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

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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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Key Words

SIAPS, training, learning, capacity building, Bangladesh

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ACRONYMS

ADE	adverse drug event
ADR	adverse drug reaction
ADRAC	Adverse Drug Reaction Advisory Committee
ADRM	adverse drug reaction monitoring
DGDA	Directorate General of Drug Administration
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
FP	family planning
GMP	Good Manufacturing Practices
HF	health facility
ICT	information and communication technology
LMIS	Logistics Management Information System
LMT	logistics management training
M&E	monitoring and evaluation
MDR-TB	multidrug-resistant tuberculosis
MOHFW	Ministry of Health and Family Welfare
MSH	Management Sciences for Health
NTP	National Tuberculosis Program
PLMC	Procurement and Logistics Management Cell
PV	pharmacovigilance
PY	program year
SCMP	Supply Chain Management Portal
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOP	standard operating procedure
TA	technical assistance
TB	tuberculosis
TOT	training of trainers
UIMS	Upazila Inventory Management System
USAID	US Agency for International Development
WHO-IMC	World Health Organization – International Drug Monitoring Centre

ACKNOWLEDGEMENT

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 Bangladesh was one of two countries selected for an in-depth review of SIAPS training activities.

This review was conducted through desk review and key informant interviews with 69 trainees, 11 government officials and health facility managers, and 4 portfolio representatives of SIAPS Bangladesh in January 2016. Of the 69 trainees, 10 participated in a training workshop facilitated by SIAPS; 49 participated in an event that was co-facilitated by SIAPS and local master trainers or consultants; 5 participated in bidders' orientations that were co-facilitated by SIAPS and government officials; and 3 and 2 participated in workshops that were outsourced to a local training institution and to an international training institution, respectively.

More than 80% of the responding trainees reported that they benefited from the interactive design of the training and the use of visual aids. They thought that the trainers were knowledgeable, attentive, and patient, and more than 90% of the respondents reported that they gained knowledge and improved their skills or competencies and their quality of services. Eighty-six percent of the trainee respondents agreed that the training had contributed to improvements in institutional or system performance. Changes include improved transparency, efficiency, and quality of the supply system; being aware of stock status at all times; reduced wastage; fewer mistakes at work and improved data quality; making evidence-based and timely decisions; improved customer satisfaction; and improved access to TB medicines. The trainee respondents identified the top factors contributing to the positive results: daily practice, support from managers and colleagues, and sharing the knowledge acquired from colleagues during the training. According to the trainees, the learning methods that worked best for them were mentoring (68%) and participatory training workshops (57%). However, only 1% of the respondents considered guidelines, SOPs, or job aids a useful learning method!

The government officials and trainees' supervisors stated that in-service training is required because knowledge about or use of the new system is lacking among staff and because skills must be developed to ensure good work quality from a new system. They also identified improved staff skills, performance, quality of work, and performance of the system as resulting from SIAPS training and interventions. They also acknowledged that SIAPS' participatory and practical training approaches, government and staff commitment and team work, and stakeholders' support and supervision were the factors that contributed to positive results.

The SIAPS Bangladesh portfolio staff identified lessons learned through training activities and interventions. Stakeholders' support and commitment, followed by the contributions of the master trainers, were the most important factors in the success of the programs. Challenges in training include shortage of staff and staff turnover; low ownership on the part of government counterparts as regards budgeting for training new staff or rolling out the program to the whole country; insufficient knowledge and skills on part of the trainees, even after receiving training; and lack of enabling factors to implement the target programs after training.

Recommendations are provided according to the findings of the review. The recommended capacity-building approaches include participatory training workshops, post-training implementation follow-up or mentoring, and peer-learning through knowledge exchange. SIAPS needs to ascertain, through wider consultation, the degree to which guidelines, SOPs, and job aids are used and the reasons affecting the use or usefulness of these tools, and then to advocate for active learning attitudes and practices.

The government officials and health facility managers have expressed interest in scaling up information systems and improving pharmaceutical regulatory and supply systems. To meet such needs, the required competencies and types of human resources are not limited to health technical areas and professionals, but should be drawn from information technology, supervision, M&E, administration, finance, communications, and others. To scale up and sustain these programs, SIAPS should consider helping the ministries concerned assess the human resource gaps and needs in terms of competencies, number of staff required, and education resources. Once these parameters are known, a human resource development strategy can be developed that is in line with the needs of the country and financial and technical resources can be sought to fulfill the strategy.

BACKGROUND

In 2008, the Government of Bangladesh announced a "Vision 2021" pledge to improve the quality of life and quality of governance and to achieve mid-income country status by the year 2021. One component of Vision 2021 is Digital Bangladesh, a pledge to use modern technology to impact every aspect of public and private life by 2021. In 2011, the government developed the "Strategic Priorities of Digital Bangladesh," which are "human resource development, connecting citizens, digital government for pro-poor service delivery, and information and communication technology (ICT) in business."[1] In 2012, the government developed its "Perspective Plan of Bangladesh 2010-2021 – Making Vision 2021 a Reality," which operationalizes the "human resource development" priority by "Promoting and Sustaining Health" and "Education, Training, and Skills Development for Human Capital Formation."

Bangladesh has realized many achievements in supply management for health commodities over the past few decades. However, many issues remain in pharmaceutical systems strengthening that pose challenges for the Ministry of Health and Family Welfare's (MOHFW) implementation of effective health and population programs. Although stock-outs of key commodities have decreased at the national level, much work needs to be done to strengthen the system to ensure uninterrupted supplies of high quality and safe commodities at service delivery points. Challenges in the management of the procurement process, storage, and distribution of health commodities and consumption monitoring have been documented. All of these sub-systems serve as the primary sources of information for forecasting and quantification. Registration of imported health commodities, management of tuberculosis (TB) commodities, and the overall quality assurance of the health supply chain continue to be areas of concern.

Since 2011, the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program, which is funded by the US Agency for International Development (USAID) and implemented by Management Sciences for Health (MSH), has provided technical assistance (TA) to the MOHFW and its key directorates, namely, the Directorate General of Family Planning (DGFP), Directorate General of Health Services (DGHS), National Tuberculosis Program (NTP), and Directorate General of Drug Administration (DGDA). The focus of TA has been on good governance, procurement, logistics, and improving the regulatory system with the aim of ensuring the continuous availability of quality commodities to support quality health care delivery, patient safety, and the timely availability of reliable data to support evidence-based decision making. In alignment with the "Digital Bangladesh" component of Vision 2021 and its strategic priorities, SIAPS has introduced computerized systems to support the MOHFW's pharmaceutical systems.

SIAPS Bangladesh has been working with key stakeholders to introduce new or innovative programs in the MOHFW and at health facilities in 488 upazilas (sub-districts) nationwide. Various capacity-building activities have been carried out to strengthen the knowledge and skills of government officials, health facility managers, and health care workers for the implementation of programs. SIAPS Bangladesh's interventions are categorized into four portfolios: DGDA,

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[1] 3 Tangible Outcomes of Digital Bangladesh: An inspiration for South Asia. Posted on February 25, 2014 by Masum Billah. http://discover.isif.asia/tag/vision-2021/.

logistics, procurement, and TB. Between January 2012 and September 2015, SIAPS Bangladesh trained more than 14,000 people.

The capacity-building approaches used by the SIAPS Bangladesh team have included:

- Training of trainers: The logistics portfolio trained 20 master trainers from DGFP in all aspects of pharmaceutical management and trained 75 government staffs (Family Planning [FP] Department and warehouse staff) as "troubleshooters" in 64 districts to assist in the implementation of inventory software (Upazila Inventory Management System [UIMS]).

- In-service training workshops facilitated by both SIAPS staff and master trainers: These workshops were conducted by all four portfolios.

- Post-training action plans: The Logistics portfolio included the development of post-training action plans at the end of its training workshops, and followed up their implementation by trainees through supportive supervision visits. The national level (DGFP) issued notification to trainees requesting them to implement their action plans. If any upazila was not performing well, the DGFP informed the first-line supervisor (FP officer) to intervene.

- Supportive supervision: Ten SIAPS technical advisors are based in ten regions to provide supportive supervision and on-the-job training at health facilities if any knowledge gaps are found. Low performing upazilas are identified and receive repeat visits.

