

Selected Review of Training Approaches in the SIAPS Program: Ethiopia Country Report

February 2016



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**Selected Review of Training Approaches in the SIAPS Program:
Ethiopia Country Report**

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

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About SIAPS

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

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Key Words

SIAPS, training, learning, capacity building, Ethiopia

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ACRONYMS

AMDM	antimalarial drug management
AMR	antimicrobial resistance
APTS	Auditable Pharmaceutical Transactions and Services
ART	antiretroviral therapy
CEO	Chief Executive Officer
CP	clinical pharmacy
CRMS	Continuous Results Monitoring System
DIC	drug information center
DIS	drug information services
DTC	Drug and Therapeutics Committee
DUE	drug use evaluation
EDT	electronic dispensing tool
EHRIG	Ethiopian Hospital Reform Implementation Guidelines
FMHACA	Food, Medicines and Health Care Administration and Control Authority
FMOH	Federal Ministry of Health
HF	health facility
HSDP	Health Sector Development Program
IR	Intermediate Result
JSS	joint supportive supervision
M&E	monitoring and evaluation
PFSA	Pharmaceuticals Fund and Supply Agency
PV	pharmacovigilance
RDU	rational drug use
RHB	Regional Health Bureau
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOP	standard operating procedure
TOT	training of trainers
VEN	vital, essential, non-essential

ACKNOWLEDGMENTS

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EXECUTIVE SUMMARY

To understand the training approaches used and the effects of the training, the SIAPS Program performed a multi-country review of individual capacity-building approaches. The objective of this review is to summarize the types of training that have been used by the SIAPS Program and examine the effects of the training on individual capacity. SIAPS Ethiopia was one of two countries selected for an in-depth review of SIAPS training activities.

This review applied a cross-sectional study approach. The response rates of the sampled respondents are as follows: 153 (69%) trainees; 19 (58%) government officials and trainees' supervisors; 7 (100%) physicians; and 9 (100%) SIAPS Ethiopia staff. The data were collected through a self-administered, semi-structured questionnaire, except for the government officials and trainees' supervisors who were interviewed using an open-ended questionnaire. The interviews and questionnaire administration were completed during November and December 2015.

The results show a high turnover rate among trainees—since the time they received training, 21% of the trainees had changed organization or department and 35% changed position. Of the 153 trainees, 65 attended workshops that were facilitated by SIAPS staff, 75 attended events that were co-facilitated by SIAPS and local trainers trained by SIAPS, 10 attended workshops that were facilitated by SIAPS-trained trainers only, and 3 received onsite mentoring only. Of the 150 trainees that attended workshops, 52 received follow-up onsite mentoring and/or supportive supervision visits. More than 80% of the respondents identified the training approaches that were useful to them, including interactive and participatory approaches, knowledge and responsiveness of the trainers, use of visual aids, pre-and post-training tests, exercises and information exchange, and training content that matched their work. Sixty-eight percent of the respondents participated in a training that had a post-training action planning session in which the trainees were able to plan activities to be implemented immediately following their training. The overall results of the training showed that more than 80% of the respondents gained knowledge, improved skills or competencies, and improved the quality of their services. Eighty-three percent of the respondents reported that the training contributed to the improvement of institutional or system performance, in particular, those trained in Auditable Pharmaceutical Transactions and Services (APTS). The respondents identified the factors that enabled them to achieve positive results—they are commitment to implementation of post-training action plans, practicing what they learned during training in their day-to-day work, sharing knowledge learned from colleagues, and technical support provided through supportive supervision. As a group, these factors were given by more than 70% of the group. In addition, the respondents' own learning experiences show that participatory training methods (training workshops, on-the-job training, and knowledge exchange) were more useful than self-learning methods (reading guidelines, SOPs, or job aids).

Seventy-one percent of the physicians were satisfied with the clinical pharmacy (CP) services provided by the pharmacists that identified prescription issues that prevented medication errors and improved patients' adherence to treatments.

The government officials and trainees' supervisors provided reasons that in-service training is required, which include the fact that SIAPS initiatives are new to the country; there is constant staff turnover at health facilities; the undergraduate curriculum is outdated and is not customized to the Ethiopian context; and training is required to improve the uniformity of knowledge among pharmacy professionals to implement a new system and improve the quality of service delivery. They highlighted that all the staff concerned with APTS and CP services should be trained. They also identified system improvements that have resulted from SIAPS training and interventions in various areas, such as improved accountability, monitoring and evaluation, pharmaceutical supply management, dispensing practices, rational use of medicines, availability of medicines, reduced wastage, etc.

The SIAPS Ethiopia staff identified lessons learned through training activities and interventions. Successful experiences include needs-based training; training of local trainers to cascade training and provide on-the-job training; knowledge exchange among hospital managers and professionals to promote peer learning; post-training support; and stakeholder commitment or support. Challenges in training include high staff-turnover; staff shortages; lack of enabling factors to implement the target programs after receiving training; low confidence on the part of some trainees in applying the knowledge in practice; and lack of practical experience of some trainers.

Recommendations are provided according to the findings of the review. The recommended capacity-building approaches include participatory training workshops, post-training implementation follow-up visits or supportive supervision, inter-facility learning or knowledge exchange between health facilities, using the 'best practices' health facilities to provide practical training to trainers, and revising the curricula for pre-service training for APTS and CP. Although providing guidance tools to health workers for self-learning is a common capacity-building approach, only a few respondents considered following the instructions in those guidance tools a useful learning method! Further investigation of this issue is recommended.

Interventions to fill capacity gaps in high staff-turnover are requested, including providing refresher training and ensuring a new staff orientation system in the health facilities. To expand pharmaceutical services, the required competencies and types of human resources are not limited to health technical areas and health professionals, but should also include professionals in information technology, supervision, M&E, administration, finance, and communication.

To address the need for human resources and competencies for scaling up and sustaining the above programs, SIAPS should consider helping the Ministry of Health and Ministry of Education develop human resource and competency strategic frameworks that map out the competency needs, forecast the required quantities of human resources, and seek financial and technical resources to fulfill the strategies.

BACKGROUND

The Government of Ethiopia has made enhancing the quality of health care a strategic priority. Accordingly, the government has been striving to improve pharmaceutical supply and services as one of its strategic objectives. However, irrational use of medicines has been widespread and is manifested by irrational prescribing by physicians and nurses, poor pharmacy dispensing practices, and inappropriate use of medicines by clients. The fourth National Health Sector Development Program (2010/11–2014/15; HSDP) states that the percentage of antibiotic prescribing was 58% and antibiotic use in the treatment of non-pneumonia acute respiratory tract infection was 61%, both of which indicate a major deviation from recommended norms. Moreover, the document also indicates that only 68% of patients have adequate information on dispensed medicines; 35% of health facilities (HFs) encountered stock-outs of essential medicines; and 8.24% of stock was wasted due to expiry. The overprescribing of antibiotics has contributed to many of these medicines becoming ineffective, necessitating the use of newer, more potent, toxic, and more expensive medicines. Pharmacy practice at public HFs and community pharmacies has been largely commodity-centered, rather than being patient-centered, which has prevented pharmacists from becoming active members of the health care team and thus contributing to better health outcomes. In addition, auditing practices and transparent and accountable systems for managing medicine transactions and services at HFs are lacking, which have resulted in the waste of resources.¹ To address these challenges, the government has initiated capacity-building interventions, such as pre-service training (undergraduate programs and curriculum revision), in-service training, and deployment of pharmacists. However, these interventions are insufficient to fill the high demand for capacity building.

The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program in Ethiopia has provided technical assistance to address these problems through various interventions, including capacity-building activities. The interventions are classified in four intermediate results (IR) areas: IR1-Pharmaceutical Sector Governance; IR2-Pharmaceutical Services at HFs; IR3-Information for Decision Making; and IR4-Optimal Use of Financial Resources. SIAPS Ethiopia has been working with country stakeholders to introduce new or innovative programs in the Ministry of Health and at health facilities. Various capacity-building activities have been carried out to capacitate government officials, HF managers, and health care workers for the implementation of programs. Capacity-building methods have included the following:

- Pre-service training: pharmaceutical services and information
- Training of trainers (TOT): for the Auditable Pharmaceutical Transaction and Services (APTS)², antiretroviral therapy (ART), and medicines registration information systems

¹ SIAPS. *SIAPS Annual Report: Program Year 4, October 2014-September 2015*. Submitted to the US Agency for International Development by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program. Arlington, VA, USA: Management Sciences for Health; 2015

² APTS introduces transparent and accountable pharmaceutical transactions and services that result in a continuous supply of essential medicines, optimal budget utilization, and improved pharmacy services.

<http://siapsprogram.org/2013/10/17/auditable-pharmacy-transactions-and-services-apt-good-governance-and-better-service-delivery/>

- Local training workshops
- Post-training action plans or implementation plans: Drug and Therapeutics Committees (DTCs), clinical pharmacy (CP), APTS, medicine registration, etc.
- Post-training action plan follow-up visits
- Supportive supervision through existing supportive supervision system
- Mentorship
- Outsourced training to private training institution: leadership and management training
- Experience-sharing visits within and among regions: APTS

OBJECTIVE OF THE REVIEW

Between 2011 and 2015, the SIAPS Program trained more than 38,000 people in 20 countries. To understand the training approaches used and the results of the training, the SIAPS Program performed a multi-country review of individual capacity-building approaches. The objective of this review is to summarize the types of training that have been used by SIAPS and examine the results of the training on individual capacity. SIAPS Ethiopia was one of two countries selected for an in-depth review of SIAPS training activities.

Between December 2011 and September 2015, SIAPS Ethiopia trained more than 5,000 people through training or orientation workshops. This review gathered information from a sample of trainees (including those trained as trainers), their supervisors, government officials, co-workers (physicians that work with pharmacists for the provision of CP services), and SIAPS Ethiopia staff members on the results of the training, and the factors that contributed to the results.

