

# Outcome Level Assessment of In-Service Training Program in Tigray Region, Ethiopia

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## ABSTRACT

**Background:** Despite IST centers reports of programmatic output level results that can be expressed in terms of total number of trained health care workers, and the number of trainings and the training topics covered, there are no empirical evidences that clearly shows the effectiveness of the in-service training program in improving health outcomes, health care workers performance and patient or customer satisfaction. Therefore, it is with this background that TRHB has initiated this rapid outcome level assessment of the IST program being implemented in three partner universities [Mekelle, Adigrat & Aksum universities] of the region. **Methods:** The assessment followed a facility based cross sectional qualitative study approach to assess and understand the outcome of the in-service trainings provided by universities IST centers in Tigray region. The sample for this rapid assessment is drawn from 43 public health facilities [35 HCs, 4 general hospitals, & 4 primary hospitals] located in 24 Woredas/Districts of the region and received in-service trainings from the three IST providing universities in Tigray region. The analysis and interpretation process was completed by using tabulations (to show the frequency distribution of the respondents), by utilizing percentage (in order to compare the data), and qualitative description was dominantly used. **Results:** The assessment highlighted that majority of the participants [134:84%] reported that the in-service trainings they received were very relevant to their present job function or duty while the remaining [22:14% & 4:3%] of the participants rate the trainings as “somewhat relevant” and “not relevant at all” to their present job function. The average score of the performance rating showed that participants rate themselves that they had a good performance before the training and they considered that the in-service trainings they took resulted in very good performance improvement. **Conclusion:** The rapid outcome level assessment of the IST program revealed that the program has significantly contributed for improvement in knowledge, skill and attitude among health care and non-health care professionals attended the HIV related IST trainings. However, the assessment due to methodological limitations does not adequately reflect patient level outcomes or improvements.

**Keywords:** Outcome Level Assessment of In-Service Training

## Introduction

Developing capable, motivated and supported health workers is essential for overcoming bottle necks to achieve national and global health goals. At the heart of each and every health system, the work force is central to advancing health. [1]. There should be optimum number and professional mix of human resource for the effective coverage and quality of the intended services [1]. There is widespread recognition that the lack of an adequately trained health care workforce is a major barrier to scaling up and sustaining health-related services in resource-limited settings worldwide [2]. In-service training for health care workers has proliferated as a key strategic approach to this challenge, particularly in response to the HIV/AIDS epidemic. The United States President's Emergency Plan for AIDS Relief (PEPFAR) alone supported close to four million training and re-training encounters between 2003 and 2008 [3]. Currently, PEPFAR is supporting in-service trainings of health workers in 3 universities of Tigray region as part of its 5 year cooperative agreement with the Tigray regional health bureau to strengthen local ownership for the sustainable provision of comprehensive HIV/AIDS services and more than 7500 health care workers received offsite and onsite trainings on different HIV/AIDS prevention, treatment, care and support related topics since the launching of the joint in-service training program in 2015.

Despite IST centers reports of programmatic output level results that can be expressed in terms of total number of trained health care workers, and the number of trainings and the training topics covered, there are no empirical evidences that clearly shows the effectiveness of the in-service training program in improving health outcomes, health care workers performance and patient or customer satisfaction. Therefore, it is with this background that TRHB has initiated this rapid outcome level assessment of the IST program being implemented in three partner universities [Mekelle, Adigrat & Aksum universities] of the region.

This rapid assessment report is therefore prepared to present and communicate the results of the outcome

level assessment of the in-service training of health care workers in Tigray region conducted between September 1 and 30, 2017 by a team of professionals from TRHB and IST program implementing universities. The findings of the assessment will officially be presented on the annual IST program review meeting to effectively communicate the outcome of the IST program, the challenges of the program in improving outcomes and future priorities of the program to all stakeholders and partners involved in the implementation of the IST program.

## **A. RATIONALE**

Training programs generally report what are commonly referred to as training “outputs,” such as the number of people trained, the professional category of person trained and the training topic [4-6]. These output indicators enable funders, governments and training program staff to aggregate implementation data across a variety of topic areas and types of training encounters (for example, workshops, lectures, distance education and long-term mentoring). However, output indicators do not help evaluate how well the training encounters are improving provider practice or patient health outcomes. Recently, there has been a renewal of concerns raised about the lack of evidence linking the resources invested in health care worker in-service trainings to improved health outcomes [7-10].

