorporated into the software, assisted with other software design decisions, produced an updated version, and began work on a Pharmadex users' guide. In September, SIAPS trained five NMRC staff in the registration unit on the updated software and collected additional feedback from the participants to improve the tool, which will be finalized and deployed next quarter.

SIAPS also provided technical assistance to the DPMED of **Benin** to strengthen the medicine registration process and related information management system. During the quarter, SIAPS conducted a situational analysis to update the findings and recommendations of a previous assessment conducted in November 2016. On the basis of the updated information, SIAPS agreed to help DPMED optimize use of the existing electronic registration tool, rather than introduce a new tool, and procured a new high-capacity server to improve the tool's overall functioning.

In **Mali**, SIAPS planned a comprehensive assessment of the regulatory system with the Directorate of Pharmacies and Medicines (DPM) by using the WHO GBT and initiated data collection at the end of the quarter. The scope of the assessment was narrowed following in-country discussions between the SIAPS assessment team, DPM leadership, and other development partners involved in regulatory system strengthening activities. Data collection will continue into the beginning of the next quarter with completion and dissemination of results expected by early November. The results will be used to plan country-specific regulatory system strengthening activities and to inform the regional regulatory harmonization plan with the Economic Community of West African States (ECOWAS).

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

The lack of qualified pharmaceutical professionals, institutions for pharmaceutical training, and updated curricula are challenges faced by resource-constrained countries. SIAPS collaborates with stakeholders to assess their capacity to manage pharmaceuticals at all levels, identifies areas for improvement, and develops interventions to strengthen the system and build capacity. To date, SIAPS has trained more than 51,500 professionals from more than 20 countries in pharmaceutical management.

Pre-service Training

SIAPS/**Dominican Republic** reviewed the contents of the Pharmaceutical Supply Management Certified (Diploma) course and provided materials to the Universidad Central del Este for future use. This course was not implemented in 2017 due to the limitation of resources. A course on rational medicine use started in July 2017, and SIAPS consultants facilitated the first and second modules of the course. USAID sponsored tuition for 21 students.

SIAPS/**Namibia** supported the University of Namibia School of Pharmacy (UNAM-SoP) in revising the pharmacy curriculum to include lecture sessions on using the Facility Electronic Stock Card (FESC) for pharmaceutical inventory management. The support was delivered through a series of meetings between UNAM-SoP and SIAPS staff and input into the materials to be used for lectures.

In-service Training

To date, 10 countries have developed or revised 40 in-service health professional training curricula with SIAPS assistance (figure 1).

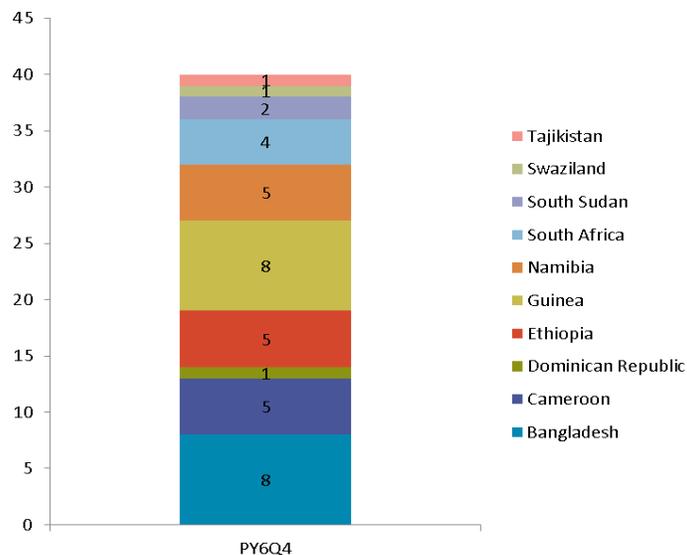


Figure 1. In-service health professional training curricula developed or reformed with SIAPS assistance

In **Bangladesh**, SIAPS and Save the Children held a day long training of trainers on supply chain management systems on July 27, 2017. The training was targeted to health managers, statisticians from the three districts, and divisional coordinators from the Management Information System (MIS)-Directorate General of Health Services (DGHS) and the MaMoni Health Systems Strengthening (MaMoni HSS) Project. More than 700 participants received trainings in 22 groups of 30 to 35 participants.

A workshop held on August 10, 2017 training service providers on pharmacovigilance for maternal, newborn, and child health medicines was chaired by Brig Gen Md. Abdullah al Harun, Director of the Bangabandhu Sheikh Mujib Medical University (BSMMU). The workshop participants from BSMMU included chairmen, professors, associate professors, and assistant professors from the gynecology and obstetrics, neonatology, pharmacology, and pediatrics departments.

SIAPS/**Benin** supported the Department of Pharmacy, Medicines, and Laboratory and the Department of Public Health (DNSP) to organize a workshop from August 7–11, 2017 to validate the Ebola standard operating procedures (SOPs) manual (including logistics systems management) that was developed for commodities used for the prevention and treatment of Ebola and other viral hemorrhagic fevers. Following this workshop, SIAPS supported the DNSP to organize two three-day training workshops for 42 health professionals and store managers on the new logistics SOPs. Workshops were held in Ouidah (September 4–6, 2017) and Bohicon (September 7–10, 2017).

During the annual pharmacists' forum, SIAPS/**Namibia** provided technical assistance to pharmacists and Ministry of Health and Social Services (MOHSS) managers on action plans for integrating nutritional products into the FESC and reporting on the dashboard. This will facilitate effective inventory management and accountability for the nutritional products that were procured to combat malnourishment in Namibia. SIAPS also supported the Ohangwena regional health directorate to train 58 nurses and pharmacist assistants on pharmaceutical inventory control, good storage practices, and the use of the FESC at the primary health care level. The training enhanced participants' knowledge to help improve the management of ARVs, TB medicines, and related health commodities.

SIAPS/**Philippines** supported the Department of Health-Logistics Management Division (DOH-LMD) in strengthening its capacity for managing warehouse operations. Four key staff from the DOH-LMD joined a training course in South Africa from September 11–22, 2017, that consisted of both classroom training and observations of standard warehouses. During the training, the team developed an action plan that will be presented to DOH management for consultation. This assistance will help improve current warehousing and distribution operations; improve and adopt best practices in warehousing; and help the DOH-LMD effectively fulfill its leadership role in warehouse operations management.

To increase capacity for pharmaceutical supply management and services, SIAPS/**Swaziland** has trained 104 health professionals (72 female, 32 male) involved in HIV/TB pharmaceutical management at 88 health facilities in the four regions. Participants included pharmacists, pharmacy technicians, and nurses responsible for medicine management. The trainings included topics such as inventory management, adverse drug event reporting, and logistics management information systems for ARVs and TB medicines. The training materials were developed with MoH pharmacists, who also facilitated the training. This is evidence of SIAPS' efforts in building the capacity of MoH pharmacists to develop and offer these trainings in the country. After the training, participants were expected to improve management of stock in the facilities, ordering, and reporting to the central level.

Supportive Supervision and Mentoring

During facility-based support and on-the-job mentoring, SIAPS/**Namibia** trained 14 health workers in nine health facilities on the Electronic Dispensing Tool (EDT), mobile EDT (mEDT), FESC, and dashboard for pharmaceutical information. The on-site training and support included updating EDT computers with capture community-based ART (CBART) groups; flagging ART patients to the assigned groups; mentoring pharmacy staff and partners on the efficient use of the EDT and mEDT; ART data quality checks in the EDT and electronic patient management system; and orienting pharmacy staff on CBART ARV refills, SOPs, process flows, and M&E tools for group ARV dispensing. SIAPS also provided technical assistance to MOHSS managers in the region to gain access to the dashboard for pharmaceutical information. SIAPS engaged stakeholders and development partners in documenting successes, challenges, and lessons learned on CBART implementation.

SIAPS/**Philippines** provided on-site mentoring on active drug safety monitoring (aDSM) data collection and the use of the Pharmacovigilance Monitoring System (PViMS) in 7 of 10 facilities

that are the first implementers of the Shorter Standard Treatment Regimen (SSTR). At the end of the on-site mentoring, staff had the tools to report serious adverse events (SAEs) experienced by patients under SSTR and bedaquiline in PViMS. All sites visited have successfully encoded pharmacovigilance data in PViMS, which is now used by these facilities to report SAEs—a core requirement of aDSM implementation.

SIAPS/**Swaziland** provided supportive supervision to 14 HIV/TB treatment facilities. During these visits, pharmacy personnel were mentored on good dispensing practice and inventory management. SIAPS also conducted annual supportive supervision visits to 40 facilities in the Manzini and Lubombo regions. The purpose of these visits was to monitor the availability of quality pharmaceutical products and the provision of effective pharmaceutical services for HIV, TB, family planning, and laboratory. Results from the visits showed that in the Manzini region, 34% of facilities were overstocked and 40% were understocked. This is an indication of weak inventory management at the visited facilities. Only 40% of facilities had adequate storage space for essential medicines.

LMIS data verification and mentorship support visits were conducted at 43 health facilities across the four regions of the country (9 in the Hhohho region, 15 in the Lubombo region, 6 in the Manzini region, and 13 in the Shiselweni region). The results show that health facilities across all programs face challenges with LMIS data compilation. In general, the main challenges were backlogs (23%) and lack of capacity to compile an LMIS report and order (18%). Further analysis by type of facility shows that clinics experienced fewer challenges (approximately 40%) than hospitals (63%) or health centers (73%). It is also worth noting that on average, 42% of all visited health facilities had no data compilation challenges. Among the facilities visited, 75% of hospitals and 60% clinics were able to calculate average monthly consumption (AMC); however, some health facilities in the Manzini and Lubombo regions still have difficulty calculating the AMC and quantity to order. SIAPS will continue conducting on-site trainings, mostly in the Manzini and Lubombo regions, to ensure that all health workers involved in LMIS reporting are able to calculate the AMC and quantity to order as those variables are critical in inventory management.

Institutional Capacity Building

In **Peru**, the National Directorate of Medicines (DIGEMID) requested technical assistance for a nationwide implementation of the standard operational procedures (SOPs) for pharmaceutical management that DIGEMID developed last year with SIAPS/AMI technical assistance. The implementation of these procedures will improve the supply of antimalarials and other medicines and supplies used by disease control programs. During this quarter, SIAPS supported the revision the SOPs, the development of a plan to roll them out to all public pharmaceutical services in Peru, and the methodology for the training workshops. Since SIAPS technical assistance will end in October 2017, the implementation of these workshops will be carried out by local counterparts.

SIAPS/**Philippines** collaborated with the National Tuberculosis Reference Laboratory Training and Development Unit and the Regional National TB Program (NTP) coordinators of Central Luzon, Calabarzon, and the National Capital Region to develop the GeneXpert training of

trainers course and the Understudy Training Program. These are part of the initiative to decentralize laboratory training to build the capacity of laboratory managers up to the peripheral level. These trainings will hasten the expansion of Rapid TB Diagnostic Laboratories using GeneXpert nationwide, thereby increasing access to quality TB diagnoses. This collaboration supports the Philippine Health Agenda through the Philippine Strategic TB Elimination Plan: Phase 1 2017–2022.

In **Sierra Leone**, the Global Fund gave clearance for the National AIDS Secretariat to support cascade training on treatment registers for seven districts that were not included in the first phase of the SIAPS training due to financial constraints. Concurrence by the Global Fund to support this training is an important buy-in and vote of confidence in the USAID/SIAPS project activity by a key sector partner.

Also, following a training of trainers on the use of paper-based LMIS/PMIS forms last quarter, cascade training in all 13 districts in the country has been completed. Approximately 1,500 peripheral health unit (PHU) staff from all 13 districts have been trained. The new treatment registers and report and issue voucher forms have been distributed to all PHUs. It is expected that reporting rates and data quality will improve as a result.

Tools for Capacity Building

In preparation for the deployment of the OSPSANTE nutrition and HIV modules, **SIAPS/Mali** supported the Department of Pharmacy and Medicines and the regional health directorate to organize a training of users at the regional level. This activity was co-financed by the Global Fund and SIAPS. A total of 192 health workers (53 female, 139 male) from the regional health directorate, districts, and regional hospitals were trained. The workshops took place in the five regions and the district of Bamako.

SIAPS worked closely with the Department of Public Health Emergency Operations to plan and prepare training for peripheral-level actors to enter Ebola commodities data into OSPSANTE and monitor their availability using the tool. The training was provided to pharmacists; Ebola focal points from the regional health directorate; Ebola focal points from the districts; and warehouse managers of three districts in the Kayes region, two in the Koulikoro region, and four in the Sikasso region. Thirty-five providers (4 female, 31 male) were trained.

SIAPS/Namibia continued to support the Namibia Medicines Regulatory Council (NMRC) on the development of Pharmadex, a web-based medicines registration tool. During this quarter, SIAPS trained five NMRC staff within the registration unit on the updated tool. The training was held September 18–20, 2017. During the training, NMRC staff suggested additional improvements to the tool. The programmer incorporated most of the suggested improvements and loaded an updated version to the MSH server. SIAPS will finalize the improvements and orient NMRC staff on the final version. SIAPS also started developing a user guide for Pharmadex.

SIAPS/Swaziland provided refresher trainings for users of the electronic logistics management information system (eLMIS). This activity was prompted by concerns about the quality of reporting by facilities to the central level. One issue that was flagged at these facilities was

inadequate infrastructure to connect to the internet. Due to such problems, the sites reverted back to using the manual LMIS form, and as a way of intervention, SIAPS is working with the MOH Health Management Information Systems to rectify issues with the internet infrastructure.

Intermediate Result 3. Utilization of information for decision making increased

SIAPS' approach to management information systems is to harmonize and integrate the collection and presentation of accurate, quality pharmaceutical and other commodities data in a timely and consistent manner. This data is intended to assist decision makers and health workers at all levels of a country's health system make evidence-based decisions, manage health and laboratory commodities and pharmaceutical services, and measure, monitor, and evaluate progress. SIAPS' approach includes careful assessment of interventions related to information systems to determine the feasibility and long-term effect of their implementation; striving to find the best solution to address health-related data collection, processing, reporting, and decision-making challenges; and supporting country ownership and sustainability. SIAPS' pharmaceutical management information tools, such as RxSolution, Pharmadex, e-TB Manager, QuanTB, OSP-SANTE, OSPSIDA, Electronic Dispensing Tool (EDT), and 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 use

In **Bangladesh**, SIAPS enhanced the Supply Chain Management Portal (SCMP) to support any-size device screens, including mobile, tablet, and laptop. This significantly expanded access to data for decision making. In Khulna Shisu Hospital (KSH), SIAPS supplemented the health information system (HIS) with several new dashboards that visualize data on admissions, discharges, deaths, and oxygen received by patients per month. The dashboards helped KSH management optimize the use of patient beds and expedite the processing of admissions and discharges of patients. In collaboration with the Directorate General of Drug Administration (DGDA), SIAPS implemented a database with a comprehensive search engine for the retail prices of 28,212 registered allopathic products, including their package variations, in the DGDA web portal (<http://www.dgda.gov.bd/>).

In **Benin**, on USAID request, SIAPS conducted an end-user verification (EUV) survey to track and report on the availability of malaria health commodities (medicines and RDTs) and on the adequacy of malaria case management. The first round of the survey was conducted July 17-22, 2017, in Borgou and Alibori Regions. The summary report was reviewed with SIAPS-HQ support, and then submitted on September 18, 2017. The survey showed that none of the health facilities had all four presentations of artemether-lumefantrine (AL), despite its availability at the central level, which was attributed to stock-outs of RDTs that define the use of specific therapies. The information will be used to design interventions to ensure the availability of all products for diagnosis and treatment.

In **Dominican Republic**, SIAPS supported the National Medicines Directorate and the Regional Health Services in the development of one national and nine regional SUGEMI bulletins on procurement of medicines and supplies. These bulletins include information on the consumption and availability of essential medicines, including ARVs and TB medicines. For the next quarter, the development of these bulletins will be managed by the Regional Health Services with little or no support from the new USAID partner on pharmaceutical management. SIAPS carried out a rapid assessment on the performance of the SUGEMI pharmaceutical management information system. The report, including recommendations for improvement, was shared with the National Medicines Directorate

In **Mali**, SIAPS provided support to the Mali MOH through the National Malaria Control Program (PNLP) for the organization of the EUV survey. The field phase took place August 9-29, 2017, in five regions and the district of Bamako, with preliminary results showing that 96.20% of the visited health facilities had standard treatment guidelines (STGs) for malaria, 91% of the staff received a formal training, and 93% of malaria patients under age 5 (U5) were treated with artemisinin-based combination therapy (ACT) in accordance with the malaria STGs. All health facilities visited had at least one presentation of AL the day of the visit and 73% had four presentations; 89% of the sites surveyed submitted stock status reports on time. This good rate can be explained by the regular follow-up of OSPSANTE. To improve information availability for decision making, SIAPS submitted a procurement planning and monitoring report for malaria (PPMRm) and a PPMRc (for contraceptives) to inform national stakeholders and donors on the availability of malaria and FP commodities at the central level.