METHODOLOGY

This review applied a cross-sectional study approach. Four types of respondents were included in the review: trainees and trainers; government officials and trainees’ supervisors; physicians that work with pharmacists for clinical pharmacy services; and SIAPS Ethiopia staff. The trainees’ responses were collected through a self-administered, semi-structured questionnaire (annex 1). The trainees were randomly selected from the base total of 5,037 people who were trained between December 2011 and September 2015 in the technical areas listed in table 1. The government officials and supervisors were selected based on their oversight responsibilities at the central level and trainees’ facilities. They were interviewed using an open-ended questionnaire (annex 2). The physicians who worked with pharmacists for CP services were selected from six hospitals; they responded to a self-administered, semi-structured questionnaire (annex 3). The total numbers of respondents and response rates were 153 trainees out of 222 contacted (69%), including 149 trainees, and 4 trained as trainers (table 1); 7 physicians (100%) that work with pharmacists for CP services; and 19 government officials or trainees’ supervisors out of 33 who were interviewed (58%). The 153 trainees were trained between 2012 and 2015 (table 2); they came from 5 types of organizations located in 8 regions (figures 1 and 2). The majority of them came from health facilities. Nine SIAPS Ethiopia team members self-responded to an open-ended questionnaire (annex 4). The interviews and questionnaire administration were completed during November and December 2015.

Table 1. Types of Training, Sample Sizes, and Response Rates

IR	Types of training	Sample size	Number of trainees who responded	Number of trainers who responded
IR-1	Waste disposal familiarization	11	7	
IR-1	Ethics	4	4	
IR-1	Leadership & management	4	3	
IR-2	Antimalarial drug management (AMDM)	12	0	
IR-2	Antimalarial resistance (AMR)	10	6	
IR-2	ART (in-service)	14	14	2
IR-2	ART (pre-service)	9	5	
IR-2	Clinical pharmacy	11	9	
IR-2	Drug information services (DIS)	7	5	
IR-2	Rational drug use (RDU)-DTC related	18	16	
IR-2	Ethiopia Hospital Reform Implementation Guidelines (EHRIG)	3	1	
IR-2	Midlevel staff	4	4	
IR-2	Pharmacovigilance (PV)	2	0	
IR-3	Electronic dispensing tool (EDT)	6	4	
IR-3	Standard operating procedures (SOP) manual	41	23	
IR-4	APTS	66	48	2
Total		222	149	4
Response rates			69%	

Table 2. Years in Which Respondents (Trainees and Trainers) were Trained

Year of the training	2011	2012	2013	2014	2015	N/A	Total
Number of respondents	5	40	28	13	36	31	153

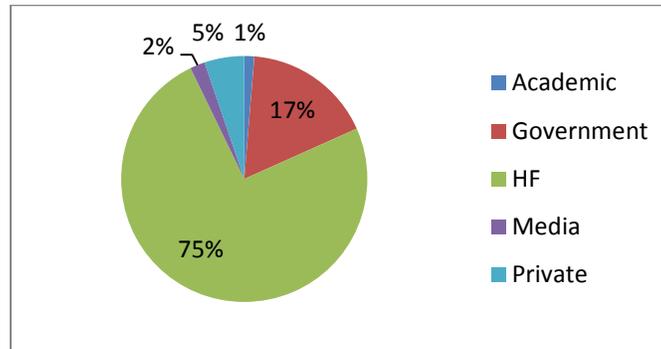


Figure 1. Types of organizations for which the respondents worked

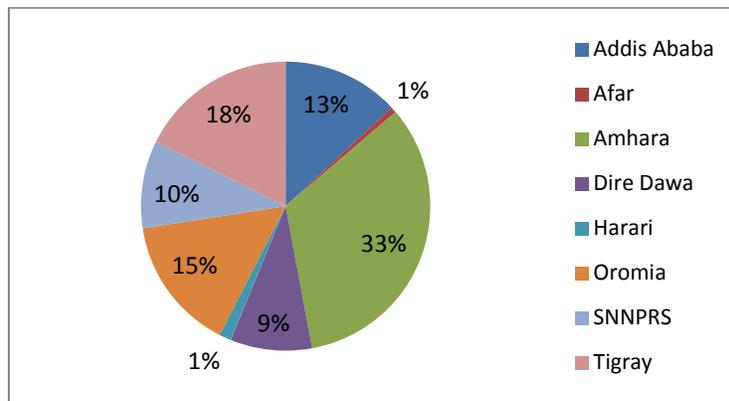


Figure 2. Regions from which the respondents come

Limitations

Due to time and financial constraints, the review was conducted via self-administered questionnaires given to the trainees and trainers, physicians, and SIAPS staff. The government officials and HF managers were interviewed by SIAPS Ethiopia staff. Therefore, it was impossible to conduct in-depth interviews with the majority of the respondents to gain more insight. The review aimed to gain an understanding of training methods and the results of training for individual capacity building. It was not feasible to do causal analysis of the contribution of training alone to the broader system performance because there were a series of interventions undertaken by SIAPS, of which training was only one part. Therefore, other factors that helped the trainee respondents achieve their results are discussed.

FINDINGS FROM THE TRAINEES

Turnover Rates of the Trainees

The turnover rates among respondents—a change in organization/department or position—since the time they received training are 21% and 35%, respectively (table 3).

Table 3. Turnover Rates Among the Respondents

	Same*	Different**	N/A	% Change
Organization/department	120	32	1	21
Position	98	54	1	35

*Same as at the time of training

**Different from the time of training

Training Methods or Approaches

Of the 153 respondents, 150 participated in a training workshop and three received onsite mentoring only. Of the 150 who participated in a training workshop, 65 respondents attended workshops that were facilitated by SIAPS staff, 75 attended events that were co-facilitated by SIAPS and local trainers trained by SIAPS, and 10 attended workshops that were facilitated by SIAPS-trained trainers only. SIAPS Ethiopia trained trainers from local universities, government entities, and hospitals, and used them to conduct cascade training and supportive supervision visits. Of the 150 trainees, 52 respondents received training through workshops followed by onsite mentoring and/or supportive supervision visits. Table 4 provides this information.

Table 4. Training Methods

Training methods	Workshop facilitated by SIAPS	Workshop facilitated by SIAPS + local trainers	Workshop facilitated by local trainers	Workshop and onsite mentoring and/or supportive supervision	Onsite mentoring only
No. of respondents	65	75	10	52	3

More than 80% of the respondents identified the training approaches that were useful to them (figure 3), including interactive and participatory approaches, knowledge and responsiveness of the trainers, use of visual aids, pre-and post-training tests, and exercises and information exchange. Eighty-six percent reported that the training content was right for their work; 68% of the respondents participated in a training that had a post-training action planning session in which the participants were able to plan for the implementation of activities to be conducted immediately following their training.

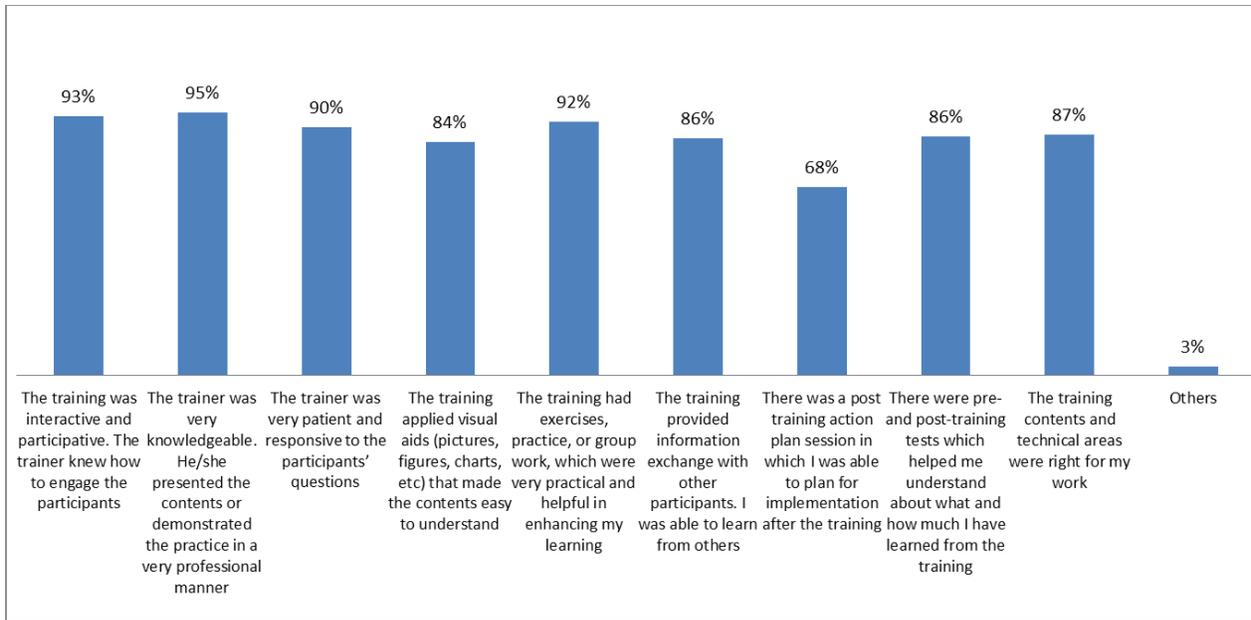


Figure 3. Training approaches that were useful to the trainees (N=153)

Training Results

The overall results of the training may be assessed at an individual level or at an institutional or system level (figure 4). At the individual level, more than 80% of the respondents gained knowledge, improved skills or competencies, and improved the quality of their services; 76% of the respondents were able to make contributions in meetings or discussions following the training, and 83% of the respondents reported that the training contributed to the improvement of institutional or system performance.

