DATA MANAGEMENT TRAINING FOR TB LAB DATA MANAGERS
March 12th-14th, 2019

March 2019

Golden Tulip Hotel, Cannan,

Kampala Uganda

List of Acronyms

ECSA-HC	East Central and Southern Africa Health Community
GLI	Global Laboratory Initiative
MoH	Ministry of Health
DQA	Data Quality Assessment
NTP	National Tuberculosis Program
NTRLs	National Tuberculosis Reference Laboratories
SRL	Supra-National Tuberculosis Reference Laboratory
SWOT	Strength, Weaknesses, Opportunities and Threats
TB	Tuberculosis
LIMS	Laboratory Information Management System
M&E	Monitoring and Evaluation
WHO	World Health Organization
MTR	Mid Term Review

1 Background and methodology

1.1 Introduction:

The Uganda Supra-National Laboratory (SRL) is a government entity under the National TB and Leprosy Programme (NTLP) in the Ministry of Health. In April 2013, through the support of the ECSA-led East African Public Health Laboratory Networking Project the Uganda National TB Reference Laboratory (NTRL) received the status of Supra National Reference Laboratory making it a recognized centre of excellence capable of supporting laboratories in other countries. The status was awarded by the World Health Organization (WHO) after recognizing NTRL's recent advancement in the diagnosis of TB. The Uganda SRL is currently only the second SRL in Africa after Algeria and one of only 29 SRL's around the world.

Figure 1: Participants at the workshop

In reference to the Midterm Review (MTR) conducted in 2017, emphasis was laid on the need to strengthen the data management and reporting function within participant country NTRLs. ECSA-HC/SRL Uganda planned for three-day training in the basics of data collection, handling, analysis, demand and use.

The TB Laboratory data management training for Data Managers was conducted by representatives from the program management team at SRL-Uganda and ECSA-HC for 3 complete work days from March 12th – 14th, 2019 in Kampala, Uganda. This report therefore provides the description of the process, outcomes and recommendations from this training.

1.2 Purpose and objectives:

1.2.1 Purpose:

The Data Managers training was to strengthen effective and efficient programming through use of evidence (data) in planning, execution and evaluation of mandates.

1.2.2 Objectives:

The objectives of the training were:

(i) To impart knowledge skills and competency in data collection, handling, analysis, presentation and dissemination
(ii) To familiarize trainees in the use of the basics tools and frameworks used in developing and monitoring data management systems.
(iii) And to introduce trainees to the fundamentals of Data Demand and Use within the Laboratory

1.3 Pre-workshop logistics and preparation:

1.3.1 Invitation and logistics processes:

The Uganda SRL coordinated the entire workshop logistics particularly in relation to: (i) Selection, initiation and travel arrangements for all participants; (ii) selection and booking of venues for the workshop in Uganda; and (iii) selection and contracting of the facilitators to support the process. Of all the 18 countries invited, only Rwanda and Seychelles were unable to make it. For Rwanda it was due to travel ban to Uganda. Seychelles no reason was given for not being available.

1.3.2 Choice of workshop focus/agenda:

As noted above, in the 2017 Midterm Review (MTR), the need to strengthen data management and reporting function within participant country NTRLs was emphasized. It is upon this background; the TB Laboratory data management workshop/training for Data Managers was planned and conducted. The participants invited to this training met the trainee requirements outlined in the Terms of Reference (ToR) which include; Good working knowledge of English (Spoken and written) and functional Personal computer (Laptop) or Tablet. The training was designed to introduction participants to: Monitoring and Evaluation Principles, Lab Specific Indicators of the END TB Strategy, Data Quality Assurance, GF Project Framework, project Indicators, GF project tools, and Reporting Timelines/tools, Data Sources

Based on this training area, the training schedule was developed and it is provided in Annex 2.

1.3.3 Preparation of materials:

Based on the training areas mentioned above, SRL-Uganda prepared the training materials in line with the main workshop objectives and target participants.