In **Namibia**, SIAPS supported the Directorate of Special Programs (DSP) to ensure that reports that provide early warning on stock-outs and overstocks of ARV and anti-TB medicines are regularly presented to program managers to enable them to intervene. SIAPS initiated and supported the DSP in conducting a monthly meeting involving stakeholders from the Division of Pharmaceutical Services (Div:PhSs), ART and TB programs, development partners, and other MOHSS managers.

In **Swaziland**, SIAPS continued to support facilities in implementing RxSolution for improved inventory management and uninterrupted supply of life-saving commodities. A total of 18 sites including warehouses and health centers, were visited to provide onsite support and troubleshooting. On average, 86% of the visited facilities were found to be using RxSolution optimally for both stock management and dispensing to patients. Common challenges that were encountered by facilities included failure of users' workstations to connect to the local server, inconsistent backup operations, and inadequate computer skills of the RxSolution users. SIAPS is working with the Health Management Information System (HMIS) Unit of MOH to rectify the issues at these facilities.

Data Quality

In **Bangladesh**, SIAPS worked with the Directorate General of Drug Administration (DGHS) and HISP Foundation to establish the interoperability of e-TB Manager and DHIS2 in reporting TB10, 11, and 12 forms and ensuring expedited troubleshooting and support. SIAPS provided technical assistance to MIS/DGHS to improve the DHIS2 tool by strengthening DGHS' LMIS. SIAPS, through discussion with NTP and Grameen Phone Internet provider, facilitated payment for Internet access to e-TB Manager by DGHS. SIAPS, in collaboration with the ChallengeTB Project, engaged in countrywide training for TB reports on DHIS2.

In **Mali**, SIAPS supported the MOH in implementing key activities for deployment of OSPSANTE, a web-based dashboard that provides an early warning system for key public health priority programs, including malaria, maternal and child health (MCH), and family planning. This included trainings of 192 health workers of the regional health directorate, and district and regional hospitals (139 men and 53 women) in five regions, co-financed by the Global Fund and SIAPS. For deployment of the Ebola portal, SIAPS worked closely with the Département des Opérations d'Urgences en Santé Publique (DOU-SP, Department of Public Health Emergency Operations) to plan and conduct trainings of peripheral users on entering Ebola commodities data into OSPSANTE and monitoring their availability; 35 providers were trained (4 women and 31 men). The reporting rate at the district level for Ebola commodities was 83.3% as of May 2017.

In the **Philippines**, SIAPS organized a MedDRA (medical dictionary for regulatory activities) coding basics webinar attended by select staff from the Lung Center of the Philippines (LCP) research and training team. The MedDRA webinar helped the research team in coding adverse events from the bedaquiline (BDQ) and nine-month treatment regimen (9MTR) studies and helped in training staff to implement the standard short-treatment regimen (SSTR). SIAPS met with the LCP training team at least once a month in quarter 4 to discuss and provide support in implementing the Pharmacovigilance Monitoring System (PViMS). Minor issues identified on the use of the tool were addressed and will be released in the Philippines live server. Data sets not in the system were also added. A newly hired staff of LCP was mentored on the use of the tool together with the LCP staff. SIAPS also supported the LCP in monitoring 9MTR and BDQ study data. Adverse events data submitted by the facilities to the research team were verified, and corrective action was recommended on inconsistencies. Another highlight of SIAPS technical assistance to the Department of Health Knowledge Management and Information Technology Service (DOH-KMITS) team is completion of the ITIS interoperability functionality (national tool for TB case management).

SIAPS/Philippines provided technical assistance in conducting a Warehouse Management System (WMS) needs assessment for DOH. The technical assistance included onsite visits to multiple DOH-owned warehouses at the central and regional levels to identify critical steps needed to implement an enhanced WMS. As part of the assessment, SIAPS reviewed the existing Google-based data collection tool of the Department of Health-Pharmaceutical Division (DOH-PD), reviewed data quality, and provided recommendations to improve data quality for demand and supply planning. SIAPS organized and facilitated a workshop for the PD to discuss current barriers and interventions for data management strengthening.

In **Sierra Leone**, SIAPS conducted a training of trainers on the use of paper-based LMIS/PMIS forms in quarter 3, followed by cascade training in all 13 districts in the country during quarter 4. New treatment registers and reporting forms were distributed to all peripheral health units (PHUs). It is expected that the reporting rate and data quality will improve as a result.

In **Swaziland**, LMIS data verification and mentorship support visits were conducted at 43 health facilities across the 4 regions of the country. Of the facilities visited in the following regions, 9 were in Hhohho, 15 in Lubombo, 6 in Manzini, and 13 in Shiselweni. The results show that health facilities across all programs are faced with LMIS data compilation challenges, including backlogs (in 23% of facilities) and lack of capacity to compile an LMIS report and order products (18%). Further analysis by type of facility showed that clinics experienced less challenges (approximately 40%) compared to hospitals (63%) and health centers (73%). Importantly, 42 % of all visited health facilities had no data compilation challenges, and 75% of hospitals visited and 60% of clinics were able to correctly calculate average monthly consumption and place orders. In the quarter, SIAPS also provided refresher trainings for users of eLMIS. This activity was prompted by concerns about the quality of reporting by the facilities to the central level. One of the issues flagged at these facilities was inadequate infrastructure to connect to the Internet. Due to such problems, the sites reverted back to using the manual LMIS form and, as a way of intervention; SIAPS is working with HMIS to rectify issues with the Internet infrastructure.

Information System Design and Collaboration

In **Bangladesh**, the third Technical Working Committee (TWC) of the Asset Management System (AMS) meeting was held August 23, 2017, where USAID and other stakeholders emphasized the importance of implementing AMS. SIAPS was requested to draft an operational guideline for AMS based on the MOHFW-approved and SIAPS-designed master asset register and to roll out activities in three selected district hospitals (Manikgonj, Shirajgonj, and Jhenaidah). SIAPS handed over the Routine Health Information System (RHIS), documentation, and source codes to Measure Evaluation, including the eMIS-DHIS2 interoperability module for transferring data from RHIS to DHIS2; the eMIS-LMIS interoperability module for transferring data from RHIS to the SCMP; and the eMIS-Support Ticketing System for reporting and addressing issues encountered by field users.

In **Namibia**, SIAPS oriented a new PEPFAR regional director based in South Africa on USAID-supported community-based ART (CBART) program activities in Onandjokwe district and on how USAID-implemented activities improved the management of ART patients at health facilities and community-based points in the district. SIAPS supported pharmacy staff at Onandjokwe ART pharmacy to demonstrate the use of EDT and mEDT in patient and stock management at health facilities. The facility staff demonstrated how EDT has been adapted to implement CBART through bulk dispensing to community adherence support group (CASG) leaders. CBART beneficiaries testified on the benefits of CBART, including improved adherence to ART, good viral load suppression among group members, and no waiting in long queues to obtain ARV medicines after travelling long distances. They also shared challenges faced, including infrastructural challenges with the meeting place in the community, which makes it hard to hold meetings in adverse weather.

SIAPS/Namibia supported the Div:PhSs in identifying new technologies to improve ART dispensing and data capture at health facilities implementing nurse initiated and managed ART and ART outreach services. SIAPS presented a new proposed technology for mEDT to 38 pharmacists at the pharmacists' forum. The proposed technology, which can operate on normal desktop computers and other android devices, will be simpler to use by nurses at lower-level facilities for patient and stock management. mEDT is expected to facilitate improved data capture at PHC facilities and reduce the data gap that decentralization of ART patients from main ART sites has created in EDT databases.

At the pharmacists' forum, SIAPS oriented 38 MOHSS pharmacists on how to access and use information from the dashboard for pharmaceutical decision making. Participants benefitted from SIAPS technical assistance, especially in addressing challenges with reporting to the dashboard. The dashboard shows ARV stock status and the number of people accessing ART and acts as an early warning system against stock-outs of ARVs and other essential medicines.

SIAPS provided technical assistance to the MOHSS, UNAIDS, and partners in designing a framework for implementing the HIV Situation Room for Namibia. The HIV Situation Room is a software/database platform that provides governments with tools to monitor and analyze the AIDS epidemic through visualization. SIAPS demonstrated Namibia's dashboard for pharmaceutical information which aggregates data from pharmaceutical management tools and systems. The presentation focused on financial outputs from the dashboard, which could be used to produce financial indicators for adaptation into the HIV situation model. SIAPS analyzed LMIS and EDT consumption data to be incorporated into the HIV Situation Room.

The SIAPS abstract on implementing a dashboard for pharmaceutical information in Namibia was accepted for oral presentation at the Global Digital Health Forum 2017. The abstract shows how developing countries can improve pharmaceutical services by transitioning from paper-based systems for patient and stock management to electronic systems that facilitate quicker visibility of information on pharmaceutical services and allow managers to make evidence-based decisions.

In the **Philippines**, SIAPS developed and finalized the *PViMS User Guide: Active Reporting of Adverse Events* together with the DOH-PD, LCP, FDA, and DOH-NTP. The user guide outlines the key data needed and serves as a reference in reporting an AE through PViMS, from making the initial valid report to providing supplementary data required for analysis. The guide features SOPs that will support PViMS implementation. The DOH secretary also contributed to the development of the PViMS user guide, and DOH released a department memo on issuing PViMS user accounts and institutionalized the document in DOH. Utilizing the user guide, SIAPS organized and conducted a PViMS training and planning workshop in partnership with the DOH-PD to support aDSM implementation. Attended by 63 first implementers of SSTR from 9 regions, this was the first forum where participants discussed ways to strengthen the coordination, recording, and reporting of PV. Each region drafted regional plans to implement one of the key activities of aDSM—the standardized aDSM data collection for detected SAEs. SIAPS provided on-site mentoring on aDSM data collection and PViMS use for 7 of 10 facilities that are the first implementers of SSTR. At the end of the on-site mentoring, SAEs experienced by patients under SSTR and BDQ were more likely to be reported in PViMS. All sites visited

had successfully encoded PV data in PViMS. PViMS is now used by these facilities in reporting SAEs, the core requirement of aDSM implementation.

In **Sierra Leone**, SIAPS continued working on the Pharmaceutical Dashboard. With most of the structural architecture and program data entry now completed, progress was made during the quarter to create an interface between the Sierra Leone Pharmaceutical Dashboard and DHIS2. The Directorate of Policy, Planning, and Information (DPPI) granted the SIAPS consultant access (user ID and password) to its website (dhis2.mohs.gov.sl) for the purpose of exploring the feasibility of interfacing. This was an important DPPI buy-in of the SIAPS-supported dashboard.

In **Swaziland**, SIAPS has contracted a developer to update the eLMIS and include more functionality, such as off-line data entry and new report templates. The eLMIS will also include a reporting function for narcotic medicines that are controlled under the Office of the Chief Pharmacist. The offline functionality for upload/download of Excel template files on the eLMIS has been developed and it is still undergoing user testing by the MOH. A task team has been established that will be responsible for creating in-house test cases and also testing the developer's test cases.

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

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

The SIAPS approach for strengthening financing mechanisms and strategies for medicines focuses primarily on making efficient use of existing financial resources, generating additional funding resources, and tackling critical financial barriers to access. During this quarter, SIAPS supported countries by updating quantification figures to enable access to additional funding streams for medicines procurement. SIAPS also contributed to the ongoing dialogue on health care financing and universal health coverage, particularly in the area of pharmaceutical benefits management.

Mobilizing Additional Financial Resources

SIAPS supported countries through the process of gathering key data to justify additional funds and undertake a funding gap analysis for pending procurements. In **Swaziland**, SIAPS, in collaboration with key stakeholders, supported the updating of the ART, TB, and RH supply plans this quarter. This activity was led by eight pharmacists working at the MoH Central Medical Stores. The ART supply plan requirements totaled SZL 101,446,845.78 (USD 7.8 million, MOH procurements only). However, the government only allocated 67% of this amount. This led to the team reducing the quantity of tenofovir+lamivudine+efavirenz 300/300/600 mg tablets to be ordered. In addition, PEPFAR placed an order of pediatric ARVs and adult second-line medicines worth SZL 5,281,561.48 (USD 406,273.96) in line with the country's FY16 operational plan.

SIAPS also supported the development of a Global Fund TB/HIV funding request for October 2018 to September 2021. The total funding request was USD 47,210,126 and including the prioritized above allocation request amounting to USD 57,569,341. A total of USD 1,500,000 has been set aside for the deployment of the warehouse management system to hospitals and health centers. This cost includes hardware and recruitment of additional personnel to support warehouse operations.

During this quarter, SIAPS provided technical input into the process of transforming the National Pharmaceutical Procurement Unit of **Sierra Leone** into the National Medical Supplies Agency following the enactment of an Act of Parliament. SIAPS advocated for the commencement of the next round of essential medicine supplies quantification in 2018 with the Free Health Care Forum, and this process is now under way. Following this, SIAPS supported the quantification of antiretrovirals and related HIV/AIDS diagnostic agents. This quantification became the basis for the recently concluded Global Fund Program Continuation Request. As a result, the next cycle of procurement will be more reliable and evidence based.

Intermediate Result 5a. Supply Chain Management

Effective quantification and procurement and good warehousing and transportation operations are crucial functions for guaranteeing access to medicines, which leads to positive disease prevention and treatments outcomes. Therefore, a core component of SIAPS's technical assistance to countries is to enhance these supply chain functions. During this quarter, SIAPS worked with partners in supported countries to make additional progress on improving these functions. Illustrative achievements during this quarter are described in the following summary.

Quantification and Procurement

During this quarter, SIAPS/**Sierra Leone** advocated for the commencement of the next round of commodities quantification in 2018 with the Free Health Care Forum, and this process is now under way. The process of quantification for antiretroviral medicines and related HIV/AIDS diagnostic agents was finalized with technical assistance from SIAPS. This quantification became the basis for the recently concluded Global Fund Program Continuation Request. As a result, the next cycle of procurement will be more reliable and evidence-based.

In **Bangladesh**, SIAPS provides technical assistance to the Central Medical Stores Depot and Directorate General of Family Planning to strengthen their procurement processes under the current sector development program. SIAPS also provided technical assistance to the National Tuberculosis Program for TB medicine quantification and budgeting for the Global Fund tuberculosis grants process for the next three years (2018–2020).

Supply plans are an important management tool derived from the quantification exercise. They enable monitoring of the availability and stock status of related products and allow procurement requirements to be established. In **Swaziland**, SIAPS supported the MOH Central Medical Store this quarter to update antiretroviral therapy, TB, and sexual and reproductive health commodity supply plans. The total requirement for antiretrovirals (ARVs) and opportunistic infection

medicines to be procured by MOH for October–December 2017 amounted to SZL 101,446,846 (approximately USD \$7.5 million). However, the allocated amount was SZL 68,043,222 (approximately USD \$5.04 million), or 67%. This led to the reduction of order quantities of tenofovir+lamivudine+efavirenz 300/300/600 mg tablets, which may lead to shortages. This early warning would allow additional resources to be mobilized to close the gap.

Warehousing Operations

SIAPS provided technical assistance to conduct a Warehouse Management System (WMS) needs assessment for **Philippines'** Department of Health (DOH). The technical assistance included visits to multiple DOH warehouses at the central and regional levels to identify crucial steps for implementing enhanced WMS technology. Findings from the WMS assessment were presented to DOH officials, who used them to develop a five-year WMS improvement plan. The plan delineates WMS improvement actions into immediate-, short-, and long-term interventions. One expected deliverable in the plan is the deployment of a WMS technology solution with multilocation capability.

Another significant warehouse operations strengthening initiative took place in **Mali** with assistance from SIAPS. Construction of a Warehouse in a Box (WiB) was launched this quarter, marking the end of a long planning, design, resource mobilization, and commissioning process for the project. The official groundbreaking ceremony took place on August 15, 2017, in the presence of Malian health, political, and administrative authorities, and the WiB construction process was launched in the regions of Kayes, Koulikoro, Mopti, and Bamako.

The above examples highlight the how SIAPS' technical assistance has contributed to improved availability of medicines and other health products at health service delivery points. Examples of product availability measured during this quarter include:

- In **Mali**, all health facilities visited had at least one type of malaria medicine, artemether-lumefantrine, in stock on the day surveyors visited the health facility, and 73% (58/79) had four medicines types.
- In **Swaziland**, SIAPS has been working with HIV prevention partners to ensure the availability of male and female condoms, and the country has maintained an adequate stock level of male condoms for the general population throughout this quarter.
- In **Dominican Republic**, in June 2017, the SUGEMI national bulletin reported that adult ARV availability in health facilities remains high (86%). The availability of essential medicines used at the primary health level shows the same availability as in previous quarters (68%).

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

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

Pharmacovigilance

With SIAPS technical assistance, the Adverse Drug Reaction Monitoring (ADRM) Cell in **Bangladesh** has been making significant progress in strengthening its adverse drug event (ADE) reporting system. During the quarter, more than 100 adverse drug reaction (ADR) reports were sent from hospitals and pharmaceutical companies. The cell decided to make an agreement with national health programs, such as the National Tuberculosis, National Malaria, EPI/AEFI, and HIV/AIDS Programs, so that ADR reports from those programs are also included in the overall PV program.