Similarly, it has been raised in the workshop conducted [from July, 7-8, 2016] to review the FY-2016 Tigray region in-service training program performance that the performance reports presented by the three IST program implementing universities do not show the outcome of the in-service training programs and the participants strongly suggested that comprehensive outcome level assessment is required to understand how well the IST program is improving health care workers performance and customer/patients satisfaction. Based on the recommendations made by participants during the annual review meeting, the Tigray regional health bureau, HIV/AIDS prevention and control core process initiated and facilitated this rapid outcome level assessment of the in-service training program.

## **B. ASSESSMENT CONTEXTS**

Tigray regional health bureau in collaboration with PEPFAR/CDC is supporting three universities in Tigray region namely, Mekelle University, Aksum University and Adigrat University to strengthen their IST implementation capacity to provide high quality comprehensive trainings in HIV/AIDS prevention, care and Treatment areas. The universities IST centers are now expanding their IST program capacity to effectively implement the training program and address the HRH capacity gap in the region. Since the launching of the IST program at Mekelle University in 2014, its IST center provided in-service trainings for more than 4053 health care professionals and other support staffs. Aksum and Adigrat universities trained 2695 and 115 health care workers and other support staffs respectively since they start providing in-service trainings. The health care professionals trained in these IST centers are now currently working at different levels of the health system in the region to strengthen the quality of HIV/AIDS treatment, care and support services. Right after the IST program annual review meeting that signals the need for outcome level assessment on the IST program, TRHB and program implementing universities agreed to undertake a joint outcome level assessment of the IST program to understand provider performance and health system level improvements made as a result of the in-service trainings provided by the IST program implementing universities. A joint multi-disciplinary team of professionals established to design the assessment tools that targets health care professionals who previously received in-service trainings and currently working at different levels of the health system. 160 health care professionals and support staffs [115 from health centers and 45 from general hospitals] who previously took IST were participated in this rapid assessment to respond the semi-structured key informant interview tool.

## **C. ASSESSMENT OBJECTIVES**

The main objective of this rapid outcome level assessment of the IST program was to assess the outcome of the in-service trainings provided by partner universities and provide evidences on how well the IST program contributes to provider’s capacity building and system level improvements.

The assessment also had the following specific objectives:

Assess the outcome of the in-service trainings provided by universities IST centers in Tigray region.

Assess and describe improvements in professional knowledge and skill, on – the – job performance and health facility performance as a result of the in-service training program.

Provide possible recommendations that helps to improve the quality of in-service trainings that are being provided by IST centers in the three universities.

### **I. ASSESSMENT METHODOLOGY**

#### **A. STUDY DESIGN**

The assessment followed a facility based cross sectional qualitative study approach to assess and understand the outcome of the in-service trainings provided by universities IST centers in Tigray region.

#### **B. STUDY POPULATION AND SAMPLING PROCEDURE**

The sample for this rapid assessment is drawn from 43 public health facilities [35 HCs, 4 general hospitals, & 4 primary hospitals] located in 24 Woredas/Districts of the region and received in- service trainings from the three IST providing universities in Tigray region. A multi-stage sampling technique has been used as the sample involves three basic stages i.e. selection of sample Zone at first stage, a sample ‘woreda’ at the second stage and a sample health facility at the third stage done randomly. As a result 160 HCWs and other support staffs who have received in-service trainings from the IST centers has been included in the assessment as they were available during site visit and took at least one in-service training from the IST centers. 10 [out of 24] randomly selected Woreda/district health office heads were also included in the assessment to complement the results obtained from key informant interview of health care workers and other supportstaff’s.