During the course of the training, all participants were provided with the necessary materials to use. The workshop focussed on performance skills as opposed to pumping materials for purposes of ensuring completion of workshop agenda.

1.4 Participants' key characteristics:

Out of the total target participants, two participants from Rwanda and Seychelles did not turn up and SRL Uganda had all targeted participants available for the training. This is critical in ensuring that the appropriate follow-up on country data managers after the workshop. Majority of the workshop participants were male (67%) in gender, females made only 33% of the total number of participants.

Table 1: Gender of participants		
Gender	Number	%age
Male	20	67
Female	10	33
Total	30	100

A pre-test was conducted to assess participants' knowledge of TB Laboratory data management. This showed that 5%, that is, only one participant was not very knowledgeable in TB Laboratory data management and 95% had some good knowledgeable in TB Laboratory data management and reporting. This therefore means there was some basic understanding of the concepts among majority participants. Table 3 shows participants' scores in the pre-test. From the table, it is clear that most trainees scored above 50%. Based on this analysis, the training materials and delivery methods were designed to suit this particular workshop.

Table 2: General Pre-test Performance

Mark (%)	Participants	%age
Below 50mark	1	5%
Above 50 mark	18	95%

1.5 Training methodology applied

The Data Managers training consisted of fifteen modules which were administered in power point presentation, along with speaker notes, facilitators' guidelines, and a training schedule. Trainees were subjected to both pre and post-knowledge assessment, and practical small group activities of 2 participants. This gave participants an opportunity to practice knowledge and skills acquired during the training. The training materials, facilitators' notes, job aids were shared with the trainees every day upon completion of the day's training to encourage further reading.

The training involved a mix of methods aimed at helping all participants to benefit from the training. The key methods and approaches applied were as follows:

(i) lecture presentations:
This was majorly led by facilitators to give a brief project overview; training objectives and specific training needs as well as introducing key areas of the training contents.

(ii) Group work:

Most sessions had at least one group work. Participants learnt how to use M&E key tools to report on laboratory indicators, frameworks, data analysis in Excel, and Reporting of findings in Power Point Slides over the three days. Each day started with a recap of previous work to see if participants still remember what they learnt the previous day.

(iii) Trainee participation:
The participants had opportunity to participate during the entire three-day period. Trainee participation was aimed at creating interactions, building consensus and sharing of experiences based on the topics and subjects at hand.

Figure 2: Participants during group work

1.6 Limitations

While the training went on smoothly up to the end on March 14th, 2019 and participants received certificates of attendance for the workshop, it had limitations.

(i) The duration (3 days) of the workshop was not enough to cover all the 15 sessions plus the practical sessions. This forced presenters to rush through their presentations.

(ii) This workshop didn't constitute an academic session but capacity building aimed at improving skills and performance on duty. It cannot be considered for any formal qualification.

(iii) A few participants felt that the training materials and examples were Uganda based, thus hard to relate to.

(iv) The TOR required that every country participant to the workshop have a good working knowledge of English. One participant from French speaking country had some challenges in comprehending and communicating in English during the training.

2 Training Outcomes and key observations

2.1 Key Observations

The workshop was conducted as scheduled and participants were very engaged throughout the entire three-day period. The participants were punctual and willing to put into use the key lessons leant. Below here are the highlights of the key outcomes from the three days' workshop.

2.2 Training Outcomes

The participants made self-evaluation of the training at end of the third day using the evaluation form given to them. The assessments outcomes have been summarized into four key thematic areas of training objectives, workshop content, and style of training and participants' expectations.

2.2.1 Training Objectives

To find out whether the training objectives and expectation of the training were accomplished and met respectively, a consideration of how each of them was rated by the participants was done. Participants scored training objectives at 25% as Good and 56% as Very Good; expectation of the training at 29% as good and 53% as very good.