SIAPS, in collaboration with the MOHFW, organized training for MNCH service providers on how to report ADEs through the existing PV system and how to use evidence from the PV system to ensure quality and safety of MNCH medicines. A phased approach has been planned for the integration of MNCH commodities, starting at Bangabandhu Sheikh Mujib Medical University.

In **Namibia**, SIAPS supported the MOHSS/Namibia Medicines Regulatory Council (NMRC) and partners in conducting a multi-stakeholder meeting on PV and medicine safety. The meeting was also attended by USAID-supported partners, such as KNCV, who have a special interest in tracking TB/HIV medicines ADEs. Participants at the meeting developed a plan of action that included training and increasing the number of ADE reports submitted to the Therapeutics Information and Pharmacovigilance Center (TIPC). SIAPS provided materials for a training that was held September 6-9, 2017, and supported preparations for training regional TIPC focal persons on PV to be held in October 2017. The support included preparation of a budget, selection of materials, and refining the proposal to be submitted to Global Fund. In addition, SIAPS supported the TIPC in capturing the backlog of yellow safety forms into the WHO Vigibase database for reporting. SIAPS supported the TIPC in analyzing 415 ADR reports for 2016/2017 that were received from all 14 regions of Namibia and a pharmaceutical company. The top 20 suspected products were mainly ARVs, anti-TB medicines, and vaccines. SIAPS is supporting the TIPC on further analysis to find causality.

In the **Philippines**, SIAPS collaborated with DOH-PD, the Lung Center of the Philippines (LCP), FDA, and DOH-NTP on developing and finalizing the *Pharmacovigilance and Pharmacovigilance Monitoring System (PViMS) User Guide: Active Reporting of Adverse Events*. The user guide outlines the key data needed and serves as a reference in reporting an

ADE through PViMS, from making the initial valid report to providing supplementary data required for analysis. The guide features SOPs that will support PViMS implementation. The DOH secretary also contributed to the development of the user guide, and DOH released a department memo on issuing PViMS user accounts and institutionalized the document in DOH.

Utilizing the PViMS user guide, SIAPS organized and conducted a PViMS training and planning workshop in partnership with the DOH-PD to support active drug safety monitoring (aDSM) implementation. Attended by 63 first implementers of the standard shorter-treatment regimen (SSTR) from the 9 regions, this was the first forum where participants discussed ways to strengthen the coordination, recording, and reporting of PV information. Each region drafted regional plans to implement one of the key activities of aDSM—the standardized aDSM data collection for detected suspected ADEs.

SIAPS provided on-site mentoring on aDSM data collection and PViMS use at 7 of 10 facilities that are the first implementers of SSTR. This on-site mentoring helped strengthen the process of reporting suspected adverse events experienced by patients under SSTR and bedaquiline (BDQ) through PViMS. All the sites visited have successfully encoded PV data in PViMS. PViMS is now used by these facilities in reporting suspected adverse events, the core requirement of aDSM implementation.

In this quarter, SIAPS/Philippines also organized a MedDRA coding basics webinar attended by select staff from the LCP research and training team. The MedDRA webinar was expected to help the research team code adverse events from the BDQ and 9MTR studies and to help the training team during the roll out of SSTR training implementation.

SIAPS also met with the LCP training team at least once a month this quarter to discuss and provide support in the implementation of PViMS in the LCP research team. Minor issues identified on the use of the tool were addressed and will be released in the Philippines live server. Data sets not in the system were also added. A newly hired staff at LCP was mentored on the use of the tool together with the LCP staff. SIAPS also supported the LCP in conducting their monitoring of the 9MTR and BDQ study data. ADE data submitted by the facilities to the research team were verified and corrective action was recommended on inconsistencies.

In the quarter, SIAPS supported the Pharmacovigilance Unit (PVU) of **Swaziland** to analyze ADR reports collected from health facilities in the country and identify the suspect drugs for the ADRs reported. The report mainly included the most common medicines reported, the total number of ADRs, and the course of the treatment for the suspected ADRs.

Drug and Therapeutics Committees

In **Sierra Leone**, technical assistance was provided to strengthen and roll out DTCs. The electronic treatment register (eTR) to manage patient and product information was revised, and a DTC operational manual was drafted. A hospital DTC profile and checklist for regular monitoring of DTC performance have been drafted and will be used as tools to monitor the current status of DTCs nationwide. In addition to providing mentorship in the use of eTRs, SIAPS conducted a DTC progress workshop attended representative from 19 hospitals, the

Directorate of Drugs and Medical Supplies (DDMS), UNICEF, and WHO; during the workshop, the draft documents were validated. The eTR is being implemented in the four hospitals with DTCs (Connaught, Ola Daring, PCMH, and Makeni Government). A prescription review was conducted in the four hospitals as part of the mentorship of DDMS DTC focal staff and hospital pharmacists to capture baseline data on key RMU indicators. At Connaught Hospital, the Pharmacy Department now routinely participates in ward rounds, with the objective of improving pharmaceutical care. At Makeni Hospital, the DTC has succeeded in garnering management support to establish a cost-recovery pharmacy.

During FY15-16, SIAPS supported the Hospital Pharmacy Department (HPD) of MOH in **Mozambique** to design, test, and scale medicine use studies (prescription, medication errors, and consumption) through hospital DTCs. To complement these studies, DTCs need to perform other activities, such as evaluating medicine use, improving ADR reporting and analysis, managing medicine formularies, and improving treatment adherence. During the quarter, SIAPS assisted HPD in validating the methodology for patient waiting time as part of the ambulatory pharmacy study in Lichinga Provincial Hospital and Pemba Provincial Hospital.

Also, in the pharmacies visited the majority of medications were not prepackaged, and most of the time, the person who repacks the medicines is the same person who dispenses them. This contributes to increased patient waiting time, besides increasing the chances for error in dispensing. Therefore, in Pemba Provincial Hospital, SIAPS/Mozambique helped perform the consumption analysis to identify the medicines that are most consumed to ensure that those medications are prepacked.

Additionally, the findings of the study on adherence to ART conducted in Polana Canico General Hospital were presented and discussed with the Hospital Directorate, which committed to improve the indicators that were below target.

STGs and EMLs

During the quarter, SIAPS worked with the National NEML Committee Secretariat/Pharmacy Department of MOH in **Mozambique** to finalize the national list. The final edited version from MOH is now awaiting approval of the requested corrections before being sent for printing.

In the **Dominican Republic**, SIAPS organized a one-day workshop during the quarter on the methods of analysis of requisitions for the inclusion of new molecules in the national EML. The participants, most of them from regulatory departments of the MOH, applied the methods and procedures shared during the workshop to analyze the requisitions recently received from health facilities.

In **Swaziland**, SIAPS facilitated a meeting of the National Essential Medicines Committee. In that meeting, participants from the MOH raised important issues on the need to update the EML and STGs.

During the reporting period, SIAPS provided support through the National Malaria Control Program to Mali's MOH for organizing the end user verification survey. The field phase took

place August 9-29, 2017, in the five regions and the District of Bamako. The preliminary results of this phase, among others, are:

- 96.20% (76/79) of the visited health facilities have the STGs for malaria
- 91% (1,147/1,260) of the staff involved in the management of malaria cases received formal training
- 93% (2,029/2,179) of malaria patients under age 5 seen at the visited sites with uncomplicated malaria were treated with ACT in accordance with the malaria STGs

Rational Medicine Use

The course on RMU in the **Dominican Republic**, for which SIAPS supported development, started in July 2017. USAID sponsored 21 tuition fees. SIAPS consultants facilitated the first and second modules of the course. This certified course is being implemented in partnership with Universidad Central del Este.

SIAPS also organized a two-day national workshop in August 2017 for the promotion of RMU. National professionals presented the progress in this area; national authorities shared the strategic vision of the institutions they represented; and clinicians analyzed current prescription practices and developed plans to address irrational use of medicines.

The SIAPS-supported capacity enhancement in **Namibia** yielded results as reported by MOHSS managers during the annual pharmacists' forum held during the quarter. The Karas regional pharmacist reported improved pharmaceutical services, inventory management, and RMU. The results were partly attributed to SIAPS-supported training of three therapeutics committees (TCs) on RMU, strategies for combating AMR, inventory management to ensure uninterrupted availability of quality medicines, and structured action planning. TC activities increased by 13.9% after SIAPS-supported training in PY6Q1.

SIAPS, in liaison with MOHSS, the NTLP technical working group (TWG), and partners (CDC, the University of Namibia School of Pharmacy, and the Namibia University of Science and Technology) trained 26 participants from the Directorate Special Programs and selected regions on basic principles of conducting operational research, how to structure and conduct scientific operational research, and identifying research areas at health facilities, which the TWG would support to further develop into scientific operational research topics.

SIAPS/Namibia collaborated with MOHSS and partners in implementing the differentiated model of care in managing ART patients at high-volume ART sites in PEPFAR priority regions. SIAPS provided targeted, prioritized site-level support to enhance collaboration with MOHSS and partners, including clinical and nurse mentors at ART sites, to support health facilities in Oshikoto, Omusati, and Ohangwena regions in implementing CBART, including group ARV refills with associated documentation. SIAPS met with Project HOPE, Tonata PLHIV, and IntraHealth to review the progress in implementing CBART activities, challenges, and actions for improvement. Eleven pharmacy staff were trained on CBART SOPs for dispensing ARVs to CBART groups. Leaders of two community adherence support groups (CASG) were trained on using M&E tools for dispensing to group members at community ARV pick-up points.

SIAPS/Namibia also oriented the new PEPFAR regional director based in South Africa on USAID-supported CBART activities in Onandjokwe district. SIAPS collaborated with the Onandjokwe district management team, USAID, and other development partners to demonstrate how USAID-implemented activities have improved the management of ART patients at health facilities and community-based points in the district. SIAPS supported pharmacy staff at Onandjokwe ART pharmacy in demonstrating the use of EDT and mEDT for patient and stock management at health facilities. The facility staff demonstrated how the EDT has been adapted to implement CBART through bulk dispensing to CASG leaders. CBART beneficiaries testified on benefits of CBART, including improved adherence to ART, good viral load suppression among group members, and no waiting in long ques to obtain ARV medicines after travelling long distances. They also shared challenges faced, including infrastructural challenges with the meeting place in the community, which makes it hard to hold meetings in adverse weather.

In **Swaziland**, SIAPS collaborated with URC and Lubombo region's pharmacy personnel to establish a Lubombo Pharmacy Representative Committee. The committee primarily focuses on identifying problems and sharing best practices in the delivery of quality pharmaceutical services. The plan is to establish such a committee in another region after piloting in Lubombo is over.

AMR and Infection Prevention and Control

As reported previously, SIAPS supported publication of AMR courses (parts 1 and 2) through the Global Health eLearning portal. Part 1 provides a primer on the basic principles of AMR, its impact on individuals and societies, and why it warrants major, concerted global action. Part 2 explores in further detail the factors that drive AMR and interventions that can combat it. From its publication on September 16, 2016, until September 30, 2017, 1,454 individuals (782 female, 669 male, 3 unknown) from 83 countries have earned certificates after taking the revised AMR part 1 course. Similarly, from its publication on November 11, 2015, until September 30, 2017, 1,168 individuals (584 female, 582 male, 2 unknown) from 80 countries have earned certificates after taking the AMR part 2 course.

SIAPS extensively updated and published in August 2017 a revised version of the practical guidebook on building coalitions for containing AMR. The key components of the guide include identifying and engaging AMR-related stakeholders, advocacy and coalition-building guidelines, practical implementation examples from country- and regional-level initiatives, and user-friendly implementation tools and templates. This guide is included as a resource in the national action plan toolkit references in WHO's Manual for Developing National Action Plans. The guide can be downloaded at <http://siapsprogram.org/publication/altview/building-coalitions-for-containing-antimicrobial-resistance-a-guide/english/>.

In **Bangladesh**, a workshop on AMR was organized by WHO in August 2017 where MOL, MOHFW, DGHS, CDC, BSMMU, ICDDR, SIAPS, USAID, USP-PQM, GARB, and FAO were present. SIAPS mentioned that they will be happy to be a part of this huge movement against AMR.

In **Namibia**, SIAPS provided technical assistance to the MOHSS AMR TWG in reviewing drafts of the situational analysis of AMR and the multi-sector action plan for containing the development of AMR. The situational analysis and the AMR action plan were finalized and await approval by senior MOHSS managers.

In **Swaziland**, SIAPS continued to support the development of the National AMR Containment Strategic Plan 2017–2022. During the quarter, a consensus-building meeting was held with the MOH, Ministry of Agriculture, and Ministry of Natural Resources senior managers to gain approval of the draft strategic plan before it can be launched. The committee has worked on the final comments and will submit the document for editorial work and final formatting. The document is expected to be printed and launched during the next quarter.

CROSS BUREAU

Objective 1: Strengthen pharmaceutical sector governance

One of the underlying causes of poor functioning of committees that make crucial decisions about selection, procurement, distribution, and use of pharmaceutical products is the lack of robust or weak terms of reference (TOR) for these committees. During this quarter, SIAPS finalized a technical brief that provides guidance and a template for developing or updating TOR for councils, committees, and boards that make decisions or provide oversight in the pharmaceutical sector. The TOR defines the roles and responsibilities of any governance or management structure and provides a framework within which it must function. The brief provides three case examples of the use of the TOR template and guidance in South Africa and summarizes the lessons learned. SIAPS also continued to work on drafting a second brief that will provide case study examples of SIAPS support to countries to enhance accountability, reduce wastage, and improve efficiencies in pharmaceutical systems.

With the increasing focus on strengthening governance in health systems in low- and middle-income countries (LMICs) comes greater attention to learning how governance—and also leadership and management—interventions impact health and pharmaceutical systems. However, data on the impact of these interventions is often difficult to collect and measure, and the evidence base for guiding the selection of interventions is lacking. SIAPS has been collaborating with USAID’s Leadership, Management, and Governance (LMG) Project to examine and document the roles that governance, leadership, and management play in strengthening health system performance, specifically pharmaceutical systems, in LMICs. A chapter on pharmaceutical systems is one of five that constitute a compendium that documents the evidence of leadership, management, and governance and how they influence and impact health service delivery and performance. To prepare the chapter, SIAPS worked with LMG Project staff to scan peer-reviewed and gray literature by using a rapid assessment methodology. The resulting compendium is not meant to be a systematic or exhaustive review of the literature, but rather a formative evaluation of the state of the evidence to stimulate discussion and inform further research and study. The compendium is about to be published and will be available in the coming quarter.

On December 2, 2015, the eLearning course “Good Governance in the Management of Medicines,” developed by SIAPS with assistance from the Knowledge for Health Project, was launched on USAID’s Global Health eLearning (GHeL) Center. As of September 30, 2017, the course has been successfully completed by 363 learners (of whom 112 are female) from 67 countries, including 65 from Nigeria, 60 from Sudan, and 21 from Kenya; 113 (31%) of learners who earned a certificate came from the national government.

Constraints to progress

SIAPS’ support to the WHO Good Governance for Medicines (GGM) Program to finalize the updated GGM transparency and accountability tool was pending the consolidation and review of

the WHO country pilots that have recently been completed. WHO hopes to hold a meeting with pilot countries and partners before the end of 2017 to finalize the tool.

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

To support the African Medicines Regulatory Harmonization (AMRH) Initiative and building capacity of regional centers of regulatory excellence (RCOREs) in PV, SIAPS delivered a presentation on PV system strengthening from an implementing partner's perspective at the regulatory conference organized by the Kenya Pharmacy and Poisons Board (PPB). In addition, SIAPS participated in the panel discussion on post-marketing surveillance and PV held during the conference.

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

In this quarter, SIAPS made considerable progress in establishing a framework for measuring pharmaceutical system performance, including resilience, and desired system outcomes. The teams in Bangladesh and the home office completed testing of the feasibility of collecting data related to indicators in the newly developed data collection and management tool. SIAPS has submitted the complete data set to our partner on this activity (Boston University) to help finalize the data analysis methodology that will allow interpretation of the findings into statements on pharmaceutical system strength. Next quarter, SIAPS intends to embark on a similar activity in a second country.

Constraints to progress

- Unable to commence data-collection and management-tool pilot activities in Ethiopia and Afghanistan; SIAPS is in the process of identifying a suitable alternative country.

Objective 4: Strengthened financing strategies and approaches

In the previous quarter, SIAPS convened an internal consultative meeting with senior staff to review the pharmaceutical expenditure matrix of indicators and selected priority indicators on the basis of their programmatic relevance and feasibility for data collection. In this reporting period, SIAPS drafted descriptions of the selected indicators (including definition, policy relevance, system of health accounts relevance, potential data source, calculation methodology, etc.), and review of them is in progress. SIAPS also drafted an outline for the proposed pharmaceutical expenditure tracking guide/paper, which is also under review. SIAPS expects to share the next draft of these documents and to meet with Health Finance and Governance (HFG) Project in the coming quarter. HFG inputs will then be solicited to finalize these documents and to initiate the development of the proposed guide/paper, the draft of which is expected to be complete by the end of the year.

During the last quarter, the paper on pharmaceutical management considerations for expanded health coverage was finalized; publication is expected next quarter. As a next step, a webinar

highlighting the key considerations and importance of including medicines and strengthening pharmaceuticals systems in expanded health coverage programs will be produced.