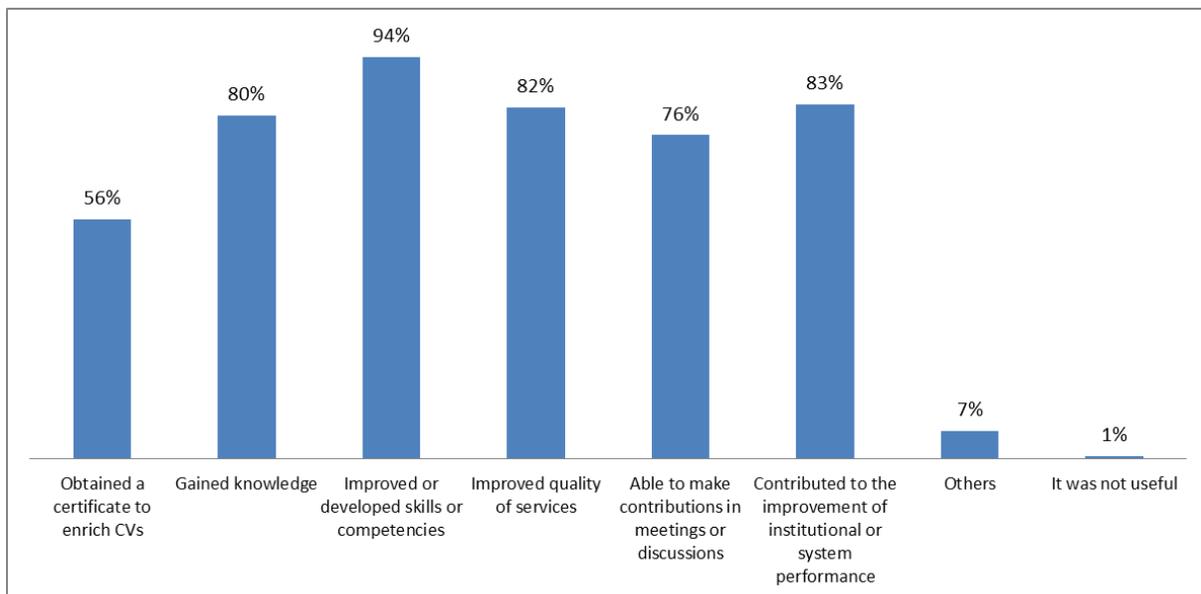


Figure 4. Overall results of the training (N=153)

In figure 5, the results are disaggregated by IRs. A notable observation is that the respondents in the IR1 group (governance) had the highest rate in improved/developed skills or competencies (100%), but had the lowest rate in contribution to the improvement of institutional or system performance (64%). Most of the respondents (92%) trained in APTS (IR4) stated that such training contributed to an improvement in institutional or system performance.

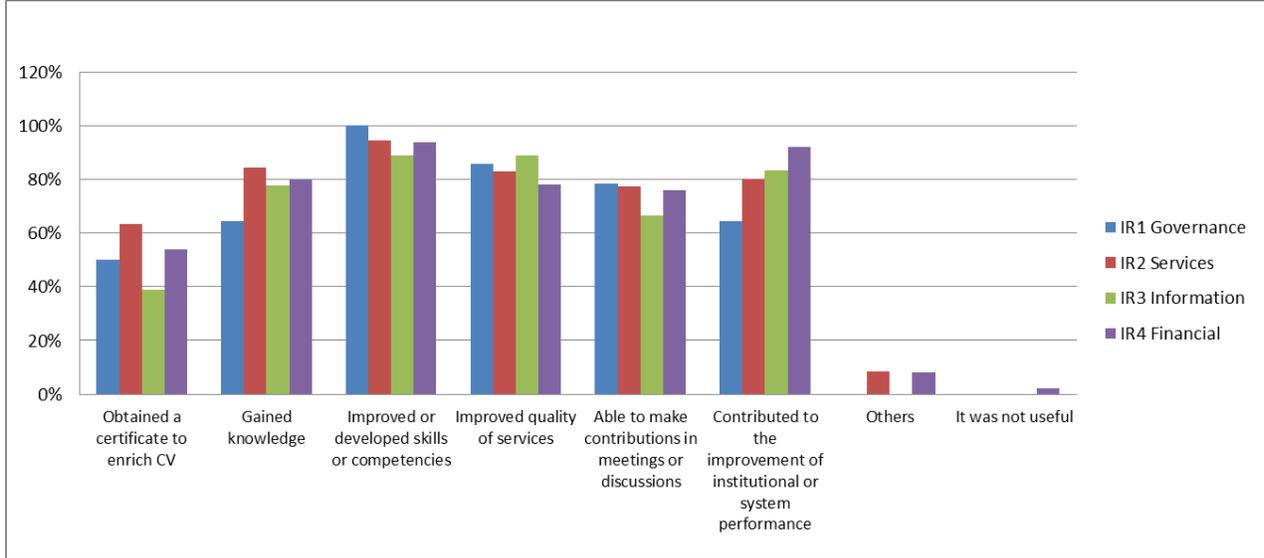


Figure 5. Training results by IRs (N=153)

Post-Training Factors that Contributed to the Results of the Training

Training alone does not make much impact without practice or implementation, or an enabling environment for implementation. The respondents identified the factors (figure 6) that enabled them to achieve the positive results presented in figure 4. The analysis shows that commitment to the implementation of the post-training action plans (88%, 92/104) contributed the most, followed by practicing what they learned during the training in day-to-day work (80%), sharing the knowledge learned with colleagues (79%), and technical support through supportive supervision (76%).

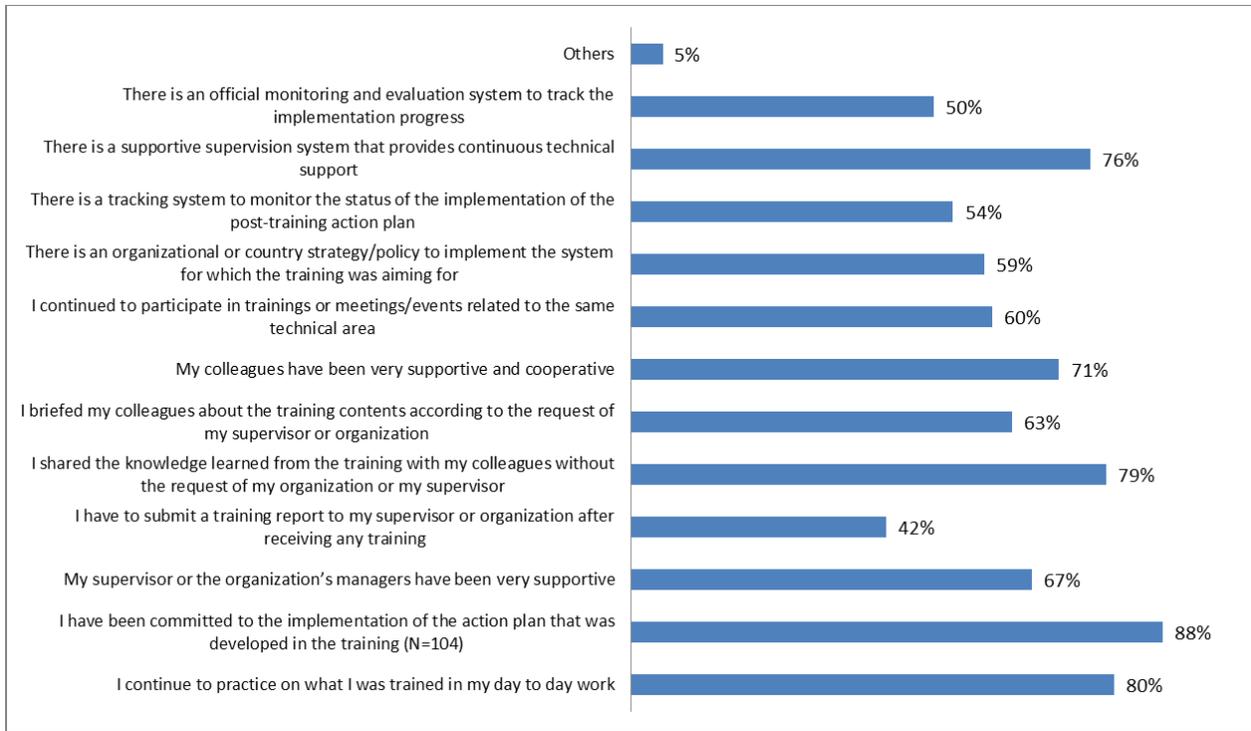


Figure 6. Post-training factors that contributed to the results of the training

While most of the respondents felt that the training was useful, 27 (18%) respondents indicated a few reasons why the training was not helpful to them (table 5), including the training approach used and external factors. Fourteen respondents complained about the training approach (5) and difficulty with the contents (9), including outdated training materials and that it was hard to keep up with the pace of the training. Ten respondents reported that the technical area of the training did not match their positions (3), or there was no enabling environment for them to implement what was learned (7) due to shortages of various resources. Although these complaints were from a minority group, they provide lessons for SIAPS to improve the training and system strengthening strategies.