- Mentoring: The "trouble shooters" for the logistics management software played a critical role in addressing problems in use of the software.

- Outsourced training: The Procurement portfolio outsourced two trainings, one to a local institution and one to an international institution. The DGDA portfolio used an external consultant to facilitate a training workshop.

- Hospital visits: The DGDA portfolio visited hospitals to orient hospital staff on medicine safety and adverse drug event (ADE) reporting.

OBJECTIVE OF THE REVIEW

Between 2011 and 2015, the SIAPS Program has 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 the SIAPS Program and examine the effects of the training on individual capacity. SIAPS Bangladesh was one of two countries selected for an in-depth review of SIAPS training activities.

Between January 2012 and September 2015, SIAPS Bangladesh trained more than 14,000 people through training or orientation workshops. This review gathered information from a sample of trainees (including those trained as trainers), their supervisors, government officials, and SIAPS Bangladesh staff members on the results of the training and the factors that contributed to the results.

METHODOLOGY

This review was conducted through a desk review of several training reports and SIAPS' Program Year (PY) 4 Annual Report. Key informant interviews were also conducted with SIAPS Bangladesh staff, a limited number of trainees, and government officials and health facility managers. The SIAPS Bangladesh staff were interviewed in four portfolio-based groups during conference calls conducted in November 2015 by a SIAPS headquarters staff member based in the US. An open-ended questionnaire was used (annex 1). A local consultant was hired to conduct interviews with trainees using a semi-structured questionnaire (annex 2), and with the government officials and health facility managers using an open-ended questionnaire (annex 3). These interviews were conducted in January 2016. Sixty-nine trainees from the public and private sectors were conveniently selected from 29 upazilas (see Limitations section) according to the technical areas of training (tables 1 and 2) that had been conducted between January 2012 and September 2015 (table 3). Five upazila health officials and health facility managers who oversee supply management, procurement, TB project and pharmaceutical regulatory affairs were selected from five upazilas, as well as six central-level officials in Dhaka, where the central government is based.

Table 1. Types of Training and Sample Sizes

Type of training	DGDA	Logistics	Procurement	TB
Adverse Drug Reaction Monitoring (ADRM) Cell	2			
Focal points for pharmacovigilance (PV)	2			
PV workshop	2			
Medicine registration	3			
Good Manufacturing Practices (GMP) inspection	3			
Logistics management training (LMT)		12		
UIMS training		12		
Master trainer (for LMT)		2		
Bidders orientation			5	
Framework agreement			3	
Procurement post-review and audit trial			2	
Basic training on procurement of goods and services (conducted by SETYM International[2])			2	
eTB Manager				12
Multidrug-resistant TB (MDR-TB)				2
TB Logistics Management Information System (LMIS)				3
Master trainer (for TB)				2
Total	12	26	12	19

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[2] SETYM International. http://www.setym.com/en-ca/Home/Default.aspx.

Table 2. Respondents' Type of Organization

Type of organization	Numbers of respondents
Government entity	43
Health facility (HF)	20
Private (suppliers and HF)	6

Table 3. Year in Which Respondents (Trainees and Trainers) Were Trained

Year of training	2012	2013	2014	2015	Total
Number of respondents	2	14	36	17	69

Limitations

Due to time and budget constraints, only 24 training reports were reviewed, and the sample size for the trainees was significantly reduced, from over 200 to 69 who were traceable and easily accessible geographically. The review aimed to gain an understanding of training methods and the effects of training for individual capacity building. It is not possible to do causal analysis of the broader system performance because the training was one of a series of interventions undertaken by SIAPS. Therefore, other factors that helped the respondents achieve their results are presented and discussed.

FINDINGS FROM THE DESK REVIEW OF TRAINING REPORTS

Twenty-four orientation and training reports were reviewed. The reports were generated right after the training activities. The contents included objectives, summarized training methods, training programs or schedules, participant lists, participants' feedbacks, conclusions and next steps. There were two trainers' manuals for training of master trainers and a guide for training of trainers. Two reports indicated pre- and post-training testing results for a total of 55 (13 and 42) batches of training. The results of the logistics management training in 13 batches for 306 participants from 10 districts showed an average knowledge gain of 59% (in average, 34% pre-test and 93% post-test). The results of the UIMS training of 42 batches for 968 participants from 313 upazilas showed an average knowledge gain of 34% (in average, 45% pre-test and 79% post-test). Two reports indicated post-training action plans, one in the 13 batches of logistics management training, the other in one pharmacovigilance training.

FINDINGS FROM THE TRAINEES

Turnover Rates of the Trainees

The turnover rates among respondents—a change in organization/department or position—since the time training was received were 4% and 1%, respectively (table 4). The SIAPS Bangladesh team was concerned about high turnover rate of the trainees. However, the results did not show significant turnover rates.

Table 4. Turnover Rates of the Respondents

	Same*	Different**	N/A	% Changed
Organization/ Department	66	3	0	4%
Position	66	1	2	1%

Same*: organization and position are the same as at the time of training.
Different**: different organization and position from the time of training.

Training Methods or Approaches

All of the respondents participated in training workshops or orientations. Of the 69 respondents, 10 participated in a training workshop facilitated by SIAPS staff; 49 participated in an event that was co-facilitated by SIAPS and local master trainers or consultants; 5 participated in bidders' orientations that were co-facilitated by SIAPS and government officials; and 3 and 2 participated in workshops that were outsourced to a local training institution, and to an international training institution, respectively (table 5).

Table 5. Source of Facilitators for the Workshops in Which Respondents Participated

	Facilitated by SIAPS staff only	Co-facilitated by SIAPS and master trainers or consultants	Co-facilitated by SIAPS and government officials	Outsourced to local training institution	Outsourced to international training institution
No. of respondents	10 (14%)	49 (71%)	5 (7%)	3 (4%)	2 (3%)

More than 80% of the respondents reported that they benefited from the interactive design of the training and the use of visual aids, and thought that the trainers were knowledgeable, attentive, and patient (figure 1).

Sixty percent of the respondents thought that the exercises in the training were very helpful. Sixty-eight percent of them benefited from information exchange with other participants. Only 44% (7/16)[3] of the respondents attended a training that had a post-training action planning

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[3] Only 16 of the respondents participated in workshops that had a session on post training action planning.

session, in which participants were able to plan for the implementation of activities that would be conducted immediately following the training (figure 1). Seventy-six percent (19/25)[4] of the respondents thought that the pre- and post-training tests were useful for their learning. Seventy-five percent of the respondents considered that the training content was appropriate for their work.
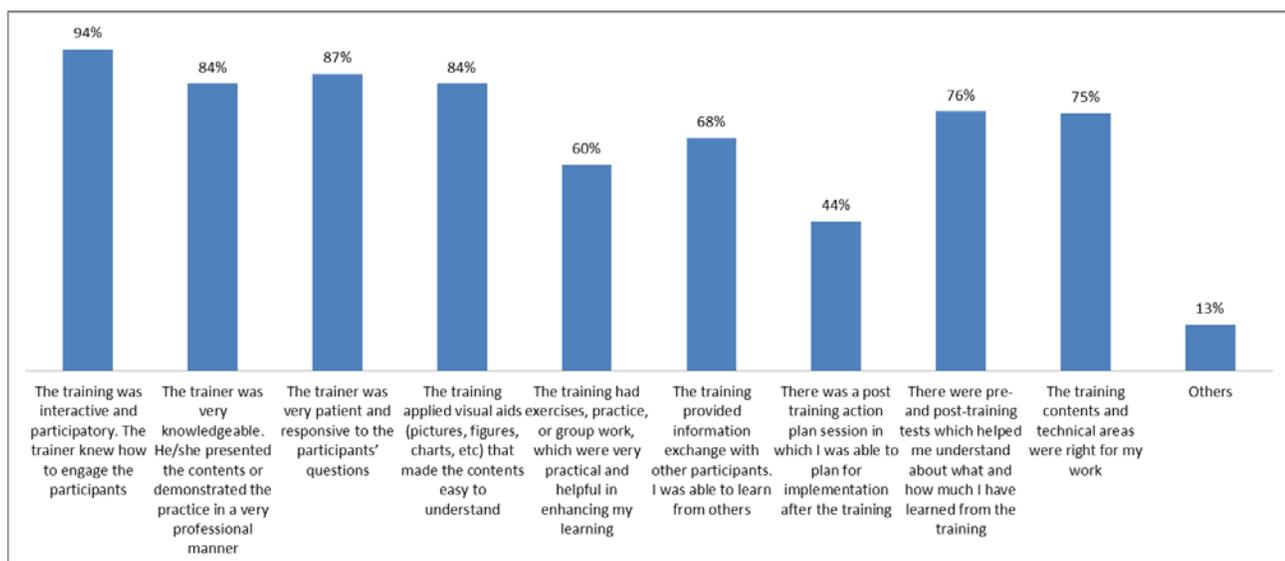