Objective 5: Quality of pharmaceutical products and services improved

This quarter, SIAPS finalized and published the revised practical guidebook on building coalitions for containing AMR. The key components of the guide include identifying and engaging AMR-related stakeholders, advocacy and coalition-building guidelines, practical implementation examples from country and regional-level initiatives, and user-friendly implementation tools and templates. The guide is included as a resource in the national action plan toolkit references in WHO's *Manual for Developing National Action Plans* and can be downloaded from <http://siapsprogram.org/publication/altview/building-coalitions-for-containing-antimicrobial-resistance-a-guide/english/>.

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As previously reported, SIAPS scaled back revision of the Regulatory System Assessment Tool (RSAT) because of development of the Global Benchmarking Tool (GBT) by WHO. The RSAT as a tool (in its current state) and along with a background to its development and a description of its use will be edited and formatted. Also during this quarter, SIAPS participated in discussions with the WHO Regulatory System Strengthening team about the potential inclusion of quantitative indicators in the GBT for regulatory assessment. Inputs from SIAPS are based on its previous experience using such indicators with RSAT. SIAPS is currently using the GBT, with remote support from WHO, and a combination of WHO and SIAPS quantitative regulatory indicators (drawn from both RSAT and the PSS metrics activity) to conduct an assessment of the national regulatory authority in Mali. SIAPS will then provide additional feedback to WHO on GBT to improve its interface and application.

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

Working in collaboration with SIAPS leadership, it was decided that the submission deadline of the PSS case studies would be extended through mid-August. This allowed SIAPS to host several USAID AID Connect webinars. Overall web analytics for www.pharmasystems.org were notable. Nearly 40% of visitors chose to come back to the website and learn about the global call after their first visit. Spikes in visitors corresponded to targeted emails, webinars, and social media dissemination activities. Direct outreach and social media were the main drivers of traffic to the website. Ultimately, 46 case studies were submitted; 36 case studies met the basic criteria

and moved through to the next review stage. Two of SIAPS' external partners were selected as reviewers, the Harvard School of Public Health and Harvard Pilgrim Institute.

This quarter, all case studies were submitted to the external reviewers who were instructed to score them on seven criteria. A consistent scoring scale was applied to each criteria element; each criteria element was weighted differently. The criteria included the following:

- The case study describes the problem statement, technical framework, objectives, and specific actions used to strengthen the pharmaceutical system (1.1. problem statement, 1.2. technical approach, 1.3. implementation)
- The case study demonstrates evidence-based improvements in the health system's performance and/or health outcomes (2.1. improvements, 2.2. effectiveness or impact)
- The case study provides actionable lessons and recommendations (3.1 lessons, 3.2. recommendations)

Constraints to progress

- Delays in finalizing task orders for the external reviewers and providing them with adequate time to review all 36 case studies; delays in review led to delays in final selection which led to delays in full conceptualization of the PSS microsite and report introduction

Partner contributions

- Two partners agreed to serve on the review board for this global call activity; one partner has completed the review

East African Community Medicines Regulation and Harmonization Program Portfolio

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

Objective 1: Support the Development and Implementation of Harmonized PV Requirements, Guidelines, Procedures, and Practices for the Regulation of Medicines, Health Products, and Technologies in the EAC Region

During the quarter, through its membership in the EAC PV core team, SIAPS made contributions to improve the draft of the EAC PV business plan. This was during a face-to-face meeting of the EAC PV technical experts and the EAC core team which comprises NEPAD (lead), WHO, BMGF, SIAPS, World Bank, EAC secretariat, and the Kenya PPB RCORE in PV.

The next steps after the meeting were for the stakeholders to share additional edits and activity budget assumptions with the lead country (PPB) and the consultants who developed the draft

business plan, with a goal of finalizing it in time for submission during the fourth quarter's EAC Steering Committee Meeting on October 5-6 in Dar es Salaam. During the meeting, the business plan was approved and presenters were provided useful feedback for inclusion in the final document.

GLOBAL PROGRAMS

Maternal, Newborn, and Child Health

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

Overall Quarter Progress

SIAPS's maternal, newborn, and child health (MNCH) core continued to contribute to ensuring the availability of quality medicines and supplies and effective pharmaceutical services to reduce maternal, newborn, and child mortality. SIAPS remained engaged at the global level, particularly in the Maternal Health Supplies Caucus of the Reproductive Health Supplies Coalition (RHSC) and the Supply Chain Management (SCM) subgroup of the CCM Task Force. An abstract submitted for the annual RHSC meeting on the mapping of financial flows for MNCH commodities in four countries has been accepted for presentation in the Maternal Health Supplies (MHS) Caucus meeting at the RHSC Annual Meeting in October 2017. Staff from the university hospital in Dhaka, Bangladesh, were trained on the pharmacovigilance system and how to report adverse drug events for MNCH medicines. During this quarter, discussions were also held with USAID on technical assistance to be provided through SIAPS to the Global Financing Facility on commodities. This technical assistance will start in October 2017.

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

SIAPS/MNCH continued to be engaged at the global level by participating in the meetings of the groups noted above and serving on the chlorhexidine technical resource team of the UN Commission. SIAPS chaired a meeting of the SCM subgroup of the CCM Task Force on August 25, 2017, where it was agreed that a commodities subgroup would be an important addition to the new Child Health Task Force. The group will wait for next steps from the steering committee once the future of the Task Force is determined.

A case study on pharmaceutical systems strengthening for community case management was submitted to the global call for case studies in pharmaceutical systems strengthening. The purpose of the global call and evidence collection is to highlight and make widely available successful strategies and actions that have been used to improve access to and use of pharmaceutical products and services around the world.

USAID will provide technical assistance on commodity management to the Global Financing Facility through SIAPS. During this quarter, discussions were held with USAID on the content of the technical assistance, the budget, and the timeframe. The obligation for the activity was received at the end of September 2017 and work will start in October with the development of a work plan.

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

SIAPS finalized individual country reports (Bangladesh, Nepal, and Uganda) on the mapping of financial flows for MNCH commodities. The three reports have been shared with USAID Missions, which will disseminate them to stakeholders in country. The Kenya report is in the final stages of editing and will be ready for in-country dissemination in October. The summary document of the results from the four countries is in the final stages of editing and will be shared with USAID and disseminated in October.

The article on the review of current pharmaceutical management policies and systems that affect access to essential MNCH medicines and supplies, conducted under Countdown to 2015, is still under peer review for publication in the BMC Health Services Research Journal.

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

The SIAPS/MNCH and SIAPS/Bangladesh teams collaborated to facilitate a half-day workshop on the pharmacovigilance (PV) system for medicines used for MNCH, which was organized by the Directorate General of Drug Administration and held at Bangabandhu Sheikh Mujib Medical University (BSMMU) on August 10, 2017. Among the 70 participants from BSMMU were chairs, professors, associate professors, and assistant professors from the gynecology and obstetrics, neonatology, pharmacology, and pediatrics departments, who were oriented on PV and PV reporting mechanisms for MNCH medicines. Since the workshop, focal persons for PV and adverse drug event reporting have been nominated in each department, and a training for the remaining doctors in the maternity, neonatal, and pediatric departments will be conducted during the next quarter.

REGIONAL PROGRAMS

Latin American and Caribbean

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

Overall Quarter Progress

All approved technical activities concluded by the end of December 2016. Regular AMI steering committee meetings to coordinate with partners and counterparts have not been held since April 2016. Because there were still funds in the pipeline at the end of January 2017, USAID/LAC agreed to the implementation of selected technical assistance interventions in Peru, Colombia, and Brazil if requested by national counterparts. At the request of the Ministry of Health in Peru, SIAPS has provided technical assistance to support the dissemination of standard procedures for pharmaceutical management in the country.

Objective 3: Pharmaceutical services improved to achieve desired health outcomes

The National Directorate of Medicines in Peru (DIGEMID) requested technical assistance for a nationwide implementation of the standard operational procedures for pharmaceutical management that DIGEMID developed last year with SIAPS technical assistance through AMI. These procedures will improve the supply of antimalarials and other medicines and supplies used by disease control programs. During this quarter, SIAPS supported the final revision of the procedures, the development of a plan to roll them out to all public pharmaceutical services in Peru, and the methodology for regional training workshops. The guidelines will be printed and the first workshops held in October 2017. SIAPS technical assistance will end that month, so any workshops not completed in October will be carried out by local counterparts.

West Africa Regional Project

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

Overall Quarter Progress

Leadership of the regional project was transitioned due to the departure of the regional project director in August 2017. A SIAPS staff member, who is based in Accra, assumed leadership of the project in close collaboration with the technical strategic lead.

Due to changes in the budget, project activities had to be refocused to support the two active country teams in Togo and Benin to ensure that there will be a smooth transition of both the electronic dispensing tool (EDT) and Outil de Suivi des Produits du VIH/SIDA (OSPSIDA) to those teams. A new work plan was developed with activities focused on providing support to these two active projects teams within the region.

The analysis of the EDT pilot evaluation began in August, and plans are underway for this to be completed during the next quarter. Planning for training activities to be conducted in Togo was initiated. The training related to the technical assistance to be provided by SIAPS to the PNLs in preparation for the national roll out of the EDT, with support from the Global Fund.

Objective 1: Improve coordination among regional and national stakeholders involved in ensuring ARV and HIV/AIDS commodity availability

Although no JURTA-PSM meetings were held during this quarter, the transition of SIAPS' role in these semi-annual regional forums was completed. Two SIAPS staff members were introduced to the regional coordinating stakeholder group.

Objective 2: Enhance capacity for pharmaceutical supply management

Remote support was provided to Togo and Benin to capture data in OSPSIDA and use the reports generated by the tool for HIV/AIDS pharmaceutical management.

Objective 3: Increase the use of pharmaceutical management information for decision making at the national and regional levels

The evaluation of EDT pilot sites was completed, and the analysis of the data gathered through the questionnaires was initiated to prepare a technical report on the outcome of the pilot process. Compilation of the technical report was in process at the end of the quarter.

Planning started for EDT training activities to be conducted in Togo in October. Refresher training is planned for EDT users and PNLs IT staff to equip them with the skills to manage the software and support the nationwide roll out of the tool.

COUNTRY PROGRAMS

Bangladesh

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

Overall Quarter Progress

SIAPS has a significant role in the procurement and logistics management cell (PLMC) of the Ministry of Health and Family Welfare (MOHFW) in terms of strengthening pharmaceutical systems in Bangladesh. SIAPS revitalized the PLMC after the division of the MOHFW. SIAPS provides technical assistance to the Central Medical Stores Depot and Directorate General of Family Planning (DGFP) to strengthen procurement under the current sector program. SIAPS has good credibility with the Directorate General of Health Services (DGHS) after introducing the standard inventory management system and electronic reporting of priority maternal, newborn, and child health (MNCH) medicines. The Director General (DG) of the DGHS has referred MaMoniHSS, UNICEF, and UNFPA to SIAPS for technical assistance to roll out electronic reporting systems in their implementing areas. SIAPS provided technical support to those organizations and successfully rolled out systems in MaMoniHSS districts. The collaboration with UNICEF and UNFPA is progressing to expand the systems in their implanting districts.

SIAPS facilitated the MOHFW's approval to roll the Asset Management System (AMS) in three districts. The approval came from the office of the honorable minister of the MOHFW. The MOHFW officially requested SIAPS to start roll out activities and other technical assistance for this project. SIAPS has engaged a local consultant to develop operational guidelines for the AMS, and a draft is going through SIAPS internal review.

During this quarter, SIAPS successfully introduced Pharmadex, a country-specific online medicine registration system, in collaboration with the Directorate General of Drug Administration (DGDA) and other stakeholders. Pharmadex will improve the efficiency of the country's medicine registration process. SIAPS is also in discussions with the DGDA to ensure sustainability of the tool. In the current sector plan, the DGDA committed to operational plans to maintain the functionality of Pharmadex. SIAPS successfully handed over the logistics module of the Routine Health Information System (RHIS) to MEASURE Evaluation.

SIAPS provided technical assistance to the National Tuberculosis Control Program (NTP) for TB drug quantification, forecasting, and budgeting for the Global Fund TB grants process for the next three years (2018–2020). SIAPS supported the NTP during the visit from the Office of the Inspector General of the Global Fund.

SIAPS presented on the proper coordination of activities among stakeholders to address all regulatory functions during the Coalition of Interested Parties (CIP) meeting led by WHO; other development partners, such as USAID, USP-PQM, UNICEF, and UNFPA; and MOHFW officials. To strengthen pharmacovigilance (PV) systems for TB and MNCH, SIAPS

collaborated with the DGHS, DGFP, and DGDA to organize a training to service providers to report adverse drug events (ADE) through the existing PV system.

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

The PLMC quarterly coordination meeting took place on August 28, 2017 and was chaired by the Additional Secretary (Dev.) of the Health Services Division. A few strategic decisions were made during the meeting. The PLMC profile will be reviewed and finalized by September 2017 under the office of the Additional Secretary, and training for select MOHFW officials on maintaining the Supply Chain Management Portal (SCMP) as part of the hand over will be organized with technical assistance from SIAPS. SIAPS provided 62 opinions to the MOHFW on procurement-related issues to strengthen the procurement system following the Public Procurement Act and Rules.

The electronic logistics management information system (eLMIS) for priority MNCH medicines reporting in DHIS2 was implemented in 11 districts. SIAPS has been working with the DGHS to strengthen the pharmaceutical management systems to ensure continuous availability of essential MNCH commodities. During this quarter, the SIAPS team emphasized ensuring that eLMIS data were entered for all facilities in the 11 districts. Individual district average reporting rates in July and August 2017 were: Faridpur (96%), Coxsbazar (100%), Gazipur (97%), Jamalpur (100%), Kushtia (97%), Pabna (93%), Natore (93%), Khulna (92%), Lalmonirhat (100%), Lakshmipur (95%), and Moulvibazar (91%). The average reporting rate for all 11 districts combined was an impressive 96%.

SIAPS has been providing technical assistance to MaMoniHSS to scale up the eLMIS/DGHS in three districts. As part of this activity, SIAPS initiated facility data entry into the DHIS2 central database for those districts. SIAPS also modified the user manual and reprinted the updated version.

A day-long training of trainers (TOT) was organized at Save the Children for health managers and statisticians from the three districts and divisional coordinators from the MIS, DGHS, and MaMoniHSS on July 27, 2017. More than 700 participants received trainings in 22 groups of 30 to 35 participants. Representatives from CS, UH&FPO, MO-CS, and RMO and medical officers were also present.

An article titled “SIAPS leverages public-private partnership to reduce preventable deaths of newborns and children” was published in the *National Newborn Health Bulletin: April–June 2017* (issue 3) by the National Newborn Health Program and the IMCI Section of the DGHS.

SIAPS worked with UNFPA to organize a workshop on “Strengthening Commodities Security and Forecasting for Essential RMNCAH Medicines” at DGHS Dhaka on September 11, 2017. The workshop was chaired by Dr. Jahangir Alam Sarkar, the Line Director, MNC&AH, DGHS.

UNFPA and SIAPS provided technical assistance for the workshop. Representatives from the DGHS, DGFP, Community-based Health Care, Directorate of Nursing and Midwifery, UNFPA, and SIAPS attended the workshop. SIAPS presented on a forecasting exercise of the 13 RMNCH commodities prioritized by the UN Commission on Life-saving Commodities for Women and Children, while UNFPA presented on commodities security.

A workshop on training service providers on PV for MNCH medicines was held on August 10, 2017, and chaired by Brig Gen Md. Abdullah al Harun, Director, Bangabandhu Sheikh Mujib Medical University (BSMMU). Dr. Kamrul Hasan Khan, Vice Chancellor, BSMMU, was the chief guest and Major General Md. Mustafizur Rahman, DG of the DGDA, and Prof. Shahidullah, President of the Bangladesh Medical and Dental Council, were special guests. During the workshop, 70 participants from BSMMU, including chairs, professors, associate professors, and assistant professors of the gynecology and obstetrics, neonatology, pharmacology, and pediatrics departments, were trained.

Partner contributions

- The MNCH PV workshop was jointly organized and conducted by SIAPS, BSMMU, and the DGDA.
- SIAPS and UNFPA jointly organized the workshop on commodities security.
- MaMoniHSS collaborated with SIAPS and the DGHS to organize the TOT and trainings for the new three districts.
- SIAPS assisted the DGFP supply chain monitoring committee in monitoring the stock situation in the country.

Constraints to progress

- Some storekeepers and statisticians have issues logging into DHIS2 due to user ID and passwords problems. These are being fixed on a case-by-case basis.
- Without super admin permission, it is difficult for SIAPS to go into the system and solve problems. SIAPS faced challenges while initiating the facility data entry into the DHIS2 central database for the three new districts.
- There was a lack of effective and timely communication between storekeeping personnel and the designated NTP IT/MIS assistant responsible for data entry.
- Within the NTP, there were human resource, interpersonal communication, and compliance constraints to smooth functioning between data driven decision making and TB medicine distribution and maintaining good warehouse practices.