Table 5. Reasons the Training Was Not Helpful (N=153)

Reasons and Sub-Reasons	n	%
1. The training or capacity-building approach was boring or not interesting	5	3
- The way the trainers facilitated was not interesting or not helpful to me	2	
- The training materials were outdated	3	
2. The training content was too difficult for me to understand or practice	9	6
- The trainer went too fast and I could not keep up with the content	6	
- The technical areas or content were totally new to me	2	
- The time for the training was too short	1	
3. The training content or technical area did not match my work	3	2
- I did not know what training or technical area it was before receiving it	1	

Reasons and Sub-Reasons	n	%
- I was not in the position related to the technical area of the training	2	
4. The system has no enabling environment for me to perform what I learned from the training	7	5
- The new system has not launched yet due to shortage of financial or human resources	1	
- The required equipment or space has not been available for implementation	3	
- The required department or organizational structure has not yet been established	3	
5. Other	3	2
- The training schedule had a conflict with other regional events	1	
- Erratic power supply during the training	1	
- Being afraid of having more responsibilities after receiving the training	1	
Total	27	18

Learning Methods that Worked Best for the Respondents

Exploring what learning methods worked best for the respondents will help SIAPS understand what training or capacity-building approaches are most effective or innovative. The respondents provided answers according to their own experiences (figure 7). The limitation of this finding is that the respondents were not asked to report on whether they had been exposed to all of the possible learning methods, such as online learning or making presentations in a meeting, etc. Therefore, there is no denominator for each of the responses. The results show that participatory training workshops (92%), on-the-job training through supportive supervision (59%), and exchange visits to other facilities (50%) were the best learning methods for the respondents. Some respondents felt that reading technical documents (41%) and having technical discussions with colleagues (33%) were useful. The results for self-learning, such as following the instructions in guidelines, SOPs (23%), or job aids (12%), or learning from observing how supervisor or colleagues do the work (14%) were surprisingly low. Although the denominators for exposure to learning methods were not collected, it should be noted that the government has made many efforts to produce technical guidance documents or tools. The results may imply that most of the respondents were passive learners, or they prefer participatory and practical learning methods.

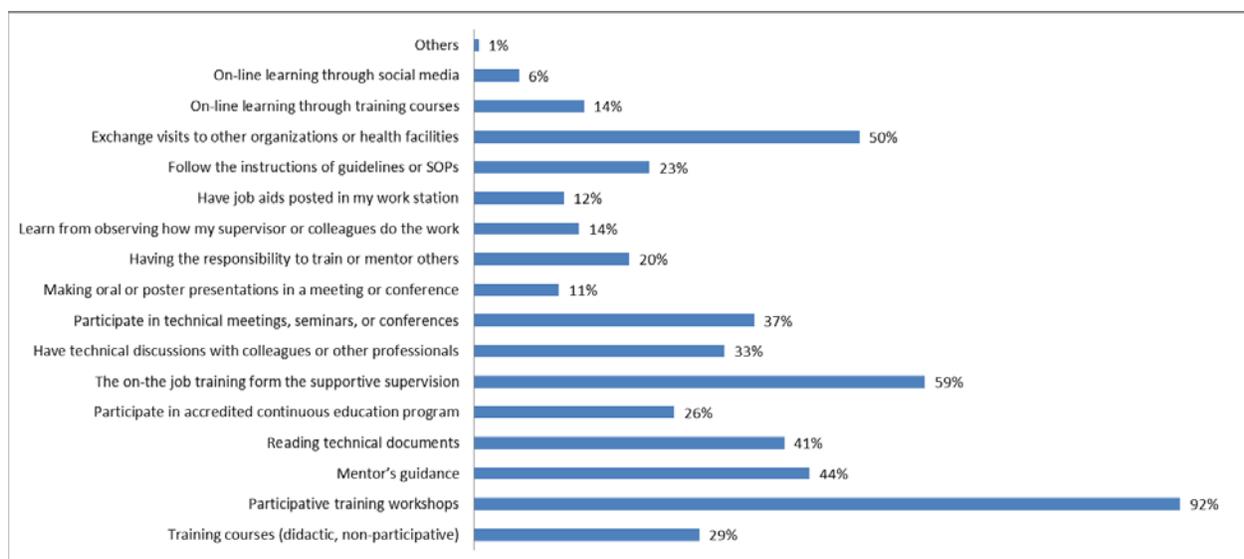


Figure 7. Learning methods that worked best for the respondents, according to their experiences (N=153)

Trainees' Suggestions about Capacity Building

The respondents shared suggestions about their needs for capacity building in an open-ended question. Sixty-one (40%) respondents generously shared their suggestions or gratitude. Most of these respondents (29) expressed their appreciation and urged SIAPS to continue its support. Others provided their suggestions, which were categorized in the following areas: areas for which capacity building or support is required (table 6); human resources or health facilities for which capacity building is required (table 7); suggestions for training approaches (table 8); and suggestions for training interventions (table 9). Some respondents' comments fell into multiple classifications.

All of the suggested technical areas given in table 6 are areas that SIAPS Ethiopia has been supporting, except for compounding services. Respondents also requested updates on new developments in the pharmaceutical sector, new treatments, or initiatives.

Table 6. Areas for Which Capacity Building or Support is Required

Areas for which capacity building or support is required	Number of respondents	Remarks
All-important topics	4	All pharmacy practices; topics not covered in CP, like dermatology
APTS	3	
Antimicrobial resistance	1	
Clinical pharmacy services	2	
Compounding services & required equipment	1	
Drug supply management	1	Collaboration with Pharmaceuticals Fund and Supply Agency (PFSA)
Information updates	4	New developments in the pharmaceutical sector, new treatments or initiatives

Areas for which capacity building or support is required	Number of respondents	Remarks
Infrastructure	3	
Leadership and management	2	Including health system leadership
Waste disposal	1	
Total	22	

As shown in table 7, respondents suggested that all levels of staff and professionals need capacity building, in particular for APTS training, as well as for new or untrained staff to address the high turnover rate.

Table 7. Human Resources or Health Facilities for Which Capacity Building is Required

Human resources or health facilities for which capacity building is required	Number of respondents	Remarks
All levels of staff	10	Including regional health bureaus (RHBs), all professionals, hospitals, and health center staff (APTS)
Untrained and new staff	10	Including new graduates; to address high turn-over rate
University trainers	1	For pre-service training and mentorship for in-service training
Media	2	
Total	23	

In terms of suggestions for training approaches, most of the respondents requested supportive supervision or onsite training (table 8). Some requested that the supportive supervision should be conducted by RHB or government officials, and recommended that the trainers' performance should be supervised. Refresher training was also suggested by several respondents. Other suggestions included: inter-facility learning and experience sharing; using expert patients for ART training; and practice-based training.

Table 8. Suggestions for Training Approaches

Training approach	Number of respondents	Remarks
Supportive supervision, mentoring, on-site training	15	Including joint supportive supervision, supervision by RHB or government officials, frequent supervision, mentoring on RDU and DTC, supervision or M&E of trainers' performance
Refresher training	9	
Updating training materials	3	
Inter-facility learning and experience sharing	3	
Allocate more time for the training	5	In particular for TOT, APTS and CP services
Others	4	Apply adult learning approach; use expert patients for ART training; practice-based training; integrated and comprehensive training
Total	39	

As to suggestions for training interventions, most respondents requested interventions related to APTS, such as computerization of APTS, expanding APTS to all hospitals and health centers, introducing APTS in the pre-service training curriculum, etc. (table 9). Strengthening monitoring and evaluation (M&E) for APTS, for CP services, and of post-training implementation were also highlighted by some respondents. A few respondents suggested that SIAPS review the training interventions to identify best practices and challenges, or identify gaps and develop strategies to address them.

Table 9. Suggestions for Training Interventions

Interventions	Number of respondents	Remarks
Computerizing APTS	8	
Strengthening supervision and M&E	5	Including APTS, CP, and post-training implementation
Expansion of APTS and DIS to all hospitals and HF's	2	
Review on best practices and challenges	2	Review progress and identify gaps
Identify areas that need improvement and address them	1	
Include APTS in pre-service training	1	
Establish cluster DICs to mentor DIS in catchment areas	1	
Working with media to raise awareness about AMR & RDU	1	
Provision of computers and text books	1	
Total	22	

FINDINGS FROM THE PHYSICIANS FOR CLINICAL PHARMACY SERVICES

Satisfaction and Contributing Factors

The seven physicians were from six hospitals. They included five general practitioners, one medical director, and one resident physician. Three of them have worked with the pharmacists for CP services for between six months and twelve months, and four of them for more than twelve months. They rated their satisfaction level about CP services using a five-point Likert scale. The results were excellent (3; 43%); good (2; 29%); and fair (2; 29%). None of them rated below “fair”. The physicians provided reasons for their ratings, as shown in table 10.

Table 10. Reasons for the Physicians’ Ratings

Explanation about the ratings	n	%
The pharmacists helped identify prescription issues that prevented medication errors	5	71
The pharmacists helped improve patients’ adherence to treatments	5	71
The pharmacists helped with medication selection, provided patient medication education, and had a positive impact on morning sessions and case presentations.	1	14

The physicians also identified the factors that contributed to their positive ratings. Most of them attributed their satisfaction to the close communication between the pharmacists and the physicians concerning prescription issues and the patients’ medication status (table 11).

Table 11. Factors that Contributed to the Positive Results

Factors that contributed to the positive results	n	%
The pharmacists are very knowledgeable	4	57%
The pharmacists communicate closely with the physicians about prescription issues and the patients’ medication status	5	71%
The hospital management is very supportive of the clinical pharmacy services	4	57%
Received positive feedback from the patients about the services they received from the pharmacists	3	43%
Other (post-training follow up & supportive supervision; the pharmacists convinced other professionals about the importance of their services by identifying and intervening in drug therapy problems)	2	29%

However, one of the physicians raised an issue about the communication gap between the pharmacists and the physicians concerning prescription issues and the patients’ medication status.

Physicians' Suggestions for SIAPS

Five of the physicians (71%) gave their suggestions about CP services. All of them suggested that SIAPS should continue to provide support. The following specific ideas were given:

- Provide clinical pharmacy training to new pharmacy graduates.
- Hospital management should provide more support to clinical pharmacy services.
- Scale up the CP services to other wards.