Figure 1. Training components that were useful to the respondents (N=69)[5]

Training Results

The overall results of the training may be examined at the individual level or at the institutional or system level (figure 2). At the individual level, more than 90% of the respondents reported that they gained knowledge, and improved their skills or competencies and their quality of services. Only 49% of the respondents were able to make contributions in any meetings or discussions. This result may be due to the fact that not all respondents have had opportunities to participate in meetings or discussions since receiving training. Eighty-six percent of the respondents agreed that the training had contributed to improvements in institutional or system performance. Changes include: improved transparency, efficiency and quality of the supply system; being aware of stock status at any time; reduced wastage; minimized mistakes at work and improved data quality; making evidence-based and timely decisions; improved customer satisfaction; and improved access to TB medicines. Some of the trainees' responses are quoted below:

Logistics: Higher authority is now aware due to the online report, increased transparency and quality of work; be able to identify issues and make timely decision; improving data quality in LMIS reports through improved inventory management (take less time, get online and on server

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[4] Only 25 respondents participated in workshops that had pre- and post-training tests.
[5] Except the ones for participating in the training that had post-training action planning sessions (N=16), and the pre- and post- training tests (N=25).

easily); timely recovery of information from archive to satisfy information seekers, i.e., audit, etc.

Procurement*: Finding best products at low prices; good quality of bid submitted by bidder; reduced procurement time; need less man-hours to prepare bidding documents; no need to bid every year; etc.*

TB*: Easy to record and prepare report, require less time to do scheduled tasks; maintain follow-up case in time; quarterly reporting with less time and without error; through online report, it is easy to make decision [in a] timely [manner]; TB drugs can be received from any DOTS centre all over Bangladesh if patients want; it contributes to the drug supply plan, forecasting TB cases, and MDR-TB accurately, etc.*

DGDA*: The staff can [prepare the] manufacturer document properly; improve drugs' quality and reduce customer complaints; conduct inspection more correctly; sharing views with other companies to reduce counterfeit drugs and ensure quality of production.*

A few of the respondents (13%) also shared results that were significant to them, such as: being able to help other staff remotely in using the electronic UIMS information; improved accountability *("significant reduction of pilfering of goods from office; an epoch-making management system")*; being able to make decisions based on evidence ("*previous data helps in making future plans*"); being able to request product quality and supply time in the tender documents; and being able to provide technical support for the development of the LMIS. Four percent of the respondents found that the training was not useful to them (figure 2); the reasons are presented in table 6.
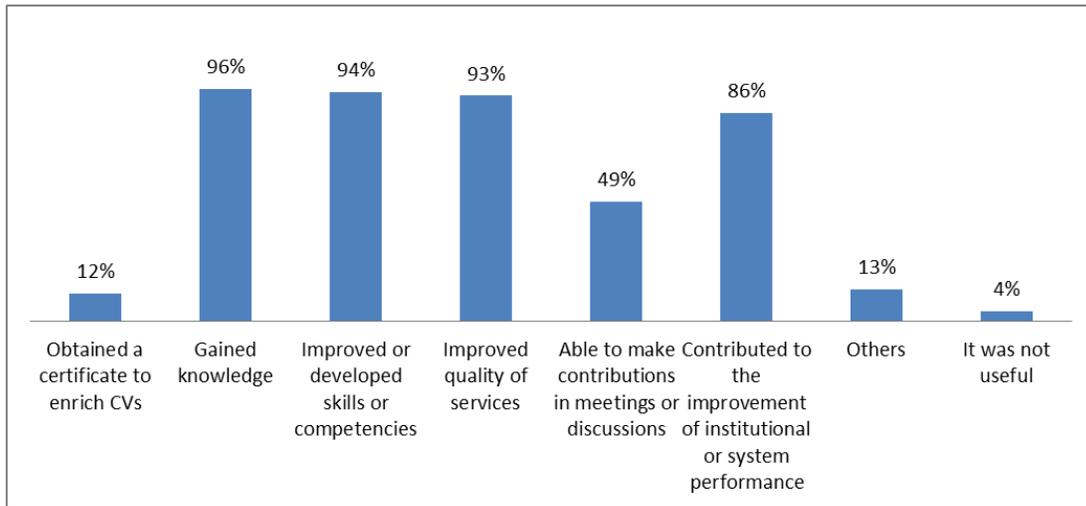
Figure 2. Overall results of the training (N = 69)

Figure 3 presents these same results, but disaggregated by portfolio (portfolio denominators can be found in table 1). It shows that the respondents who received logistics and TB training expressed more confidence in the individual level (knowledge gained, skills improved, quality of services), and felt that they contributed more to institutional or system performance changes than

the trainees from the other two portfolios. The respondents who received procurement training showed the lowest results at the individual level and contributed the least to improvements in institutional and system performance. Twenty-five percent of the respondents under the procurement portfolio thought that the training was not useful.
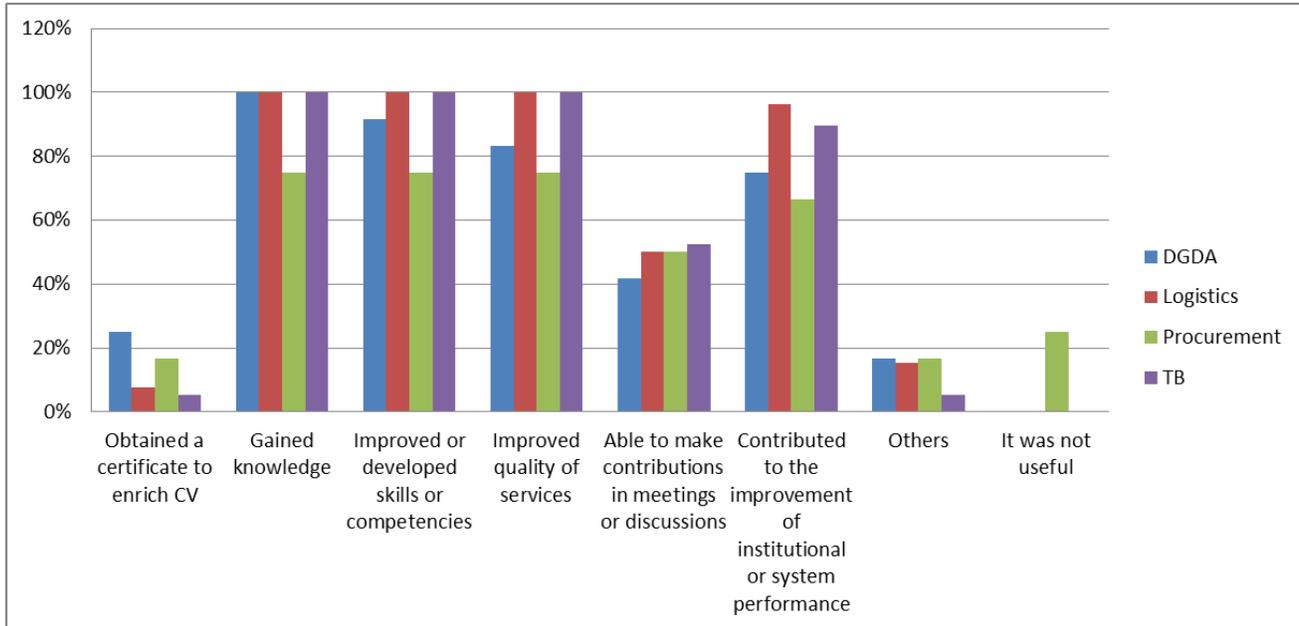
Figure 3. Training results by portfolios

Although the majority of respondents felt that the training they had received was useful, 10 (14%) respondents indicated a few reasons why the training was not helpful to them (table 6). Three respondents trained in procurement specified multiple reasons for why the training was not helpful to them, including the training approach used and external factors. The trainee from a supplier felt that the training content was not new to him, and was therefore not useful. Two trainees from a government entity and a health facility reported that they were not in the right position related to the technical area of the training, or lacked an enabling environment, and found the technical area of the training was totally new to them, and it was not interesting. Although these complaints were from a minority group, they provided lessons to SIAPS to improve training and system strengthening strategies.

