

Program Review of SIAPS/Swaziland

June 2015



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SIAPS 
Systems for Improved Access
to Pharmaceuticals and Services

Program Review of SIAPS Swaziland

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June 2015



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About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to ensure 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

ART	antiretroviral therapy
ARV	antiretroviral
AWP	annual work plan
CHAI	Clinton Health Access Initiative
CMS	central medical store
EID	early infant diagnosis
EML	Essential Medicines List
FY	financial year
GHI	Global Health Initiative
GKOS	Government of the Kingdom of Swaziland
HMIS	Health Management Information System
IR	intermediate result
LMIS	Logistic Management Information System
LTTA	long-term technical assistance
M&E	monitoring and evaluation
MOF	Ministry of Finance
MOH	Ministry of Health
MRA	Medicines Regulatory Authority
NERCHA	National Emergency Response Council on HIV/AIDS
NHSSP	National Health Sector Strategic Plan
NSF	National Strategic Framework
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PFSCM	Partnership for Supply Chain Management
PMP	Performance Monitoring Plan
PSS	pharmaceutical systems strengthening
SANU	Southern Africa Nazarene University
SCM	Supply Chain Management
SCTWG	Supply Chain Technical Working Group
SHLS	Swaziland Health Laboratory Services
SIAPS	Systems for Improved Access to Pharmaceuticals and Services (Program)
SID	Strategic Information Department
SOP	standard operating procedure
SOW	scope of work
SPS	Strengthening Pharmaceutical Systems (Program)
SPSP	Swaziland Pharmaceutical Strengthening Plan
SRH	sexual reproductive health
STG	standard treatment guideline
TB	tuberculosis
UNFPA	United Nations Population Fund
USAID	US Agency for International Development

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EXECUTIVE SUMMARY

The Kingdom of Swaziland's pharmaceutical services are currently facing various challenges due to weak legislation and a shortage of pharmacy personnel at health facilities. Less than 10% of the 287 health facilities have qualified pharmacy personnel. In addition, facilities in the country are often faced with a shortage of medicines. This may be attributable to a lack of adequately skilled personnel responsible for medicine supply management in the country's health facilities. The warehousing of medicines is centrally managed and distributed to health facilities. The Ministry of Health's (MOH) Procurement Unit manages the procurement of medicines and is responsible for all health goods and services procurements.

Responding to a request from the Government of the Kingdom of Swaziland MOH, USAID Swaziland introduced the Strengthening Pharmaceutical Systems (SPS) Program in 2007, followed by its successor, the SIAPS Program, in 2011. The SIAPS Program, a five-year program, was awarded to MSH from September 22, 2011, to September 23, 2016. Since 2011, USAID Swaziland has supported the Government of the Kingdom of Swaziland MOH through this project, which has grown incrementally in response to MOH'S identified priorities in the pharmaceutical sector. SIAPS Swaziland's support to MOH uses a results-focused pharmaceutical systems strengthening (PSS) approach to address gaps in the country's health system with regard to addressing the HIV and tuberculosis (TB) pandemic.

The goal of the SIAPS Program is to ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. To achieve this broad goal, the program intends to strengthen the pharmaceutical sector by attaining the following five objectives or results:

- Objective 1: Pharmaceutical sector governance strengthened
- Objective 2: Capacity for pharmaceutical management and services increased and enhanced
- Objective 3: Information for decision-making challenges in the pharmaceutical sector addressed
- Objective 4: Financing mechanisms strengthened to improve access to medicines
- Objective 5: Pharmaceutical services improved

SIAPS annual work plans (AWPs) are developed in consultation with local stakeholder and partners, and activities are in line with USAID/PEPFAR Swaziland goals, MOH strategic plans, and SIAPS objectives.

Purpose of the Program Review and Methodology

The focus of the review was on assessing SIAPS Swaziland's role in improving the availability of HIV, TB, and sexual reproductive health (SRH) commodities. The review sought to identify gaps in the technical assistance provided over three years of SIAPS project implementation (October 1, 2011–September 31, 2014). The review findings are intended to

be used to identify the specific areas of focus for USAID/PEPFAR Swaziland. These findings will also be used by SIAPS for work planning for year 5 close-out activities.

The review was undertaken between May and June 2015 and covered the contract performance period from October 2011 to September 2014. The review was carried out throughout the whole country. The review team included Lesley-Ann Nelson from the Partnership for Supply Chain Management (PFSCM) program and Dr. John Lukwago, an independent consultant. The team designed the review around the questions posed in the scope of work (SOW) and used mixed methods for data collection, including key informant interviews using semi-structured questionnaires administered to 32 stakeholders and direct observations undertaken at 16 health facilities.

Most Significant Findings, Conclusions

SIAPS Swaziland's strategic, technical approach and underlying assumptions are plausible, well-suited, and relevant for strengthening the pharmaceutical sector in the context of Swaziland. However, country-level factors like the long legislative processes, restrictive procurement policies, and a high staff attrition rate in public health facilities impede the successful accomplishment of the technical assistance results chain. The review demonstrated the following strengths and weaknesses of the SIAPS technical approach in their main areas of implementation.

Supply Chain

- SIAPS worked with MOH to improve operational efficiency of the supply chain system through supporting forecasting, quantification, and supply planning to estimate financial and commodity requirements for health program delivery. The SIAPS program initially focused its efforts on the HIV program, however, there are still capacity gaps in forecasting and quantification in the family planning and TB programs is not as well built as that in the HIV program.
- SIAPS Swaziland was able to assist the Swaziland Public Health Laboratory Services by providing actual facility consumption data from the Web-based commodity tracking system (overcoming data quality and accuracy issues), which was used to develop and present the 2015/2016 budget request for an estimated \$10.3 million for laboratory commodities.
- Inefficiencies in the procurement of HIV, TB, and SRH commodities were concluded to be the most probable cause of current stock-outs in the country. Stock-outs of certain first-line ARVs at the national warehouse and health facilities were reported, specifically tenofovir 300 mg + efavirenz 600 mg + lamivudine 300 mg fixed-dose combination during quarters 1, 2, and 3 of the period October 1, 2013 to September 30, 2014 (Program Year 3). This fixed-dose combination ARV is used by about 75% of patients on antiretroviral therapy (ART). The findings indicated that, while significant improvements have been made along the medicines supply chain, challenges with the government procurement systems (supplier performance management, financial and budgeting challenges) are largely responsible for the stock-outs of HIV, TB, and SRH commodities at central medical store (CMS) and facility levels.

- The “order and payments” approval processes were found to be complex during procurement of health commodities and products at MOH. These processes were found to require approval or action by stakeholders seated at different Ministries. This contributes to the delayed implementation of assigned responsibilities required to facilitate placing of orders and disbursements of funds for payment of suppliers, thus resulting to inefficient procurements. Additionally, the tendering process was found to be lengthy process, further contributing to the inefficiencies observed in procurement of health commodities and products at MOH.
- SIAPS has supported the MOH Procurement Unit to improve operational efficiencies of the system in a number of ways, including drafting the *Procurement Procedure Manual* and the development of procurement standard operating procedures (SOPs). These documents have not been adopted and implemented.

Training

- Despite large numbers of health care workers who received in-service training in pharmaceutical and supply chain management, there are still gaps at the facilities. These gaps were largely due to a fairly high attrition and rotation of trained staff. However, there are reported improvements in the storage practices at all facilities visited. These achievements resulted from effective supportive supervision, formal trainings, mentorships, and on-the-job trainings.
- SIAPS assisted MOH in establishing a system and developing and implementing tools for supportive supervision and mentorship in pharmaceutical services. These visits are now led by MOH, while SIAPS continues to provide technical guidance and resources, such as transport. In addition, SIAPS has placed four pharmaceutical advisors in the regions in order to strengthen facility supervision and to develop the skills of regional health management teams in medicine supply management and supervision. The MOH has started the recruitment process for two regional pharmacists. This leaves a human resource gap of two regional pharmacists that SIAPS should keep supporting.

Overall, the findings indicate that the program has contributed to the PEPFAR-Government of the Kingdom of Swaziland (GKOS) Partnership Framework Implementation Plan (2009-2013) and the National Health Sector Strategic Plan (NHSSP 2009-2013) by strengthening the national health commodities management system. This has ensured consistent availability of pharmaceuticals through improving availability of logistics information for supply chain decision making and developing the skills of front-line health workers in inventory management practices.

Key Recommendations

- 1) SIAPS Swaziland should continue transitioning the forecasting and quantification of HIV commodities to MOH. Additional effort (training and mentoring) should be made to ensure that the TB and SRH program officers are confident to continue these activities even without SIAPS technical assistance.
- 2) SIAPS Swaziland should continue transitioning governance and policy activities to MOH as the capacity has been sufficiently built within the pharmaceutical department.

- 3) SIAPS, in coordination with the Clinton Health Access Initiative (CHAI), should explore the need for long-term technical assistance (LTTA) at the Procurement Unit and within the Ministry of Finance (MOF). This will address the skills gap in the short term while more long-term measures to solve the human resources constraint are given time to develop results.
- 4) Continue supporting the MOH to build the skills of nurses (clinic supervisors) at the regional level on pharmacy support and medicines supply management.
- 5) Continue working with the Strategic Information Department (SID) to establish a system for information technology (IT) support, especially to facilities with RxSolution, for inventory management. SIAPS should participate in the country initiatives to address IT infrastructure challenges that have potentially affected the optimal functioning of the RxSolution inventory management system.
- 6) SIAPS should facilitate discussions toward the handover of RxSolution software to MOH. The software continues to be used at the warehouses (medicines and laboratory) and health facilities that have the necessary IT infrastructure.

This review report is structured into four main sections, as shown below:

- Section One is the introduction that comprises the overarching purpose of the review and how the findings are expected to be used to inform decisions. This section also describes the review questions and identifies key audiences for this review.
- Section Two describes the SIAPS Swaziland program, the original problem that the program was designed to address, and the underlying development hypothesis, or causal logic of the program.
- Section Three lays out the review methodology that includes the approach to the overall review, data collection methods, selection of respondents, information management, ethical considerations, quality assurance/control processes, and limitations of the review.
- Section Four presents the review, conclusions, and recommendations structured along the key review questions. Annexes are attached to this report including the SOW and questionnaires for this assignment.

INTRODUCTION

The USAID-funded SIAPS Program engaged a review team that included Lesley-Ann Nelson from PFSCM and Team Leader Dr. John Lukwago, an independent reviewer, to undertake a review of its Swaziland program. This program review covers the first three-year period (October 2011-September 2014) of SIAPS Swaziland, a five-year program that focuses on achieving positive health outcomes by ensuring the availability of quality pharmaceutical products and effective pharmaceutical services in Swaziland. The review was conducted between May and June 2015 and this document represents the last deliverable for the program review process: the review report. This section summarizes the program, purpose, and objectives of the review as well as the review questions, and describes the structure and content of this document.

Purpose of the Project Review

The purpose of this review was to ascertain SIAPS Swaziland's progress toward planned results in PSS and place the results in relation to the PEPFAR-GKOS Partnership Framework Implementation Plan (2009-2013), NHSSP (NHSSP 2009-2013) Swaziland National Strategic Framework (NSF),¹ and the PEPFAR Blueprint: Creating an AIDS-Free Generation.² The focus of the review was on assessing SIAPS Swaziland's role in improving the availability of HIV, TB, and SRH medicines and commodities, which is the main outcome of the project as illustrated in the program's Results Framework. The review sought to identify gaps in the technical assistance provided over the first three years of the program. The review findings identify specific areas of focus for SIAPS and PEPFAR in achieving robust pharmaceutical systems that will ensure uninterrupted availability of HIV, TB, and family planning commodities, including condoms. USAID Swaziland/PEPFAR will use the findings to provide recommendations that could inform the SIAPS work plan program year 5/Country Operational Plan 2015.

Specifically, the review had the following objectives:

- To assess the performance and progress toward achieving intermediate results (IRs) 5.1 (i.e., availability of pharmaceuticals for management of HIV, TB improved)
- To determine the extent to which governance, human resource capacity, finance, information management, and service delivery processes contribute to performance and progress toward achieving IR 5.1 (availability of pharmaceuticals for management of HIV, TB improved)
- To assess if the technical and strategic approaches are being implemented effectively
- To provide recommendations and insights that could be used to improve program implementation going forward (i.e., what works and what doesn't)

¹ NSF National Health Sector Strategic Framework, 2009-2013

² PEPFAR Blueprint

Review Questions

The program review sought to answer the following questions:

- To what extent is SIAPS contributing to the availability of HIV commodities at the CMS and facility levels?
- Does the project consistently ensure that the country's quantifiable need for HIV commodities matches the actual demand/requirement?
- What are the current processes and constraints in the procurement of pharmaceuticals?
- How effective are medicine supply chain management (SCM) capacity building activities (both training and mentorship) for ART facilities? In other words, do these activities produce the expected results, and has the scale of SIAPS' implementation been sufficient?

PROGRAM BACKGROUND

Program Context

The Kingdom of Swaziland has a predominantly rural population (77%) of just over 1 million people with an estimated per capita income of USD 2, 280.³ Women of child-bearing age (15–49 years) make up 26.2% of the population while all females account for 53% of the population. According to the Demographic Health Survey (2007), about 60% of the population is aged below 30 years, of which 39.6% are children under the age of 15 years. The largest share of the Swazi burden of disease remains communicable diseases, with HIV/AIDS and TB rates among the highest in the world. According to the Swaziland HIV Incidence Measurement Survey (SHIMS) 2012, the HIV prevalence, in Swaziland, among adults 18-49 years is 31% and the HIV incidence is 2.4%.⁴ Higher prevalence rates were observed among females (31%) compared to males (20%). In 2010, 77,156 people 15 years and older were estimated to be in need of ART treatment and 93,520 were estimated to be in need of ART treatment by 2014.⁵ By the end of 2014, over 105,000 patients 15 years and older were registered as receiving ART treatment⁶ from a total of 133 sites offering ART services⁷.

The 2013 Global TB Report estimated a TB prevalence of 907 for every 100,000 of the population, placing the country amongst the highest burdened countries in the world. In 2013, 6,665 new and relapse cases of TB were notified, translating to a notification rate of 610 per 100,000 population.⁸

Currently, the Kingdom of Swaziland's pharmaceutical service has limitations due to weak legislation and a shortage of pharmacy personnel at health facilities. Less than 10% of the 287 health facilities have qualified pharmacy personnel (pharmacists and pharmacy technicians) and the majority of clinics managing HIV clients do not have dedicated and adequately skilled pharmacy personnel (Service Availability Mapping, 2013).

Medicine stock-out is a common occurrence and this has a negative impact on the country's goals of expanding access to HIV treatment services. The country has developed a decentralization strategy that seeks to ensure that people living with HIV are able to access ART closer to their places of residence. The country relies on foreign suppliers for its essential medicines and laboratory products. The CMS is the main point of receipt, warehousing, and distribution for all essential medicines to be used in the public sector.

The health sector is faced with a severe shortage of human resources across all cadres at all levels of the health system. In terms of human capacity development for health, there are four local training institutions for health professionals, with only two of these institutions training pharmacy personnel at assistant, technician, and pharmacist levels since 2012.