Objective 2: Systems for evidence-based decision making established

The third AMS Technical Working Committee meeting was held on August 23, 2017. During the meeting, USAID and other stakeholders pointed out the importance of implementing the AMS. Based on decisions made at this meeting, the MOHFW approved the Master Asset Register designed by SIAPS and issued a notification requesting SIAPS to implement roll out

activities in three district hospitals (Manikgonj, Shirajgonj, and Jhenaidah). SIAPS engaged a local consultant to draft operational guideline for the AMS.

SIAPS, with help from a local software firm, made the SCMP portal responsive to support any size of device screen (e.g., mobile, tablet, laptop). This has created a greater spectrum of data access from anywhere for decision making. SIAPS has handed over the RHIS and documentation to MEASURE Evaluation, including the eLMIS-DHIS2 interoperability module used to transfer data from the RHIS to DHIS2, the eLMIS-LMIS interoperability module used to transfer data from the RHIS to the SCMP portal, and integration codes. The eLMIS-Support Ticketing system is used by field users to submit and monitor complaints.

During this quarter, the Khulna Shisu Hospital (KSH) health information system was upgraded with new dashboard reports, including total admission, discharge, death, and number of patients receiving oxygen each month. KSH can optimize use of its patient beds by using data from these reports. The hospital is continually updating the system with data during the admission and discharge of patients.

SIAPS, in collaboration with the DGDA, has introduced retail pricing of 28,212 registered allopathic products in the DGDA web portal (<http://www.dgda.gov.bd/>). Retail prices for the same product in different pack sizes are also provided. Users can conduct a comprehensive search to find an allopathic product and its retail price. SIAPS is now working to develop a legal contract to hand over Pharmadex to the DGDA, create a disaster recovery plan for the security and backup of confidential documents submitted by applicant companies, troubleshoot some of the defects in the Pharmadex software, and advocate for more application submissions by pharmaceutical companies.

SIAPS worked with the DGHS and HISP Bangladesh to make e-TB Manager compatible with DHIS2 for TB 10, 11, and 12 forms. As part of this interoperability implementation, facility mapping was performed this quarter. After the interoperability implementation, many issues have been raised and field support has been provided by SIAPS. Enhancements have been made to form 11, and development is under way.

SIAPS provided technical assistance to the MIS/DGHS to improve DHIS2 through the design of the LMIS. SIAPS negotiated with NTP policy makers, Grameen Phone (the internet provider), and the DGHS to cover internet costs for e-TB Manager. In collaboration with the CTB, SIAPS engaged in countrywide training for TB reports on DHIS2.

Partner contributions

WHO, NTP, BRAC, DGHS, DGFP, WB, UNFPA, the Global Fund, JSI, Save the Children, and the Damien Foundation, among others, are working together in the TB, family planning, and MNCH programs.

Constraints to progress

- During the implementation of Pharmadex in the DGDA for registering new drugs, it was difficult to get support from DGDA officials due to scheduling conflicts.
- The internet connection at the DGDA is very slow, which can slow down online training sessions with DGDA officials.

Objective 3: Pharmaceutical regulatory systems strengthened

SIAPS developed the country-specific online medicine registration system in collaboration with the DGDA to improve the efficiency of the country's medicine registration process. SIAPS facilitated trainings for DGDA officials and selected pharmaceutical industry representatives to build their capacity to use this tool successfully.

After successfully launching Pharmadex in May 2017, an implementation action plan was developed with DGDA officials. A task force team for common technical document (CTD) format and Pharmadex has been created and training for DGDA staff and pharmaceutical companies has been planned. Discussions about dossier submission have also taken place.

In July 2017, the DGDA circulated an official letter to the top 10 companies in Bangladesh to include CTD dossiers only for cardiovascular products when submitting new registrations. SIAPS arranged for and provided technical support to those companies and to DGDA officials on the online submission of CTD dossiers and their evaluation in Pharmadex. Twenty representatives from the 10 companies participated in the training session. All screeners, reviewers, and moderators and the head of the DGDA also participated. Following this, ACI Pharmaceuticals Ltd submitted its dossiers online. The entire process, including screening and reviewing, has been conducted in Pharmadex by DGDA officials with technical assistance from SIAPS.

WHO led the July 2017 CIP meeting at the DGDA. Development partners, including USAID, SIAPS/MSH, USP-PQM, UNICEF, and UNFPA, were present along with MOHFW officials. The objectives of the meeting were to support the DGDA in achieving Maturity Level 3 according to WHO benchmarking indicators mandated by Member States in WHA Resolution A67.20 and to ensure the proper coordination of activities between teams to address all regulatory functions. SIAPS, USP-PQM, and WHO presented on their achievements since the first CIP meeting in March 2016.

WHO organized a workshop on antimicrobial resistance in August 2017; attendees included representatives from the MOL, MOHFW, DGHS, CDC, BSMMU, ICDDR, SIAPS, USAID, USP-PQM, GARB, and FAO.

SIAPS provided technical assistance to develop the 2017–2018 training plan as part of the DGDA's strategic plan. This training plan has been handed over to the DGDA and other development partners so that all partners can provide and arrange for training to develop human

resource and capacity building for the DGDA. Citizen charter was reviewed by SIAPS technical consultants to give feedback to the DGDA. The CTD guidelines and the Pharmadex user modules for applicants and DGDA officials have been uploaded in the DGDA web portal. A network access server has been installed at the DGDA in the data server provided by SIAPS.

More than 100 reports were sent from hospitals and pharmaceutical companies. The PLMC made agreements with national health programs (e.g., NTP, National Malaria Program, and EPI/AEFI and HIV/AIDS programs) to include adverse drug reaction reports in the PV program.

SIAPS, in collaboration with the MOHFW, organized a training of MNCH service providers to report ADEs through the existing PV system and use evidence from the system to ensure safe and quality MNCH medicines. A phased approach has been planned to integrate MNCH commodities, starting at BSMMU. SIAPS met with leaders and discussed possible MNCH-PV activities in Bangladesh.

Partner contributions

The DGDA, WHO, and PQM presented at most of the events described above. The DGDA allowed the use of its conference room for most of the events.

Constraints to progress

There was a lack of continuous support for transitioning SIAPS pharmaceutical systems strengthening interventions.

Benin

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

Overall Quarter Progress

During this quarter, SIAPS supported the Ministry of Health (MOH) through the Department of Pharmacy, Medicines, and Laboratory (DPMED) to strengthen the medicine registration process and related information management system.

SIAPS also supported the DPMED and the Department of Public Health (DNSP) to organize a workshop to validate the Ebola standard operating procedures (SOPs) manual (including logistics systems management) that was developed for commodities used for the prevention and treatment of Ebola and other viral hemorrhagic fevers. The validation workshop took place in Ouidah from August 7–11, 2017, and the manual was ready for printing and dissemination on August 11, 2017.

SIAPS attended the Ebola partners' monthly coordination meetings on July 12 and September 6, 2017.

Objective 1: Pharmaceutical sector governance strengthened

Following the assessment of DPMED medicines registration in November 2016, the SIAPS team conducted an updated situational analysis based on the findings and recommendations of the previous assessment. New recommendations were made, and a high-capacity server was procured to optimize the full implementation of the existing electronic registration tool.

Partner Contributions

WHO and the Advancing Newborn, Child and Reproductive Health Program contributed to the development of the SOPs manual for Ebola health commodities.

Constraints to progress

The DPMED has insufficient skilled staff to manage the medicines registration system, and the existing electronic tool still needs to be improved.

The developer of the software that manages the current electronic system does not reside in Benin, and his interaction with DPMED staff is very limited in terms of system optimization and troubleshooting.

Objective 2: Increase and enhance capacity for pharmaceutical management and services

SIAPS supported the MOH through the DNSP to organize two three-day training workshops for 42 health professionals and store managers on the new logistics SOPs. Workshops were held in Ouidah (September 4–6, 2017) and Bohicon (September 7–10, 2017).

Constraints to progress

A significant number of health professionals and store managers needed to be trained. The training workshops were held in two different places to accommodate participants from all health zones.

Objective 3: Address information for decision making challenges in the pharmaceutical sector

During this quarter, USAID requested SIAPS to conduct an end user verification (EUV) survey in Benin. The EUV survey is a mechanism to track and report on the availability of malaria health commodities (medicines and rapid diagnostic tests) and on the adequacy of malaria case management. The first round of the survey was conducted July 17–22, 2017, in the Borgou and Alibori regions, and the summary report was reviewed with SIAPS-HQ support and submitted on September 18, 2017.

The survey showed that all health facilities had at least one presentation of artemether-lumefantrine (AL) on the day of the visit, but none had all four presentations despite the fact that all AL presentations are available at the central level. The main reason is that facilities were requested to use AL3x6 and AL6 that were about to expire. Survey findings showed also that 15% of visited health facilities had stock-outs of RDTs on the day of the visit, and 18% experienced three days or more of stock-outs for this product during the past three months. The stock-outs were solely due to the close expiration date of the available RDTs at the CAME regional warehouse and not to a shortage. The procurement unit was reluctant to buy more of those items as long as the remaining balance was above the alert threshold.

Constraints to progress

The National Malaria Control Program (NMCP) gave short notice for conducting the EUV survey because of the availability of staff to be involved. The SIAPS logistics team traveled with the NMCP team to the field to provide administrative support.

Dominican Republic

Goal: Increase the availability of critical medicines and diagnostic materials, including those used for HIV and AIDS and tuberculosis, through the implementation of different elements of the SUGEMI system and build 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 this quarter, with the majority of health facilities reporting their data and receiving feedback. In June 2017, SUGEMI's national bulletin reported that adult antiretroviral (ARV) availability in health facilities remains high (86%). The availability of essential medicines used at the primary health level shows the same availability as in previous quarters (68%). SIAPS technical assistance finished at the end of September 2017. The USAID mission communicated that Abt's Health Financing and Governance Project will support technical assistance on pharmaceutical management.

Publications released this quarter include:

- Success story: Pharmaceutical Management Strengthening in Health Facilities Implementing the Test and Start Strategy
- Quarterly National and Nine Regional SUGEMI Bulletins, April–June 2017 (on the availability and consumption of medicines)
- Revised version of SUGEMI standard operational procedures for disease control program dispensation and distribution
- Technical reports: HIV/AIDS Pharmaceutical Management in Nine Health Facilities Implementing the Test and Start Strategy
- Technical report: Situation of the SUGEMI Pharmaceutical Management Information System and Recommendations for Improvement

Objective 1: Pharmaceutical sector governance strengthened

During this quarter, SIAPS supported the consolidation of regional estimates for 2018 procurement of medicines and supplies and presented the results to Ministry of Health and Finance authorities. SIAPS supported the review of electronic applications for the estimation of needs and programming to be used for the 2019 forecast. All of these tools are available on the SUGEMI website.

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

SIAPS adjusted the content of the Pharmaceutical Supply Management Certified (Diploma) course and provided the materials to the Universidad Central del Este for future use. This certified course was not implemented in 2017 due to the limitation of resources. The course on

rational medicine use started in July 2017. USAID sponsored tuition for 21 students. SIAPS consultants facilitated the first and second modules of the course.

Partner Contributions

The certified course on rational medicine use and pharmaceutical supply management 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

In July 2017, SIAPS supported the National Medicines Directorate and the Regional Health Services in the development of one national and nine regional SUGEMI bulletins. These bulletins include information on the consumption and availability of essential medicines, including ARVs and TB medicines. During the next quarter, the development of these bulletins will be managed by the Regional Health Services with little or no support from the new USAID partner on pharmaceutical management.

SIAPS carried out a rapid assessment of the performance of the SUGEMI pharmaceutical management information system. The report, including recommendations for improvement, was shared with the National Medicines Directorate.

Objective 4: Pharmaceutical services improved to achieve desired health outcomes

On August 1, 2017, SIAPS organized a workshop for the analysis of requisitions for the inclusion of new modules in the National Essential List of Medicines. The participants, most of whom were from regulatory departments of the Ministry of Health, applied the methods and procedures shared during the workshop to the analysis of requisitions recently received from health facilities.

On August 2 and 3, 2017, SIAPS organized a national workshop for the promotion of rational medicine use. National professionals presented on progress in this area; national authorities shared the strategic vision of the institutions they represented; and clinicians analyzed current prescription practices and developed plans to confront irrational medicine use.

SIAPS supported the collection of ARV consumption data and available stock in the nine HIV treatment posts (SAIs) implementing the Test and Start strategy. With these data, a "traffic light" visual aid was developed that allows SAIs to identify over stock and stock-outs and immediately implement corrective measures. SIAPS visited all nine SAIs implementing the Test and Start strategy. A report from each site was shared with USAID and partners in the implementation of this strategy. Monitoring rounds conducted in August 2017 accounted for an improvement in pharmaceutical management practices and increased availability of ARVs.

PROMESE has not yet shared the access codes to review the correspondence regarding the requirements of medicines and supplies and the dispatches of PROMESE.

Mali

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

Overall Quarter Progress

The key results of this quarter include organizing the launching ceremony for construction of the Warehouse-in-a-Box (WiB). The official ground breaking ceremony took place on August 15, 2017, in presence of health, political, and administrative authorities of the country. The WiB construction process began in the regions of Kayes, Koulikoro, and Mopti (funded by the Dutch) and the district of Bamako (USAID).

Other key results include the EUV survey in the regions and Bamako, in collaboration with the PNLP. The data collection in the field took place August 9-29, 2017, and included 79 health facilities.

Objective 1: Pharmaceutical Sector Governance Strengthened

SIAPS has supported the MOH to ensure that supply plans developed during the quantifications were updated according to the differences in consumption patterns and partners' commitment status. The meetings to update the procurement plans for malaria and family planning commodities took place September 13-14, 2017, at the DPM and under the leadership of the its director.

The update concerned the stock on hand on June 30, 2017, at all levels of the health system, as well as the consumption for the first semester of the year. As a result, the number of updated plans increased from 22 to 24. Regarding malaria commodities, it should be noted that USAID- and Global Fund-funded products on which they had made a commitment (2,299,200 treatments of ACTs in the following presentations of AL: 6×1, 6×2, 6×3, and 6×4 for USAID and 1,255,849 treatments of AL 6×4 for PSI) were delivered. Unfortunately, the World Bank-funded ACTs and RDTs were not delivered as planned during the quarter.

USAID-funded family planning commodities were delivered in the planned quantities, but UNFPA was not able to deliver its quantities for the period.

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

SIAPS has also supported the MOH through the regional health directorate, the 50 health districts in 5 regions (Kayes, Koulikoro, Sikasso, Ségou, Mopti), and Bamako to enter and publish logistic data in OSPSANTE by supplying credits for the necessary Internet connection. This support contributed to making data available for the preparation, monitoring, and implementation of the national campaign for family planning, which was launched on August 24, 2017, by the first lady and the MOH.

SIAPS collaborated with Resolve, who visited Mali in June, July, August, and September 2017. Several working sessions were held on the construction site of the WiB to discuss the design and shared responsibilities of both PPM and Resolve. From July to September, SIAPS collaborated with the steering committee member and the PPM and Resolve teams to finalize the design of the WiB in Bamako, support the assessment of the three regional WiB sites, organize the groundbreaking ceremony, validate the design of the WiB in Bamako, and establish communication plans for Bamako's WiB and SIAPS' responsibilities regarding technical assistance for the three regional WiBs.

SIAPS also facilitated contact between the Resolve and PPM teams regarding WiB construction in Kayes, Koulikoro, and Mopti. Thus, August 4-11, 2017, SIAPS supported, in collaboration with Resolve, evaluation of the different sites that will shelter the WiB in these regions.

In order to monitor the stock status of commodities, SIAPS collaborated with the PPM's distribution department for the delivery of contraceptives for the national family planning campaign in all regions of the country.

During this quarter, SIAPS provided support to the Ministère de la Santé et de l'Hygiène Publique (MSHP) to conduct a quantification of reproductive, maternal, neonatal, and child health medicines (RMNCH). The objective of this activity was to strengthen the capacities of the actors to forecast needs, but also to develop a supply plan for RMNCH commodities for the 2017-2020 period.

Before the quantification exercise, actors involved in the management of the supply chain were identified at the DPM level for training on the quantification tools Quantimed, Reality Check, and Pipeline (for supply planning).

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

To enhance institutional and individual capacities, SIAPS supported the MOH in achieving several key activities necessary for the deployment of OSPSANTE.

Within the framework of deploying the nutrition and HIV modules, SIAPS supported the DPM and the regional health directorate in organizing a training of actors at the regional level. This activity, co-financed by the Global Fund and SIAPS, was a success in terms of collaboration and cost sharing. In total, 192 health workers (139 men and 53 women) from the regional health directorate, districts, and regional hospitals were trained. The participants were provided with knowledge and skills to improve the management of the HIV and AIDS and nutrition commodities throughout the country. Furthermore, the newly formed agents received access allowing them to enter into OPSANTE the historical data from January 2017 to now.