Table 6. Reasons the Training Was Not Helpful

Reasons and sub-reasons	n	%
1. The training or capacity-building approach was boring or not interesting	**3**	**4**
- The design of the training or capacity-building method was boring or not interesting	**1**	
- The way the trainers facilitated was not interesting or not helpful	1	
- It is not new to me	1	
2. The training content was too difficult for me to understand or practice	**2**	**3**
- The technical areas or content were totally new to me	2	
3. The training content or technical area did not match my work	**3**	**4**
- I did not know what the training or technical area was before I received it	1	
- 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 apply what I learned during the training	**2**	**3**
- The required department or organizational structure has not been established	1	
- I have not been assigned to an appropriate position to perform the work related to the training	1	
Total	10	14

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

Training alone will not produce an impact without practice or application of what has been learned as well as an enabling environment for implementation. The respondents identified the factors (figure 4) that enabled them to achieve the positive results expressed in figure 2. Figure 4 shows that the top factors contributing to the positive results were: daily practice; support from managers and colleagues; and shared the knowledge learned during the training with colleagues.
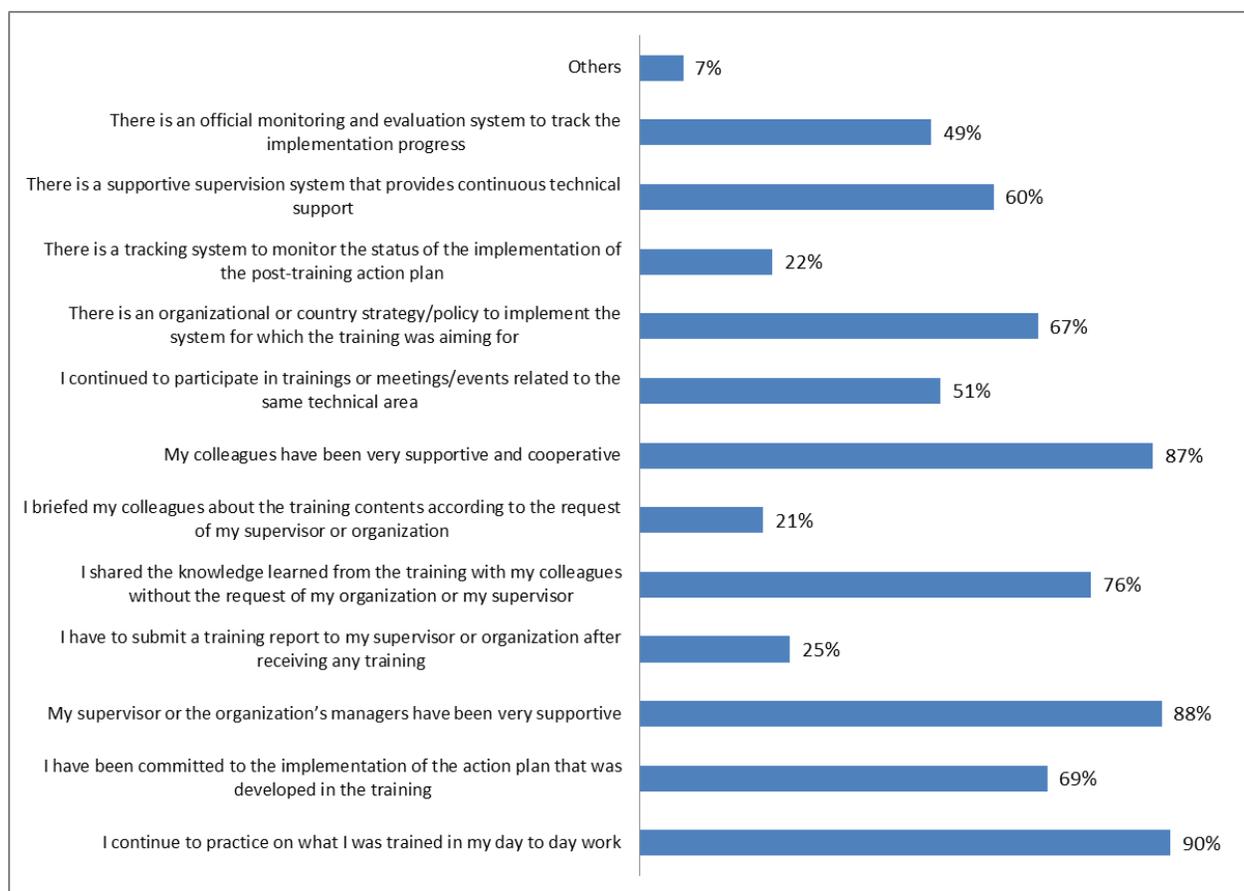
Figure 4. Post-training factors that contributed to the results of the training (N=69)

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 effective. The respondents provided their answers according to their own experiences, as shown in figure 5. The limitation of this finding is that the respondents were not asked whether they had been exposed to all the possible learning methods, such as online learning or making presentations in a meeting, etc. Therefore, there is no specific denominator for each of the responses, but 69 is being used as the overall denominator. Within this context, the results showed that mentor's guidance worked best for most of the respondents (68%), followed by participatory training workshops (57%), didactic or non-participatory training courses (49%), and reading technical documents (35%). On the other hand, the result for on-the-job training through supportive supervision was low (14%). This could be due to the fact that supportive supervision was not available to every facility on a frequent or regular basis (such as quarterly). The results for self-learning methods, such as following the instructions in guidelines or standard operating procedures (SOPs) (0%), or job aids (1%), or learning from colleagues (4%) were surprisingly low, especially the feedback that none of the respondents thought that following instructions in guidelines or SOPs was useful. Bearing in mind that data for the denominators were not collected, it should be noted that the government and development partners have made significant efforts to produce technical guidelines, SOPs, or tools. The results may imply that most of the respondents were passive learners. At the same