³ Swaziland Demographic and Health Survey, 2007. Ministry of Health

⁴ Swaziland HIV Incidence Measurement Survey (SHIMS) 2012

⁵ Swaziland HIV Estimates and Projections 2010

⁶ HMIS database, 2014

⁷ Service Availability Mapping [SAM]2013

⁸ Swaziland Epi Assessment Report 2014

It was from this background that SIAPS continued on the success of its predecessor programs, the SPS program and Rational Pharmaceutical Management Plus (RPM plus) program, to provide technical assistance to the Government of Swaziland. The mandate of the SIAPS program in Swaziland is to promote and utilize a PSS approach consistent with the Global Health Initiative (GHI), which will result in improved and sustainable health impact. In the first few years of the project, SIAPS support was mainly focused on program implementation for the scale-up of HIV treatment and care services. The SIAPS program ensures the PSS approach is employed to support program implementation. Under this program, country ownership, capacity building, and evidence-based interventions are central in all the interventions. The Swaziland program works through five of the main building blocks: governance, human resources, information, financing, and service delivery.

SIAPS Swaziland

The goal of the USAID-funded SIAPS Program is to contribute to the achievement of health outcomes by assisting countries in improving access to quality pharmaceutical products and the delivery of effective pharmaceutical services. The SIAPS PSS approach includes engaging stakeholders (government, health providers, and community) and encouraging country ownership; building the capacity of local governments and organizations; and improving metrics and monitoring and evaluation to meet disease-specific needs set out in country strategic plans, while strengthening the overall pharmaceutical system.

SIAPS Approach

SIAPS Swaziland’s framework and result areas reflect the dynamic relationships among five health systems building blocks—governance, human resources, information, financing and service delivery, with a pharmaceutical product overlay that guides the technical content.

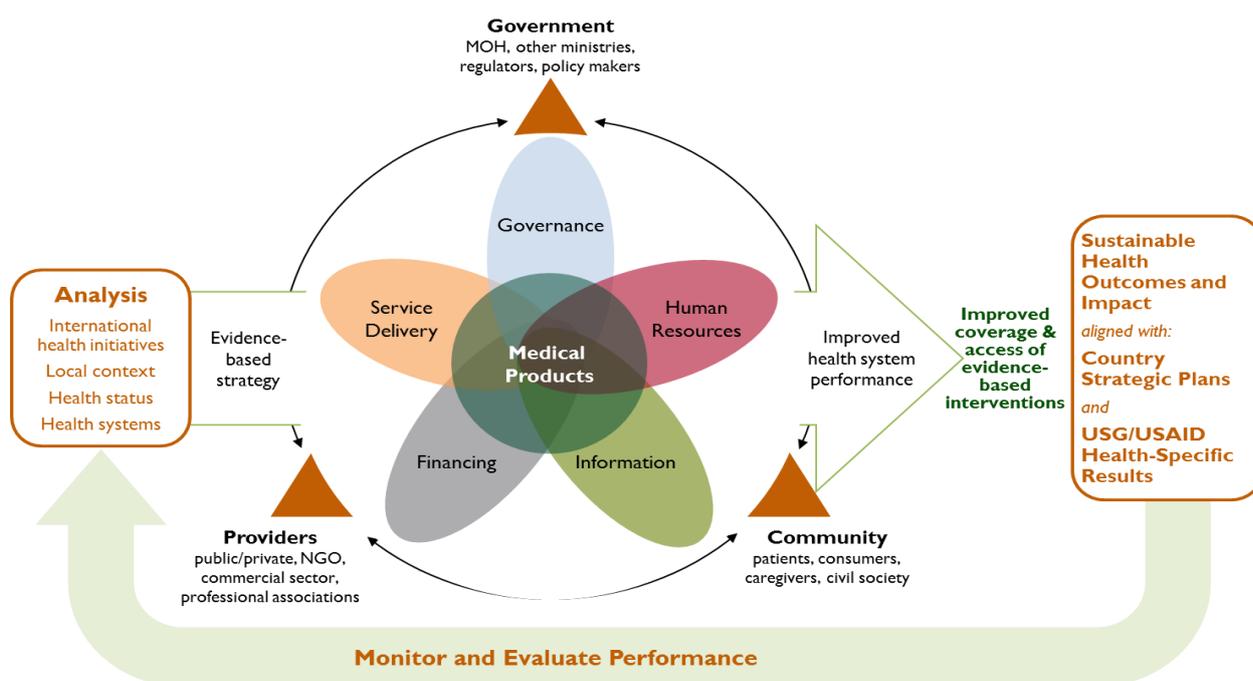


Figure 1. SIAPS PSS approach

To achieve its goal, the program intends to strengthen the pharmaceutical sector by attaining the following five objectives (IRs):

- IR1: Pharmaceutical sector governance strengthened
- IR2: Capacity for pharmaceutical management and services increased and enhanced
- IR3: Information for decision-making challenges in the pharmaceutical sector addressed
- IR4: Financing mechanisms strengthened to improve access to medicines
- IR5: Pharmaceutical products and services improved to achieve health outcomes

Over the period under review, SIAPS implemented a number of strategies and activities toward achieving the IRs above:

- Developing and supporting the implementation and training of health care workers on the Standard Treatment Guidelines/Essential Medicines List (STG/EML)
- Providing technical assistance in the review and advocacy towards the enactment of the Pharmacy Bill and Medicines and Related Substances Control Bill
- Providing technical assistance in the development of a pharmaceutical strategic plan and the implementation of the National Pharmacy Policy (2nd edition)
- Supporting national coordination meetings for PSS
- Promoting an effective procurement practice through providing technical assistance to the MOH Procurement Unit
- Providing technical assistance in reviewing the organizational structure of pharmaceutical services, including the CMS
- Supporting the training and mentorship of health workers on pharmaceutical management of HIV and AIDS, TB, and supply chain management of health commodities
- Supporting the establishment of low- and mid-level pharmacy training programs
- Supporting the development of a comprehensive Logistics Management Information System (LMIS)
- Supporting the implementation of information system tools (RxPMIS, RxSolution, Quantimed, PipeLine[®], Web-based Commodity Tracking Tool) for pharmaceutical and laboratory products
- Supporting the use of manual LMIS tools including bin-cards for stock control at facilities

- Supporting quarterly quantification meetings
- Strengthening the supply chain management including warehousing and distribution of health products for HIV/TB, opportunistic infections (medicines and laboratory)
- Supporting quality assurance of medicines, adherence and adverse drug reaction monitoring at HIV and TB treatment facilities
- Supporting the integration of TB/HIV, HIV/family planning, and opportunistic infection management at facilities

SIAPS implements a comprehensive approach to improving pharmaceutical systems. Capacity building is done through local counterparts to develop strong systems for governance, human resources, information, service delivery, and pharmacovigilance. PSS interventions are expected to interact and lead to increased availability of high-quality medicines and technologies, and ultimately better health outcomes for people living with HIV and TB.

Now in its fourth year, SIAPS Swaziland's support to MOH uses a results-focused PSS approach to address gaps in the country's health system with regard to addressing the HIV and TB pandemic and is aligned to international and local implementation frameworks as described below.

The following priorities are relevant to SIAPS program activities:

PEPFAR-GKOS Partnership Framework Implementation Plan (2009-2013)

- 1) Provide technical assistance and resources to establish and operate quality assurance activities and a Strategic Information Department in MOH
- 2) Provide resources for decentralized service implementation (e.g., renovations, equipment, supplementary staffing, training, and commodities)
- 3) Support SCM and laboratory services for HIV testing and counseling, including early infant diagnosis (EID)
- 4) Support pharmaceutical and laboratory SCM for ART programs, including EID
- 5) Support pharmaceutical and laboratory supply chain management for TB screening
- 6) Provide technical assistance and support for strategies to improve health workforce retention

National Health Sector Strategic Plan (NHSSP 2009-2013)

- 1) Strategic Operational Objective 2.4: Strengthen the national health commodities management system to ensure consistent availability of pharmaceuticals, non-pharmaceuticals, and equipment with required safety, quality, and efficacy standards at all times

- 2) Strategic Operational Objective 2.5: Strengthen the central, regional, and health facilities' capacity to provide appropriate and customized clinical laboratory and blood transfusion services
- 3) Strategic Operational Objective 1.6: Build MOH's capacity at all levels to effectively perform and facilitate health sector policy, planning, and monitoring and evaluation (M&E) functions

***National Multi-Sectoral Strategic Framework for HIV and AIDS 2009–2014
[Thematic Area 2: Treatment, Care, and Support]***

- 1) Strengthen systems, primarily those that address registration, monitoring, and tracking of clients and procurement planning for opportunistic infections drugs
- 2) Improve SCM of HIV medicines and laboratory supplies
- 3) Build capacity by training dispensing and pharmacy personnel
- 4) Improve inventory management of HIV commodities and supplies
- 5) Expand the use of RxSolution for inventory management at treatment sites
- 6) Upgrade the computerized system for patient and drug management at facilities
- 7) Provide adequate, competent, and skilled human resources to provide comprehensive services

REVIEW METHODS

This review was conducted between April 27 and June 12, 2015, and included a desk-based document review, key informant interviews, and health facility observations in Swaziland. Further details on how these methodologies were implemented are described below.

Data Collection Methods

Review of Documents

The consultants reviewed literature from MOH and SIAPS Swaziland. The review focused primarily, though not exclusively, on documents about the project. A document map, linking key documents to the main areas of review, was drafted and information obtained from documents was mapped against the areas of review questions. Key data was extracted to inform analysis. The key documents reviewed were:

- Swaziland Pharmaceutical Strategic Plan, 2012-2016
- Swaziland Pharmaceutical M&E Plan, 2012-2016 (draft)
- National Health Sector Strategic Plan, 2008-2013
- SIAPS Swaziland Strategic Plan, 2012-2016

A complete bibliography of the documents reviewed is attached as Annex D.

Developing Data Collection Guides

Following the review of documents, data collection tools were developed and presented to SIAPS Swaziland program staff for review. The tools were pre-tested and optimized at Mbabane Government Hospital. (Tools are attached to this document as Annex C).

Key Informant Interviews and Facility Observations

A total of 32 key respondents were purposively selected and interviewed. These included SIAPS Swaziland technical staff, staff from PEPFAR Swaziland, MOH (central level), SIAPS-supported health facilities, Swaziland National AIDS Program, National Emergency Response Council on HIV/AIDS (NERCHA), SID, Sexual Reproductive Health Unit, National TB Control Program, CMS, National Laboratory Warehouse, and MOH Procurement Unit. The table in Annex D shows the list of respondents per organization.

Observations were conducted at 16 health facilities. Site selection was based on the classification of "bad performing sites" and "best performing sites." This classification was informed by the following facility indicators, as collected in the different sites for the year ending in September 2014:

- 1) Percentage of stock records that correspond with physical counts for a set of indicator drugs in MOH storage and health facilities (stock card update)
- 2) Percentage tracer commodities within the required min-max values
- 3) Average number of stock-out days for tracer commodities in the last three months

As a result, 16 health facilities (8 poor performing and 8 best performing) were selected to be visited for observations and interviews with key informants during the program review. Attached as annex B is a detailed methodology of how facility observations were conducted.

Quality Assurance, Analysis, and Presentation

At the end of each data collection day, the consultant compiled and summarized the data and expanded the notes into more detailed versions. Missing information or inconsistencies were identified and, where possible, appropriately followed up with key informants within one working day or at a time convenient to the key informant via a telephone conversation.

Qualitative data was analyzed using content analysis.⁹ Data was read and re-read in order to identify emerging themes from the transcripts.¹⁰ All information relevant to each theme was identified and examined using the process of constant comparison, where each item is checked or compared against the rest of the information in order to establish analytical categories.

Typical quotes were also selected and included in this report in order to emphasize responses without losing the original context of the meaning.

Ethical Considerations

Permission to conduct the review and collect data through interviews and observations at health facilities was granted by the Principal Secretary of MOH. Informed consent was obtained from all persons who were interviewed after the goals and objectives of the program review, confidentiality safeguards, and potential risks and benefits were explained. Furthermore, the team provided assurances that the responses to the questions would be utilized for the purposes of the study only. No names of individual informants have been used in this report without their consent.

⁹ Riley, J. (1990). *Getting the Most from Your Data*. London: King's Fund.

¹⁰ Glaser, B.G. and Strauss, A.L. (1967). *The Discovery of Grounded Theory*. Chicago, IL: Aldine.

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This section presents the findings, organized around the three main review questions. The key findings reflect common themes across stakeholders, unless otherwise noted. Drawing upon the framework described in the methodology section, the findings are discussed based on SIAPS Swaziland’s strategic direction.

The basic premise of the SIAPS Swaziland project is the achievement of results in: (1) strengthened governance in the pharmaceutical sector; (2) increased capacity for pharmaceutical supply management and services; (3) improved information use for decision-making in the pharmaceutical sector; (4) strengthened financing strategies and mechanisms to improve access to medicines; (5) improved pharmaceutical services to achieve desired health, which translates into availability of HIV, TB, and SRH commodities at CMS and health facilities.

The review explored the magnitude of impact contributed by each of the SIAPS program objectives to performance improvements and progress toward the program goal. The following questions were asked to measure the attainment of the SIAPS project objectives and intermediate results:

Table 1. Review Objectives and Questions Asked to Measure Attainment of SIAPS Project Objectives and Intermediate Results

Objective/Intermediate Results	Review Question
Improve pharmaceutical services to achieve desired health outcomes	To what extent has SIAPS Swaziland contributed to the availability of HIV, TB, and SRH commodities at the CMS and facility levels?
Strengthen financing strategies and mechanisms to improve access to medicines	Does the program consistently ensure that the country’s quantifiable need for HIV commodities matches the actual demand/requirement?
	What are the current processes and constraints in the procurement of pharmaceuticals
Increase capacity for pharmaceutical supply management and services	How effective are SCM capacity-building activities (both training and mentorship) for ART facilities?

Findings of the review are presented to respond to each of the review question as outlined in Table 1.

Review Question 1: To what extent has SIAPS Swaziland contributed to the availability of HIV, TB, and SRH commodities at the CMS and facility levels?

Overview

- The review analyzed program performance indicators selected to track progress on the achievement of the key outcome of the program (i.e., the availability of HIV, TB, and SRH commodities at CMS and facility levels).

- The comprehensiveness of SIAPS's contribution to the availability of HIV, TB, and SRH commodities in Swaziland would best be demonstrated by assessing the status of achievement of program objectives. To this end, findings related to review questions 2, 3, and 4 also contribute to answering this question.
- In addition, findings related to governance and information systems and how they link to the effectiveness of SIAPS's contribution to the availability of HIV, TB, and SRH commodities at the CMS and facility levels are discussed in the last section entitled Other Findings on Pharmaceutical Systems Strengthening (page 28).

Availability of HIV Commodities

Program indicators selected to track progress on the achievement of the key outcome of the program (i.e., the availability of HIV, TB, and SRH commodities at CMS and facility levels) show that during the period October 1, 2011, to September 30, 2012 (Program Year 1), and October 1, 2012, to September 30, 2013 (Program Year 2), there were no reported stock-outs of the tracer basket of ARVs at the CMS. However at least 15% (133) of facilities had challenges maintaining the required 2–3 months of stock while the central warehouse maintained 6 months of stock (which is between the recommended 4 months minimum and 7 months maximum stock for the CMS). (See Annex E for a list of the tracer basket of ARVs.)