Workshops took place in the five regions and the district of Bamako as follows:

- Bamako June 3-15, 2017
- Kayes June 28-30, 2017

- Koulikoro July 3-7, 2017
- Sikasso July 10-14, 2017
- Ségou July 10-14, 2017
- Mopti July 18-20, 2017

Regarding the deployment of the Ebola portal, SIAPS worked closely with the Département of Opérations d'Urgences en Santé Publique (DOU-SP, Department of Public Health Emergency Operations) to plan and prepare the training of the peripheral-level actors to enter Ebola commodities data into OSPSANTE and monitor their availability. The process took place in two phases:

- Phase 1: Inventory of Ebola commodities in Kayes, Koulikoro, and Sikasso (9 districts, 17 community health centers, and 12 entry points)
- Phase 2: Training stakeholders at the peripheral level on the Ebola portal

Training on the Ebola portal was provided to pharmacists, Ebola focal points from the regional health directorate and districts, and warehouse managers from three districts in Kayes, two in Koulikoro, and four in Sikasso. Overall, 35 providers were trained (4 women and 31 men) and have demonstrated the necessary skills to use OSPSANTE in general and the Ebola module in particular to monitor the availability of health commodities. The stock status of Ebola commodities (physical inventory conducted in May 2017) is available in OSPSANTE with a reporting rate of 83.3% at the district level.

During the reporting period, SIAPS provided support to the MOH through the PNLN for the organization of the end user verification survey. The field phase took place August 9-29, 2017, in the five regions and Bamako. The preliminary results of this phase are, among others:

- 96.20% (76/79) of the visited health facilities have the STGs for malaria
- 91 % (1,147/1,260) of the staff involved in managing malaria cases received formal training
- 93% (2,029/2,179) of uncomplicated malaria patients under age 5 seen at the visited sites were treated with ACT in accordance with the malaria STGs
- 100% of health facilities visited had at least one presentation of AL the day of the visit and 73% (58/79) had four presentations
- 89% (69/78) of the sites surveyed submitted stock status reports on time; this good rate can be explained by the regular follow-up of OSPSANTE

To improve information availability for decision making, SIAPS submitted a PPMRm and a PPMRc to inform national stakeholders and donors on the availability of malaria and FP commodities at the central level. Based on stock status of the different products and logistic data, the following recommendations were made:

- Malaria: World Bank should expedite the planned RDT and ACT shipments to arrive by July 30, 2017

- Family planning: MOH and Keneya Jemu Kan should pursue their communication and advocacy efforts to increase the use of the female condoms and Cycle Beads
- Conference calls took place between the consultants for both platforms on achieving interoperability between OSPSANTE and DHIS2. A chronogram of activity was agreed between both technicians and DPM adopted an action plan for implementing interoperability between OSPSANTE and DHIS2. Plan implementation starts this quarter.

Objective 4: Pharmaceutical Services Improved to Achieve Desired Health Outcomes

No activities this quarter.

Mozambique

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

Overall Quarter Progress

SIAPS continued to support MOH in the use of Pharmadex in the following areas:

- Coordinate with the home office IT team to make changes on Pharmadex (development of the indicators module)
- Support the PD working on the template for the reregistration and variation modules and coordinate with the home office to develop the modules

PD's M&E staff have been trained in the preparation and submission of the PD quarterly report. Additionally, SIAPS supported the PD to perform the data quality assessment in Sofala and Inhambane Provinces.

Also DTC support was provided to the Hospital PD (HPD) to validate the methodology for the patient waiting-time study.

Objective 1: Governance in the Pharmaceutical Sector Strengthened

To strengthen the PD M&E, SIAPS supported the M&E staff to prepare the quarterly report (April-June 2017) through data collection for the main indicators, which has been reported.

The results of data collection show a decrease of 55% in the average number of days to register a product from 330 days in the previous quarter to 150 days in the April-to-June quarter. Regarding EML products, 259 out of 556 EML products were registered (46.58%). The total number of adverse event reports received by the PV unit was 739. Although the number of ADRs has increased by 18%, the PV unit continues to be unable to review or provide immediate feedback on the reports that arrive due to the large volume. Therefore, none of the reports from this period has been reviewed.

In this period, SIAPS visited Sofala and Inhambane provinces to verify the reliability of the data reported for the main indicators of pharmacovigilance, quality control of medicines, and training; in addition, they investigated how data is reported and registered according to the place where it is produced. In general, in both provinces, the disparity of the data and the weak registration of the information were verified. Regarding the indicator related to quality control of medicines, it was also observed that in many cases there is no support that confirms the exit of these medicines for quality control and, in some cases the registers are incorrect.

Once the codification system of ADRs was approved, some provinces, such as Tete and Niassa, started to codify their ADR notifications. However, more efforts are needed to get all the provinces to participate.

PD IT was trained by the developer to perform translation (corrections) of the words on Pharmadex that are still in English.

The templates for reregistration and variation have already been developed by the PD and the SIAPS/Mozambique team and were sent to the developer. We hope to deploy the modules by the end of this quarter.

Partner Contributions

- PD IT was active on learning and implementing help-desk skills
- 2 PD staff actively contributed to data collection for the data quality assessment

Objective 2: Capacity in Pharmaceutical Management increased and enhanced

No activities during this quarter

Objective 3: Pharmaceutical Services Improved to Achieve Health Outcomes

During FY15-16, SIAPS supported the HPD in designing, testing, and scaling medicine use studies (prescriptions, medication errors, and consumption) in hospital DTCs. To complement these studies, DTCs need to perform other activities, such as medicine use evaluations, improve ADR reports and analyses, manage the medicine formulary system, improve treatment adherence, and map processes.

In the context of those activities, SIAPS supported HPD in validating the methodology for determining patient waiting time by performing studies at the ambulatory pharmacies of the Lichinga and Pemba Provincial Hospitals. These studies began with the collection of key information from the health facilities, regarding their capacity to offer quality services and defining the size of the sample to be analyzed. In general, this study consists of mapping the processes, recording the times of each subprocess, and analyzing and interpreting the data.

Also, in the places visited, it was found that majority of the medications are not prepackaged, and most of the time, the person who repacks the medicines is the same person who dispenses them. In fact, this contributes to increased patient waiting times and increases the chance of errors in dispensing medications. Therefore, in Pemba Provincial Hospital, SIAPS helped perform the consumption analysis to identify the medicines that are consumed most in order to ensure their prepackaging.

Additionally, once the study on adherence to ART was conducted at Polana Canico General Hospital, the results of the study were presented and discussed with the hospital directorate, who compromised to improve the indicators that were below target.

The main objective of this study was to verify if this methodology yields results and to present those results to the health facility and MOH, and then to expand the methodology to other health facilities. SIAPS is waiting for HPD to present the study results to the HIV program.

Partner Contributions

- HPD supported data collection and administrative arrangements for the study.

Namibia

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

Overall Quarter Progress

SIAPS supported the Namibia Medicines Regulatory Council (NMRC) to further update Pharmadex, the medicines registration tool, and demonstrated the first post-log in interface with NMRC staff.

SIAPS enhanced the capacity of 123 nurses and pharmacist assistants through training on the Facility Electronic Stock Card (FESC), general inventory management, and the Electronic Dispensing Tool (EDT). Between June and August 2017, SIAPS trained those health workers in collaboration with the MoHSS and the Global Fund.

SIAPS, the MoHSS, and USAID facilitated a milestone event on July 13, 2017, to celebrate the 50th health facility equipped with the FESC. The event, officiated by the US Ambassador to Namibia, showcased improved pharmaceutical service delivery in the Oshana region of Namibia.

SIAPS oriented 49 MoHSS managers on the dashboard to enhance their knowledge and skills on pharmaceutical management and the use of data for decision making. The enhanced knowledge is expected to improve inventory management and reordering of pharmaceuticals from central and regional medical stores. The managers developed regional action plans for enhancing the use of data from the dashboard.

The SIAPS-supported capacity enhancement yielded results that were reported by MoHSS managers at the milestone event and the annual pharmacists' forum held this quarter. The efficient use of the FESC helped Intermediate Hospital Oshakati has reduced the amount of staff time spent on reordering medicines from the central medical store (CMS) from approximately two weeks to two days, increased efficiencies, and freed up staff time for patients' pharmaceutical care. This contributed to a reduction in patients' average waiting time at the pharmacy from one to two days to approximately 30 minutes, and expired medicines and clinical supply items decreased from 12% in 2016 to less than 2% in August 2017.

During the pharmacists' forum, the Karas regional pharmacist reported improved pharmaceutical services, inventory management, and rational medicine use (RMU). The results were partly attributed to SIAPS-supported training of three therapeutics committees (TCs) on RMU, strategies for combating antimicrobial resistance (AMR), inventory management to ensure the uninterrupted availability of quality medicines, and structured action planning. The annual wastage rate of pharmaceuticals in the region decreased by 0.08%, the number of patients who received prescribed medicines increased by 1.4%, and the average number of medicines per outpatient department prescription decreased by 0.2%. TC activities increased by 13.9% from 2015/16 to 2016/17 after SIAPS-supported training this quarter.

SIAPS provided technical assistance to the MoHSS to conduct the 2017 annual pharmacists' forum, during which 38 pharmacists and managers from 12 of Namibia's 14 regions reviewed the National Medicines Policy and provided input into SIAPS' proposed new mEDT for dispensing and collecting antiretroviral therapy (ART) data at all levels of antiretroviral (ARV) dispensing. Participants in focus group discussions also provided input for the country's CMS turnaround strategy that is being developed and implemented to improve Namibia's public sector supply chain.

The SIAPS-supported dashboard is an important data source for ART and pharmaceutical services. A UNAIDS representative at the meeting commented that "Namibia has already done some exemplary work on visualizing information through the dashboard for pharmaceutical information. There are opportunities for other countries to learn how they can include financial information in their databases so that financial indicators can be developed and monitored."

Objective 1: Registration of new HIV/AIDS medicines and licensing of new indications by the NMRC is expedited

SIAPS supported efforts of the Republic of Namibia to ensure that TDF/FTC (trade name Truvada), which the NMRC approved in the last quarter for pre-exposure prophylaxis (PrEP), is used appropriately and safely in line with the National Treatment Guidelines on HIV. By implementing procedures on ARV dispensing tools, such as the EDT, PrEP patients can be managed and reported to the National AIDS Coordination Program for planning purposes. SIAPS enhanced the EDT to cater to specific reporting on PrEP uptake in the country. At least 66 PrEP patients are being monitored through data captured in the EDT.

SIAPS continued to support the NMRC on the development of Pharmadex. During this quarter, SIAPS installed updates on the NMRC server and made additional software updates. Technical assistance was also provided to determine the main Pharmadex home page structure, post-registration amendments, and key financial reports. Following the inclusion of these changes in Pharmadex, SIAPS trained five NMRC staff within the registration unit on the updated version September 18–20, 2017. During the training, NMRC staff suggested additional improvements to the tool. In FY18 Q1, SIAPS will finalize the improvements and orient NMRC staff on the final version of Pharmadex and will also finalize the Pharmadex user guide.

Technical assistance was provided to the Division of Pharmaceutical Services (Div:PhSs) to review the National Medicines Policy during the annual pharmacists' forum in Oshakati, Namibia. SIAPS technical staff facilitated group discussions and plenary sessions, which received positive feedback from participants.

Partner Contributions

The NMRC contributed to the implementation of Pharmadex.

Constraints to Progress

The NMRC took more than a month to edit and finalize the letters to be incorporated into Pharmadex. A decision on the format of the registration page also took longer than expected, which delayed finalization of the tool. This situation has improved with more frequent engagements and the identification of focal people within the NMRC.

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

During the annual pharmacists' forum, SIAPS provided technical assistance to pharmacists and MoHSS managers on action plans for integrating nutritional products into the FESC and reporting on the dashboard. This will facilitate effective inventory management and accountability for nutritional products that have been procured to combat malnourishment in Namibia. The pharmacists were advised to engage their respective primary health care (PHC) directorate managers in logistical preparations to avail storage warehouses for the nutritional products that the government procured in bulk.

SIAPS supported the Ohangwena regional health directorate to train 58 nurses and pharmacist assistants on pharmaceutical inventory control, good storage practices, and the use of FESC at the PHC level. The training enhanced participants' knowledge to improve the management of ARVs, TB medicines, and related health commodities.

SIAPS oriented 14 health workers in nine health facilities on the EDT, mEDT, FESC, and dashboard for pharmaceutical information during facility-based support and on-the-job mentoring. Two new pharmacists at Onandjokwe district hospital benefitted from the support. The orientation included an introduction to community-based antiretroviral therapy (CBART) group ARV dispensing and standard operating procedures for pharmacy staff.

SIAPS supported UNAM-SoP in updating the curriculum for pharmacy students to include lecture sessions on using the FESC for inventory management of pharmaceuticals. The support was delivered through a series of meetings between UNAM-SoP and SIAPS staff and input into the materials to be used for lectures.

SIAPS supported the Kunene regional management team by providing materials and guidance to train three TCs (23 health care workers) on their role in promoting RMU and preventing AMR.

The Walvis Bay Corridor Group (WBCG) a public-private partnership established to promote the utilization of the Walvis Bay Corridors, a network of transport corridors. This quarter

SIAPS followed up on the support that was given to the WBCG on the use of the EDT, FESC, and basic inventory control and storage principles at the Walvis Bay wellness clinic, Oshikango, and Katima Mulilo boarder post. The support enabled the clinic to start offering ART services and by the end of this quarter, 71 patients had been enrolled on ART and 19 clients on PrEP. The WBCG has partnered with the MoHSS through a public-private partnership initiative to assist the government in decentralizing ART services.

Partner Contributions

- MoHSS Directorate of Tertiary Health Care & Clinical Support Services, Div:PhSs, and Sub Division, National Medicines Policy Coordination continued to enhance the skills of health workers for implementing the EDT, mEDT, FESC, dashboard, CBART, and pharmacovigilance
- MoHSS Div:PhSs prepared for and facilitated the annual pharmacists' forum and review of the National Medicines Policy
- UNAM-SoP trained pharmaceutical personnel and reviewed the pharmaceutical management module for B.Pharm III

Constraints to Progress

Staff turnover at public health facilities, such as Onandjokwe Hospital, necessitates continued training and on-the-job mentoring.

Objective 3: Electronic tools for pharmaceutical service delivery and the use of data for decision making are optimized

SIAPS oriented the new PEPFAR regional director based in South Africa on USAID-supported CBART activities in the Onandjokwe district. SIAPS collaborated with the Onandjokwe district management team, USAID, and other development partners to demonstrate how USAID-implemented activities have improved the management of ART patients at health facilities and community-based points in the district. SIAPS supported pharmacy staff at Onandjokwe ART pharmacy to demonstrate the use of the EDT and mEDT for patient and stock management at health facilities. The facility staff demonstrated how the EDT has been adapted to implement CBART through bulk dispensing to community ART support group (CASG) leaders. CBART beneficiaries testified on the benefits of CBART, including improved adherence to ART, good viral load suppression among group members, and no waiting in long lines to obtain ARVs after travelling long distances. They also shared challenges, including infrastructural challenges with the meeting place in the community that make it hard to hold meetings in adverse weather conditions.

SIAPS is supporting the Div:PhSs to identify new ways of improving ART dispensing and data capture at health facilities implementing nurse initiated and managed ART and ART outreach services. SIAPS presented a new platform for the mEDT to 38 pharmacists at the pharmacists' forum. The proposed approach, which makes use of the EDT on both desktop computers and android devices, will be simpler for nurses at lower-level facilities to use for patient and stock management. The mEDT is expected to facilitate improved data capture at PHC facilities and reduce the data gap that decentralization of ART patients from primary ART sites has created in the EDT database.

At the pharmacists' forum, SIAPS oriented 38 MoHSS pharmacists on how to access and use information from the dashboard for pharmaceutical decision making. Participants benefitted from SIAPS technical assistance particularly as it related to challenges with reporting to the

dashboard. The dashboard shows ARV stock status and number of people accessing ART and acts as an early warning system against stock-outs of ARVs and other essential medicines.

SIAPS provided technical assistance to the MoHSS, UNAIDS, and other partners to design a framework for implementing an HIV situation room in Namibia. The HIV situation room is a software/database platform that provides governments with tools to monitor and analyze the AIDS epidemic through visualizations. SIAPS demonstrated Namibia's dashboard for pharmaceutical information, which aggregates data from pharmaceutical management tools and systems. The presentation focused on financial outputs from the dashboard that have the potential to be used to produce financial indicators for adaptation into the HIV situation model. SIAPS analyzed logistic management information system and EDT consumption data to be incorporated into the HIV situation room.

SIAPS is supporting the Directorate of Special Programs (DSP) to ensure that reports providing early warnings on stock-outs of ARVs and TB medicines are regularly presented to program managers to enable them to respond to potential risks. SIAPS initiated and supported the DSP to conduct monthly meetings with stakeholders from the Div:PhSs, ART and TB programs, development partners, and other MoHSS managers to review the stock status and prepare interventions to avert stock-outs and overstocks of ARVs and TB medicines.

SIAPS' abstract on implementing a dashboard for pharmaceutical information in Namibia was accepted for oral presentation at the Global Digital Health Forum 2017. The abstract shows how developing countries can improve pharmaceutical services by transitioning from paper-based systems for patient and stock management to electronic systems that facilitate quicker visibility of information on pharmaceutical services and allow managers to make evidence-based decisions.