FINDINGS FROM THE GOVERNMENT OFFICIALS AND SUPERVISORS

Thirty-three government officials, hospital chief executive officers (CEO), and pharmacy heads were sampled for the review; 19 (58%) provided their views on SIAPS' capacity-building approaches, results, motivators, and challenges. They also provided recommendations for future improvements. The findings are summarized in the following sections.

Reasons that In-Service Training is Required

In the opinion of these respondents, in-service training is required for the following reasons:

- a. The initiatives introduced by SIAPS are new initiatives that require training to raise awareness and to build the capacity of the managers and health professionals for implementation purposes. For example, the staff do not have adequate knowledge, and there is misinterpretation regarding APTS concepts by some professionals and management. The training is needed to provide clarification.
- b. There is constant staff turnover at health facilities. The newly deployed staff need to be trained to implement the new systems.
- c. The undergraduate curriculum is outdated and is not customized to the Ethiopian context. For example, DTC topics covered at the undergraduate level are not adequate and they are not practical to help professionals perform DTC-related activities effectively.
- d. Training is required to improve the uniformity of knowledge among pharmacy professionals in order to implement a new system, and improve the quality of service delivery at institutions.

In addition, the following professionals need to be trained in specific technical areas:

- APTS: accountants, cashiers, pharmacy professionals, auditors, CEOs, and finance heads.
- Clinical pharmacy: pharmacy graduates trained using the old curriculum.

Results Achieved by the SIAPS Program

Due to the high-level positions of the respondents, they identified results at the system level, not at the individual level. It should be noted that these outcomes are not solely the result of training, but also of other interventions conducted by SIAPS.

- a. **APTS:** Products have become traceable, auditable, and manageable, resulting in improved availability, reduced expiry and wastage, and increased revenue from medicine sales. Information is used for decision making (e.g., forecasting of pharmaceuticals);

financial /resource use is improved. Infrastructure change: the previous room that had one window for medicine dispensing to patients is now built in a standard way.

- b. APTS and CP:** Clinical pharmacists are effectively optimizing medication therapy in the wards and at all other dispensary outlets. Patient satisfaction, availability of medicines, and patient knowledge on how to use dispensed medicines have dramatically increased to above 90%. Medicine expiry is almost sustainably below 2%. Patient flow and revenues from sales of medicines have almost all doubled.

“Such groundbreaking achievements made our hospital a center of excellence, paving the way for the 1 million Birr award nationally. The Boru Meda Hospital is being visited by [staff from] many cluster hospitals and others for experience sharing. The concept of APTS has helped our hospital to coin the philosophy of a model community pharmacy we opened in Dessie city aimed at [lowering] medicines cost in favor of the public which used to be victim of private pharmacies that are rampant in the town.”

- c. DTC:** The ownership of the DTC at health facilities and health bureaus is improved; DTC’s capacity in procurement, rational drug use, medical equipment management, medicine classification in vital, essential, non-essential (VEN), ABC/VEN analysis and DUE has been strengthened. The availability of pharmaceuticals at the hospital has reached 93% (Alamata General Hospital).
- d. Clinical Pharmacy:** Awareness is created across the health sector, resulting in the initiation of new practices; medicine therapy problems are being identified and corrected in a timely manner to benefit the patients. Many physicians are becoming positively encouraging of the service.
- e. The Continuous Results Monitoring System (CRMS)** has improved the M&E system at the HF level and at health bureaus.
- f. EDT:** It enables the pharmacists to effectively monitor stock status, patient adherence, adverse drug events, prescribing, dispensing, and medicine use practices. As a result, it helps prevent therapeutic failure, increases patients’ knowledge and adherence, and improves therapeutic outcomes.
- g. The institutional capacity building** provided by SIAPS through mentoring and provision of storage and dispensing equipment has improved the storage capacity and storage conditions of pharmaceuticals, including antimicrobial medicines.

Factors that Contributed to the Results

The respondents shared their views on the factors that contributed to the positive results, and some challenges that they have observed. The factors include SIAPS’ training approaches and interventions, as well as coordination and multi-level support. A summary of the factors follows.

Factors that Contributed to Positive Results

APTS

- SIAPS’ support and training approaches: Training is meant for implementation; adequate and quality training; mentoring and joint supportive supervision (JSS). Training and mentoring are problem solving, targeting, motivating, and sensitizing, and are able to break resistance.
- Good coordination between SIAPS and the Federal Ministry of Health (FMOH).
- Strong commitment of the managers and staff to stick to the principles of APTS even in the face of audit deficit and the attendant penalty where the staff tried to work hard to avoid the root cause of the deficit instead of complaining. As a result, the audit deficit that was relatively high at the early phase of APTS is now almost negligible.

“One can mention APTS where, with the creative approaches of SIAPS, 10 hospitals could be able to start APTS shortly after APTS training, unlike the classic trainings we know where staff see training as means of a retreat. SIAPS’ mentoring and JSS serve as a recipe for moving best practices forward and bringing back on track, which seems not to [have worked] at a given time.”

DTC, RMU, AMR, and CP

- Evidence-based approach to develop, improve, and achieve measurable results of implementation strategies we have seen in the SIAPS activity.
- Needs-based trainings and interventions: Needed by pharmacists to practice patient-centered services (as opposed to supply only); need from pharmacists to communicate effectively with the physicians about patients. Need to improve services and supply chain; need for enhancing pharmacy profession; dedicated resources.
- Strong support and commitment from partners (SIAPS), universities, physicians and nurses, facilitators and trainers.
- Training strategy and approach: the managers (supervisors) were targeted, therefore, created awareness and ownership; multidisciplinary training; adult-learning approach; applied practical examples and benchmarks using documents, pictures, audio and videos; post-training action plan and follow up/status report; knowledge/experience sharing by trained staff; provided direct technical assistance at job sites; continuous support in area of focus.
- Practical system strengthening tools, such as CRMS data collection and analyzing database and the reporting formats.

Factors that Contributed to any Negative Results or Challenges that Need to be Addressed

APTS

- Lack of indemnity, which led to forcing the staff to pay audit deficit of any magnitude, including those that occurred because of unavoidable errors, such as those from a manufacturer's packing error.

"This has become reason for staff turnover to some extent."

- Challenges that should be addressed:
 - The need for organizing APTS training for new recruits due to the high staff turnover rate
- "APTS is not something one would learn from trial and error but be based on staff who are fully informed of ins and out of APTS as there are legal issues attached to it."*
- Incentive package for pharmacy professionals is still a challenge.
 - Shortage of pharmacy manpower.

FINDINGS FROM SIAPS ETHIOPIA STAFF MEMBERS

Program Results by the End of PY4

SIAPS Ethiopia continued to move toward its targets, as shown in table 12. Some targets may be too ambitious to achieve, however, the SIAPS Ethiopia team has been able to produce significant results as compared to the baseline.

Table 12. SIAPS Performance Indicators* (Cumulative Results)

Indicators	Baseline	PY3Q4 (Jul-Sep 2014)	PY4Q4 (Jul-Sep 2015)	PY4 Target
# of pharmaceutical sector laws and regulations developed or updated and submitted for adoption	0 (Oct-11)	3	5	6
# of pharmaceutical management guidelines, lists, and SOPs developed (or updated) and submitted for adoption	0 (Oct-11)	10	11	24
# of functioning committees, structures or related bodies with measures in place to provide oversight and promote accountability in the pharmaceutical sector	132 (Apr-13)	189	218	202
# of in-service health professional training curricula developed or reformed to address pharmaceutical management topics	0 (Oct-13)	2	3	5
# of SIAPS supported local institutions or organizations providing training or technical assistance in pharmaceutical management	0 (Oct-11)	7	9	4
# of trainings or technical assistance assignments completed by local partners	0 (Oct-11)	16	19	2
# of persons trained in pharmaceutical management	0 (Oct-11)	4220	5037	552
# of health facilities that are using country-appropriate tools to report logistic and patient data	0 (Oct-11)	34	38	35
% of warehouses with stock-outs of a pre-selected group of medicines for 3 days or more in the last three months	76% (Apr-13)	76%	54%	20%
% of health facilities using a standardized checklist to monitor storage conditions	17% (Apr-13)	17%	73%	89%
% of SIAPS-assisted structures (DTCs or alternative structures) that have documented evidence-based improvement in medicine use	54% (Apr-13)	54%	75%	83%
% of SIAPS-assisted structures (infection control, DTCs, or alternative structures) that have implemented AMR advocacy or containment-related activities	29% (Apr-13)	29%	54%	46%

* The data were retrieved from NewDea

In addition to building individual capacities in knowledge, skills and competencies, and quality of services, through training and other interventions, SIAPS Ethiopia has also built institutional capacity or improved system performance. Achievements include, but not limited to, relicensing health care settings according to the new 39 HF standards or regulations; a health regulatory information center was established at the FMHACA that has received and responded to 1,290

calls between June 2014 and June 2015; transparency and accountability of practices related to pharmaceutical management and services are institutionalized through APTS legislation enacted by five RHBs and the FMOH. As of September 2015, 45 hospitals have implemented APTS and have shown remarkable improvements in patient satisfaction by reducing waiting times at pharmacies, improving patient convenience due to facility layout changes, and increased patients' knowledge of medicines dispensed to them. In most hospitals, the availability of key medicines has increased from 65% to more than 95%, and wastage of medicines due to expiry has been reduced from 8.24% to less than 2%. Most DTC (75% of 218 DTCs) have documented evidence-based improvements in medicine use. The onsite training has contributed to the increased adverse drug events reporting rate, from 79 in 2012 to 411 in 2014. CP services were implemented in 60 hospitals. In a survey in 38 hospitals that implemented CP, pharmacists made recommendations on 91% of the drug and therapeutics problems, of which 83% were accepted by the prescribers.³

Overall, SIAPS supported the establishment of a transparent and accountable system (APTS) to institute good governance in the management of medicine transactions, reduction in wastage, and optimizing use of budget allocated for medicines at HFs; institutionalized patient-focused pharmacy services to improve pharmaceutical care and adherence to treatment; and improved economic and health outcome benefits from the rational use of medicines.⁴

Lessons Learned from Capacity Building and Interventions

The SIAPS Ethiopia staff members provided input on lessons learned.