During the period starting October 1, 2013, to September 30, 2014 (Program Year 3), stock-outs of certain first-line ARVs were recorded at the central warehouse and up to 20% (133) of health facilities also reported stock-outs for at least 3 days or more during the same period. Stock-outs were mostly recorded for tenofovir 300 mg + efavirenz 600 mg + lamivudine 300 mg fixed-dose combination. The following measures were reported to ensure patients did not interrupt their treatment during this shortfall in medicines: (1) patients were issued dual combination (3TC + TDF) and single efavirenz 600 mg, and (2) the country also made a decision not to dispense a three-month supply to stable patients during this time. It is typically a normal practice in the country to dispense three months of medicines to stable patients, as a way to reduce patient numbers seen per month by the facility.

Figure 2 below shows the trend of the percentage of health facilities with stock-outs of a preselected group of medicines for three days or more in each quarter of the first three years of program implementation.

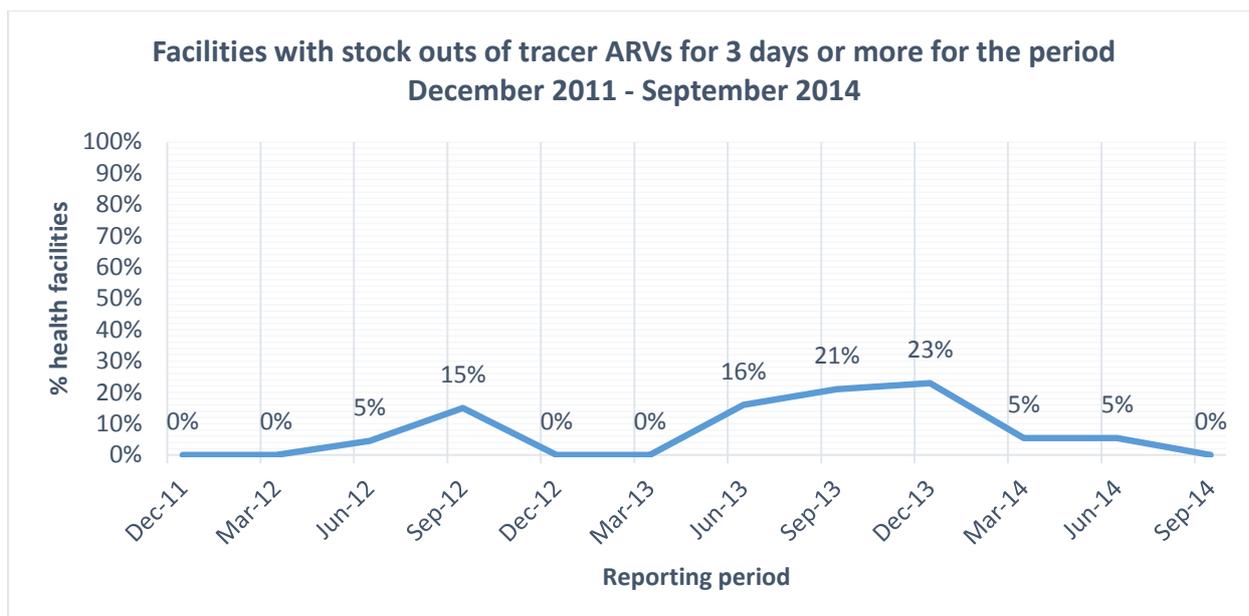


Figure 2. Percentage of supported health facilities with stock-outs of a preselected group of medicines for three days or more in each quarter

Figure 2 shows that during program year 1, there were 0% health facilities that reported stock-outs of a preselected group of medicines for three days or more during quarters 1 and 2. However, stock-outs were reported at 5% and 15% of facilities during quarters 3 and 4, respectively. A similar trend was observed during program year 2, with no reported stock-outs during quarters 1 and 2 and stock-outs at 16% and 21% of facilities during quarters 3 and 4, respectively. Findings revealed that these facility stock-outs were largely due to problems with drug distribution, delayed disbursements of funds to purchase medicines in the first quarter of the new financial year (FY) (April–June), lack of capacity to correctly calculate consumption at facilities, and the introduction of treatment guidelines. Stock-outs at health facilities were also reported in quarters 1, 2, and 3 of program year 3. The problem in quarter 2 of program year 3 was also compounded by the non-renewal of contracts for the pharmacy technicians who were contracted by the Global Fund grant. This left a gap in consumption data reporting and erratic ordering at health facilities.

Interviews revealed that at the facility level, trainings and mentorships were carried out by SIAPS and the procurement system was supported through the review of the tender documents, participation in adjudication of bids for medicines, and support for the recruitment of procurement officers. No stock-outs were reported during quarter 4 of program year 3.

Figure 3 shows the results of SIAPS support to facilities to maintain acceptable minimum and maximum stock levels of tracer commodities.

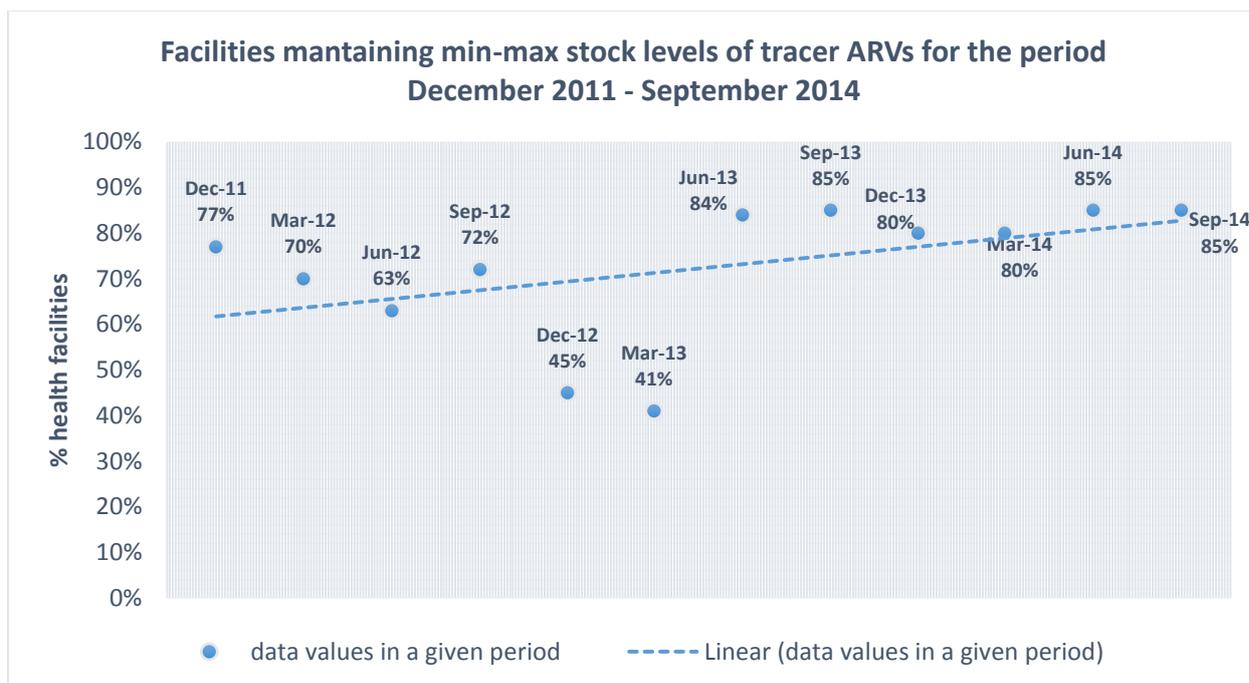


Figure 3. Percentage of facilities maintaining acceptable minimum and maximum stock levels of tracer commodities

Maintaining acceptable stock levels by health facilities for tracer medicines has generally shown improvement during years 1 through 3 of SIAPS program implementation. Figure 1 illustrates an improvement from 77% at the start of the program to a recorded 85% by the end of year 3. However, at some point challenges were recorded during the second year of the program where only 41% of facilities maintained the recommended 2-3 months of stock for tracer commodities. This was mostly due to overstocking of certain medicines. This improvement in stock management and maintenance of the minimum and maximum stock levels by facilities can be attributed to SIAPS capacity-building activities (in-service training and mentoring on the use of the LMIS) that enabled non-pharmaceutical staff to better manage medicines. Additionally at central level (i.e., CMS) however maintenance of the minimum and maximum stock levels can also be attributed to SIAPS capacity-building activities on the use of Pipeline and Quantimed for quantification of commodity requirements.

To determine the extent to which governance, human resource capacity, finance, information management, and service delivery processes contribute to performance and progress toward the program outcome, the review explored the extent to which each of the program objectives has been achieved to date by answering the subsequent questions.

Review Question 2: Does the program consistently ensure that the country's quantifiable need for HIV commodities matches the actual demand/requirement?

Overview

Quantification is a critical SCM activity that links information on services and commodities from the facility level with program policies and plans at the national level. This data is then

used to inform higher level decision-making on the financing and procurement of commodities. The review found that quantification processes supported by SIAPS Swaziland are in line with its strategic objective of strengthening financing strategies and mechanisms to improve access to medicines. SIAPS Swaziland is supporting the Kingdom of Swaziland to strengthen financing strategies and mechanisms for HIV, TB, and family planning programs.

Achievements – Quantification

To improve operational efficiencies in the supply chain system, SIAPS facilitated at least 13 Supply Chain Technical Working Group (SCTWG) meetings to coordinate supply chain activities and to ensure adequate availability and efficacious distribution of HIV and TB commodities. In an effort to ensure that the country's quantifiable need for HIV, TB, and SRH commodities match actual requirements, SIAPS facilitated annual quantification exercises to quantify the demand for HIV, TB, and SRH commodities. SIAPS further facilitated at least 36 quarterly supply planning sessions to ensure necessary adjustments are made to forecasted quantities and that these align with the available budget committed by the government.

- SIAPS Swaziland worked with MOH to estimate financial resource requirements for pharmaceuticals through forecasting and the supply planning and financial gap analyses since program year 1. SIAPS also supported the Swaziland Health Laboratory Services (SHLS) annual forecasting exercise for 2015/2016 during program year 3. Furthermore, SIAPS Swaziland was able to provide actual facility-consumption data from the Web-based commodity tracking system (overcoming data quality and accuracy issues), which was used to develop and present the 2015/2016 budget request for an estimated \$10.3 million for laboratory commodities
- In addition, SIAPS Swaziland worked with the United Nations Population Fund (UNFPA) and helped MOH to cost its needs for reproductive health commodities (including condoms). This was done for the period of January 2014 to December 2018. This was part of planning the transition of condom procurement from UNFPA to MOH. These costs will be used in planning, mobilizing, and securing financial resources for the procurement period and for establishing estimated procurement requirements in the short term. Interviews revealed that these quantities were assessed for both public and private sectors.
- Quantification of HIV commodities for the period of April 2015 through March 2017 was reported to be carried out with minimal support from SIAPS. This is an indication that SIAPS has successfully built adequate forecasting capacity within the ARV warehouse. Figure 4 below illustrates the resource requirements forecast for ART for the period of 2012 to 2014.

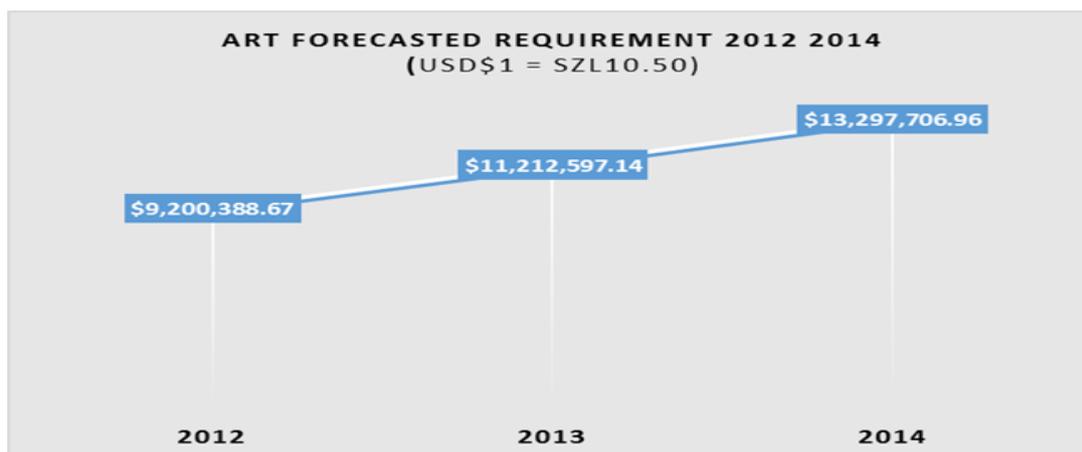


Figure 4. Forecasted budget requirements for ARV medicines for 2012-2014 financial years

Interviews revealed that the ARV warehouse was able to estimate financial resource requirements for HIV commodities with minimal support, as illustrated in the quote below.

“...this time around we did the quantification largely on our own....SIAPS had minimal input as we have over the past years been mentored to do it...in addition we review the forecasts quarterly and update the corresponding supply plan...”

Key informant – CMS

SIAPS provided assistance to SHLS to advocate for the timely release of their government budget allocation. As a result, funding was available to procure laboratory commodities and pay for services for the period of June 2014 through December 2014.

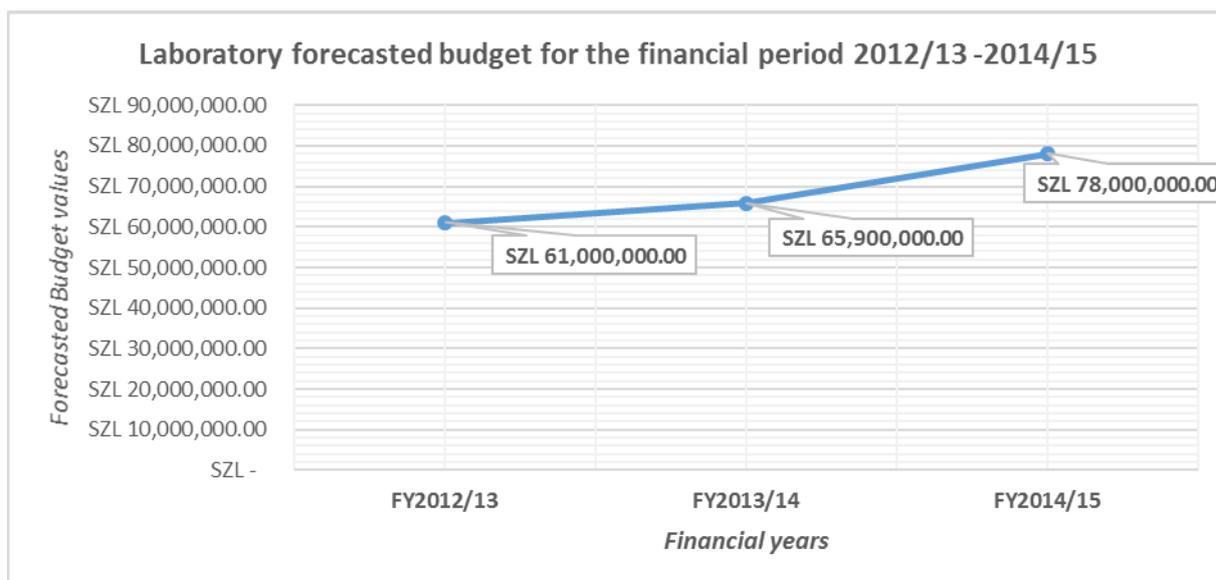


Figure 5. Forecasted budget requirements for laboratory commodities for 2012/13-2014/15 financial years

Gaps and Challenges – Quantification

Interviews with key program staff revealed that because the SIAPS program initially focused on the HIV program, capacity to conduct quantification in the SRH and TB programs is not as well built as in the HIV program. This is illustrated by the quote below.