time, it should be noted that the result for reading technical documents (35%) was much higher than that for following guidelines, SOPs, or job aids. This could be because technical documents often include practical experiences to learn from, whereas standard guidelines do not.
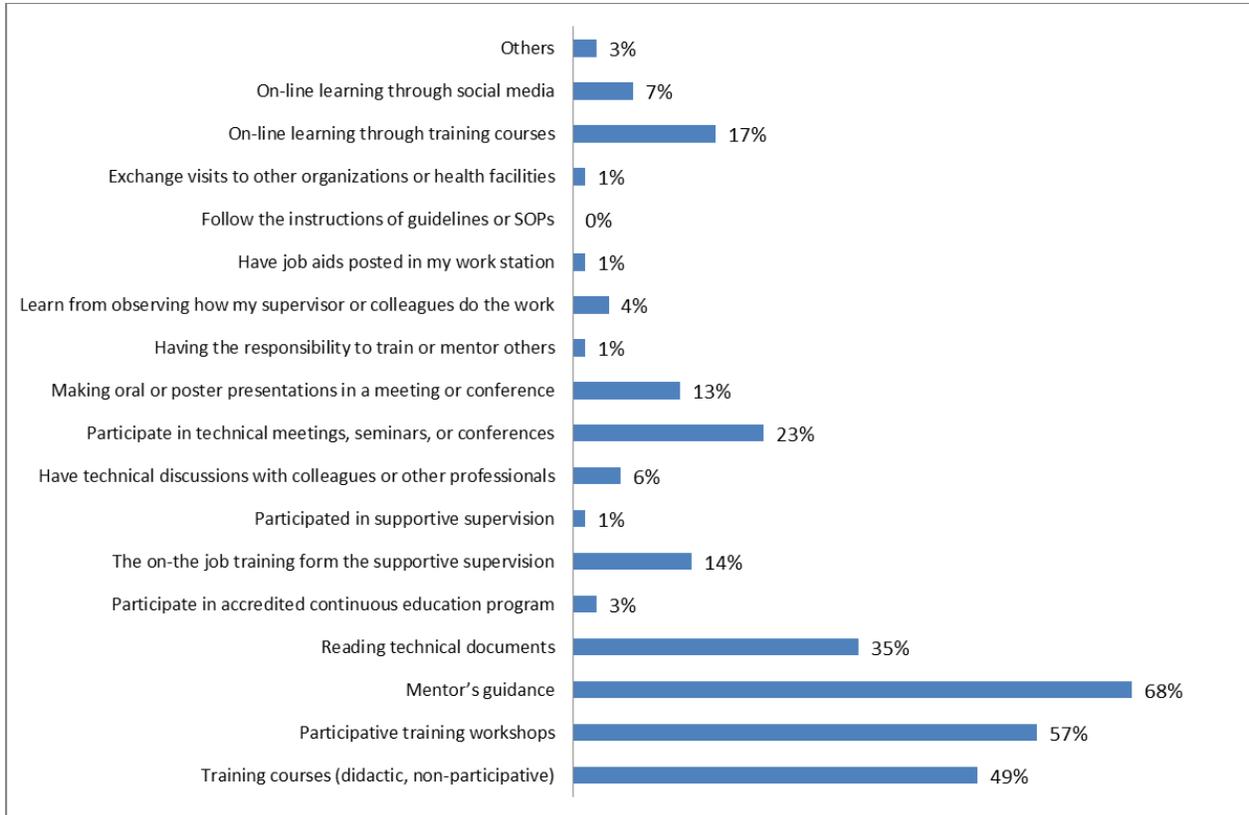
Figure 5. Learning methods that worked best for the respondents according to their own experiences (N=69)

Trainees' Suggestions about Capacity Building

All respondents shared suggestions about their needs for capacity building in an open-ended question. Their recommendations or comments were then classified as follows: areas for which capacity building or support is required (table 7); human resources or health facilities for which capacity building is required (table 8); suggestions for training approaches (table 9); and suggestions for interventions (table 10). Some respondents' comments fell into multiple classifications. In addition to suggestions, all respondents also expressed their gratitude (such as "SIAPS training is the best because it is service-related").

As seen in table 7, 30 (43%) respondents requested refresher training or orientation. One respondent requested training in medicine bioavailability, bioequivalence, clinical trial, and post-marketing surveillance.

Table 7. Areas for Which Capacity Building or Support is Required

Area	n
Frequent refresher training or orientation on their technical areas	30
Medicine bioavailability, bioequivalence, clinical trial, post-marketing surveillance	1

As seen in table 8, four respondents suggested that the number of master trainers be increased, and one suggested providing refresher training to master trainers for maintaining their quality which implies a demand for training. Three respondents suggested improvements in trainee selection, that trainees be selected for specific training programs according to their roles. Other respondents suggested to train nurses, national quality control lab staff, and to supervise ADRM cell staff.

Table 8. Human Resources or Health Facilities for Which Capacity Building is Required

Human resources or facility type	n	Remarks
Master trainers	4	Increase the number of master trainers; need professional trainers; train government officials to be trainers
Provide update (refresher) training for trainers	1	
Select right trainees for right training according to their roles	3	
National Control Laboratory	1	
To supervise ADRM cell staff	1	
Nurses	1	

As shown in table 9, six respondents suggested extending the duration of training, but did not provide their reasons for this opinion. Three respondents recommended a practical training approach with real life information and data. Three suggested the need to update information, which might be the reason for the request for refresher training. While one respondent requested a foreign trainer to guide GMP inspections, most respondents suggested the need for a local trainer, such as upazila-based training, having a trainer in each upazila, and conducting the training at a local venue that is closer to the trainees, etc.

Table 9. Suggestions for Training Approaches

Suggested training approaches	n	Remarks
Pre-test the training materials before the training	1	
Extend the length (duration) of training	6	
Inform the participants 2 weeks before the training	1	
Local venue (closer to the trainees)	1	
Have a master trainer in every upazila to provide technical support	1	Echo the need for local trainer
Upazila-based training	1	Echo the need for local trainer

Suggested training approaches	n	Remarks
Practical training with real life information or data	3	
SIAPS to monitor training quality	1	
Post-training monitoring or follow-ups	2	
Prefer local trainers	1	
Site visits guided by a foreign trainer on GMP inspection	1	
Update information and provide updates on international developments through interaction with foreigners on medicine registration	3	Echo the request of refresher training

As seen in table 10, the main suggestion offered by the majority of respondents was to improve and revise software, especially the e-TB Manager, followed by training on monitoring and evaluation (M&E). A few respondents requested that the e-TB Manager and UIMS be scaled up, which shows their confidence in the systems. Some respondents suggested assigning a computer operator to reduce the workload, which may imply capacity issues in using the software despite most of the respondents appreciated that the electronic tools have saved time in the implementation of regular procedures. A few respondents (classified as DGDA, logistics, and procurement interventions) shared their interest in system improvements to tackle counterfeit medicines, medicine safety issues, medicine shortage, and bidding issues.

Table 10. Suggestions for Interventions

Suggested interventions	n	Remarks
M&E, and SIAPS to take part in M&E	5	M&E on QuanTB and pharmacovigilance were specified
To apply strict rules for post-training implementation	1	
To improve or revise software	9	Use Bengali language in the software; need an UIMS-like system for TB medicines management; synchronize QuanTB or Logistics Management Information System (LMIS) with e-TB Manager; prefer on-line set up for e-TB Manager; review and revise the software every six months; simplify the software (QuanTB); improve UIMS and e-TB Manager, etc.
To scale up interventions	3	Roll out e-TB Manager to all upazilas; scale up UIMS to service delivery points, automation at the upazila level, etc.
Maintenance of computer system	1	
To provide computers	1	
Assign a computer operator at the HF to reduce staff workload	3	For adverse drug reaction (ADR) reporting and e-TB Manager
DGDA interventions	3	Interventions on reducing counterfeit medicines; identify rules and regulations on drug safety; implement post-ADE reporting actions and publish reports.
Logistics interventions	2	Change the supply system to address shortage of medicines; integration of logistics data, reports, and services; automation at the upazila level.
Procurement interventions	2	Produce a common guideline for bidding; broader discussion with stakeholders about international bidding documents.

FINDINGS FROM THE GOVERNMENT OFFICIALS AND HEALTH FACILITY MANAGERS

Five health officials and health facility managers from five upazilas, and six central-level officials from Dhaka were interviewed. They provided their views on SIAPS' capacity-building approaches, results, motivators, and challenges. They also provided recommendations for future improvements. The findings are summarized below.

Why In-Service Training is Required

The reasons for why in-service training is required, from the government officials' and health facility managers' perspectives on the programs they oversee, are as follows:

1. Knowledge about or practice in the use of the system is new or lacking among concerned staff, such as a software (UIMS, e-TB Manager, QuanTB, etc.), or practices (framework agreement procurement, pharmacovigilance, etc.). Sample quotes are provided.