Successful Experiences

- a. Needs-based training: gap assessment was made before the leadership and management training was conducted.
- b. TOT: local trainers played key roles in cascade training, field visits (supervision or mentoring), and demonstrating the practical aspect of implementation. TOT created local ownership and local training capacity, as well as reduced SIAPS staff's training workload.
- c. Knowledge exchange among hospital managers and pharmacy professionals during the implementation of APTS was an innovative approach and a successful experience. It has changed many CEOs and pharmacy staff's attitude and removed doubts about APTS.
- d. Post-training support (mentoring or supportive supervision): In collaboration with government counterparts and trainers, SIAPS provided follow up visits and on-the-job training to health facilities, which was very helpful to the trainees in applying what they learned during training.

³ Ibid.

⁴ Ibid.

- e. During the course of implementing the interventions, stakeholders' commitment or support was received, as follows:
- Trainees' commitment to implementing what was trained, especially on the medicine registration information system, APTS, and CP.
 - Health facility managers' support in implementing APTS, CP, and DTC activities.
 - Government counterparts' support in implementing proposed interventions.

Challenges

- a. High staff turnover: many trainees left the health facility or related departments, and new staff were not trained in the program (such as APTS, RMU, medicine registration, etc.). Continuous training was therefore required. There have been requests for gap filling training. However, due to the shortage of funds, the requests could not be satisfied.
- b. Staff shortages at the implementation sites (health facilities or departments)
- c. The roles and responsibilities of some trainees were not defined, or changed, or they were not enabled to implement the program after receiving training.
- d. Low confidence of some trainees in applying the knowledge in their practice, in particular, for CP services.
- e. Some trainees participated in the training for other purposes (such as for per diem, relieved from work station, or socialization).
- f. Trainers who lack practical experience: Some trainers from universities usually lack practical background/experience, however, they are rich in theory. Some trainers who were not engaged in actual implementation at the hospitals (from the FMOH or RHBs, and trainers who did not work in the hospitals) were not able to give practical training to hospital pharmacists.
- g. Outsourced training for leadership and management training: trainers had extensive experience in such training. However, the training was not well customized for health care, supply chain management, and managing medicines regulation.
- h. Some trainees were unable to implement the program due to unexpected delay in launching the program at their facilities.
- i. Some RHBs requested to implement APTS before they were ready with human resources and facility requirements.

DISCUSSION AND RECOMMENDATIONS

Due to its innovative approaches and continuous efforts, SIAPS Ethiopia has produced significant results and gained the Ethiopian government and health workers' confidence and trust. APTS and CP services have become flagship interventions for SIAPS Ethiopia. Their results in strengthening transparency, accountability, governance, and patient outcomes have played a key role in improving institutional capacity and system performance. The Ethiopian government officials have shown their interest in scaling up these interventions and have requested continuous support from SIAPS. The inputs and lessons learned from this review will help SIAPS in its future programming.

SIAPS Ethiopia applied needs-based training and evidence-based interventions that were considered successful and should be continued. Regarding capacity-building approaches, in addition to participatory training workshops, post-training implementation follow up visits or supportive supervision were regarded as one of the best learning methods for the trainees to address capacity gaps and challenges in implementation. The experience of knowledge exchange was helpful for APTS, which motivated the recommendation of inter-facility learning from the "best practices" facilities. Inter-facility learning provides real-life experiences and practical examples. The "best practices" health facilities also generate potential trainers to sustain the capacity building locally.

Provision of guiding tools, such as guidelines, SOPs or job aids, to the health workers for self-learning is a common capacity-building approach. Surprisingly, only a few respondents considered following the instructions in those guiding tools as a useful learning method! Since there was no in-depth interview in this review to identify the causes, it would be helpful to further investigate the reasons behind this finding.

Some challenges were raised in the review. The high turnover rate of health workers was observed, and continuous gap-filling or refresher training was requested. A gap (lack of indemnity) in APTS, which potentially caused staff turnover, was identified, and SIAPS may therefore need to understand how to address such an issue. Improving pre-service training curricula, transitioning routine training activities to local government counterparts, training trainers who have practical experience, and supervising trainers' training quality were considered helpful to address the need for program scaling-up and staff turnover. There is also a need to ensure that a new staff orientation system is in place in all health facilities to help new staff perform their work. Some trainees were unable to implement what they learned due to unexpected delays in launching the program at their facilities. RHB requests for a new program, such as APTS, without readiness with the required resources or environment were challenges for implementation of programs that need to be addressed for training to be effective. Preparedness and coordination among stakeholders are critical for success. SIAPS' support in this regard may be required.

In addition to SIAPS staff, alternative trainers were used for various trainings, such as trainers from universities, health facilities, or outsourced training. Because the training is to prepare the participants to implement a specific program, practical training, instead of theory-oriented, is

preferred. University trainers were found to lack practical experience. Since APTS and CP were recommended to be included in the pre-service training curriculum, university trainers may need to participate in defined hours of practice at health facilities, or train special trainers from the “best practice” facilities to provide not only in-service training, but also pre-service training. Outsourced training organizations were often considered to have training specialists. However, such training was found to not be customized to the Ethiopia context. By learning this lesson, SIAPS should participate in the early stages of preparation of the design of training and materials, and supervise the implementation of the training activities.

As the stakeholders achieved the results of the programs introduced by SIAPS, they also wish to expand the programs, such as automation for APTS, scale up of APTS, CP, EDT, DTC, DIS, etc. The required competencies are not limited to health technical areas, but also information technology, supervision, M&E, administrative, financial, and communication skills, etc. Such an interest will give SIAPS an opportunity to introduce more technical assistance and innovative interventions in a more integrated manner. It was also recommended that all concerned managers and health workers should be trained to establish better coordination and common understanding and skills among stakeholders. To address the need for human resources and competencies for scaling up and sustaining the above programs, SIAPS should consider helping the Ministry of Health and Ministry of Education to develop human resource and competency strategic frameworks that map out the competency or professional needs, forecast the required human resource quantities for the needed competencies, and seek financial and technical resources to fulfill the strategies. While that only 26% of the respondents reported that participating in an accredited continuous education program was useful, SIAPS should work with the local professional councils or associations to assess whether such a training approach would be widely acceptable and feasible to sustain local training capacity and to motivate health workers to grow their professional competencies through a formal system.

ANNEX 1. QUESTIONNAIRE FOR TRAINEES

Questionnaire-1 for TRAINEES⁵

To the respondent:

Please fill the following information except the serial number which was filled by the assessment organizer. The information below will only be used for verification of the information you filled in this questionnaire. It will not be disclosed for any purposes. (Please find definitions of some terms in the footnotes.)

Respondent's serial number _____ **Current Position⁶:** _____

Current Organization/Health Facility/Department: _____ **Region** _____

Phone Number: _____ **E-mail Address:** _____

To the respondent: The information below (A, B & C) was filled by the assessment organizer about the specific training you received. Please cross-check, and make corrections if necessary. You will respond to the questionnaire according to your training specified in A, B, & C. (Please find definitions of some terms in the footnotes.)

A. Training /capacity-building activity and date

Name of the Training /capacity-building activity	Date (mm/dd/yyyy)

B. Type of capacity-building activity

1. ___ Workshop or lecture/course⁷: Facilitated by SIAPS ___, Trainers ___, Outsourced to local institution ___, Others ___
2. ___ On-site, on-the job, face to face instructions, or mentoring⁸
3. ___ Supportive supervision⁹
4. ___ Conference: Local ___, International ___
5. ___ Other (specify): _____

C. IR categories

- ___ IR1-Pharmaceutical sector Governance
 ___ IR2- Pharmacy services at HFs

⁵ Any respondents who received any types of training, such as in-country or international training workshops or courses; face to face, on-site or on-the job trainings, mentoring; or supportive supervision, on-line learning, etc. Trainers (received TOT) are included.

⁶ Technical or managerial positions, such as pharmacists, nurses, procurement or logistics officer; director, medicine registration officer, ... etc.

⁷ Workshop or lecture/course: A group of participants that sit in a training course in which there are facilitators who teach or facilitate with a designed agenda or program for few hours or few days.

⁸ On-site, on-the job, face to face instruction, or mentoring: The facilitator/supervisor/mentor provides advice or instructions to an individual or a small group of trainees at work.

⁹ Supportive supervision (SS): the capacity-building activity happened at the supportive supervision or follow up visit (it could be on-the job training, or any meeting to discuss gaps and solutions during SS, etc). If there is on the job training during SS, you can tick both 2 & 3.

- IR3- information for decision making
- IR4- Optimal use of financial resources

Please respond to the questions below:

Q1-3, Please check the box for that applies, and type your remarks if any

1. Were you in the same organization/health facility/department when you attended/received the training or capacity-building (CB) activity? Yes , No . Any remarks: _____
2. Were you in the same position or roles when you attended/received the training or capacity-building activity? Yes , No . Any remarks: _____
3. Are you still performing the same work or responsibilities as the time when you attended the training or capacity-building activity? Yes , No . Any remarks: _____
4. **How useful was the training or capacity-building activity to you?** *Please check the boxes for all that apply, and type your remarks, if any.*
 - a. The training provided a certificate that is useful to enrich my CV.
 - b. I gained the knowledge about¹⁰ (what): _____
 - c. It improved or developed my skills or competency in *doing* (what): _____
 - d. It improved my quality of services in (what): _____
 - e. I was able to make contributions in any meetings or discussions relating to the areas of the training I received. Any examples: _____
 - f. It contributed to the improvement of institutional or system performance¹¹ in (what):

 - g. Any others? Please specify: _____
 - h. I don't know.
 - i. It was NOT useful to me. ***Please proceed to question #7-9 to explain or tell us more about it.***
5. **If the training was useful, please let us know more about it.** *Please check the boxes for all that apply, and type your remarks, if any.*
 - a. The training was interactive and participative. The trainer¹² knew how to engage the participants.
 - b. The trainer was very knowledgeable. He/she presented the contents or demonstrated the practice in a very professional manner.
 - c. The trainer was very patient and responsive to the participants' questions.
 - d. The training applied visual aids (pictures, figures, charts, etc) that made the contents easy to understand.