Partner Contributions

- MoHSS: DSP and Tertiary Health Care and clinical support services and Div:PhSs supported health facilities using the EDT, mEDT, FESC, and dashboard for pharmaceutical services
- MoHSS: Div:PhSs facilitated the pharmacists' forum and reviewed the National Medicines Policy
- WBCG supported the use of the FESC and EDT for ART program implementation
- NAPPA supported the use of the EDT and FESC
- USAID Global Health Supply Chain Program, Procurement and Supply Management organized and facilitated the pharmacists' forum
- UNAIDS supported the HIV situation room for Namibia

Constraints to Progress

Staff changes at SIAPS-supported facilities hindered the continued and efficient use of the electronic tools for inventory and ART patient management. Inefficient use of the electronic tools affects the quality of ART and logistics data that managers use for decision making for pharmaceutical services and the ART program. SIAPS continued supporting the MoHSS to train or enhance the knowledge of nurses, pharmacy staff, and managers on the use of the tools and data generated for decision making.

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

SIAPS collaborated with the MoHSS and partners to implement the differentiated model of care in managing ART patients at high-volume ART sites in PEPFAR priority regions. SIAPS provided targeted, prioritized, site-level support to enhance collaboration with the MoHSS and partners, including clinical and nurse mentors at ART sites, to support health facilities in the Oshikoto, Omusati, and Ohangwena regions to implement CBART, including group ARV refills with associated documentation. SIAPS met with Project HOPE, Tonata PLHIV, and IntraHealth to review progress in the implementation of CBART activities, challenges, and actions for improvement. Eleven pharmacy staff were trained on CBART standard operating procedures for dispensing ARVs to CBART groups. Two CASG leaders were trained on using monitoring and evaluation tools for dispensing to group members at community ARV pick up points. SIAPS worked with partners to clarify and agree on information flow from CASG and Tonata to clinical staff for screening patients and to pharmacies for flagging patients in the EDT. This addressed communication gaps and challenges with varied lists of CASGs, thereby ensuring the accuracy of data. The same process will be followed for adding or removing members on a CASG list.

SIAPS, in collaboration with the MoHSS, NTLT technical working group (TWG), CDC, UNAM-SoP, and NUST, trained 26 participants from the DSP and selected regions on basic principles of conducting operational research, including how to structure and conduct scientific operational research and identify research areas at health facilities where the TWG could support further research efforts.

SIAPS provided technical assistance to the MoHSS AMR TWG in reviewing drafts of the situational analysis of strategies to combat AMR and the multisector action plan for containing the development of AMR in Namibia. The situational analysis and the AMR action plan were finalized and await approval by senior MoHSS managers.

SIAPS supported the MoHSS-NMRC and partners to conduct a multistakeholder meeting on pharmacovigilance and medicine safety. The meeting was attended by other USAID-supported partners, such as KNCV, who have a special interest in tracking TB/HIV medicine adverse events. Participants at the meeting developed a plan of action that included training and increasing the number of adverse medicine event reports submitted to the Therapeutics Information and Pharmacovigilance Center (TIPC). SIAPS provided materials for the September 6–9, 2017, training and supported preparations for a training for regional TIPC focal persons on pharmacovigilance to be held in October 2017. The support included preparing a budget for the

training, selecting materials, and refining the proposal to be submitted to the Global Fund. In addition, SIAPS supported the TIPC to capture the backlog of yellow safety forms in the WHO vigibase for reporting.

SIAPS followed up on the implementation of the mEDT, FESC, and dashboard by training 14 pharmacy staff at nine health facilities. The onsite training and support included updating EDT computers with CBART groups; flagging ART patients for the assigned groups; mentoring pharmacy staff and partners on the efficient use of the EDT and mEDT; conducting ART data quality checks in the EDT and ePMS systems; and orienting pharmacy staff on CBART ARV refills, SOPs, process flows, and M&E tools for group ARV dispensing. SIAPS also provided technical assistance to MoHSS managers in the region to gain access to the dashboard for pharmaceutical information. SIAPS engaged stakeholders and development partners in documenting successes, challenges, and lessons learned from the CBART implementation.

SIAPS supported the TIPC to analyze 415 adverse drug reaction reports for 2016/2017 that were received from all 14 regions of Namibia and a pharmaceutical company. The top 20 suspected products were mainly ARVs, TB medicines, and vaccines. SIAPS is supporting the TIPC on further analyses to establish causality. SIAPS advocated for the adoption of strategies to ensure drug safety in the country's TB and HIV treatment programs, and more than 300 people attended a public lecture delivered by SIAPS at the University of Namibia's school of medicine.

Partner Contributions

- MoHSS: Onandjokwe district hospital (DH), Onyanya health center (HC), Okankolo HC, Onayena HC, Intermediate Hospital Oshakati, Eenhana DH, Engela DH, Odibo HC, Ongha HC, Ongwediva HC, and Oshikuku DH
- MoHSS-NTLP conducted TB and leprosy operational research and revised the TB guidelines
- Project HOPE, Tonata, and IntraHealth supported the CBART implementation
- UNAM-Faculty of Health Sciences held a public lecture on strategies for optimizing patient safety in HIV and TB treatment programs in Namibia
- NUST supported an HIV/AIDS awareness campaign
- MoHSS Kunene regional health management team provided TC training
- Karas regional pharmacist shared experience and results from SIAPS-supported interventions on promoting RMU, preventing AMR, and improving inventory management
- NMRC conducted trainings on pharmacovigilance and medicine safety and a preliminary analysis of adverse drug reactions from spontaneous reports

Constraints to Progress

- There was a communication gap among the CASG, which generates lists of CASG members; the health workers who clinically screen ART patients for their eligibility to benefit from group ARV dispensing; and the pharmacy staff who flag patients in the EDT and dispense ARVs through CASG leaders. This led to data quality challenges. SIAPS coordinated a meeting with implementing partners at which the information flow was clarified and modalities of information sharing were discussed to improve data quality.
- A lack of clinically screened and approved lists of ART patients in CASGs to add to and flag in the EDT for group ARV refills delayed progress in flagging patients for group ARV refills using the EDT. The challenge was discussed in a collaborative meeting among implementing partners.
- The format of screened lists from clinical teams to be used for group ARV refills delayed relevant modifications to the EDT for capturing data on group ARV refills. SIAPS discussed with stakeholders the details needed in CASG lists for flagging in the EDT.
- Active follow up of SMS sites has been inadequate. SIAPS will be visiting SMS sites during the next quarter to ensure that the intervention is implemented effectively and that results are utilized for expanding the service to other sites.
- Limited roll out and use of the mEDT in the Ohangwena region resulted in a number of patients not being captured in primary EDT databases, leading to an ART data gap for the program. SIAPS is working with the regional health management team to improve ART data capture, particularly at ART decentralization sites.

Philippines

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

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

In this quarter, SIAPS continues to work with the Department of Health (DOH) and its bureaus to improve its governance in laboratory, supply chain, and pharmacovigilance (PV) systems.

SIAPS collaborated with the National TB Reference Laboratory (NTRL) Training and Development Unit, the regional NTP coordinators of Central Luzon, Calabarzon, and the National Capital Region to develop the GeneXpert training of trainers (TOT) course and the Understudy Training Program, also for GeneXpert. These are part of the initiative to decentralize laboratory training to build capacity of laboratory managers up to the peripheral level. These trainings will hasten the expansion of rapid TB diagnostic laboratories (RTDLs) using GeneXpert nationwide, thereby increasing access to quality TB diagnosis. This collaboration supports the Philippine Health Agenda through the Philippine Strategic TB Elimination Plan: Phase 1 2017–2022.

As a way to support the NTP's strategy to use GeneXpert as the initial diagnostic test for TB at points of care, SIAPS also provided technical assistance to NTRL in the design and conduct of the regional planning workshop for RTDL expansion and enhancement of EQA implementation. The workshop was attended by NTP and laboratory managers from 17 administrative regions and coordinators from 15 provinces and cities; plans were developed to expand implementation of RTDLs and improve the implementation of the quality assurance program for TB microscopy.

During this quarter, SIAPS worked with NTRL to develop the 2014 NTRL Annual Report; this was finished and submitted to NTRL for dissemination to partners. Aside from this report, SIAPS also finalized the following documents: *Laboratory Information Management and Utilization Package (LIMU)*; *Basic TB Microscopy Training of Trainers Package*; and *the Guide for Establishing the Barangay Health Management Council*.

SIAPS submitted the document entitled *Strengthening Barangay Health Leadership, Management and Governance to Improve TB Control Services* to compete for the National Economic Development Authority Project Implementation Officers' Good Practice Award under Category 1: Strategies in achieving desired sector outcomes. The results of the competition will be released by the last quarter of 2017.

SIAPS provided technical assistance to strengthen the Supply Chain Management (SCM) Governance Framework of DOH Philippines and convened representatives from DOH's Pharmaceutical Division (PD), Logistics Management Division (LMD), Knowledge Management Information Technology Services (KMITS), NTP, and the Family Health Office to help identify roles and responsibilities of an SCM Unit for DOH and other offices involved in SCM and to propose an organizational structure for the SCM Unit. Another consultation

workshop was held to discuss the preliminary draft of the terms of reference for the governance framework, receive inputs from the different stakeholders, and finalize the terms of reference.

SIAPS has supported the PD in organizing and facilitating a meeting with other DOH central offices such as FDA and NTP to discuss the draft administrative order (AO) on integration of PV into the public health programs of the DOH. The AO intends to strengthen the PV of public health programs.

Partner Contributions

- NTRL shared the costs for the two batches of regional planning workshops with a total contribution of PhP 764,310
- Partners helped coordinate meetings for activities by creating the department personnel order (DPO) to invite participants during interviews and the consultation workshop; DOH also provided the venue for the interviews
- PD prepared the initial draft of the AO

Constraints to Progress

- Competing schedules of target participants and partners in regard to participating in SIAPS technical assistance and related activities

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

SIAPS developed and finalized the *PViMS User Guide: Active Reporting of Adverse Events* together with the DOH-KMITS DOH-PD, Lung Center of the Philippines (LCP), FDA, and DOH-NTP. The user guide outlines the key data needed and serves as a reference in reporting an AE through the Pharmacovigilance Monitoring System (PViMS), from making the initial valid report to providing supplementary data required for analysis. The guide features SOPs that will support the PViMS implementation. The DOH secretary has also contributed to the development of the PViMS user guide and institutionalized the document in DOH. DOH has also released a department memo on issuing PViMS user accounts.

Utilizing the PViMS user guide, SIAPS organized and conducted the PViMS training and planning workshop in partnership with the DOH-PD to support the active drug safety monitoring and management (aDSM) implementation. Attended by 63 participants from 9 regions, this is the first forum where participants from different DOH central and regional offices of NTP, PD, and FDA and the 10 sites that are the first implementers of the standard shorter-treatment regimen (SSTR) discussed ways to strengthen the coordination, recording, reporting, and health-workers' capacity building of PV in their respective systems. Each region drafted plans to implement one of the key activities of aDSM.

SIAPS also organized a PViMS analytical training attended by 10 participants from the central PD, FDA, and LCP with a focus on conducting a causality assessment, MedDRA coding, and signal detection using PViMS. SOPs to support PViMS implementation were also drafted by the

participants. Participants also gained understanding of roles and responsibilities of FDA, PD, and LCP in the PV reporting process during this training.

In this quarter, together with PD, KMITS, and FDA, SIAPS provided on-site mentoring on aDSM and PViMS use for 7 out of 10 facilities that are the first implementers of SSTR. During the mentoring, SIAPS and KMITS guided staff on the identification and initial reporting of serious adverse events (SAEs) in PViMS. Because of the on-site mentoring, health staff are ensured to report SAEs experienced by patients under SSTR and bedaquiline (BDQ) in PViMS. All sites visited had successfully encoded PV data in PViMS. PViMS is now used by these facilities in reporting SAEs, the core requirement of aDSM implementation.

In this quarter, SIAPS organized a MedDRA coding basics webinar attended by select staff from the LCP research and training team. The MedDRA webinar will help the research team code AEs caused by BDQ and the nine-month treatment regimen (9MTR) study and will help the training team during the roll-out of SSTR training implementation.

SIAPS also met with the LCP training team at least once a month this quarter to discuss and provide support in implement PViMS in the LCP research team. Minor issues identified on the use of the tool will be addressed on the next minor release of PViMS next quarter. Data that were not initially in the system library were also added. An LCP team data specialist, with assistance from SIAPS, mentored a newly hired LCP staff person on the use of the tool. SIAPS also supported the LCP in monitoring 9MTR and BDQ study data. AE data submitted by the facilities to the research team were verified and corrective action was recommended on inconsistencies.

Another highlight of SIAPS technical assistance to the DOH-KMITS team is completion of the Integrated Tuberculosis Information System (ITIS) and PViMS interoperability functionality; this eliminates double encoding when reporting SAEs as data can be exchanged between the two information systems. ITIS is the national official tool for TB patient management.

SIAPS provided technical assistance in conducting a warehouse management system (WMS) needs assessment for DOH. The technical assistance included on-site visits to multiple DOH-owned warehouses at the central and regional levels to identify critical steps needed to implement an enhanced WMS.

SIAPS has reviewed DOH-PD's existing data collection tool (which is in Google form) and provided recommendations to improve data quality for demand and supply planning. SIAPS has also organized and facilitated a workshop for PD to identify current barriers and facilitators for data management strengthening. Problems, causes, interventions for data management strengthening, and recommended SOPs for monitoring public health programs, specifically on recording and reporting, were identified during the workshop. SIAPS facilitated the problem analysis of data management of public health programs. SIAPS facilitated identification of work instructions to be drafted for the public health pharmacist.

Partner Contributions

- DOH assisted in coordinating the meetings and warehouse visits at the central level and

assisted in arranging the regional warehouse visits by creating the DPO to invite participants; DOH also coordinated the invitation for the consultation workshop

- FDA provided on-site mentoring on PV
- PD scheduled and coordinated PViMS on-site mentoring
- Region V NTP organized the regional PV meeting
- PD coordinated regional PD, regional NTP, and PMDT facility participants for the two batches of PV and PViMS training
- FDA coordinated regional FDA participants for the PV and PViMS training
- FDA evaluated whether SAEs require supplemental data
- DOH-KMITS completed the ITIS-PViMS interoperability in ITIS
- DOH-KMITS provided support in PV and PViMS training
- DOH-KMITS provided on-site and off-site support during the PViMS on-site mentoring
- DOH-KMITS went to Mindanao to provide on-site mentoring of PViMS

Constraints to Progress

- Travel restrictions to Mindanao
- Competing schedules of target participants and partners in regard to participating in SIAPS technical assistance and related activities

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

In this quarter, SIAPS supported the DOH-Logistics Management Division (LMD) in strengthening its capacity in managing warehouse operations. Four key staff from DOH-LMD joined a training course in South Africa September 11-22, 2017, which consisted of classroom training and actual observation of standard warehouses. During the training, the team developed a post-action plan which will be presented to DOH management for consultation. This assistance will help improve current warehouse and distribution operations, encourage improvement and adoption of best practices in warehousing, and help DOH-LMD effectively fulfill the leadership role in warehouse operations management.

Partner Contributions

- DOH helped to coordinate and prepare all requirements and approvals for the training participants

Sierra Leone

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

Overall Quarter Progress

During this quarter, SIAPS/Sierra Leone implemented the following key activities:

- The new Directorate of Drugs and Medical Supplies (DDMS) organogram was approved and is being used as the structural framework to implement the mandate of the DDMS. Based on the organogram, the DDMS has four key functional units: Governance, Products and Technologies, Human Resources Management, and Admin and Financial Management.
- Cascade training on the use of paper-based pharmaceutical/logistics management information system (PMIS/LMIS) tools has been completed with the training of approximately 1,500 peripheral health unit (PHU) staff from all 13 districts.
- SIAPS remained engaged and provided technical input into the process of transforming the National Pharmaceutical Procurement Unit (NPPU) into the National Medical Supplies Agency (NMSA), which was enacted through an Act by Parliament.
- SIAPS advocated for the commencement of the next round of supplies quantification in 2018 with the Free Health Care Forum, and this process is now under way. The process of quantification for antiretrovirals and HIV/AIDS diagnostic agents was finalized with technical assistance from SIAPS. This quantification became the basis for the recently concluded Global Fund Program Continuation Request. As a result, the next cycle of procurement will be more reliable and evidence based.
- The Sierra Leone pharmaceutical dashboard is fully functional, with both the pharmaceutical and continuous results monitoring and support system (CRMS) modules active. The dashboard was demonstrated to key partners, including the USAID/Sierra Leone health advisor. Preliminary steps in interoperability between the dashboard and national DHIS2 platform have been worked out by the SIAPS consultant. Further discussions will be conducted with the Directorate of Planning, Policy and Information (DPPI) to formalize the interface.
- Technical assistance was provided to strengthen and roll out drug and therapeutics committees (DTCs). The electronic treatment register (eTR) to manage patient and product information was revised, and a DTC operational manual was drafted. A hospital DTC profile and checklist for regular monitoring of DTC performance have been drafted and will be used to monitor the current status of DTCs nationwide. In addition to mentorship in the use of eTRs and a rapid review of prescriptions in the first four hospital DTCs, SIAPS conducted a successful DTC progress workshop for hospitals, the DDMS, UNICEF, and WHO to validate the draft documents.
- As a result of SIAPS's holistic pharmaceutical sector approach and the involvement of stakeholders in project activities, the relevance and profile of the sector has gained

recognition. This has resulted in acknowledgement of SIAPS as a resource for supply chain information.