**Table 1: Respondents professional Mix (n=160) December, 2016**

SN	Respondents Profession/Cadre type	n=160
1	Nurse [Clinical & BSc Nurse]	64
2	Health Officers	32
3	Laboratory Technicians	17
4	Biostaticians, HITs & Data Clerks	19
5	Midwife	12
6	Pharmacists	12
7	ART adherence Case Managers	03
9	General Practitioner/MD	01
<b>Total</b>		<b>160</b>

### C. DATA COLLECTION METHODS

- i. **Instrument:** The aim of this rapid qualitative assessment was to examine the outcome of the in-service trainings provided by universities IST centers in Tigray region. A structured key informant interview tool is used to collect the required information from the respondents. The data collection tool is pre-tested in 3 health facilities located in Mekelle town that are not selected for the assessment. The TRHB M & E unit and IST centers coordinators were actively involved in the design, pre-testing and administration of the data collection instrument.
- ii. **Data Collection Process:** the interview has been conducted from September 1<sup>st</sup> to September 29<sup>th</sup>. 4 University IST center coordinators and 3 RHB teams were deployed to collect the data by integrating the data collection with their routine program based supportive supervision. The data collection teams were provided with a half day training on the key informant interview tool.
- iii. **Ethical Consideration:** the TRHB, HIV/AIDS & STI clinical case team was responsible to oversee the whole process of the assessment and an official letter of support was given to data collection teams to inform respondents and facility administrators the purpose of the assessment and to request their cooperation.
- iv. **Analysis:** To meet the principal assessment objective, both qualitative and quantitative data has been collected using a semi-structured key informant interview tool. The analysis and interpretation process was completed by using tabulations (to show the frequency distribution of the respondents), by utilizing percentage (in order to compare the data), and qualitative description was dominantly used.

## II. RESULTS

### A.Number of In-service Trainings Attended and their Relevance to the Job Function

The assessment examines the number of HIV/AIDS related in-service trainings attended by the respondents during the past 1 or 2 years and their relevance to improve their job knowledge and skills to provide quality HIV/AIDS treatment, care and support services and other administrative and program support activities. 87 [54%] of the participants indicated that they have attended only 1 HIV related in-service training during the past 2 years, and 31 [19 %] and 29 [18%] of the participants reported that they took 2 and 3 in-service trainings respectively within the specified period. Fewer number of participants [14/160: 9%] received more than 4 in-service trainings in which some participants are unhappy about [Figure 1]. One interviewee from Alamata health center said:

*“In-service training opportunities are not open to all staff’s or health workers providing HIV/AIDS services. There are individuals who received more than 5 in-service trainings while others received none . . . Some of the trainings they received are not even related to their job function or duty.”*

The assessment highlighted that majority of the participants [134:84%] reported that the in-service trainings they received were very relevant to their present job function or duty while the remaining [22:14% & 4:3%] of the participants rate the trainings as “somewhat relevant” and “not relevant at all” to their present job function [Figure 2]. A pharmacist trained in ART said:

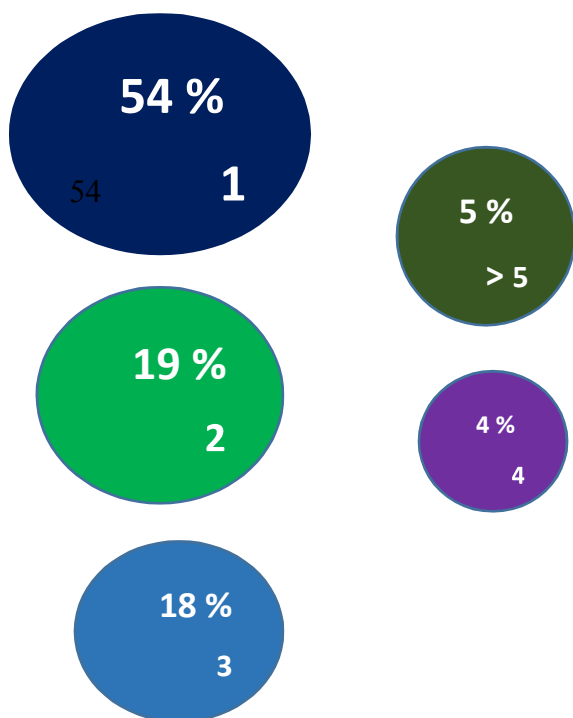
*“The training significantly improved my job performance as it familiarizes me with different issues such as adverse effects, contraindication, and drug-drug interactions related to ARVs and other*

*medications prescribed to treat OIs. The training also helped me to improve my communication with the health care providers to ensure the safety of our patients.”*