“...SIAPS is supporting us with quantification...we have received trainings in the use of Quantimed¹¹ and Pipeline¹²....we are all trying to be like the ART program...”

Key informant – TB Program

Conclusions and Recommendations

SIAPS has been providing support and continues to build capacity of the pharmacists at CMS on quantification. Overall, there have been three annual quantification exercises for each of the programs for HIV, TB, SRH, and laboratory commodities. The results of these quantification exercises are currently being used to help maximize the use of available resources for procurement, advocate for mobilization of additional resources where needed, and inform manufacturer production cycles and supplier shipment schedules.

Through practice, the pharmacists have been able to gain skills in quantification. The pharmacists are now confident to lead the activity with SIAPS providing technical assistance.

Based on review findings and conclusions, it is recommended that:

- 1) SIAPS Swaziland should continue the transitioning of forecasting and quantification of HIV commodities to MOH. Additional effort (training and mentoring) should be made to ensure that the TB and SRH program officers are confident to continue these activities, even without SIAPS technical assistance.
- 2) MOH should be supported to develop a refresher training model to ensure that members of the subcommittees include pharmacists from CMS who have been enabled through trainings on forecasting and the forecasting tools (Quantimed and Pipeline) and that they receive annual re-training if necessary.
- 3) A strengthened LMIS also contributes to greater accuracy and increased ability of the forecasting team to perform effective monitoring. MOH should be supported with monitoring forecasts and consumption patterns. Monitoring consumption patterns using the Web-based tool for commodity tracking will provide real-time estimates of stock status at the health facilities. This, in turn, will improve forecasts by enforcing a periodic review of data quality, promoting prompt delivery of data, and supporting collection of the complete data needed for decision-making.

¹¹ Pipeline is an electronic tool used in supply planning for health commodities, including laboratory supplies.

¹² Quantimed is a Microsoft database tool used in quantification of medicines – ARVs, anti-TB medicines.

Review Question. 3: What are the current processes and constraints in the procurement of pharmaceuticals?

Overview

Procurement is the process of turning forecasts and supply plans into purchased products that are delivered to a warehouse. Typically divided into several steps, procurement focuses mainly on the management of the tendering, bidding, and contracting process. Procurement processes supported by SIAPS Swaziland are in line with its strategic objective of strengthening financing strategies and mechanisms to improve access to medicines. Resource mobilization, maximizing efficiencies, resource pooling, payment, and purchasing are vital aspects of pharmaceutical system financing that are integral to ensuring sustainable access to medicines and other health technologies.

At the start of SIAPS, financing mechanisms in the country were characterized by the following:

- MOH was just establishing its procurement system as part of national government procurement reforms. The Procurement Unit was established under the Office of the Principal Secretary, tasked with the responsibility to coordinate and implement all procurements in MOH, including medicines, hospital equipment, staff uniforms and furniture, security services, and catering services.
- Crown Agents was contracted to develop the procurement capacity of the newly formed unit, but their contract with Swaziland ended in 2011/2012. This left only four insufficiently-skilled officers in the unit tasked with facilitating the procurement of all goods and services required by the health sector
- There was a reported decline in financing of the Swaziland Health Service from SZL 941 610 867 in FY 2009/2010 to SZL 782 161 535 in FY 2010/2011. This decline was reportedly due to the prevailing economic situation at the time.
- Approximately 35% of the MOH budget was being spent on medicines, medical supplies, and devices

In terms of targets, it was envisaged that by 2016, there would be a strengthened health commodity procurement system.

Achievements – Procurement

SIAPS took over the technical support of the Procurement Unit from Crown Agents, UK. The support was initially focused on reorganizing the unit and later building the capacity of the officers in executing their functions and roles in procurement and supply management of health commodities. SIAPS further endeavored to assist the Procurement Unit in improving operational efficiency; in this regard the review established that the following has been achieved:

- SIAPS drafted the Procurement Procedure Manual (2012) for the MOH Procurement Unit. This manual was based on the Procurement Act 2012 with special considerations for medicine procurement. SIAPS support to the unit included developing Procurement SOPs and providing on-site mentorship of procurement unit officers on good procurement practice standards. SIAPS also developed the guidelines for the standardization of laboratory equipment, beginning with chemistry platforms.
- Two MOH officers (principal procurement officer, deputy director of Health Services) were sponsored to attend Bid Adjudication Training in Pretoria, South Africa. This training has helped the MOH in improving the tender evaluation process for health products.
- SIAPS assisted in developing the job descriptions and the recruitment for the positions of Principal Procurement Officer and Senior Procurement Officer.
- SIAPS participates in the MOH tender adjudication committee, appointed by the Principal Secretary for Health and chaired by the Director of Health Services.

SIAPS instigated and led the concept of supplier management at the laboratory, which included development of indicators to monitor supplier performance. This was later transposed by CHAI into a Microsoft Excel spreadsheet for ease of tracking the indicators monitoring supplier performance.

Figure 6 displays the flow diagram of the national tender process that is carried out annually between October and March.

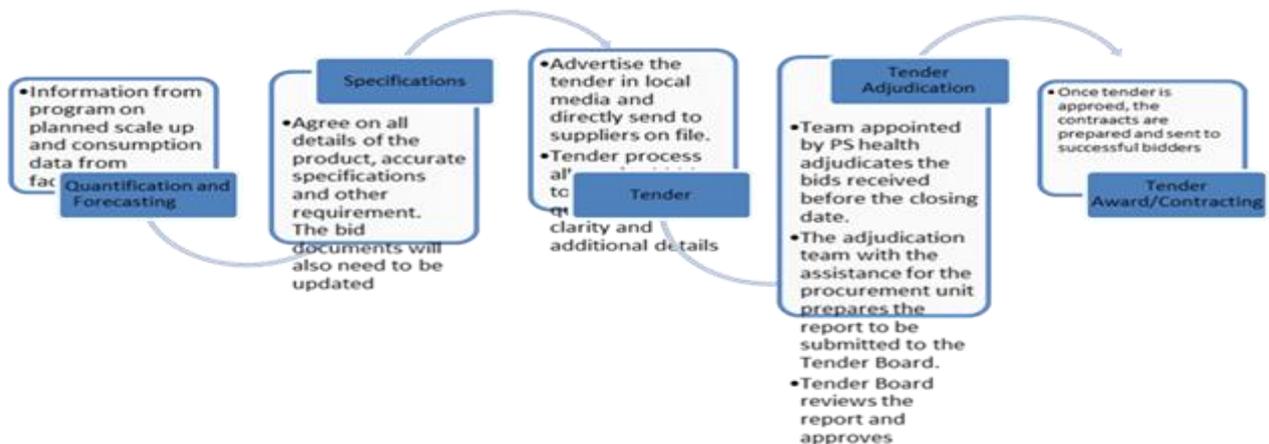


Figure 6. Cycle of the national tender process

Gaps/Challenges – Procurement

Tendering Process

In regard to tendering, the review established the following:

- All government procurements are handled by one centralized Government Tender Board. This Board is housed in the MOF and chaired by the Principal Secretary for Finance. Interviews revealed that the tendering process is very lengthy and, for the

case of procurements for the health sector, only one representative for MOH sits on the tendering committee. However, the evaluating committee for medicines, medical supplies, and laboratory commodities is appointed by the Principal Secretary for Health and it is comprised of senior pharmacists (Mbabane Government Hospital, Raleigh Fitkin Memorial Hospital, Good Shepherd hospital, CMS), pharmacists (ARV procurement and supply management, quality assurance pharmacist) medical officers (Mankayane Government Hospital, Mbabane Government Hospital), and nurses (Mbabane Government Hospital).

- Tenders are advertised in the local media and carry a requirement that tenderers should submit their bids in local currency (or the South African rand).
- Suppliers who have previously submitted bids are sent the tender notice via e-mail. This means new bidders outside Swaziland have no other opportunity to get the tender notice unless they have a local representative in Swaziland. It was reported that most tenders are awarded to local distributors, as these are benefiting from a 15% preference margin against foreign suppliers. The consequence of this is that manufacturers no longer tender due to the fact that the tenders have historically been awarded to a local distributor, with little regard to price. This situation is likely to contribute to the high prices paid by the government for priority health products.

Contracting Process

It was reported that order and payment approval processes were very complex, with every step of the process requiring approval or action from a different office within CMS or a different ministry altogether.

Order Approval Process

Interviews revealed that the ordering process typically starts at CMS after a thorough documentation and reflection on the stock holding for the different health products and medicines as they show/register in RxSolution. The senior pharmacist at CMS will check the order quantity against issue history to ensure that the quantity ordered does not exceed the recommended minimum and maximum levels, as well as checking current stock on hand and any pending orders. It is often the case that order requisitions are submitted without any due diligence being exercised, which results in CMS either over- or under-ordering. Once the order requisition has been confirmed by the senior pharmacist at CMS, the CMS accountant generates the purchase order, captures it on the Government Commitment System based on the available funds, and prints the order for signing by the Principal Secretary for Health. Once signed, the procurement unit shares orders with the contracted suppliers and receives order acknowledgement via e-mail. Interviews revealed that there were a number of issues that lead to inefficiencies in the ordering process, as revealed by the quotes below:

“...for example, it takes a long time to place an order right from the CMS, the Procurement Unit, and within MOH headquarters.....this delay is partly due to the paper-based approval system in place. This system requires that signed papers have to be moved from one office to another and this can take time...”

Key informant – Procurement Unit

“...in the past the issue of lack of clarity of available budget was a major stumbling block, as order requisitions would be delayed by having to be sent back to CMS so that orders are aligned to available funds...this has since been resolved by having regular meetings between CMS and accounts...”

Key informant – Procurement Unit

“There were delays due to rejected requisitions at MOH headquarters due to price discrepancies caused by laboratory stores’ lack of updated tender documents from Procurement...”

Key informant – Laboratory Stores

Receipt of Delivery

Interviews revealed that, currently, a Microsoft Excel spreadsheet is used to track orders from the receipt of orders at the Procurement Unit to completion of orders at the warehouse. This spreadsheet has been developed with support from CHAI based on the supplier management indicators that were compiled by SIAPS. The spreadsheet also provides details for every order by item and is able to track all the steps of the procurement. Expected date of arrival of the order and any delays are communicated with the CMS. Procurement relies on various sources to supply them with data to capture within the spreadsheet.

An analysis conducted by the Procurement Unit in FY 2004/2015 revealed that suppliers (Mylan Pharma, Abbot Laboratories, and Aurobindo Pharma) had poor rates of delivering on time. Average order lead times exceed the contractually agreed upon 42 days, placing a number of drugs at risk of stock out. Interviews further revealed that, although the supplier’s delivery performance is captured on an Excel spreadsheet, there is no true performance assessment done and no penalties issued to suppliers who do not perform per their contract, irrespective of the fact that there is a penalty clause in the contracts. Interviews revealed that a number of other inefficiencies at receipt of commodities have been identified and solutions have been devised and are being implemented. This is illustrated in the quote below:

“...in the past complaints regarding quantity, quality/damages on the shipment were not communicated to procurement in time...now a formal complaint form has been introduced by the Procurement Unit and should be filled by warehouse personnel and sent to Procurement Unit to follow up with the supplier...”

Key informant – Procurement Unit

“There was a lack of information regarding shipment deliveries and back order status...the Procurement Unit currently shares updates at the supply chain meeting on unfulfilled orders, and expected time of arrival for shipments...”

Key informant – Laboratory Stores

Payment Approval Processes

Interviews revealed that the payment process typically starts at CMS with the accountant. Once the invoice, delivery note, and delivery report are received and found to be complete, they are sent to the CMS accounts department for verification. They are then forwarded to MOH headquarters for batching. At MOH, the principal secretary signs off on the voucher and it is then sent to treasury (MOF) for checking and subsequent payment of the supplier.

An analysis conducted by Procurement Unit in FY 2004/2015 revealed that payment lead times routinely exceed contractually allotted times (30 days). This analysis revealed that, because of historically poor payment practices, Abbot had placed a credit limit of SZL500 000 for Swaziland. The review further revealed that an SZL 500 000 order for Kaletra® had been placed on July 1 and was received on October 1, but payment had yet to be completed as of December 2014. As a result of these outstanding payments, two outstanding orders of SZL 1 Million and SZL 50 000 for Kaletra® had not been fulfilled by Abbot.

Another payment case reported was that of efavirenz 200 mg. Ranbaxy Pharmaceuticals, the supplier of this product, was not paid on time in FY 2013/2014 and therefore subsequent orders were not fulfilled. Ranbaxy agreed to deliver efavirenz 200 in January 2015; however, due to stock shortages, an emergency order for efavirenz 200 was placed with a non-contracted supplier. The cost of the emergency efavirenz 200 mg was 86% higher than the tendered price, hence an additional cost of about SZL 1,500 000.

Conclusions and Recommendations

In view of the findings, it is apparent that inefficiencies in the procurement of HIV, TB, and SRH commodities are the most probable cause of current stock outs in the country at the moment. The findings show a rather long tendering process in addition to order and payment approval processes that are unbelievably complex. Every step of the process requires approval or action from a different stakeholder and each step can serve as a bottleneck, resulting in delays. CHAI is currently taking the lead in supporting MOH in resolving many of the bottlenecks in finance and has designed various tools to help manage processes to ensure that no information is lost between orders, delivery, and payment.

Based on review findings and conclusions, the following recommendations are made:

- 1) SIAPS Swaziland should critically look at their mandate and available in-house technical resources with regard to supporting procurement. MOH should further establish a mechanism to facilitate collaboration from implementing partners SIAPS and CHAI in the provision of technical support to the Procurement Unit. Even though this review did not assess the technical assistance provided by CHAI, findings indicate that the Treasury/MOF is a key institution that may need support. SIAPS could make quick improvements to the procurement process by supporting MOF.
- 2) Explore building upon the tools developed by CHAI and develop a more integrated IT system to be implemented in each functional business area in order to address the lack of automation, reporting, and controls. This would include a Warehouse Management System, Forecasting/Ordering System, and Procurement and Contract Management System. RxSolution is currently being used for inventory management in Swaziland. In South Africa, RxSolution is currently been used by the National Department of Health to manage the entire procurement process, from generation of the purchase order to payment of the supplier.
- 3) To accurately create orders, submit orders to suppliers, and track and trace orders, additional resources will be required. Currently, one person manages the entire process. SIAPS, in coordination with CHAI, should explore the need for LTTA at the Procurement Unit and within MOF. Embedding LTTA within the unit or ministry

would assist in quickly setting up procedures and processes, which would lead to an efficient procurement system for medicines.