¹⁰ Any specific technical area or knowledge, such as rational use of medicines, DTC, supply chain management, etc.

¹¹ Qualitative (descriptive) or quantitative (indicators)- for example, Improve the efficiency or reduced wastage from expiration or damage through re-organizing the warehouse; improved data quality in LMIS reports; the managers are able to identify issues or make timely decisions from the information or reports; reduced procurement lead time; reduced the consumption or use of antimicrobials; increased ADE reports, improved patients' adherence to treatment, etc.

¹² Trainer, mentor, or supervisory team members, etc.

- e. ___ The training had exercises, practice, or group work, which were very practical and helpful in enhancing my learning.
- f. ___ The training provided information exchange with other participants. I was able to learn from others.
- g. ___ There was a post-training action plan session in which I was able to plan for implementation after the training.
- h. ___ There were pre- and post-training tests which helped me understand about what and how much I have learned from the training.
- i. ___ The training contents and technical areas were right for my work.
- j. ___ Any others? Please specify: _____

6. **Were there any factors that contributed to the results you have mentioned in question #4 of the training or capacity building?** *Please check the boxes for all that apply, and type your remarks, if any.*

- a. ___ I continue to practice on what I was trained in my day to day work.
- b. ___ I have been committed to the implementation of the action plan that was developed in the training¹³.
- c. ___ My supervisor or the organization's managers have been very supportive.
- d. ___ I have to submit a training report to my supervisor or organization after receiving any training.
- e. ___ I shared the knowledge I learned from the training with my colleagues without the request of my organization or my supervisor.
- f. ___ I have to brief my colleagues about the training contents after receiving any training according to the request of my supervisor or organization.
- g. ___ My colleagues have been very supportive and cooperative.
- h. ___ I continued to participate in trainings or meetings/events related to the same technical area.
- i. ___ There is an organizational or country *strategy/policy* to implement the system for which the training was aiming for. Please specify the strategy or policy _____
- j. ___ There is a tracking system to monitor the status of the implementation of the post-training action plan (*either the trainees have to report back to the relevant departments, or the relevant departments make follow-ups on the trainees to track the status*)
- k. ___ There is a supportive supervision system that provides continuous technical support.
- l. ___ There is an official monitoring and evaluation system to track the implementation progress.
- m. ___ Any others? Please specify: _____

Please proceed to Question #8-9

7. **If the training was NOT useful to you, please help us understand the reasons so that we can improve for the future:** *Please check the boxes for all that apply, and type your remarks, if any.*

- a. ___ The training or capacity-building approach was boring or not attractive. - Please tell us more:
 - i. ___ The design of the training or capacity-building method was boring or not attractive.
 - ii. ___ The way the trainers facilitated not attractive or not helpful to you;
 - iii. ___ Any others? (Please specify:)

¹³ Only applies to the training that has the section of developing post-training action plans.

- b. ___ The training contents were too difficult for me to understand or practice. - Please tell us more:
- i. ___ The contents were totally new to me
 - ii. ___ The technical area was totally new to me
 - iii. ___ The technical terms or knowledge were too hard to understand
 - iv. ___ The trainer went too fast and you could not keep up with
 - v. ___ Any other reasons? (Please specify:)
- c. ___ The training contents or technical area did not match my work. - Please tell us more:
- i. ___ I did not know what training or technical area it was before you receive it
 - ii. ___ I was not in the position related the technical area of the training
 - iii. ___ I was assigned to the training on behalf of others
 - iv. ___ Any other reasons? Please specify: _____
- d. ___ The system has no enabling environment for me to perform what I learned from that training. -
- i. ___ The new system has not launched yet;
 - ii. ___ The required equipment or space has not been available;
 - iii. ___ The required department or organizational structure has not established yet;
 - iv. ___ I have not been assigned to an appropriate position to perform the work related to the training;
 - v. ___ Any others? Please specify: _____
- e. ___ Any other reasons? Please specify: _____

8. From your own learning experiences (not limited to this training or capacity-building activity), what learning methods work best to you? Please identify at least 1, at most 5 items, and check the boxes for all that apply.

- a. ___ Training courses (a group of participants sitting in a venue where trainers facilitate the courses according to the training curricula and agenda with limited interactions)
- b. ___ Participative training workshops (a group of participants sitting in a venue where trainers facilitate the courses with practical interactions, exercises or practices)
- c. ___ Mentor's guidance (a mentor that provides regular onsite hand-hold or face to face instructions, or helps solve problems by providing advice)
- d. ___ Reading technical documents (reports, journal articles, text books, guidelines, etc)
- e. ___ Participate in accredited continuous education program
- f. ___ The on-the-job training form the supportive supervision
- g. ___ Have technical discussions with colleagues or other professionals
- h. ___ Participate in technical meetings, seminars, or conferences
- i. ___ Making oral or poster presentations in a meeting or conference
- j. ___ Having the responsibility to train or mentor others (as a trainer or mentor, or supervisor)
- k. ___ Learn from observing how my supervisor or colleagues do the work
- l. ___ Have job aids posted in my work station
- m. ___ Follow the instructions of guidelines or SOPs

- n. ___ Exchange visits to other organizations or health facilities
- o. ___ On-line learning through training courses
- p. ___ On-line learning through social media
- q. ___ Any others? Please specify: _____

9. **Would you please kindly provide your suggestions, if any, to SIAPS on how it can do better or differently in capacity building (not limited to training workshops)?** Please specify:

Thank you very much!

ANNEX 2. QUESTIONNAIRE FOR GOVERNMENT OFFICIALS OR TRAINEES' SUPERVISORS

Questionnaire-2 for Trainees' SUPERVISORS or GOVERNMENT OFFICIALS who oversee the system related to the training topics

To facilitator/interviewer:

Brief the respondents about the objective of the interview: to learn from the respondents about the results or impact of SIAPS's training or capacity-building activities, and their suggestions.

Ask for respondent's personal information. Tell him/her that the information below will only be used for verification of the information in this questionnaire. It will not be disclosed in any reports or any other purposes.¹⁴

Respondent's serial number: _____ **Current Position¹⁵:** _____

Current Organization/Health Facility/Department: _____ **Region:** _____

Phone Number: _____ **E-mail Address:** _____

SIAPS Portfolio (ticked by the facilitator/interviewer):

IR1- governance; IR2- services; IR3- information; IR4- use of financial resources

Please have the respondents answer the questions below:

1. Why do you think training is required to implement the _____¹⁶ program that is under your management or oversight?

2. Since SIAPS started the training or capacity-building activities, have you seen any results (positive or negative, or no change; such as staff's capacity or performance, system's performance) (it will be great if you can show us any indicators)?

¹⁴ The respondents' personal and contact information will be used for clarification only. Please tell the respondents about how their personal information will be used and protected so that they would be comfortable for providing information.

¹⁵ Managerial positions, such as Head of Pharmacy Department in the hospitals, Hospital Director, provincial health or RHB managers, MOH relevant departments' senior officials; etc.

¹⁶ To be filled by the facilitator, such as clinical pharmacy, supply chain management, procurement, HIV, PV, APTS, etc.

3. Were there any factors (or motivators) that contributed to the positive results or successes you just mentioned? (including training approach¹⁷ and other factors¹⁸)

4. (If the respondents mentioned any negative results, or no change) Were there any factors (or barriers) that contributed to the negative results or failure, or no improvement you just mentioned? (including training approach and other factors)

5. Do you have any suggestion to SIAPS about what SIAPS could do differently (or better) on training or capacity-building interventions?

Thank you very much!

¹⁷ We wish to know whether the supervisors or government officials have any comments on the training approach.

¹⁸ Such as commitment of trainees, head of department, hospital director, and/or government; support of national strategies (such recruiting young professionals) or policies, stakeholders' technical support and/or financial support, etc. Please ask for a bit more details.

ANNEX 3. QUESTIONNAIRE FOR PHYSICIANS

Questionnaire-3 Physicians who work with pharmacists for Clinical Pharmacy Services

To facilitator/interviewer:

Brief the respondents about the objective of the interview: to learn from the respondents about the results or impact of SIAPS's training or capacity-building activities, and their suggestions.

Ask for respondent's personal information. Tell him/her that the information below will only be used for verification of the information in this questionnaire. It will not be disclosed in any reports or any other purposes.¹⁹

Respondent's number: _____ **Current Position²⁰:** _____

Current Organization/Health Facility/Department: _____ **Region:** _____

Phone Number: _____ **E-mail Address:** _____

SIAPS Portfolio (ticked by the facilitator/interviewer):

IR1- governance; IR2- services; IR3- information; IR4- use of financial resources

Please have the respondents answer the questions below:

6. How long have you been working with the pharmacists who provide clinical pharmacy services?
___ Less than 6 months
___ Between 6 months and 12 months
___ More than 12 months
7. Can you rate the services provided by the pharmacists for clinical pharmacy?
 - 1- Least satisfaction
 - 2- Less satisfaction
 - 3- Fair
 - 4- Good
 - 5- Excellent
8. Would you please provide brief explanation about your rating with any examples²¹? *Please check all that apply, and fill the remarks, if you check "Others"*
 - a. Helped identify prescription issues that prevented medication errors
 - b. Helped improve patients' adherence to treatments
 - c. Did not observe any change

¹⁹ The respondents' personal and contact information will be used for clarification only. Please tell the respondents about how their personal information will be used and protected so that they would be comfortable for providing information.