Objective 1: Directorate of Drugs and Medical Supplies' ability to effectively support health facilities is strengthened

After further refinement, the new DDMS organogram and terms of reference were approved and have become the structural framework for implementing the mandates of the Directorate. This is a significant improvement over the prior organogram because the new version incorporates pharmaceutical pillars (governance, capacity, information, finance, and services) and creates units to manage these thematic areas. To further capacitate the Directorate and bring about efficiency and accountability, procurement of basic office IT equipment was finalized, and delivery is expected soon. This is in addition to a comprehensive range of technical reference books that have already been procured.

Largely through SIAPS advocacy, and for the first time ever, the 2017 Mid-Year Health Sector Performance Review of the Ministry of Health and Sanitation (MOHS) created a dedicated forum on the pharmaceutical sector and facilitated a follow-up panel discussion of stakeholders, including civil society organizations. At this forum, one of the influential and highly respected district medical officers publicly declared that based on experience in his district, the SIAPS CRMS activity was the recommended strategy.

The Global Fund gave clearance for the National AIDS Secretariat (NAS) to support cascade training on treatment registers for seven districts that were not included in the first phase of the SIAPS training due to financial constraints. Concurrence by the Global Fund to support this training is an important buy-in and vote of confidence in the SIAPS project activity by a key sector partner, particularly as SIAPS endeavors to leave a solid institutionalization and sustainability plan.

The SIAPS/NAS memorandum of understanding (MoU) expired at the end of August, and a continuation MoU has been signed to extend the collaboration through December 2017. This MoU includes an NAS/Global Fund activity budget to support the implementation of activities complimentary to ongoing USAID/SIAPS work. SIAPS will therefore be able to continue providing technical assistance to the NAS during this period, with activities funded directly by the NAS. This is a major achievement in leveraging resources to continue most of the activities initiated by SIAPS.

Objective 2: Strengthen supply chain management from district to PHU level

Continuous Results Monitoring and Support System

- All 13 districts have now completed two cycles of CRMS. In 10 districts, data have been entered into the CRMS checklist template and uploaded to the dashboard for analysis. Results for these districts can now be accessed on the dashboard. The data entry and uploading process is ongoing in the remaining three districts (Western Area, Kenema, and Kambia).

- Ten districts have undertaken a third CRMS cycle, and the data entry and uploading processes have been completed in seven of those districts and are ongoing the remaining three (Kailahun, Pujehun, and Moyamba). Western Area, Kenema, and Kambia have not yet undertaken a third CRMS cycle.

Quantification

- Advocacy was stepped up regarding the convening of a meeting of the National Quantification Committee so that plans can be put in place to commence the next round of the quantification process for the procurement of Free Health Care supplies for 2018. The planning meeting will be held in October 2017.
- Technical assistance was provided to the Quantification Technical Working Group of the NAS to finalize the quantification of supplies for the next Global Fund grant agreement, which takes effect in 2018.

Drug and Therapeutics Committees

- The revised eTR for patient and product information at the pharmacy level is a more user-friendly data entry and data analysis tool. Beginning in May 2017, the eTR is being implemented in the four first hospitals (Connaught, Ola Doring, PCMH, and Makeni Government).
- A DTC operational manual, profile and performance tracking checklist, and action plan development form have been drafted.
- A successful DTC progress update workshop was conducted for 19 hospitals that are either inaugurated or in the process of inauguration.
- A four-hospital prescription review was conducted as part of the mentorship of DDMS DTC focal staff as well as hospital pharmacists to capture baseline data on key rational medicine use indicators.
- Early DTC successes during this quarter include:
 - Connaught Hospital, where the pharmacy department routinely participates in ward rounds, with the objective of improving pharmaceutical care
 - Makeni Hospital, where the DTC has succeeded in garnering management support to establish a cost recovery pharmacy

NMSA to Replace the NPPU

- SIAPS continued to provide valuable technical input into the NPPU reform process with a thorough review of the Government Gazette Draft Bill and submission of comments to the MOHS on areas for improvement. The country project director also participated in subsequent Parliamentary committee discussions and clarifications on the subject before it was finally passed under an Act of Parliament. The Act is now awaiting Presidential Assent.

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

Launch and Use of Paper-based LMIS/PMIS Tools

- Following a training of trainers on the use of paper-based forms last quarter, cascade training in all 13 districts in the country has been completed. The new treatment registers and report, request, and issue voucher forms have been distributed to all PHUs. It is expected that reporting rates and data quality will improve as a result.

Sierra Leone Pharmaceutical Dashboard

- With most of the structural architecture and some program data entry now completed, progress was made during the quarter to create an interface between the Sierra Leone Pharmaceutical Dashboard and DHIS2. The DPPI granted the SIAPS consultant access (user ID and password) to its website (dhis2.mohs.gov.sl) for the purpose of exploring the feasibility of interfacing. This was an important buy-in of the SIAPS-supported dashboard by the DDPI.

Swaziland

Goal: 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 availability of quality ARV medicines for the management of HIV, as well as the provision of quality pharmaceutical services to people living with HIV, remains the focus of SIAPS' work in Swaziland. The country has taken bold steps to increase access to HIV treatment services and has made significant investments toward achieving the UNAIDS 90+90+90 goals. Recent results of the Swaziland HIV Incidence Measurement Survey have demonstrated that the country is on track to achieve epidemic control by 2020. New HIV infections have halved among adults, while viral load suppression has doubled to 92% since 2011.

SIAPS has contributed to these achievements by supporting the supply chain of HIV programs. SIAPS works closely with the National AIDS Program and the Central Medical Stores (CMS) to monitor stock levels of key medicines and mitigate risks of stock-outs. The national supply of ARV medicines has been maintained at the recommended minimum–maximum levels at all facilities. There was no stock-out of key ARV medicines during this quarter. USAID has purchased some ARVs for adults and children in this quarter, hence avoiding a stock-out.

SIAPS has been working with HIV prevention partners to ensure the availability of male and female condoms. The country has maintained adequate stock levels of male condoms for the general population, while 4 million specialist condoms were received for the key populations program. SIAPS continues to engage with partners to better improve the distribution of condoms to the target market and also ensure that the quality of data is sufficient to support accurate forecasting.

There has been a marked improved in the quality of logistics data from facilities to the central level. SIAPS supported the MOH in conducting a logistics data quality assessment for the HIV, TB, and family planning programs. The reporting rate has improved over the past year and timeliness and completeness of reports have also improved. Site-support visits were conducted in the Lubombo and Manzini regions, in collaboration with CDC-funded HIV programs implemented by ICAP-Columbia University and University Research Council (URC). A total of 40 facilities were visited by a team comprising MOH pharmacists, technical teams from SIAPS, and regional implementing partners.

Financial constraints within government continue to threaten the uninterrupted availability of life-saving health commodities. A commission was established by the honorable prime minister to look at the causes of stock-outs and develop an action plan to address the gaps. The commission identified nonpayment as one of the main reasons suppliers are not fulfilling orders. The recommendations from the report are expected to be implemented in the next 18 months. SIAPS will support the implementation of these recommendations in partnership with local stakeholders and partners.

Objective 1: Strengthen Governance in the Pharmaceutical Sector

SIAPS supported the National Medicines Quantification Committee (NQC) meeting and the Supply Chain Technical Working Group (SCTWG) meetings during this review period. These forums have MOH representatives for the different health programs as well as funding and implementing partners. The purpose of the committees is to effectively coordinate the different supply chain components (product selection, procurement, warehousing, distribution, use) and ensure an uninterrupted supply of life-saving essential medicines. The SCTWG met for the first time this year due to various challenges in securing the date and participation of the core members. SIAPS is the secretariat for the NQC whereas the secretariat for the SCTWG has been transferred to the Clinton Health Access Initiative.

SIAPS has continued with development of the National AMR Containment Strategic Plan 2017-2022. A consensus-building meeting was held with the senior managers of the MOH, Ministry of Agriculture, and Ministry of Natural Resources to gain approval of the draft strategic plan before launching it. The committee has worked on the final comments and will submit the document for editorial and final formatting. The document is expected to be printed and launched in the next quarter.

The process of developing an implementation plan and costing will begin in time before the April 2018–March 2019 government financial year.

Consultations have continued with the Swaziland Public Procurement Regulatory Agency (SPPRA) and the MOH to produce a final version of the *Procurement Procedures Manual*. Progress is at an advanced level. A very productive meeting was held with SPPRA and MOH officials wherein the document was reviewed and approved with minor additions. A final meeting is scheduled in the next quarter to finally adopt the document as the procurement guideline for the MOH. Additionally, SIAPS has been providing support to the MOH Procurement Unit on various procurement tasks, including contract management and filing. Undertakings in this regard included active participation in bid openings and bid evaluations as well as assisting with defining and clarifying specifications of various tenders. Pursuant to supporting the MOH Procurement Unit, two senior members were funded to attend training on public-private partnership (PPP) projects. This was seen as crucial due to MOH's increasing propensity to enter into PPP agreements and the lack of expertise in this area. The training also covered some topics on contract management and other legal considerations in entering a PPP agreement. The training comprehensively addressed the financial, legal, project management, and commercial aspects of PPPs. An additional benefit of this training is that it provided the Procurement Unit with the necessary knowledge and skills to enable them to champion the procurement of PPPs and to advocate for development of policies to govern the same.

Objective 2: Increase Capacity for Pharmaceutical Supply Management and Services

SIAPS has trained 104 health professionals (72 females and 32 males) involved in HIV/TB pharmaceutical management at 88 health facilities in the 4 regions. The participants included pharmacists, pharmacy technicians, and nurses responsible for medicine management. The

trainings included topics on inventory management, ADR reporting, and LMIS for ARV and TB medicines. The training material was developed with MOH pharmacists, who were also the facilitators of this training. This is evidence of SIAPS' efforts in building the capacity of MOH pharmacists to develop and offer these trainings. After this training, participants are expected to improve management of stock in facilities and ordering and reporting to the central level.

In the review period, SIAPS has been able to provide supportive supervision to 14 HIV/TB treatment facilities. During these visits, pharmacy personnel were mentored on good dispensing practice and inventory management.

SIAPS conducted annual supportive supervision visits to 40 facilities in Manzini and Lubombo regions. The purpose of these visits is to monitor the availability of quality pharmaceutical products and provision of effective pharmaceutical services for HIV, TB, family planning, and laboratory. In the Manzini region, 34% of facilities were overstocked and 40% were understocked. This is an indication of weak inventory management at the visited facilities. Only 40% of facilities had adequate storage space for essential medicines.

Objective 3: Address Information Utilization for Pharmaceutical Management Decision Making

LMIS data verification and mentorship support visits were conducted at 43 health facilities across the 4 regions of the country. Of the health facilities visited, 9 were in the Hhohho region, 15 in Lubombo, 6 in Manzini, and 13 in the Shiselweni region. Only 17 HIV treatment maternal-facilities were visited, primarily because they submit their monthly LMIS reports directly to the CMS, whereas child facilities do not.

The results show that health facilities across all programs are faced with LMIS data compilation challenges, ranging from data backlogs and numerous data sources to extract from to lack of capacity to compile LMIS reports. The Hhohho region had a high percentage (75%) of facilities with LMIS data compilation challenges, while the Shiselweni region recorded 50%. In general, the main challenges were backlogs (23%) and lack of capacity to compile an LMIS report and order (18%). Further analysis by type of facility shows that clinics experienced fewer challenges (approximately 40%) compared to hospitals (63%) and health centers (73%). It is also worth noting that, on average, 42 % of all visited health facilities had no data compilation challenges.

In regard to support visits, 75% of hospitals visited and 60% of clinics visited were able to calculate the average monthly consumption (AMC), however, some health facilities in Manzini and Lubombo regions still have difficulties in calculating AMC and quantity to order. SIAPS will continue to conduct on-site trainings, mostly in Manzini and Lubombo regions, to ensure that all health workers involved in LMIS reporting are able to calculate AMC and quantity to order since those variables are critical to inventory management.

SIAPS continued to support facilities in implementing RxSolution for improved inventory management and ensuring an uninterrupted supply of life-saving commodities. A total of 18 sites, including warehouses and health centers, were visited to provide onsite support and troubleshooting. On average, 86% of the visited facilities were found to be using RxSolution

optimally for both stock management and dispensing to patients. Common challenges that were encountered by facilities included user workstations failing to connect to the local server, inconsistent backup operations, and inadequate computer skills of RxSolution users. SIAPS is working with the MOH Health Management Information System (HMIS) Department to rectify the issues at these facilities. SIAPS will continue to mentor health workers on use of the system and also work on having all facilities using RxSolution optimally for stock management and dispensing.

In the quarter, SIAPS also provided refresher trainings for users of the electronic LMIS (eLMIS). This activity was prompted by concerns about the quality of reporting by facilities to the central level. One issue that was flagged was inadequate infrastructure to connect to the Internet. Due to such problems, the sites reverted back to using the manual LMIS form, and as a way of intervention, SIAPS is working with HMIS to rectify Internet infrastructure issues.

SIAPS has contracted a developer to update the eLMIS and include more functionality, such as off-line data entry and new report templates. The eLMIS will also include a reporting function for narcotic medicines that are controlled under the Office of the Chief Pharmacist. The offline functionality for upload/download of Excel template files on the eLMIS has been developed and is still undergoing user testing by the MOH. A task team has been established that will be responsible for creating in-house test cases and also testing the developer's test cases.

Constraints to Progress

As a standing issue in most facilities where the commodity tracking system/eLMIS tool has been piloted and deployed, the issue of Internet (infrastructure, management facilitation of such) has seen some facilities reverting to the manual LMIS forms. Further deployment has been suspended until the offline data entry functionality has been fully developed.

Objective 4: Improve Pharmaceutical Services to Achieve Desired Health Outcomes

SIAPS supported the updating of the ART, TB, and sexual and reproductive health (SRH) supply plans this quarter. This activity was led by eight pharmacists working at the MOH CMS. The ART supply plan requirements amounted to SZL 101,446,845.78 (MOH procurements only). However, government only allocated SZL 68,043,222.11 (67%). This led to the team reducing the quantity of tenofovir + lamivudine + efavirenz 300/300/600 mg tablets to order. Additionally, PEPFAR placed an order for pediatric ARVs and adult second-line medicines worth SZL 5,281,561.48 (USD 406,273.96). This PEPFAR support is in line with the country operational plan FY16. SRH commodities requested SZL 45,407.71 whereas TB medicines requested SZL 1,993,175.42. The sum of SZL 784,500,000 (USD 60,346,154) was spent on ARVs over the past three years.

SIAPS also supported the development of a Global Fund TB/HIV funding request for the period October 2018 to September 2021. The total funding request was USD 47,210,126 and the prioritized above allocation request amounted to USD 57,569,341. A total of USD 1,500,000 was

reserved for deployment of the warehouse management system to hospitals and health centers. This cost included hardware and recruiting additional personnel to support warehouse operations.

There was no reported stock-out of tracer medicines at the CMS. There has been a challenge on the availability of zidovudine + lamivudine 30 mg/60 mg fixed-dose for pediatrics as it was expiring at the end of August. This resulted in patients receiving less than three months of stock dispensed at each visit but there were no treatment interruptions to patients. The problem was resolved when CMS received stock a week before the end of August.

During the reporting period, the Swaziland Health Laboratory Services warehouse ran out of stock of Determine HIV test kits. This was as a result of a delay from the supplier in delivering back orders equivalent to six months of stock. However, health facilities were not significantly affected since the supplier eventually delivered.

SIAPS initiated the 2018/2021 quantification process for ART, TB, SRH, and malaria. The MOH has also requested that the 2018/2021 quantification also include noncommunicable diseases (NCDs). This was a recommendation from the Prince Sikelela report which identified the lack of quantification as one of the reasons for frequent stock-out of essential medicines, including NCD medicines. The process was launched on August 23, 2017, and will run until the end of October 2017. SIAPS will facilitate consultative workshops with stakeholders (clinicians, program leads, M&E officers etc.) to validate all quantification inputs.

In the quarter, SIAPS also supported the Pharmacovigilance Unit in analyzing ADR reports collected from health facilities and identifying a number of ADRs reported and the suspect drugs. The report mainly included the most common medicines reported, total number of ADRs reported, and the course of ADR treatment.

SIAPS also collaborated with URC and Lubombo region's pharmacy personnel to establish the Lubombo Pharmacy Representative Committee which focuses mainly on identifying problems and sharing best practices in the delivery of quality pharmaceutical services. This committee is being piloted in Lubombo and is planned to be introduced in another region soon.

In addition, SIAPS facilitated the National Essential Medicines Committee meeting where participants from the MOH raised important issues about the need to update the essential medicines list and standard treatment guidelines.

Constraints to Progress

The funds disbursement for ARVs procured by the government was insufficient by SZL 33,403,626.67. To address this challenge, supply plan requirements were reduced to cater to available funding. Instead of procuring stock to take the warehouse back to the maximum stocking level, product quantities were reduced by three months of stock.