Review Question. 4: How effective are SCM capacity building activities (both training and mentorship) for ART facilities?

Overview

Sustainable access to medicines and other health technologies critically relies on the availability of skilled workers to provide and manage pharmaceutical services and systems. SIAPS Swaziland is supporting the Kingdom of Swaziland to engage in comprehensive workforce planning to address challenges such as increasing demands, resource constraints, and health workforce policy reforms. To this end, one of the key objectives of the SIAPS Swaziland program is to enhance the capacity for pharmaceutical supply management and services.

At the inception of SIAPS, the capacity for pharmaceutical supply management and services was characterized by the following:

- Pharmacy practice was faced with a shortage of human resources. To address this, MOH had just developed the task-shifting implementation framework for all health cadres. The framework still needed to be used to develop training programs for the mid-level pharmacy cadre, training material for in-service training of the non-pharmaceutical services cadre, and job aids to support the work in pharmaceutical service delivery.
- The offices of the chief pharmacist (MOH headquarters) were vacant.
- The necessary incentives for retaining government health staff (overtime payment, standby allowance) had not been effected for pharmaceutical personnel.
- Health facilities had a tendency to over-stock medicines in fear of stock-outs. However, this resulted in wastage of medicines due to expiry and damage. It was further reported that poor storage practices and requisitions at the facilities resulted in wastage of medicines.

In terms of targets, it was envisaged that by 2016 there would be adequate numbers of pharmaceutical personnel (pharmacists, pharmacy technicians, and pharmacy assistants) trained and placed in public health facilities. Additionally, health workforce policy reforms would have taken effect, putting incentives into place to attract and retain pharmaceutical personnel in the public sector.

The review established that at the ART facilities a number of capacity building interventions had been carried out. These included in-service trainings and support supervisions of personnel responsible for pharmaceutical services. In regard to in-service training, the review found that the content of the trainings spanned inventory management tools (electronic and manual), logistic management information systems (electronic and manual), evolving

national HIV and TB guidelines, good pharmacy practice, counselling skills, adherence monitoring, pharmacovigilance, and drug interactions.

Table 2 below illustrates the achievements made by the program, as measured by the corresponding performance monitoring indicators.

Table 2. Performance of Selected Capacity-Building Indicators^a

Performance Monitoring Plan (PMP) Indicators	Life of Project Target	Achieved by September 2014
Number of persons trained in pharmaceutical management	1200	728
Percentage of districts that are PEPFAR supported with documented routine supportive supervision visits to 75% of ART sites in district	100%	100%
Number of health facilities applying an approach for participatory and continuous performance improvement	24	4
Number of health facilities mentored on supply chain and pharmaceutical management	150	133

^aBaseline estimate is zero (December 2011).

Interviews revealed that in spite of the huge number of persons trained in pharmaceutical management, there are still gaps at the facilities. These gaps are largely due to a fairly high attrition rate of trained staff. This is illustrated in the quote below:

“...SIAPS has supported us with in-service training, however, rotation and promotion of health workers within the health system results in losses of the gains made...”

Key informant – MOH

Interviews further revealed that the rotation and promotion of health workers intra- and inter-facility led to some facilities having stock control management issues (i.e., stock cards were not routinely being updated whenever there was stock movement, some items in the store did not have stock cards, some commodities were overstocked, there was mixing of expired medicines with the rest of the stock). Medicine storage issues were also prevalent (i.e., boxes of medicines were scattered all over the dispensary, some of the medicines in the dispensing area and adjacent storeroom were exposed to direct sunlight). In some instances, dispensing practices were such that patient information was not sufficient. In other instances, facilities that had received tools like RxSolution lacked continued support. With these issues in mind, MOH requested that SIAPS support it with conducting support supervision to enable mentorship of staff at the facilities.

The review sought to determine the effectiveness of both the in-service training and mentorship at the facilities. To this end, observations and interviews were conducted at selected health facilities in order to determine the extent of change in practices as a result of the in-service training and mentorship. The findings are detailed below.

Storage Practices of HIV, TB, and SRH Commodities

The findings suggest that overall there has been tremendous improvement in the storage practices at all facilities that were visited. These achievements can be attributed to effective

supportive supervision, formal trainings, mentorships, and on-the-job trainings offered jointly by MOH and SIAPS. The following captures some of the observations made during field visits:

- There was no water or moisture on the floor, no water marks on the walls, no water stains on the ceiling, nor wet or damp boxes/cartons
- Commodities were arranged in the storeroom in a logical manner—by product type or alphabetically by generic/brand name
- Commodities with an earlier expiration date were stored on top of and/or in front of products with a later expiration date

Interviews revealed that storage space was one of the major challenges still facing the supply chain. It was further reported that part of SIAPS mentorship support is geared toward optimization of available space at the facilities. Most facilities visited lacked temperature control equipment, fire safety equipment, and cold chain equipment. Lack of funds was the main reason cited for not having the equipment, as illustrated by the quote below:

“...from our training we know we need the equipment...in fact, we made a requisition for this equipment but we are still waiting.....”

Key informant – Health Facility

The review team selected two ARV combination medicines (lopinavir/ritonavir 200/50 mg tablets and tenofovir/lamivudine/efavirenz 300/300/600 mg tablets) and anti-TB medicine (rifampicin/isoniazid/pyrazinamide/ethambutol 150/75/400/275 mg fixed-dose combination) for visual inspection. The review found that at all the selected health facilities, all of these medicines had their outer packaging intact (i.e., not torn, dented, broken, or damaged by water or insects). The individual packaging and tablets were in good condition (i.e., not crumbled, crushed, broken, discoloured, expired, or having an unusual odor). The dates of manufacture or expiration were listed clearly on the carton boxes and the lot numbers were visible and listed clearly on the carton or box.

Figure 7 illustrates a before-and-after intervention visual of a health commodities storeroom for one of the ART facilities that was supported by SIAPS.



Figure 7. Phocweni Military Health Services storeroom before (left) and after (right) SIAPS training and mentorship interventions

Inventory Management Practices

Overall, the findings suggest that stock cards were being used at all facilities visited. However, the quality of information recorded on the stock cards varied from facility to facility. One key issue identified was the incompleteness of the cards, as some facilities had stock cards that were not updated the last time products had been received, issued, or dispensed. Additionally, there were a couple of facilities that had the current stock on hand, but the balance was not equal to the physical count. Review of program documents revealed that SIAPS-supported supervision and mentorship contributed to the improvement of stock card update, with rates increasing from 44% to 83% in 6 months during year 3 of program implementation. In addition, the percentage of stock records that corresponded with physical counts for a set of indicator drugs in MOH storage and health facilities improved from 45% to 68% in the first year of SIAPS implementation to in year 3 of SIAPS implementation.



Figure 8: SIAPS Senior Technical Officer mentoring a nurse on inventory management at a health facility

Other achievements, with regard to SIAPS Swaziland support to MOH in implementing the task-shifting framework, are:

- Training programs leading to the award of a certificate in pharmacy and diploma in pharmacy were developed and accredited by the Southern Africa Nazarene University (SANU). A total of 44 students have been enrolled into the certificate program since 2012, and 15 students (9 females, 6 males) have qualified as pharmacy assistants. The certificate program was upgraded to the diploma in program year 3. Currently, there are 57 students registered for the diploma in pharmacy program in the 2014/2015 academic year.
- SIAPS is concurrently working with MOH to advocate for enactment of the Pharmacy Bill 2014, which will officially recognize pharmacy assistants as one of the cadres in the delivery of pharmacy services at lower level facilities. This cadre has been approved for registration by the Swaziland Medical and Dental Council, the registration body for most health professionals, including pharmacy personnel.
- SIAPS Swaziland is working with MOH and the Ministry of Public Service to establish posts for this cadre within the public service.
- With regard to in-service training, the program trained 728 health care workers in pharmaceutical and SCM during the first 3 years of SIAPS program implementation. This trained group was comprised of 269 males and 459 females.
- During project year 3, SIAPS also facilitated an LMIS workshop for 20 Elizabeth Glaser Pediatric AIDS Foundation nurse mentors to equip them with inventory

management skills in support of the prevention of mother-to-child transmission and pediatric HIV programs.

Performance on Selected Indicators

Table 3 illustrates the achievements made by the program as measured by the corresponding performance monitoring indicators.

Table 3. Performance of Selected Training Indicators^a

PMP Indicators	Life of Project Target	Achieved by Sept 2014	Comments
# of pharmaceutical management training programs accredited by relevant governing body	2	2	Certificate and Diploma in Pharmacy accredited
# of pre-service health professional training curricula developed or reformed to address pharmaceutical management topics	2	2	
# of new health care workers who graduated from a pre-service training institution or program as a result of PEPFAR-supported strengthening efforts, within the reporting period, by select cadre	22	15	9 females, 6 males graduated from certificate in pharmacy program at SANU
# of SIAPS-supported local institutions or organizations providing training or technical assistance in pharmaceutical management	2	2	SANU, Swaziland Christian University
# of students registered for the midlevel pharmacy training program	60	58	

^aBaseline estimate (December 2011) was zero for all PMP indicators.

Gaps/Challenges

The support supervisory and mentoring teams are composed of SIAPS and MOH staff. Facilitation for transport to and from the facilities was largely contributed by SIAPS, as illustrated by the quote below:

“...we have limitations with transport to and from the facilities, so we depend a lot on SIAPS for transport and other facilitation.....”

Key informant – MOH

In addition, SIAPS Swaziland has placed four pharmacy technical advisors at the regions in order to strengthen facility supervision. It was reported that MOH has started the recruitment process for two regional pharmacists. This will still leave a gap of two regional pharmacists that SIAPS has to keep supporting.

Conclusions and Recommendations

The findings indicate that in-service training and mentorship have been effective in building the capacity for pharmaceutical management at the health facilities, especially in light of the frequent rotation and promotion of health workers intra- and inter-facility. The capacity of

MOH to continue these activities is constrained by a lack of regional pharmacists and transport facilitation for the resource persons from the CMS and the Health Management Information System Department (HMIS) of MOH.

Based on the review findings and conclusions, the following recommendations are made:

- 1) Support MOH to advocate for enactment of the Pharmacy Bill 2014, which will officially recognize pharmacy assistants as one of the cadres in the delivery of pharmacy services.
- 2) Continue supporting MOH to build the skills of nurses at the regional level in pharmacy support and supply management.
- 3) SIAPS should continue to strengthen site-level frontline workers in SCM to facilitate ownership and sustainability of SIAPS interventions. The site supervision visits must, however, be handed over to MOH with minimum support required to conduct them.

Other Findings on Pharmaceutical Systems Strengthening

Strengthening Governance in the Pharmaceutical Sector

Overview

Good governance is essential to protecting pharmaceutical systems from corrupt practices and mismanagement, which can be costly for governments, institutions, and individuals, and which can lead to diminished access to medicines or the consumption of adulterated, ineffective, or incorrect products that are harmful to patients. This review found that at the inception of SIAPS, governance of the pharmaceutical sector was characterized by the following:

- The Swaziland health sector had developed its pharmaceutical policy, which delineated priority interventions to strengthen the pharmaceutical sector.
- The pharmaceutical sector had no strategic plan to guide the implementation of the policy.
- The SPS program (the predecessor program) had embarked on a process of developing the National STG/EML for Swaziland, but this had not been operationalized.
- The Pharmacy Bill and the Medicines and Related Substance Control Bill were still being reviewed by the Attorney General in the Ministry of Justice. These still had to go through the second stage of review and then be submitted to Parliament for debate and later enactment. These two pieces of legislation would replace the Pharmacy Act of 1929 and the Opium and Habit-Forming Drugs Act of 1922 that guided the pharmaceutical sector which contain outdated prescripts for pharmacy practice and medicine regulation.
- There was no Medicines Regulatory Authority (MRA), which exposes the country to a proliferation of poor quality medicines.

In terms of targets, it was envisaged that by 2016, there would be improved medicines policies, legislation, regulations, norms, and standards. These would be supported by a fully functional Pharmacy Council and MRA.

Achievements

With regard to strengthening of the legislative framework, the review established that the following has been achieved:

- The program engaged a Medicines Policy Advisor to lead the advocacy activities toward the enactment of the two pharmaceutical bills. This was necessary because the Office of the Chief Pharmacist, which was supposed to lead this activity, was vacant. Cabinet approval was sought and received in February 2012. The bills were gazetted in May 2014 as the Medicines and Related Substances Control Bill no. 7 of 2014 and the Pharmacy Bill no. 8 of 2014

During project years 1 through 3, SIAPS worked with the Office of the Director of Health Services and the MOH legal advisor on legislative activities. With regard to implementing robust guidelines and SOPs, the review found that:

- SIAPS Swaziland supported MOH to officially launch the STG/EML of common medical conditions in the Kingdom of Swaziland.
- SIAPS Swaziland supported the distribution and implementation of the STG/EML to all health facilities in the country working with the Essential Health Care Package coordinating office.

With regard to supporting the implementation of coordination and advocacy efforts that promote more informed decision-making and improve the efficiency of planning, allocation, and mobilization of government and donor resources, the review found that the following has been achieved:

- SIAPS Swaziland is supporting the SCTWG and working with implementing partners to plan scale-up activities to ensure commodity security, as well as advocating for allocation of sufficient resources.
- SIAPS helped establish the National Essential Medicines Committee, which is mandated to improve transparency and accountability in the coordination, supply, and rational use of essential medicines. SIAPS also supported the committee's first meeting.
- SIAPS assisted with developing and finalizing guidelines for listing medicines and registration of importers.. Furthermore, SIAPS worked with MOH to alert importers of pharmaceutical commodities to register. As a result, five importers registered and provided the lists of over 6,700 medicines they import into the country. This was one of the first steps toward preparation for the establishment of the MRA.
- SIAPS is collaborating with Swaziland's MOH to advocate and prepare for the enactment of two bills that provide for the establishment of the first-ever MRA and a Pharmacy Council to regulate the pharmaceutical sector. As a result of two workshops

that informed 31 parliamentarians of the content and importance of the draft bills that replace existing legislation dating back to 1929, the draft legislation has headed to the House of Assembly debate stage. These workshops were coordinated by MOH and SIAPS.

Promoting good governance in the pharmaceutical sector requires long-term strategies through which best practices and evidence-based decision-making are actively integrated into pharmaceutical systems. In this regard, the review established the following:

- SIAPS supported MOH in the development of the Swaziland Pharmaceutical Strategic Plan (SPSP) 2012-2016, which sets out objectives, strategies, activities, and expected results after the implementation of all identified and prioritized policy components. The SPSP was developed through a widely consultative approach to build consensus and foster ownership among the different stakeholders. In addition, SIAPS supported the costing of the SPSP implementation plan to facilitate resource planning, allocation, and mobilization by MOH. SIAPS also provided assistance in the pharmaceutical services baseline survey that was conducted to inform and facilitate the M&E of the SPSP implementation. The SPSP provides the overall roadmap for pharmaceutical services development in the health sector and has been approved by the Cabinet.