   - *"The UIMS software is a computer-based software. Before installing this software, the staffs were used to [doing the] work manually. Without training, the staff are unable to operate it."*
   - *"Training is required for developing a system and its implementation."*
   - *"Without training in a new environment, it is difficult for staff to cope with the task efficiently and accurately."*
   - *"The training was required for using the QuanTB software. The training helps the participant to know online the estimation of TB cases, supply plan of TB medicine."*
   - *"Desk officers were unfamiliar with the framework for contracting and other best practices."*
   - *"The staff lack experience with framework agreement procurement."*

2. To develop staff skills and to ensure good work quality from a new system. Sample quotes include:

   - *"To develop staff skills on using the UIMS software, the proper way to manage the store, and to correctly issuing vouchers for commodity requirements. This training improves the capacity of utilizing software so that participants can perfectly do their respective work without error."*
   - *"The UIMS/LMT training improved participants' skills in store management."*
   - *The training improved the staff's knowledge and capacities in e-procurement and the procurement tracker for the MOHFW to cover all procurement entities and activities, such as tender security."*
   - *"To know how to collect and record ADR reports in an online system, and to improve skills on medicine registration of DGDA staff, the training was essential."*

Results from the SIAPS Training and Interventions

Due to the high level of their positions, the respondents provided information on results not only at the individual level, but also at the systems level. Key results are summarized and some of the interviewees' responses are provided:

1. Improved staff skills. For example:

   - *"My staff are capable of entering data into the UIMS software and managing the store with the given guideline, and sending reports to all responsible persons through the online [system]."*
   - *"We are able to record patients electronically. By analyzing the records, it is possible to know the correct information (date of follow up and MDR-TB patients) regarding patients."*

2. Improved staff performance:

   - *"The staff's performance is improved a lot. They are managing the store properly by using the UIMS software; they are also preparing commodity requirement documents and supply plans with the software timely and correctly."*
   - *"The desk officers are preparing bidding documents with less errors, full of information, and measuring accuracy of tenders."*

3. Improved the quality of work or the performance of the system:

   - *"The implementation of the UIMS software increases the speed of different activities. Without going on a field visit, we can make supply plans for any service delivery point."*
   - *"The reports are generated timely and correctly. [We] know the names and amounts of commodities being stored. [We can obtain] timely updates of information by using the software."*
   - *"Bidding was taking place every year; now It is taking place in three to four year intervals."*
   - *"Taking initiative for security measure of each and every drug and [conducting] quality control of pharmaceutical products."*
   - *"Established a system for pharmacovigilance; publish regular medicine safety reports and newsletters; monthly field visits; uploading ADR-related data through Visiflow in Visibase system. ADRM cell of DGDA was awarded the 120th full membership of the WHO International Drug Monitoring Centre (WHO-IMC).*

However, one respondent stated that the post-marketing surveillance was not working properly.

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. Factors included: SIAPS training approaches; government and staff commitment and team work; and stakeholders' support and supervision. The feedback is summarized below, along with some of the interviewees' quotes.

Factors that contributed to the results:

1. Training approaches (interactive, participatory, and practical)

    - *"The sessions were interactive, participatory, and practical. I think training is the only important factor behind their positive change."*
    - *"Training recipients' attentiveness."*
    - *"Acquired knowledge from training."*

2. Commitment and teamwork

    - *"Government policies."*
    - *"Commitment of officials and workers."*
    - *"Transparency and accountability of the officers."*
    - *"Team work."*
    - *"Proper use of software."*

3. Technical support and supervision

    - *"Stakeholders' technical support; technical support from SIAPS and cold chain management."*
    - *"Supervision and monitoring."*

However, one respondent complained that the training for DGDA was too short.

FINDINGS FROM SIAPS BANGLADESH TEAM

Program Results as of the End of PY4

SIAPS Bangladesh has continued to work toward its targets, as shown in table 11. The SIAPS Bangladesh team has been able to produce significant results for most of the indicators.

Table 11. SIAPS Performance Indicators* (Cumulative Results)

Indicator	Baseline	PY3Q4 (Jul-Sep 2014)	PY4Q4 (Jul-Sep 2015)	PY4 Target
# of pharmaceutical management guidelines, lists, and SOPs developed (or updated) and submitted for adoption	0 (Oct-11)	4	8	8
# of functioning committees, structures, or related bodies with measures in place to provide oversight and promote accountability in the pharmaceutical sector	1 (Oct-11)	8	9	11
# of national pharmaceutical sector strategic plans developed (or updated)	0 (Oct-11)	1	1	1
# of in-service health professional training curricula developed or reformed to address pharmaceutical management topics	0 (Oct-11)	4	5	5
# of SIAPS-supported local institutions or organizations providing training or technical assistance in pharmaceutical management	0 (Oct-12)	4	5	5
# of trainings or technical assistance assignments completed by local partners	0 (Oct-12)	36	50	50
# of contracts awarded to local institutions or organizations providing training or technical assistance in pharmaceutical management	0 (Oct-11)	4	5	5
# of persons trained in pharmaceutical management	0 (Oct-11)	10,033	14,271	14,000
% of health facilities that keep complete patient information	55% (Sep-13)	65%	89%	81%
% of health facilities that completed and submitted an LMIS report for the most recent reporting period	3% (Oct-11)	93%	99%	95%
# of HFs that have implemented electronic or mobile technology systems to document and report on specific component(s) of the pharmaceutical system (UIMS)	124 (Oct-11)	488	488	488
# of HFs that have implemented electronic or mobile technology systems to document and report on specific component(s) of the pharmaceutical system (e-TB Manager)	6 (Sep-11)	210	210	210
% of warehouses with stock-outs of a pre-selected group of medicines for 3 days or more in the last three months (TB)	29% (Jul-14)	29%	29%	27%
% of ADRs reported that are reviewed	0% (Oct-13)	31%	38%	40%
% of SIAPS-assisted sites that have implemented PV or medicines safety activities	0% (Oct-13)	30%	40%	50%
% of health facilities using a standardized checklist to monitor storage conditions	14% (Jul-14)	14%	88%	80%

* The data were retrieved from NewDea

In addition to these outputs, SIAPS Bangladesh has made notable achievements in governance, supply chain management, and medicine safety, as described in the summary below.[6]

Governance

As of the end of September 2015, the following manuals, guidelines, and SOPs had been developed: DGFP Procurement Procedures Manual; DGFP Supply Manual; Procurement Operations Manual for MOHFW; Framework Agreement; Table (list) of Equipment for 10-, 20-, 50- and 250-Bed Hospitals; SOP for TB Drugs and Supplies; and the Bangladesh National Formulary. Several national-level coordination bodies have been formed and are functioning within the MOHFW and its key directorates to strengthen the pharmaceutical procurement and supply system: the Logistic Coordination Forum for DGFP, Supply Chain Coordination Forum in DGHS, Forecasting Working Group for DGFP, Procurement and Logistics Management Cell (PLMC) in the MOHFW, and the Adverse Drug Reaction Advisory Committee (ADRAC) in the DGDA.

Supply Chain Management

With SIAPS support, the PLMC, the central procurement coordinating body in the MOHFW, has made significant progress in improving the efficiency of the supply chain system and the availability of medicines. As of September 2013, the Supply Chain Management Portal (SCMP) data show that the procurement lead-time has been reduced from 78 weeks (both agencies) to 33 weeks in the DGFP, and to 52 weeks in the DGHS. In addition, DGFP and DGHS procurement packages that are on schedule have increased from 50% (2011) to 80% and 72% in 2015, respectively. Upazilas experiencing stock-outs of FP/reproductive health commodities have decreased from 7% (2011) to under 1% (2015).[7]

The introduction of the service delivery point dashboard module, part of the SCMP, has widened the scope of the computerized logistics reporting system for the DGFP. In addition, through capacity-building interventions, stock-outs at the sub-district level and service delivery points have been reduced to 2% and 1%, respectively. This has resulted in no stock-outs of FP commodities countrywide since 2011. In addition, over the last four years, SIAPS quantification support has saved the Government of Bangladesh approximately USD $6.48 million.

SIAPS has supported the development and integration of the Procurement and Supply Management Working Group in the NTP and has promoted and supported the use of QuanTB and the creation of an early warning system, which have provided the NTP with the necessary data to maintain TB medicine stock at an optimal level.

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[6] Systems for Improved Access to Pharmaceuticals and Services. 2015. Systems for Improved Access to Pharmaceutical Services Annual Report: Project 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: Management Sciences for Health.

[7] Systems for Improved Access to Pharmaceuticals and Services. 2015. Systems for Improved Access to Pharmaceutical Services Annual Report: Project 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: Management Sciences for Health.

Medicine Regulation and Medicine Safety

SIAPS assisted the DGDA to incorporate the international standard ADE reporting system into the WHO-IMC website after launching the National Pharmacovigilance Program in the country. The ADRM cell of the DGDA was awarded the 120th full membership in the WHO-IMC.

Lessons Learned from Capacity Building and Interventions

SIAPS Bangladesh staff provided their input on lessons learned from the capacity building and other interventions.