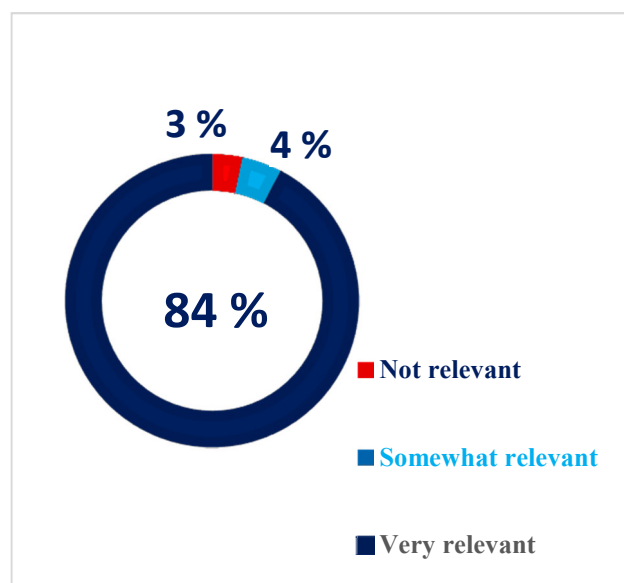
Contrary to the pharmacist comment, a clinical Nurse from **Settit health center** said:

*“The in-service trainings I took are not relevant to my present job function. I took basic ART training but I am currently working at under 5 OPD which is not directly related to the training.”*

**Figure 1: Number of IST trainings**



**Figure 2: Percent of participants response on the relevance of the IST they took to**



Majority of the participants involved in the assessment [127:79%] considered that they are very much benefited from the HIV related in-service trainings provided by the universities. Only 3 % [4] of the respondents reported that the in-service trainings benefited them to the least extent due to problems in the selection of training participants, training quality, trainer’s capacity, shortage of equipment’s & supplies and placement issues after the in-service trainings. A laboratory technologist from **Mulu Atsbi** Primary hospital explained:

*“We don’t have FM microscope to fully implement the knowledge and skills that we have acquired from the laboratory in-service training to improve TB case detection among PLHIVs. Therefore, the outcome of the training would be minimal if the professional is unable to apply the knowledge due to shortage of equipment’s and other supplies”*

The assessment revealed that a significant portion of the participants [53:33%] are currently working in a position that is not directly related with HIV/AIDS treatment, care and support services. Participants opined that they are not being assigned to a position that best suits their training and this is the main reason that the in-service trainings failed to achieve the desired outcome.

## B. In-Service Training Outcome

**Table 1: Outcome of the in-service trainings based on the participants rating of improvement before and after the training**

Outcome Parameters	1=Excellent	2=V. Good	3=Good	4=Fair	5=Poor
	Rate before the in-service training [Average]		Rate after the in-service training [Average]		
Professional knowledge, attitude or skill	3		2		
On – the – job Performance	3		2		
Health facility performance/System Improvement	3		2		
Patient or customer satisfaction	3		2		

As can be seen from table 3, participants were asked to rate the outcome of the in-service training before and after the training based on the four types of outcome parameters. The average score of the performance rating showed that participants rate themselves that they had a good performance before the training and they considered that the in-service trainings they took resulted in very good performance improvement. The result is found to be similar in all of the four outcome parameters.

Concerning the outcome of the IST in knowledge, attitude and skill, most of the participants reported that the trainings significantly improved their knowledge, skill and attitude to provide quality HIV/AIDS treatment, care and support services. The respondents further explained:

*“When I say the training significantly improved my performance it doesn’t mean that I had no knowledge of the training topic or the area. It is to mean that the training that I have received from MU helped me to broaden my knowledge in the topic and familiarizes me with new developments in the field.”*

Another health information technician from Maychew Health center reported that:

*“We always get something out of the data management trainings that we have received from the IST centers but it’s impossible to say that there is a substantial difference between the trainings that we took. For instance, I had a chance to take part in two data management related trainings but content wise both trainings are almost the same . . . that means the second training had no impact in my job performance.”*

Other participants explained that they have acquired new experience, knowledge, and skill that can improve their current job duty to the next higher level and improves the quality of HIV related services provided by the health facility. The ART focal person from Maykadra Health center said:

*“I had no knowledge of the PEP provision protocol and related technical issues before the training. After the training I have developed the confidence to provide the service based on the recommended guideline and procedure that I have learned from the IST training.”*

Regarding the contribution of the IST program in improving the health facility performance, participants strongly opined that the training program will not have the desired facility level system improvement as long as the trained professionals are not effectively apply the training knowledge and skill when they returned to their health facility. The assessment participants complained that there is poor management of trained human resource at the health facility level to effectively utilize the trained staff in improving the health facility service or system.