Performance on Selected Indicators

Table 4 illustrates the achievement made by the program as measured by the corresponding performance monitoring indicators.

Table 4. Performance of Selected Indicators Regarding Strengthening Governance

PMP Indicators	Baseline estimate, Dec 2011	Life of Project Target	Achieved by Sept 2014
Number of pharmaceutical sector legislations (or regulations) developed or updated and submitted for adoption	0	2	2
Number of pharmaceutical management guidelines, lists, and SOPs developed (or updated) and submitted for adoption	0	15	14
Number of civil society organizations that participated in and/or monitored pharmaceutical management decision-making and operations in the past year	5	16	13
Number of functioning committees, structures, or related bodies with measures in place to provide oversight and promote accountability in the pharmaceutical sector	5	21	15
Number of national pharmaceutical sector strategic plans developed (or updated)	0	1	1
Percentage of health facilities with available STGs	0	100%	92%

Gaps and Challenges

Review findings point to the complexity of the Swaziland government legislative process in the enactment of the bills as a major challenge. This is illustrated by the quote below:

“...it has taken longer than we anticipated getting the bills enacted. The suspension of parliament and the various parliamentary processes have caused a delay on our side.....this means the Medicines Regulatory Authority and a Pharmacy Council to regulate the pharmaceutical sector are still a long way off.....”

Key informant – MOH

Interviews with key program staff revealed that, following enactment of the bills into law, the following regulatory preparatory activities have to be supported: draft regulations for Pharmacy Bill (Act), draft regulations for the Medicines and Related Substances Control Bill (Act), develop MRA implementation plan, establish interim MRA, register importers, conduct pharmacy inspections to check for counterfeit medicines and good pharmacy practice (e.g., removal of expired medicines so that expired medicines are not dispensed to the public), advertise regulation and development guidelines for donations and medicines importing guidelines.

Conclusions and Recommendations

Good governance is essential to protecting pharmaceutical systems from corrupt practices and mismanagement, which can be costly for governments, institutions, and individuals, and which can lead to diminished access to medicines or the consumption of adulterated, ineffective, or incorrect products that are harmful to patients.

Based on the review findings and conclusions, the following recommendations are made:

- 1) SIAPS Swaziland should continue transitioning strategic planning to MOH as the capacity for strategic planning has been built within the pharmaceutical sector.
- 2) There is a need to support MOH to advocate for enactment of the Pharmacy Bill 2014 which will officially recognize pharmacy assistants as one of the cadres in the delivery of pharmacy services.
- 3) Once the bills have been enacted, MOH should be supported with the following:
 - a) Capacity building of Pharmacy Council and MRA
 - b) Implementation of regulations for the Pharmacy (Act) and Medicines and Related Substances Control (Act)
 - c) Development of SOPs and guidelines for the functioning of the Pharmacy Council and MRA

Addressing Information Challenges in the Pharmaceutical Sector

Overview

SIAPS Swaziland is supporting the Kingdom of Swaziland in building capacity for the aggregation, analysis, presentation, and dissemination of the information to support evidence-based decision-making.

This review found that at the start of SIAPS, the availability and use of information was characterized by the following:

- There was poor pharmaceutical information accessibility and use for decision-making, leading to poor planning in pharmaceutical and supply management. The MOH SID still needed support to ensure maintenance and effective use of tools, such as RxSolution, in the country.
- Tools like RxSolution, RxPMIS/APMR, Quantimed, and PipeLine were still not integrated into the government's national plans for HMIS.

In terms of targets, it was envisaged that by end of program year 5, 100% (150/150) of health facilities would be utilizing consumption data to inform decision-making for procurement of HIV, TB, and SRH commodities; 100% of ART-supported facilities would be maintaining the acceptable minimum-maximum stock level of the tracer ARV commodities; and the SID would have sufficient capacity building to maintain the established systems and tools.

Achievements

With regard to resolving challenges facing informed decision-making challenges in the pharmaceutical sector, the review established that the following has been achieved:

- SIAPS Swaziland has supported the implementation of RxSolution software at 42 sites (ART sites and national warehouses). In addition, the store module of the software has been implemented at national warehouses and five hospitals for the day-to-day management of stock and stock status, and issue reports are being generated with the tool. SIAPS continues to work with the local MOH team in building their capacity to support the users of the RxPMIS and RxSolution.
- SIAPS Swaziland has supported the development and implementation of a Web-based Commodity Tracking System (<http://www.lmis.org.sz>) at the national level and manual LMIS forms at facilities to track consumption of TB, HIV, malaria, SRH, and laboratory commodities. This has resulted in improved ARV and laboratory reporting rates (figure 8). The data collected through the LMIS forms is needed to inform product consumption and address confounding factors during quantification.
- Interviews with MOH staff revealed that, in collaboration with SIAPS, MOH staff conduct quarterly joint supportive supervision visits to target health facilities in order to assess the pharmaceutical system's performance in the use of data and information, as well as timely and accurate data reporting. It was further revealed that these supervision visits have been pivotal at ensuring holistic improvements in pharmaceutical services and supply chain management services, i.e., dispensing, medicines use, and inventory management.

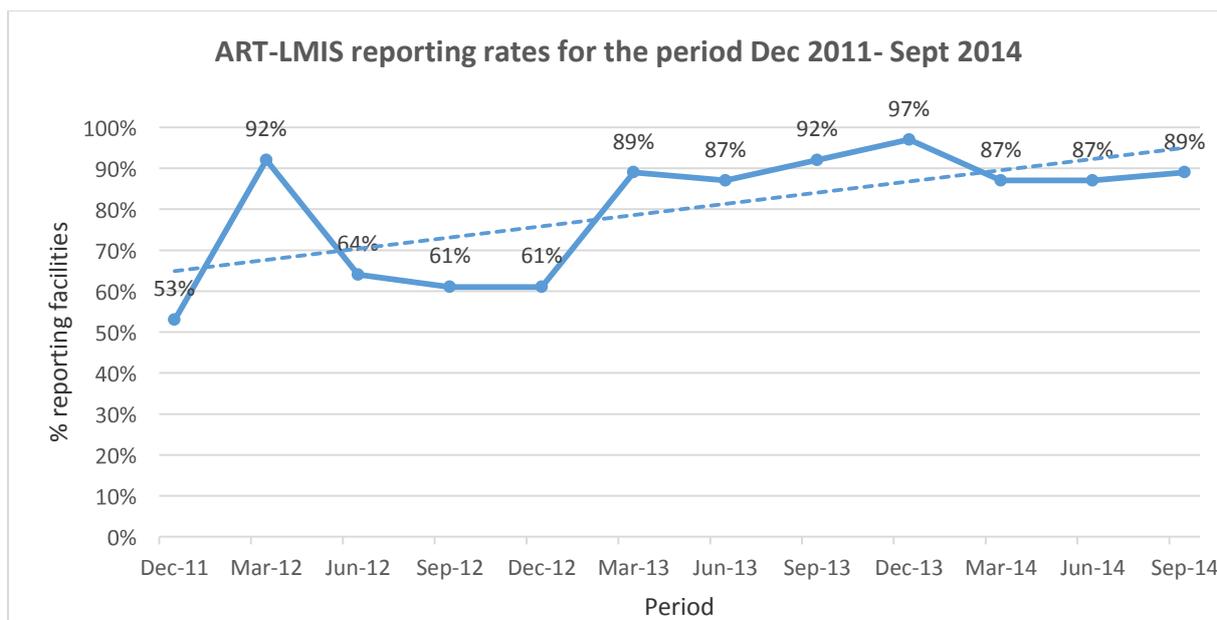


Figure 8. Percentage of ART reporting facilities, December 2011 to September 2014

Performance on Selected Indicators

Table 5 illustrates the achievements made by the program as measured by the corresponding performance monitoring indicators.

Table 5. Performance on Selected Indicators to Improve Information Systems

PMP Indicators	Baseline estimate, December 2011	Life of Project Target	Achieved by September 2014
Percentage of stock records that correspond with physical counts for a set of indicator drugs in MOH storage and health facilities	45%	100%	60%
Percentage of health facilities that completed and submitted an LMIS report for the most recent reporting period	54%	100%	89% (n=133)
Percentage of health facilities that used consumption data to inform ordering at last assessment	37%	100%	100% (n=133)
Established functioning system for requesting and receiving pharmaceutical sector information	2	3	3
Number of health facilities that are using country-appropriate tools for reporting logistics and patient data	97	150	133
Number of health facilities that have implemented electronic systems to document and report on specific component(s) of the pharmaceutical system	36	39	39

Gaps/Challenges

While most health facilities had RxSolution software installed, many were no longer using it. The few facilities that were still using it were not using it optimally (that is, not using all the

primary modules such as stock ordering, receipt and issues, and dispensing). A number of issues were reported to be hindering the use of RxSolution at the health facilities, including the following:

- Many of the computers on which the software was installed have since been used for other recreational purposes, like storage of music and videos, leaving little or no memory space on the computer to enable the smooth operation of the RxSolution software.
- Many of the staff who were originally trained have since left the pharmacies of health facilities due to frequent intra- and interfacility rotations and staff promotions.
- The capacity of the current support supervision team from MOH SID and SIAPS was not sufficient to support the RxSolution software.

Interviews with MOH officials revealed that support for the RxSolution software lay with SIAPS. The purpose of the Web-based commodity tracking system was to enable real-time visualization of stock on hand all over the country. However, this system was currently only installed at the national level. This means that all health facility reports have to be entered manually once they are received at the national level. This implies that, currently, the information available on the commodity tracking system is not real-time data since health facilities have a history of late reporting. It was revealed that inadequate IT infrastructure at the facilities was the main reason that the commodity tracking system was still being implemented at the national level. This is illustrated by the quote below:

“...we have limitations with IT infrastructure at peripheral health facilities...many of the health facilities have very unreliable Internet. It would be difficult to operationalize and maintain this software...”

Key informant – MOH

Conclusions and Recommendations

Sustainable access to medicines and other health technologies critically relies on evidenced-based pharmaceutical policy, plans, supply chain systems, and pharmaceutical services. These in turn rely on the availability of quality pharmaceutical information.

In view of the findings and conclusions, the following recommendations are made:

- 1) SIAPS Swaziland should work closely with SID to facilitate the transitioning of RxSolution software to MoH. Transitioning of the system should be a priority for facilities that have the necessary IT infrastructure. RxSolution is likely to be sustainable at these sites because most have a robust IT infrastructure and have been able to implement this system successfully with limited troubleshooting challenges.
- 2) SIAPS should advise MOH on options for inventory management of medicines and laboratory commodities. This is necessary since Swaziland has embarked on a process to redesign the patient management information systems, hence the need for an inventory management system that will be interoperable with the new patient information system.

- 3) SIAPS should assist in developing the skills of the SID team on troubleshooting and system support for RxSolution.

ANNEX A. SCOPE OF WORK

FOR SIAPS SWAZILAND MID-TERM PROGRAM REVIEW BY USAID SWAZILAND/PEPFAR

MANAGEMENT SCIENCES FOR HEALTH
SEPTEMBER, 2014

USAID Swaziland/PEPFAR: Natalie Kruse-Levy, Country Director
SIAPS Swaziland: Kidwell Matshotyana, Country Project Director
Time frame: March, 2015

I. Background

The goal of the USAID-funded Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to contribute to better health outcomes by assisting countries to improve access to quality pharmaceutical products and effective pharmaceutical services. Consistent with US Global Health Initiative (GHI) principles, the SIAPS approach includes engaging stakeholders and encouraging country ownership; building the capacity of local governments and organizations; and improving metrics and monitoring and evaluation to meet disease-specific needs set out in country strategic plans, while strengthening the overall pharmaceutical system.

Now in its third year, SIAPS Swaziland's support to the Ministry of Health uses a results-focused pharmaceutical systems strengthening (PSS) approach to address three key gaps in the country's health system with regards to addressing the HIV and TB pandemic:

1. Increased demand for HIV commodities due to increased burden of new HIV infections
2. Weak capacity for pharmaceutical systems management

SIAPS is expected to implement a comprehensive approach to improving pharmaceutical systems. This includes strengthening the capacity to procure and distribute high-quality medicines and health technologies. Capacity building is done through local partners to develop strong systems for governance, human resources, information, service delivery, and pharmacovigilance. PSS interventions are expected to interact and lead to increased availability of high-quality medicines and technologies, and ultimately better health outcomes for people living with HIV (and TB). The SIAPS/Swaziland program strategy is depicted in the Results Framework (See Appendix).

As MSH has been informed of a pending external mid-term evaluation of the global SIAPS program, USAID Swaziland/PEPFAR will conduct an internal program review that is focused on assessing SIAPS Swaziland's role in improving the availability of HIV medicines and related medical devices (Sub-Objective 5.1).

II. Purpose of the program review

The purpose of this program review is to ascertain SIAPS Swaziland's progress towards planned results, and place the results in relation to the Swaziland National Strategic Framework (NSF)¹ and the PEPFAR Blueprint: Creating an AIDS-Free Generation.² The availability of HIV medicines and technologies is therefore a critical component to this mandate. The review is expected to be completed by the end of March 2015 and USAID Swaziland/PEPFAR will use the findings to provide recommendations that could inform SIAPS Work Plan FY 2015/Country Operational Plan 2015.

III. Objectives of the review

The program review will focus its scope on core activities that contribute to Sub-Objective 5.1.

1. To assess the performance and progress towards achieving Sub-Objective 5.1 (i.e., results)
2. To determine the extent to which governance, human resource capacity, finance, information management, and service delivery processes contribute to performance and progress towards achieving sub-objective 5.1
3. To assess if the technical and strategic approaches are being implemented effectively
4. To provide recommendations and insights that could be used to improve program implementation going forward (i.e., What works and what doesn't?)

IV. Program review questions

It is expected that the Review Team will be informed by empirical evidence, and will identify information sources and standards of evidence.

The following questions will be finalized by USAID Swaziland/PEPFAR's Program Review Team Leader, in consultation with stakeholders and team members.

1. To what extent is SIAPS contributing to the availability of HIV commodities at the central (CMS) and facility levels?
2. Does the program consistently ensure that the country's quantifiable need for HIV commodities matches the actual demand/requirement?
3. How effective are Supply Chain Management (SCM) capacity building activities (both training and mentorship) for ART facilities? In other words, do these activities produce the expected results, and has the scale of SIAPS' implementation been sufficient?

V. Methodology

The following methodology will be used to conduct the program review:

1. Desk review of key program documents (for illustrative documents, see Section VIII)
2. Key informant interviews
 - May include staff from: Ministry of Health, SIAPS technical program, SIAPS-supported facilities, Central Medical Stores, USAID Swaziland/PEPFAR. To be finalized by Review Team, in cooperation with SIAPS. Logistical support will be provided by the SIAPS/Swaziland office.
3. Observational site visits
 - The Review Team will visit SIAPS-supported facilities to gather observational (and potentially recorded) evidence of program results.
4. The Review Team, in consultation with the SIAPS M&E Unit, should consider whether other methods may be valuable and possible with existing resources. These may include focus groups or a stakeholder satisfaction survey.
5. A data analysis plan should be developed as appropriate for each methodology's constraints and the final report is expected to be completed in line with international standards and should reflect responses to program review objectives and spell-out actionable recommendations.