Factors that Enabled the Successful Results

Stakeholders' support and commitment were the most important factors in the success of the programs. Examples are as follows:

a. Logistics management

    - The central-level officials made frequent follow up on any delays in LMIS reports and any reasons for stock-outs, then supply the medicines as soon as possible.
    - There is tracking of LMIS reporting submission in the UIMS; it motivated internal competition among health facilities for submitting reports on time.
    - The managers were supportive and showed their appreciation to the store keepers.
    - The DGFP recruited young staff that are familiar with computer operations to work as warehouse officers and store keepers.

b. TB

    - The NTP has been very supportive. The NTP even promoted e-TB Manager to stakeholders.
    - Trainees have been eager to use e-TB Manager (supports the Digital Bangladesh strategy).
    - WHO mobilized funds to provide 15 days of basic computer training.

c. DGDA

    - DGDA has been supportive in the implementation of the PV system in three divisions. Most of the physicians managed to submit ADE reports on time, and the ADR advisor committee was able to review and give feedback.

The contribution of the master trainers was critical. They not only trained additional staff, but were also able to help identify software problems or capacity gaps among the staff, and provided input for the improvement of the software and mentored staff.

Some of the SIAPS Bangladesh staff learned new training skills through their participation in the training of trainers (TOT) and from the technical assistance of a colleague from headquarters, such as adult learning approaches, and the design of training materials and workshops. This new knowledge was considered very helpful.

Challenges

There were common challenges across the four portfolios, in the following areas:

- Although the 69 trainee respondents stated that the staff turnover rate was not high, SIAPS staff observed that it was high among trainees for various reasons, such as government moving staff around to various government agencies and the existence of a culture that promotes or recruits favored individuals; replacing retired or transferred staff takes time, thereby causing staffing gaps and training requirements for acting and new staff.

- Minimal ownership on the part of government counterparts as regards budgeting for training new staff or rolling out the program to the whole country, hence, the government is still dependent on partners' financial and technical support.

- Shortage of staff at the government entities and health facilities.

- In some cases, training workshops seemed to "miss the mark." For example, some physicians produced incomplete and poor-quality ADR reports; some staff struggled to operate computers or software, etc. Therefore, extending the length of training and providing continuous support through refresher training, mentorship, and on-the-job training were in high demand.

- The government has not been ready to implement some new systems after the training, such as framework agreement procurement.

- Some of the infrastructure was not ready for the Digital Bangladesh strategy. For example, power supply and Internet connection issues have frustrated or demoralized some users. SIAPS has provided support by purchasing solar panels for 24 highly affected sites to address such problems.

- Lack of local or specialized institutions with appropriately trained experts. Although SIAPS has engaged some local institutions to conduct training activities, trainees have questioned the quality of training.

DISCUSSIONS AND RECOMMENDATIONS

Through its continuous efforts, SIAPS Bangladesh has produced significant results, in particular, in supply chain management for FP and TB medicines and commodities. SIAPS has also helped the Government of Bangladesh establish a PV system and gain full membership in the WHO-IMC. Government officials have expressed their appreciation for the improvements in system performance and in the efficiency and quality of work achieved through SIAPS support. SIAPS Bangladesh's interventions are in alignment with the country's strategy and priorities and its contextual needs. Regarding capacity-building approaches, in addition to participatory training workshops, post-training implementation follow-up or mentoring were regarded as helpful to the trainees. From the trainees' perspectives, their commitment to the continuous practice of what they were trained in, their managers' and co-workers' support, and sharing learned knowledge with colleagues were the most important factors for the successful results following the training.

Knowing what learning methods work best for the respondents has provided SIAPS with information on what capacity-building approaches should be considered in the future. The results showed that mentoring works best for most of the respondents, followed by participatory workshops, non-participatory training courses, and sharing knowledge from the training with colleagues. Provision of tools, such as guidelines, SOPs or job aids, to health workers for self-learning is a common capacity-building approach. Surprisingly, only 1% of the respondents considered following the instructions in such tools a useful learning method! These results indicate that some of the Bangladesh staff in the public sector were passive learners who require close hand-holding, capacity-building approaches. However, according to the results shown in figure 4, peer-learning through knowledge exchange provides a scenario for a self-learning option. To respond to such needs, in addition to having master trainers, SIAPS should consider following options:

Option 1: Work with the HFs to identify technical champions at each facility and designate them as on-site mentors, and introduce a structured mentorship system to help sustain new knowledge and skills in order to address on-site capacity-building needs for existing staff or new staff.

Option 2: Identify facilities with best practices, and have these facilities exchange their knowledge and experiences with other facilities. Or, identify staff from the best practice facilities to be mentors and master trainers. Introduce a structured mentorship system to help sustain new knowledge and skills in order to address on-site capacity-building needs for existing staff or new staff.

Option 3. Require that knowledge and skills are shared with colleagues at work stations after receiving training. The data in figure 4 would support this option.

At the same time, the SIAPS Bangladesh team needs to understand, through wider consultation, whether or not these tools (guidelines, SOPs, and job aids) have been designed appropriately to meet the needs of users, or whether there were other reasons that users felt these tools were not valuable.

Training or mentoring alone may not be able to address the issue of the passive learning attitude, the increasing needs for refresher training, high staff turnover, shortage of staff, competency gaps of the existing staff, and the introduction of new strategies and new systems. The Government of Bangladesh should look into human resources as a whole, from assessing the human resource gaps and needs in terms of competencies and quantities, formal and continuous supply of human resources (pre-service training and in-service continuous professional development), to strategizing the planning, education, and distribution of human resources regarding competencies and quantities to be in line with the needs of the country's development strategies or goals.

Nevertheless, an active learning attitude and practice should be advocated. SIAPS may consider introducing systems with motivators, such as an accreditation system for continuous professional development that uses accreditation as an incentive, or introduce a promotional mechanism to motivate active learning and professional development if the government would include it in its human resource system. 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 respondents requested the scale up of e-TB Manager and UIMS, which shows their confidence in these systems. Other respondents (classified as DGDA, Logistics, and Procurement portfolios) shared their interest in system improvements to tackle counterfeit medicines, medicine safety issues, medicine shortage, and bidding issues. The required competencies are not limited to health or pharmaceutical technical areas, but also to information technology, supervision, M&E, administrative, financial, and communication skills, etc. Such interest will provide SIAPS with an opportunity to bring in more TA and conduct innovative interventions in a more integrated manner.

ANNEX 1. QUESTIONNAIRE FOR SIAPS BANGLADESH STAFF

Interview questions to SIAPS BD staff for capacity-building activities

Portfolio:

Names:

Date:

1. (Background) What technical areas training or capacity-building activities were provided for? And starting from when?

2. (Beneficiaries) What target groups were trained or capacitated

3. (Approaches) What training methods were applied? Was there any reason of applying the training methods?

   a. pre-service,
   b. in-service, by SIAPS staff or Trainers, or outsourced?
   c. TOT (for what training?)
   d. Outsourced to other organization (what organization? for what training? How many were trained?)
   e. international training or conference (what training or conference?),
   f. local training workshops (more details),
   g. post-training activities,
   h. supportive supervision,
   i. mentoring
   j. others?

4. (TOT Trainers' capacity) How did you select and train the master trainers? Did you provide courses in technical and "teaching and facilitating" methods? Did you engage HQ staff to provide TOT?

5. (TOT Trainers' performance) Were you comfortable about the training performance of the master trainers? What are the challenges that affect their performance in conducting training? Did you give feedback to them, and what types of continuous support did you provide to them? Have you seen their improvement in facilitating training?
   Do you think that training master trainers could be one of the approaches to sustain the local capacity?
   Would you suggest that TOT should be considered in the future program?

6. (Outsourced training) What organization did you outsource the training? How did you select the organization? What did you involve in the outsourced training activities?

7. (Outsourced performance) Were you comfortable about the training performance of the outsourced organizations?
   Have you observed any strengths and weakness of the outsourced organization in their training?
   Have you given feedback to them?
   Have you seen their improvement in facilitating training?
   Have you made follow ups on the trainees' about knowledge or skills gains, or performance after the training facilitated by outsourced organization?
   Do you think that outsourced training was a successful approach?
   Would you suggest that outsourced training should be considered in the future program?