²⁰ Technical or managerial positions: such as any specialist, residence physician; or head of any medical department; etc.

²¹ *For example:* helped identify prescription issues that prevented medication errors, helped improve patients' treatment adherence (if rated 4 or 5); increased workload in communication, or did not observe any change (if rated 3), etc. (Please encourage the respondents to talk according to their own experience)

- d. Increased workload in communication or working with the pharmacists
- e. Others. Please specify: _____

9. Were there any factors (or motivators) that contributed to the positive results or successes you just mentioned? *Please check all that apply, and fill the remarks, if you check "Others"*
- a. The pharmacists are very knowledgeable
 - b. The pharmacists communicate closely with the physicians about prescription issues and patients' medication states
 - c. The hospital management is very supportive for the clinical pharmacy services
 - d. I received positive feedback from the patients about the services they received from the pharmacists
 - e. Others. Please specify: _____
- _____

10. (If the respondents mentioned any negative results, or no change) Were there any factors (or barriers) that contributed to the negative results or failure, or no improvement you just mentioned? *Please check all that apply, and fill the remarks, if you check "Others"*
- a. The pharmacists' have limited knowledge in clinical pharmacy
 - b. There was communication gap between the pharmacists and the physicians about prescription issues and patients' medication states
 - c. The hospital management is not supportive for the clinical pharmacy services
 - d. I received negative feedback from the patients about the services they received from the pharmacists
 - e. Others. Please specify: _____
- _____

11. Do you have any suggestion to SIAPS about what SIAPS could do differently (or better) on building capacity or interventions to improve or expand clinical pharmacy or patient-focus pharmaceutical care?

Thank you very much!

ANNEX 4. QUESTIONNAIRE FOR SIAPS ETHIOPIA STAFF

Questionnaire for SIAPS staff

IRs: Please identify the IR(s) you represent:

- IR1-Pharmaceutical sector Governance
- IR2- Pharmacy services at HF's (ART, DM, CP, RMU, DTC, AMR, PV, etc.)²²
- IR3- Information for decision making
- IR4- Optimal use of financial resources

Name: _____

Date: Dec ____, 2015

1. (Beneficiaries) What target groups were trained or capacitated for this IR/sub technical area? (Please tick or circle all that apply, and provide remarks if any)
- a. Pharmacy professionals pharmacists pharmacy technicians or assistants
 - b. Physicians or clinicians
 - c. Nurses or nursing assistants
 - d. Lab technicians
 - e. Health facility managers (hospital directors, administrators, financial managers, etc)
 - f. Government officials Central level (MOH, etc) Local level (RHB, etc)
 - g. Others, please specify _____

Remarks:

2. (Approaches) What training methods were applied? Was there any reason of applying such training methods? (Please tick or circle all that apply, and provide remarks if any)
- i. Pre-service training: facilitated by SIAPS staff, Institutions' lecturers _____
 - ii. Training of Trainers - for what training? _____
 - iii. In-service training: facilitated by SIAPS staff, Trainers, Outsourced _____
 - iv. In-service training: local training workshops, _____
 - v. Post-training action plans or implementation plans, _____
 - vi. Supportive supervision, _____
 - vii. Mentoring _____
 - viii. Others? _____

²² DM: drug management, CP: clinical pharmacy, RMU: rational medicine use, DTC: Drug and Therapeutics Committee, AMR: antimicrobial resistance, PV: pharmacovigilance.

Remarks:

3. Have you made follow ups on the trainees' about knowledge or skills gains, or performance after the training facilitated by outsourced organization? Yes, No.

If yes, how did you make follow-ups?

- a. Through post-training implementation follow up visits
- b. Through existing supportive supervision
- c. Through regular mentorship
- d. Others, specify _____

Remarks:

4. (TOT- training approach) (Please tick or circle all that apply, and provide remarks if any)

a. How did you select the trainers-

- i. Were there any requirements? Yes, No. If yes, what were the requirements?

- ii. Where were they from? _____

b. How did you train the trainers:-

- i. Provide courses in Technical areas,
- ii. Provide courses in "teaching and facilitating" methods, or adult learning methods
- iii. Engage HQ staff to provide TOT
- iv. Other approach: specify _____

Remarks:

5. (TOT- Trainers' performance) (Please tick or circle all that apply, and provide remarks if any)

a. Were you comfortable with the training performance of the trainers? Yes, No, no comment

b. Were there any challenges that affect trainer's performance in conducting training? Yes, No.
If Yes, What are they? _____

c. What types of continuous support did you provide to them? provide feedback, trained them again, Others

d. Have you seen their improvement in facilitating training? Yes, No, I don't know

e. Other than cascade training, did the trainers also play any other roles regarding implementation?
Yes, specify _____
No, I don't know

- f. Do you think that training master trainers could be one of the approaches to sustain the local capacity? Yes, No, I don't know
- g. Would you suggest that TOT should be considered in the future program? Yes, No, I don't know

Remarks:

- 6. (Outsourced training) (Tick all that apply+ remarks if any)
 - a. What organization did you outsource the training? _____
 - b. How did you select the organization? Based on:-
 - i. Reputation (past performance)
 - ii. Relevant experiences
 - iii. Technical expertise
 - iv. Others. Specify _____
 - c. What did you involve in the outsourced training activities?
 - i. Participated in course design or training,
 - ii. Provide logistic support,
 - iii. Super vise the training activities conducted by the outsourced organization ,
 - iv. Others, specify _____
- 7. (Outsourced performance)
 - i. Were you comfortable about the training performance of the outsourced organizations? Yes, No, I don't know
 - ii. Have you observed any strengths and weakness of the outsourced organization in their training? Yes, No, I don't know
If Yes, please briefly specify _____
 - iii. Have you made follow ups on the trainees' about knowledge or skills gains, or performance after the training facilitated by outsourced organization? Yes, No, I don't know
If Yes, was there any finding? _____
 - iv. Do you think that outsourced training was a successful approach? Yes, No, I don't know
 - v. Would you suggest that outsourced training should be considered in the future program? Yes, No, I don't know

General Remarks on outsourced training: _

- 8. (Lesson learned) What training methods were considered successful by specifying training methods and related results (Please share any country indicators if available)

Annex 4. Questionnaire for SIAPS Ethiopia Staff

	Training methods (be consistent with question2)		Results (Tick all that apply+ remarks if any)
i	Pre-service training facilitated by <input type="checkbox"/> SIAPS staff, <input type="checkbox"/> Institutions' lecturers	a	Improved trainees' knowledge,
ii	Training of Trainers	b	Improved trainees' skills,
iii	In-service training: facilitated by <input type="checkbox"/> SIAPS staff, <input type="checkbox"/> Trainers, <input type="checkbox"/> Outsourced	c	Improved trainees' performance
iv	In-service training (local training workshops)	d	Improved systems' performance (please provide examples or indicators:
v	Post-training action plans or implementation plans		
vi	Supportive supervision		
vii	Mentoring		
viii	Others, Specify:		

9. (Lesson learned) What factors contributed to the success of the results in the previous question?

(Tick all that apply+ remarks if any)

- a. Training approaches _____
- b. Trainees' commitment in implementing what was trained _____
- c. Health facilities' managers' support _____
- d. Government counterpart's (specify _____) support _____
- e. National strategies or policies' support _____
- f. The timing for training and implementation was well planned _____
- g. Sufficient funding _____
- h. Needs- based training : _____
- i. Post-training support (mentoring/supportive supervision): - _____
- j. Others _____

10. (Lesson learned) What training methods were considered less successful or unsuccessful by specifying training methods and related results using the above (#4) or other indicators, or any qualitative information. (Please share any country indicators if available)

	Training methods (be consistent with Q2)		Results (Tick all that apply+ remarks if any)
i	Pre-service training facilitated by <input type="checkbox"/> SIAPS staff, <input type="checkbox"/> Institutions' lecturers	a	No improvement in trainees' knowledge,
ii	Training of Trainers	b	No improvement in trainees' skills,
iii	In-service training: facilitated by <input type="checkbox"/> SIAPS staff, <input type="checkbox"/> Trainers, <input type="checkbox"/> Outsourced	c	No improvement in trainees' performance
iv	In-service training: <input type="checkbox"/> local training workshops, <input type="checkbox"/> international training	d	No improvement in systems' performance (please provide examples or indicators:
v	Post-training action plans or implementation plans		
vi	Supportive supervision		
vii	Mentoring		
viii	Others		

11. (Lesson learned) What factors (or challenges) contributed to the lack of success of the training or capacity-building activities (What are the challenges in performing what have learned? (Tick all that apply+ remarks if any)

- a. High staff turnover _____
- b. Low ownership of the government counterparts _____
- c. The trainees did not gain sufficient knowledge or skills _____
- d. Low confidence of the trainees or government counterparts _____
- e. Shortage of staff _____
- f. Lack of required tools or equipment (specify _____) _____
- g. The role or responsibility or job description was not changed (or was not meant for) to perform what they have learned _____
- h. The system was not changed for performing the knowledge gained from the training (specify)_____
- i. Attending the training for different purposes (such as for per-diem, for out of work station as a break from work, for meeting friends or socialization, etc)_____
- j. The implementation of the trained program was not implemented due to un-controlled factors (specify) _____
- k. Others _____

12. (Lesson learned) Have you ever received any compliments or complaints from trainees, trainees' supervisors', or government officials' about SIAPS training or capacity-building activities (technical or logistical, training methods or results), or their recommendations for improvements? (open-ended question)