VI. Team composition and timeline

The Review Team shall consist of 3-4 experts/consultants to be determined by USAID Swaziland/PEPFAR and will be led by a program evaluation expert with PSS experience. Previous experience undertaking evaluations of a USAID-funded program is preferred. The Team Leader will be supported by consultants with expertise in health systems and supply chain of pharmaceuticals in the context of Swaziland. The consultants shall have considerable experience in supporting or managing a health-related project at the national level.

Task	Responsibility	Timing
Finalization of SOW	USAID	February 27, 2015
Assemble Review Team	Swaziland/PEPFAR	March 06, 2015
Program review	Review Team	March 27, 2015
Data analysis and report writing		April 30, 2015

VII. Deliverables

1. Methodology description with detailed timeline, sampling strategy, interview and data collection instruments, and draft outline of the report

2. Data analysis plan
3. Draft Report: Prior to departure, the Team Leader will submit a draft report to SIAPS Swaziland
4. Final Report: After the Review Team departs, SIAPS Swaziland will provide comments on the report within five days to the Team Leader. The Team Leader will submit the final report to SIAPS Swaziland not more than 3 weeks later upon receipt of the comments.

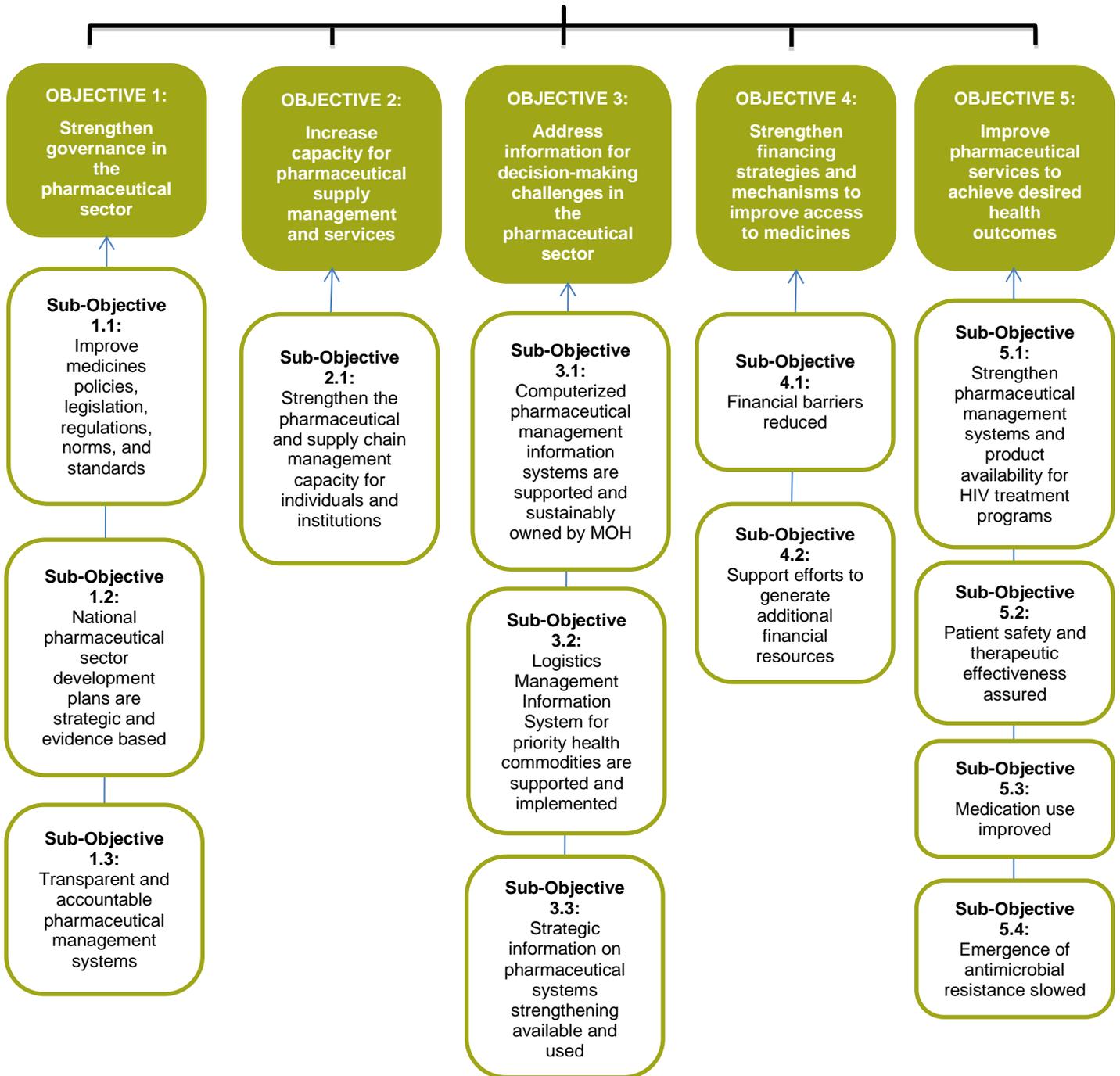
VIII. Key program documents

The following will serve as supporting documentation for the review:

- Swaziland Pharmaceutical Strategic Plan 2012-2016
- Swaziland Pharmaceutical Monitoring and Evaluation (M&E) Plan 2012-2016
- SIAPS Swaziland Strategic Plan 2012-2016
- SIAPS Swaziland Performance Monitoring Plan (PMP)
- SIAPS Swaziland annual work-plans FY2012, FY2013, FY2014, FY2015
- SIAPS Swaziland Country Data Dashboards
- Quarterly reports submitted to USAID Swaziland/PEPFAR and USAID, Washington, DC
- SIAPS Swaziland Results Dashboards for Project Year 3
- SIAPS Swaziland summary presentation prepared for the SIAPS Global Mid-Term Evaluation
- PEPFAR Blueprint; AIDS-Free Generation
- PEPFAR/GKOS Partnership Framework
- GHI strategy for Swaziland
- SAPR & APR, Country Operational Plan
- ARV Forecasting 2011--2013, 2014--2016
- Reproductive Health Commodities Quantification 2013-2018
- LMI Warehouse optimization analysis
- Active surveillance for HIV/TB (protocol)
- Others as requested, or provided for additional support

ANNEX B. SIAPS SWAZILAND RESULTS FRAMEWORK

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



ANNEX C. METHOD FOR SELECTION OF HEALTH FACILITIES

Health facility observations and interviews were conducted at 16 SIAPS-supported facilities (6 hospitals, 4 health centers, 6 clinics).

The criterion for site selection was based on the classification “**poor performing sites**” and “**best performing sites**” This classification was informed by the following facility indicators as collected in the different sites:

1. % of stock records that correspond with physical counts for a set of indicator drugs in MOH storage and health facilities(stock card update)
2. % tracer commodities within the required min-max values
3. Average number of stock-out days for tracer commodities

Under each of these classifications, selection of sites reflected representation of the following categories; facility type (hospital, health center, clinic) and facility ownership (government, mission, and private).

As a result the following sites were selected and visited.

Poorly Performing Sites		
Hospitals	Health Centers	Clinics
Mbabane Government Hospital	Sithobela Health Centre	Sigcineni Clinic
Raleigh Fiktin Memorial Hospital	Mkhuzweni Health Centre	Lobamba Clinic
Manzini Clinic		Thembumenzi Clinic
Best Performing Sites		
Hospitals	Health Centres	Clinics
Piggs Peak Hospital	Matsanjeni	Ka Mfishane
Good Shepard	Nhlangano Health Centre	Shewula Clinic
Mbabane Hospital		Motshane Clinic

ANNEX D. DATA COLLECTION INSTRUMENTS

Self-Assessment Guide – SIAPS Program Review 2015

Respondents – (SIAPS Swaziland Technical Staff)

Location:

Date:

1. Name:

Position at SIAPS:

2. ..

Effectiveness of Technical Assistance Provided at CMS:

1. Briefly describe the role of the CMS regarding availability of HIV commodities in the country.
2. At the onset of the SIAPS program – Was an assessment/review of the CMS done by SIAPS or a proceeding program? If yes, briefly describe the key weakness identified at the CMS (please provide copy of review report if available).
 - a. If assessment was not done, what was used as the basis for designing improvement interventions at CMS?
3. Describe the role of CMS in the design of the technical assistance provided by SIAPS (i.e., how does CMS contribute to SIAPS work planning process?).
4. At what level within CMS (i.e., senior management, mid-level management, or lower level) does SIAPS target its technical support?
 - a. Does SIAPS second staff within CMS? If yes, how has this supported availability of medicines?
 - b. Describe role of SIAPS within the technical working groups(TWGs) within CMS, if any.
5. Making reference to SIAPS Yr 1 – Yr 3 approved work plans, what is your opinion of the adequacy of activities to support availability of HIV, TB, and reproductive health commodities in the CMS? (Comment on each approved work plan along these themes: procurement of ARVs, TB and family planning, supporting warehousing, distribution and integration of supply chain system.)
6. Please briefly describe progress toward achieving your program result/outcome of ensuring HIV, TB, and reproductive health commodities at the CMS (can use table below).

Problem identified	SIAPS strategy	Activity & tools used	Key output

7. Describe key outputs that the program has produced and how they contributed to the availability of HIV, TB, and reproductive health commodities at the CMS?
8. In your view, briefly describe what the program can do differently to ensure zero stock out at the center.
9. What are the limitations or challenges faced by (1) the program and (2) the country in ensuring zero stock-out of HIV, TB, and reproductive health commodities at the CMS/center?
 - a. What is being done to resolve these challenges?
 - b. And for those for which nothing is being done, what can be done to motivate their resolve?
10. In your opinion, has the program successfully supported the availability of HIV commodities at the CMS/center? Briefly provide an explanation for your response.

Effectiveness of Technical Assistance Provided at Facility Level:

1. At the onset of the SIAPS program – Was a Supply Chain Management (SCM) capacity assessment of the health facilities done by SIAPS or a preceding program? If yes, briefly describe the key weakness identified at the facility level (please provide copy of review report if available).
 - a. If capacity assessment was not done, what was used as the basis for designing the capacity building interventions at the facilities?
2. Describe the role of MOH (or the responsible department within MOH) in the design of the capacity building interventions at the facilities.
3. Briefly describe, the expected result or situation at the health facility as a result of the SCM capacity building interventions.
4. Briefly describe the SCM capacity building interventions (i.e., capacity building activities) at the facilities.
 - a. How is the SCM capacity building structured? (i.e., is there a training curriculum of sorts? What about presence of a mentoring/support supervision guide?)
 - b. How is the capacity building monitored?
5. In your view, have the SCM capacity building interventions led to the desired situation at the ART facilities? (If yes/no, what is the evidence for this?)
6. Describe key outputs of the SCM capacity building interventions.

7. In your view, briefly describe how the SCM capacity building interventions can be improved.
8. Making reference to SIAPS Yr 1 – Yr 3 approved work plans, what is your opinion of the adequacy of activities to support availability of HIV, TB, and reproductive health commodities at the ART facility? (Comment on each approved activity along these themes: Improving storage conditions at the facility, conducting physical inventory, proving logistics records [stock cards, LMIS], and assessing stock status)
9. In your view, briefly describe what the program can do differently to ensure zero stock out at the ART facility.
10. What are the limitations or challenges faced by (1) the program and (2) the country in ensuring zero stock-out of HIV, TB, and reproductive health commodities at the facility?
 - a. What is being done to resolve these challenges?
 - b. And for those for which nothing is being done, what can be done to motivate for their resolve.
11. In your opinion, has the program successfully supported the availability of HIV commodities at the facility? Briefly provide an explanation for your response.

ANNEX E. KEY INFORMANT INTERVIEW GUIDE – SIAPS PROGRAM REVIEW 2015

Respondents – (Stakeholders)

Name of Stakeholder: Date:

1. Name of Key Informant:
2. Position held:

Effectiveness of Technical Assistance Provided

1. Briefly describe how your organization relates/works with SIAPS in regard to the availability of HIV, TB, and reproductive health commodities in the country?

Probe for the following:

- a) Receives technical support from SIAPS
- b) Collaborates/pools resources (move to question 9 & 10)

2. Briefly describe the nature of technical support received from SIAPS with regard to the availability of HIV, TB, and reproductive health commodities in the country?

Probe for the following:

- a) Quantification and forecasting
- b) Procurement
- c) Monitoring and reporting of stock status
- d) Supply planning
- e) Distribution of supplies
- f) Warehouse management
- g) Stock management
- h) Data quality assessments
- i) Trainings and mentorships

3. Describe the role of your organization in the design of the technical assistance provided by SIAPS (i.e. Does your organization contribute to SIAPS work planning process?).

Probe for the following:

- a) Is there duplication of efforts among your partners that involve SIAPS?
- b) Creation of parallel systems

4. At what level within your organization (i.e., senior management, mid-level management, or lower level) does SIAPS target its technical support?

- a. Does SIAPS send staff to your organization? If yes, how has this supported availability of medicines?
- b. Describe role of SIAPS within the technical working groups within your organization, if any.

5. What challenges does your organization face in taking up the technical assistance provided?

Probe for the following:

- a) How challenges could be resolved

6. Describe key outputs that SIAPS supported at your organization and how these have contributed to the availability of HIV, TB, and reproductive health commodities in the country.

Probe for the following:

- a. Development of SOPs, guidelines, and policies
- b. Enactment of legislation related to pharmaceutical management
- c. Coordination of Supply Chain Technical Working Groups and medicines committees (NEMC)
- d. Development of strategic plans

7. In your opinion, has SIAPS successfully supported your organization with regard to the availability of HIV commodities in the country?

Probe for the following:

- a) A subjective score out of 10
- b) An explanation for the response and score

8. In your view, briefly describe what SIAPS can do differently (with regard to technical assistance) to ensure zero stock at the center and facilities.

9. Briefly describe the nature of your collaboration with SIAPS.

Probe for the following:

- a) Areas of previous and current collaboration
- b) Outputs delivered together
- c) Areas of possible collaboration
- d) Duplication of efforts

10. In your view, what are the limitations or challenges faced by (1) SIAPS and (2) the country in ensuring zero stock-out of HIV, TB, and reproductive health commodities at the center and facilities?

- a. What is being done to resolve these challenges?
- b. And for those for which nothing is being done, what can be done to motivate their resolve?

ANNEX F. FACILITY INTERVIEW GUIDE – SIAPS PROGRAM REVIEW 2015

Name of Health Facility: Date:

1. Name of Key Informant:

2. Position held:

Effectiveness of Technical Assistance Provided

1. Briefly describe the nature of technical support received from SIAPS with regard to the availability of HIV, TB, and reproductive health commodities at this facility.

Probe for the following:

a) Trainings and mentorships for health care workers in supply chain and pharmaceutical services

2. Describe the role of your facility in the design of the technical assistance provided by SIAPS.

3. What challenges does your organization face in taking up the technical assistance provided?

Probe for the following:

b) How challenges could be resolved

4. Describe key outputs that SIAPS supported at your facility and how these have contributed to the availability of HIV, TB, and reproductive health commodities in the country.