*“There is no after training briefing session in our facility after the staff’s returned from the IST training to share the knowledge and skill the staff acquired from the training to other colleagues. No one is even in charge to properly record the type of training the staff has received.”*

To further re-examine the aforementioned statement, 10 district health office heads were interviewed regarding the status of district level HRH training data management system through the HRIS. The assessment result showed that no complete record of the training data in all [10:100%] of the districts. The heads reported that the HRIS is in its nascent stage of implementation to fully support the training data management of the districts. The back log data entry is not yet finalized in almost all of the district health offices.

Despite concerns that the system level outcome of the IST program is minimal, participants reported that the IST trainings they took enabled them to introduce new procedures and protocols that can improve the quality of services the health facility provided:

The health officer working in adult OPD from Meswati health center opined that:

*“There was no GBV service in our facility. After I took the GBV training the service is introduced in the facility and now it is being provided. To further strengthen the impact of the training I myself organized a training session to help familiarize my colleagues with the concept of GBV service.”*



### C. Things to be improved . . .

126 [79%] of the assessment participants reported that they are very much benefited from the IST trainings they attended and only 4 % [7] participants reported that they are not benefited from the IST trainings they attended. Then, the participants requested to list the key issues they think that needs to be improved to enhance the quality of the IST training program and achieve positive outcomes. Below the issues or action points identified by the participants to improve the quality of IST training program are summarized and listed:

Due emphasis should be given to ensure that the training modality is practical rather than trainer-centered and theoretical.

The design and provision of IST trainings should be based on compressive assessment of training need. Outcome level post training assessment is vital to ensure that the trained professionals are being utilized effectively and to address challenges related to trainee selection and placement after training.

Training manuals and materials required to have minimum quality standards but some manuals distributed for the trainees were outdated and unrelated with the trainer's materials [e.g. syndromic management of STIs training provided by MU]

Trainer's performance and communication skill also paramount to improve the outcome of the IST program. Some trainers come to the training hall with no preparation or adequate knowledge of the training topic.

Training certificate is not provided immediately after the training. Training certificates delayed for more than 6 months or more.

Insufficient time is allotted for some trainings as it reduces the opportunity to get practical training and knowledge. [E.g. Mental health case management for clinicians and case managers].

### III. CONCLUSION

The rapid outcome level assessment of the IST program revealed that the program has significantly contributed for improvement in knowledge, skill and attitude among health care and non-health care professionals attended the HIV related IST trainings. However, the assessment due to methodological limitations does not adequately reflect patient level outcomes or improvements. Despite the limitations, the rapid outcome level assessment provides a clear insight that the HIV related IST program can contribute significantly for the delivery of the desired individual trainee, health facility/system, and patient level outcomes. However, further large scale outcome level evaluation studies are required to ensure that the results of this rapid assessment are widely applicable and generalized.

### IV. RECOMMENDATIOIS

Having said all what is stated in the findings of the assessment, the assessment team suggests the following recommendations so as to improve the quality of in-service trainings that are being provided by IST centers in the three universities of the region.

Conduct facility level post training assessment or supervision to ensure the placement of the trained personnel's at the right place.

Strengthen the IST data management system both at the training centers, district and facility levels.

Establish a mechanism that all trained professionals share their knowledge acquired from the training to their colleagues.

Ensure that the right person is selected to take a particular training. The health facilities, district health offices, RHB and the training centers required to work together to make sure that the right person is attended the IST program.

IST centers should work together to address training manuals quality and standardization issues.

It is also recommended that the IST program should be need based and a comprehensive assessment of training need is vital to achieve the desired outcomes of the program.

Development of regional IST program implementation guideline is important to clarify the roles and expectations of each parties involved in the IST program implementation.

Establish a mechanism to ensure that the trainers have the required qualification, skill and experience to deliver the training.

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