8. (Lesson learned) What training methods were considered successful by specifying training methods and related results (Please share any country indicators if available)
   a. trainees' knowledge, skills, performance, perspectives, etc;
   b. systems' performance (indicators in SCM, such as LMIS reporting rates and data quality, procurement or distribution lead time, stock out, wastage, costs reduction, quality of medicines, suppliers' performance, etc; PV reporting rates, ADE reports review and feedback rates, etc; medicine registration indicators; medicines use indicators, etc.)

9. (Lesson learned) What factors contributed the success of the training or capacity-building activities

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)

11. (Lesson learned) What factors (or challenges) contributed to the un-successfulness of the training or capacity-building activities (What are the challenges in performing what was trained / or what have learned?
    a. High staff turnover rate
    b. Low ownership of the government counterparts
    c. not gain sufficient knowledge or skills,
    d. low confidence,
    e. shortage of staff,
    f. lack of required tools or equipment,
    g. the role or responsibility or job description was not changed (or was not meant for) to perform what was trained,
    h. the system was not changed for performing the knowledge gained from the training,
    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)

ANNEX 2. QUESTIONNAIRE FOR TRAINEES

Questionnaire-1 for TRAINEES[8] with facilitator's guide

To facilitator/interviewer: 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.

Respondent's Name: _____ **Current Position**[9]**:** _____

Current Organization/Health Facility/Department: _____Upazila: _____

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

To facilitator/interviewer: Please fill the information below (1A, 1B, IC) <u>before</u> the interview: <u>What</u> training or capacity-building activity did the respondent receive or participate in, <u>when</u> was it, <u>where</u> (was it an in-country or international activity), <u>what type</u> of the training and under what portfolio? <u>Before starting the interview, request the respondent to confirm the training or capacity-building activity he/she attended in Table 1A.</u>

1A

Name of the Training /capacity-building activity	Date (mm/dd/yy)	Location *(tick that applies)*
		___In-country; ___International

1B

Portfolio *(tick that applies)*	Type of capacity-building activity *(tick or circle that applies)*		
(P) Procurement	A. Workshop or Training or Orientation Duration:_____ Facilitated by: SIAPS, __Master trainers, ___outsourced local, ___ in-country training outsourced to int'l institution, __ Others		
(L) Logistics			
(T) TB	B. On-site, on-the job, face to face instruction, or mentoring[10]		
	C. Supportive supervision[11]		
(D) DGDA	D. Conference: ___ Local, ___ International		
	E. Other (specify):		

1C: **Respondent's position and organization or health facility (HF) <u>at the time of the training</u>**:

   A. **Position**: ☐ Same as current position, ☐ a different position[12]

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[8] 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.

[9] Technical or managerial positions, such as pharmacists, nurses, procurement or logistics officer; director, medicine registration officer, … etc.

[10] 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.

[11] 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 B and C.

B.   **Organization/HF or department**: ☐ Same as current one, ☐ a different organization/HF or dep't

Please have the respondents answer the questions below:

1. **How useful was <u>the training or capacity-building activity</u> to you?** (multi-choices: tick all that apply+ specifications, if necessary)
    a.   The training provided a certificate that is useful to enrich my CV.
    b.   I gained the knowledge about[13] (*what*)_____
    c.   It improved or developed my skills or competency in *doing* (*what*)_____
    d.   It improved my quality of services in (*what services*) _____
    e.   I was able to make contributions in any meetings or discussions relating to the areas of <u>the training</u> I have received. (any examples? _____)
    f.   It contributed to the improvement of institutional or system performance[14] in (*what*) _____
    g.   Any others? Please specify: _____
    h.   I don't know. Please explain why _____
    i.   It was NOT useful to me. ***Please proceed to question #4-6*** *to explain or tell us more about it.*

2. **If <u>the training</u> was useful, please let us know more about it**: (Multiple choices- Tick all that apply and elaborate more if possible- in case your scenario would be different from the options below)
    a.   The training was interactive and participative. The trainer[15] 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.
    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**_____

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[12] no matter in the same or different organization
[13] Any specific technical area or knowledge
[14] Qualitative (descriptive) or quantitative (<u>indicators</u>)- for example, Improve the efficiency of workflow or reduced wastage from expiration or damage through re-organizing the warehouse; improved data quality in LMIS reports through improving inventory management; the managers are able to identify issues or make timely decisions from the LMIS reports (or forecasting reports, ADR reports, e-TB manager, etc); reduced procurement lead time; reduced customers' complaints; etc.
[15] Trainer, mentor, or supervisory team members, etc.

3. **Were there any factors that contributed to the results you have mentioned in question #1 of the training or capacity building?** (Multiple choices- Tick all that apply and provide your remarks, if possible)
    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 training[16].
    c. My supervisor or the organization's managers have been very supportive.
    d. There is a system in my organization or my supervisor requested that I have to write a training report 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. There is a system in my organization or my supervisor requested that I have to brief my colleagues about the training contents after receiving any training.
    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* (specify: _____) to implement the system the training was aiming for.
    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 department, or the relevant department make follow-ups to the trainees to track the status*)- Whom you reported to, or who made the follow-ups? _____
    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 #5-6

4. **If the training was NOT useful to you, please help us understand the reasons so that we can improve for the future**: (Multiple choices- Tick all that apply and provide your remarks, if possible)
    a. The training or capacity-building method/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? _____
    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? _____
    c. The training contents or technical area did not match my work. - *Please tell us more*:

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[16] No matter whether there is any tracking or follow ups by SIAPS or the governing officials.

      i.   I did not know what training or technical area it was before you receive it
     ii.   I was not in the position related to the technical area of the training
   iii.   I was assigned to the training on behalf of others, and why _____
   iv.   Any other reasons? _____

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? _____

e. Any other reasons? Pease specify_____

5. **From your own learning experiences (not limited to this training or capacity-building activity), what learning methods work best to you?** (Multiple choices- Tick <u>at least 1, at most 5 items</u> that apply and provide your remarks or examples, if possible)
   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. Participate in supportive supervision (SS) (as part of the SS team member) _____
   h. Have technical discussions with colleagues or other professionals _____
   i. Participate in technical meetings, seminars, or conferences _____
   j. Making oral or poster presentations in a meeting or conference _____
   k. Having the responsibility to train or mentor others (as a trainer or mentor, or supervisor) _____
   l. Learn from observing how my supervisor or colleagues do the work _____
   m. Have job aids posted in my work station _____
   n. Follow the instructions of guidelines or SOPs _____
   o. Exchange visits to other organizations or health facilities _____
   p. On-line learning through training courses_____
   q. On-line learning through social media _____
   r. Any others? _____

6. **Do you have any suggestions to SIAPS on how it can do better or differently in capacity building (not limited to training workshops)**? _____

   Thank you very much!

ANNEX 3. QUESTIONNAIRE FOR TRAINEES' SUPERVISORS OR GOVERNMENT OFFICIALS

Questionnaire-2 for Trainees' SUPERVISORS or GOVERNMENT OFFCIALS 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.[17]

Respondent's Name[18]: _____ **Current Position[19]:** _____

Current Organization/Health Facility/Department: _____

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

SIAPS Portfolio (ticked by the facilitator/interviewer):
☐**Logistics;** ☐**Procurement;** ☐**TB;** ☐**GDGA**

Please have the respondents answer the questions below:

1. Why do you think training is required to implement the _____[20] 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)?

   _____

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[17] 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.

[18] The facilitator should identify the respondent and fill his/her name, position, and HF or organization. This information will be used to triangle with the training activities.

[19] Managerial positions, such as Head of Hospital Pharmacy Department, Hospital Director, District or Sub-district health manager, GDFP or GDHS senior officers, senior officials that supervise procurement or logistics activities; senior medicine registration officials, senior officials that oversee medicine safety affairs; etc.

[20] To be filled by the facilitator, such as UIMS or logistics management training, procurement, eTB manager, pharmacovigilance, medicine registration, etc.

_____
_____

3. Were there any factors (or motivators) that contributed to the positive results or successes you just mentioned? (including training approach[21] and other factors[22])

    _____
    _____
    _____
    _____

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!

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[21] We wish to know whether the supervisors or government officials have any comments on the training approach.
[22] 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.