5. In your opinion, has SIAPS successfully supported your health facility with regard to the availability of HIV commodities in the country?

Probe for the following:

c) A subjective score out of 10

d) An explanation for the response and score

6. In your view, briefly describe what SIAPS can do differently (with regard to the training and mentorship) to ensure zero stock at your facility.

7. What, in your view, are the limitations or challenges faced by your health facility in ensuring zero stock-out of HIV, TB, and reproductive health commodities at the center and facilities?

a. What is being done to resolve these challenges?

b. And for those for which nothing is being done, what can be done to motivate their resolve?

ANNEX G. FACILITY OBSERVATION GUIDE – SIAPS PROGRAM REVIEW 2015

Name of Health Facility: Date:

1. Name of Key Informant:

2. Position held:

A) Assess the storage conditions of HIV, TB, and RH Commodities:

Visit the storeroom or area(s) where commodities are stored. Observe the storage area and the performance indicators. Work with the health worker who manages the health commodity storage area to determine if the commodities are being stored according to good storage practices. Take note of what you find for each of the performance indicators below.

Performance Indication		Conform?		What to Look For
		Yes	No	
1	Is the storage area absent of insects and rodents?			There should not be dead insects or rodent droppings in the storeroom; there should be no holes in the boxes/cartons that would indicate insects or rodents. Food and drinks should not be kept in the storeroom.
2	Is the storage area well ventilated (ambient temperature < 40C)?			The room should feel relatively cool and not warm. Refer to a thermometer if possible.
3	Is the storage area well lit?			The room should not appear to be too dark. Box/carton labels, stock cards, etc., should be easy to read.
4	Are products stored out of direct sunlight?			There should be little or no direct sunlight coming into the storage area. If there is direct sunlight coming in, the sunlight should not shine on the boxes/cartons.
5	Is the storage area dry and free of water penetration?			There should be no water or moisture on the floor, no water marks on the walls, no water stains on the ceiling, nor wet or damp boxes/cartons.
6	Is fire safety equipment available (fire extinguisher, sandbags, or other)?			Fire extinguisher, bucket of sand, or other fire safety equipment should be visible and easily accessible.
7	Are latex products (gloves and condoms) stored away from electric motors and fluorescent lights?			Boxes/cartons of latex products should not be placed near electric motors or fluorescent lights.

Performance Indication		Conform?		What to Look For
		Yes	No	
8	If required for products stored at this facility, is cold chain equipment in place and operational?			Freezer, refrigerator, and/or cold box should be present and functioning properly. Cold chain products should be stored in the appropriate place.
9	Are commodities stored by brand or specialty?			Commodities should be arranged in the storeroom in a logical manner: by program, by product type, or alphabetically by generic/brand name.
10	Are cartons stored on shelves or pallets?			Cartons should be kept off of the floor using pallets or shelves.
11	Are expiry dates visible?			Expiry dates should be visible without having to pick up or turn the cartons.
12	Are cartons stored with arrows pointing up?			Arrows marked on cartons should be pointed up (↑).
13	Are products stored to promote the use of FEFO?			Products with an earlier expiration date should be stored on top of and/or in front of products with a later expiration date.
14	Are commodities stored away from insecticides, chemicals, hazardous materials, old files, office supplies, and equipment?			Items other than commodities should be stored separately from commodities to avoid damage, contamination, etc.
15	Are any expired, damaged, or other unusable commodities stored away from usable commodities?			Expired, damaged, or other unusable commodities should not be stored together with usable commodities. They should be stored in a separate room or a separate area of the storeroom.

B) Assess a Selection of Medicines

Work with the health worker who manages the health commodity storage area, use the checklist, go through and visually inspect a selection of products (bulk packaging/individual packaging, tablets/capsules/suspensions) that are kept in the storeroom. If a product meets the visual inspection criteria, put a tick in the “Yes” box.

Visual Inspection Criteria		Product: A		Product: B		Product: C	
		
		
		Yes	No	Yes	No	Yes	No
1	Outer packaging is intact (not torn, dented, broken, damaged by water or insects, etc.).						
2	Individual packaging and tablets/capsules/syrups/kits are in good condition (not crumbled, crushed, broken, discolored, expired, unusual odor, etc.).						
3	Product name is listed clearly on the carton or box.						
4	Date of manufacture or expiration is listed clearly on the carton or box.						
5	Lot number is visible and is listed clearly on the carton or box.						
6	Manufacturer’s name is listed clearly on the carton or box.						

C) Assess quality of data recorded on stock cards

Work with the health worker who manages the health commodity storage area to apply the questions to products A, B, and C managed by the health facility.

Performance Indication		Conform?		What to Look For
		Yes	No	
1	Is there a stock card for each product that is managed at the health facility?			<p>There should be one stock card for each product by form, presentation, or strength (e.g., paracetamol 100 mg tabs, paracetamol 250 mg capsules, and paracetamol suspension are considered as three different products; each should have its own stock card).</p> <p>At larger facilities there may be one stock card for each lot number.</p>
2	Is the stock card up to date?			The stock card should have been updated the last time products were received, issued, or dispensed.
3	Does the stock card record regular physical inventories?			Physical inventory should be conducted and recorded on the stock card on a regular basis (usually monthly or quarterly, depending on the SOPs).
4	Does the stock card record all stock movements?			The stock card should be completed each time products are received, issued, or dispensed.
5	<p>Does the stock card record expired, damaged, or otherwise unusable products that were removed from inventory?</p> <p>If yes, does the stock card show the reason why the products were removed from inventory?</p>			<p>If products were damaged or expired, or otherwise became unusable, the quantities should be noted on the stock card and the products should be removed from stock.</p> <p>The reason why products were removed from inventory should be noted on the stock card.</p>
6	Is the stock card filled out correctly?			<p>The stock card should not contain math errors.</p> <p>When products are received, the new balance should equal the previous balance <i>plus</i> the quantity received.</p> <p>When products are issued, dispensed, or removed from stock due to damage, expiry, etc., the new balance should equal the previous balance <i>minus</i> the quantity issued, dispensed, or removed from stock.</p>

Performance Indication		Conform?		What to Look For
		Yes	No	
7	Does the current stock on hand (SOH) balance written on the stock card equal the physical count of the products?			The current SOH balance should equal the physical count noted on the stock card.
8	Does the stock card indicate that stock is always available?			<p>If the SOH balance is zero, then it is a stock-out and the product is not available.</p> <p>Try to discover the reason for the stock-out and find a solution to that problem.</p> <p>If there is a stock-out on the day of the visit, take action to obtain the commodity as soon as possible.</p>

D) Assess Quality of Facility Report

Work with the health worker who manages the health commodity storage area to apply the questions to products A, B, and C managed by the health facility.

ASK FOR THE MOST RECENT LMIS REPORT

Performance Indication		Conform?		What to Look For
		Yes	No	
1	Does the beginning balance on the current report match the ending balance from the previous report?			Last month's/quarter's ending balance should be the same as this month's/quarter's beginning balance.
2	Does the quantity received written on the report equal the total quantity of the product that was received during the reporting period?			The quantity received written on the report should equal the total quantity of the product that was received during the reporting period. Refer to the stock card: the quantity received written on the report should be the sum of the quantities received written on the stock card (assuming that all stock receipts were written on the stock card).
3	Does the quantity issued (or dispensed) written on the report equal the total quantity of the product that was issued (or dispensed) during the reporting period?			The quantity issued (or dispensed) written on the report should equal the total quantity of the product that was issued (or dispensed) during the reporting period. Refer to the stock card: the quantity issued (or dispensed) written on the report should be the sum of the quantities issued (or dispensed) written on the stock card (assuming that all stocks issued [or dispensed] were written on the stock card).
4	Does the quantity listed as losses/adjustments written on the report equal the total quantity of losses/adjustments during the reporting period?			The losses/adjustments written on the report should equal the total of losses and adjustments for the product during the reporting period. Refer to the stock card: the losses/adjustments written on the report should be the sum of the losses/adjustments written on the stock card (assuming that all losses/adjustments were written on the stock card).
5	Is the ending balance on the current report calculated			The ending balance on the report should equal the beginning balance <i>plus</i>

Performance Indication		Conform?		What to Look For
		Yes	No	
	correctly?			quantities received <i>minus</i> quantities issued/dispensed <i>plus</i> or <i>minus</i> losses/adjustments.
6	Is there a positive SOH balance?			<p>If the SOH balance is zero, then it is a stock-out and the product is not available.</p> <p>Try to discover the reason for the stock-out.</p> <p>If there is a stock-out on the day of the visit, take action to obtain the commodity as soon as possible.</p>
7	Is the report properly signed and, if applicable, approved?			The report should be signed and dated by the person who completed the report and, if applicable, the person should approve the report.
8	Was the report filled out and submitted on time?			The report should be completed and submitted by the due date as specified by the SOPs.

E) Assess Quality of Facility Requisition

Work with the health worker who manages the health commodity storage area to apply the questions to products A, B & C managed by the health facility.

ASK FOR THE MOST RECENT REQUISITION

Performance Indication		Conform?		What to Look For
		Yes	No	
1	Is the average monthly consumption (AMC) calculated correctly?			The AMC should equal the sum of the months used to calculate AMC (based on SOPs) divided by the number of months used for the calculation (e.g., January + February consumption = 140 <i>divided by</i> 2 (months) = 70).
2	Is the maximum stock quantity calculated correctly?			The maximum stock quantity should be equal to the AMC <i>multiplied by</i> the maximum stock level (expressed in MOS; e.g., AMC = 70 <i>multiplied by</i> 3 MOS maximum = 210 maximum stock quantity).
3	Is the order quantity/issue quantity calculated correctly?			The order/issue quantity should equal the maximum stock quantity <i>minus</i> the current SOH (from the report or from physical inventory; e.g., maximum stock quantity = 210 <i>minus</i> 85 stock on hand = order quantity of 125). Note: Ensure that you are using the same unit of counting for all calculations.

**ANNEX H. ASSESSMENT OF QUANTIFICATION PROCESS – SIAPS PROGRAM
REVIEW 2015**

1) Respondents: (SIAPS Swaziland Technical & CMS staff)

Location: **Date:**

1. Name:

2. Position at SIAPS:

1. Briefly describe the process of quantification and forecasting of HIV commodities in the country.

Probe for the following:

- a) Who is responsible for quantification?
- b) Is there a definite programme cycle?
- c) Are the necessary resources and budget allowed for?

2. Briefly describe the priority problem areas that affect quantification for HIV commodities in the country.

Probe for the following:

- a) Irrational prescribing
- b) Type of facilities most in need of better quantification

3. Describe how quantification methods were selected for the most recent HIV product quantifications.

- a) Did the quantification method or methods chosen allow the objectives set to be satisfied?
- b) If there have been difficulties, would a different choice of method(s) resolve them, or are other changes needed, (e.g., better data collection)?

4. Describe some of the key criteria used in determining which HIV conditions were to be managed at different types of facilities.

Probe for the following:

- a) The pattern of morbidity to be treated
- b) The diagnostic capabilities available at each type of facility
- c) The therapeutic capabilities available at each type of facility

5. Describe how aspects of HIV product selection were incorporated into the quantification process.

- a) Have the staff been able to use the drugs appropriately, and if not, what changes might be envisaged in the drug list or lists concerned?

6. Briefly describe how STG was used during the quantification process.
7. What were some of the challenges with the morbidity and medicine use data used?
 - a) Was morbidity and medicine use data collected from routine sources, or were special estimates made?
 - b) Were the data detailed enough for quantification purposes? If not, what aspects were not and how were the problems resolved?
 - c) What steps have been taken to improve the completeness and the quality of data?
8. Is there record of future quantities of HIV commodities needed and how their costs were calculated? What problems were encountered and how were they resolved?
9. Was the actual budget significantly lower than the estimated budget estimated, and if so, was a sound case presented for an increase? If such a case was made, why was it not accepted, and what are the implications? For example, would it be justifiable to cut other items within the health budget in order to increase the HIV commodity budget?
10. If the estimated quantities had to be reduced to fit the available budget, were the reductions made on the basis of the priority allocated to each HIV commodity?
11. Were the estimates used to order and issue HIV commodities? If not, why not? If so, were the users satisfied with the information or did they want changes made, such as different timing, or different presentation?

ANNEX I. LIST OF PERSONS INTERVIEWED

Names	Stakeholders	Position	Contact
Ministry of Health Counterparts			
Fortunate Fakudze	Ministry of Health (Central Level)	Chief Pharmacist	Fortunate.fakudze@yahoo.com
Sibongile Mabuza	Sexual Reproductive Health Unit	SRH Pharmacist	sibongile.mabuza@yahoo.com
Dr. Simangele Mthethwa-Hleta	Swaziland National AIDS Program	Medical Officer	sbhleta@gmail.com
Dumisani Kunene	NERCHA	Technical Director	dkkunene@nercha.org.sz
Fikile Ngwenya	National TB Control Program	TB Pharmacist	fikilengwenya@gmail.com
Brenda Mhlanga	Central Medical Stores	Senior Pharmacist	brenda1510@lycos.com
Tibuyile Sigudla	Central Medical Stores	ARV Procurement Pharmacist	tibuyiles@gmail.com
Nomsa Shongwe	Central Medical Stores	Quality Assurance Pharmacist/ Pharmacovigilance	nnshongwe@gmail.com
SncedileDlamini	Procurement Unit (at Central Medical Stores)		sncedile@gmail.com
Bongiwe Dlamini	Cana Clinic	Senior Nurse	
Thuli Magagula	Mbabane Government	Chief Pharmacist	
Thandekile Bhembe	Bhekinkhosi Clinic	Staff Nurse	
Sister Madelaine	Mkhiwa Clinic	VCT Nurse	
Sifundo Zwane	Piggs Peak Hospital	Pharmacist	
Zandile Sibandze	Lubulini Clinic	Senior Nurse	
Thabsile Ntshangase	Nkwene Clinic	Staff Nurse	
Andile Mthethwa	Siphofaneni Clinic	Staff Nurse	
Joshua Simelane	Phocweni Clinic	TB, HIV Focal Person	
Nombuso Mashaba	Shewula Clinic	Staff Nurse	
Norman Malinga	Hlathikhulu Government Hospital	Pharmacist	
Duduzile	Ndzevane Clinic	Senior Nurse	
Abbi	Baylor Clinic	Pharmacist	
James Dube	Matsanjeni Health Center	Pharmacy Technician	
Lomakhisimusi Maseko	Herefords Clinic	Nursing Assistant	
	Strategic Information Department		

Names	Stakeholders	Position	Contact
SIAPS Swaziland Country staff			
Kidwell Matshotyana	SIAPS	Country Project Director	kmatshotyana@msh.org
Nxumalo Nkosinathi Humble	SIAPS	Monitoring and Evaluation Advisor	nnxumalo@msh.org
Phetsile Dlamini	SIAPS	Senior Technical Advisors	pdlamini@msh.org
Khontile Kunene	SIAPS		kkunene@msh.org
Kholiwe Shongwe	SIAPS	Technical Advisor	kshongwe@msh.org

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