The participants on overall scored the training Objectives very highly at 27% as Good and 55% as Very Good which shows that the objectives of the training were achieved. Figure 4 below provides a performance summary of training objective evaluation from the participants.
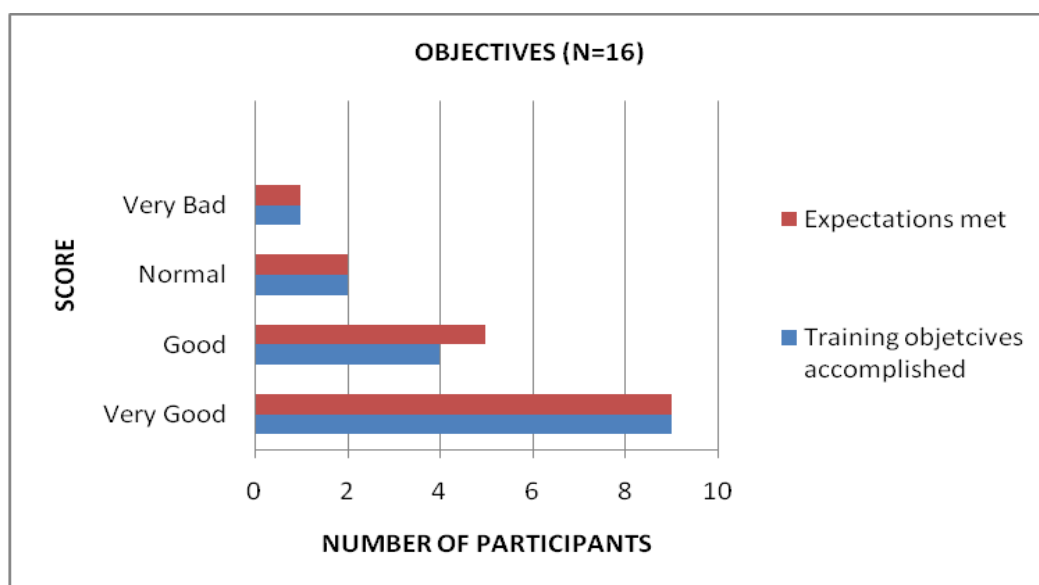

Figure 3: Assessment of the training objectives by participants

The scores above indicated that 56% participants of the participants in attendance rated the training very good in attaining and accomplishing the objectives of the training, while 31% score the training at good, it is therefore evident that majority of participants felt that the objectives of the training were met and minority felt otherwise.

2.2.2 Workshop Content

A rating on numerical score of relevance of the workshop contents by the specific topics covered was made by all participants. In this area the participants were asked to rate the presenters, the content of the presentations and how questions asked and issues raised were responded to. Participants rated each of them based on scale of Very Good (1), Good (2), normal (3), Poor (4) and Very Bad (5) as shown in table below.

	Very Good (1)	Good (2)	Normal (3)	Poor (4)	Very Bad (5)
Presenters	10	5	1	0	1
Presentation content	11	2	2	0	1
Responsiveness	6	7	2	0	1

From this table, majority of the respondents noted the following; 1) that presenters were knowledgeable and explained the modules to their satisfaction, 2) the workshop content was appropriate and were considerably appreciative of the actual linkage of the topics to their actual work place challenges and experiences hence higher likelihood of application of the principles learnt, and 3) that facilitators responded well to questions asked and issues raised by Participants during sessions.

2.2.3 Style of training

Generally, majority of the respondents ranked the style of training as very good. The facilitators involved the participants in way that they asked rhetoric questions, there where practical sessions and assignments. All these ensured that the participants get the best out the training.

Prior to start of the sessions, participants were asked to list what they expected from the workshop. The following where listed by the participants.
- Train how to analyze laboratory data
- Improve in data management skill
- Capture data in a manner that is retrievable
- Improve knowledge in data management
- Improve in data collection analysis and mgt
- Become better data manager
- Manage data well/better
- Data management
- Get experience from colleagues
- New information in data management and analysis.
- Expand skills in data management
- In depth knowledge in data management

In line with these expectations, each facilitator ensured that these are met at the end of their sessions. Therefore, participants evaluated facilitators in this aspect as shown in Figure 5 below.
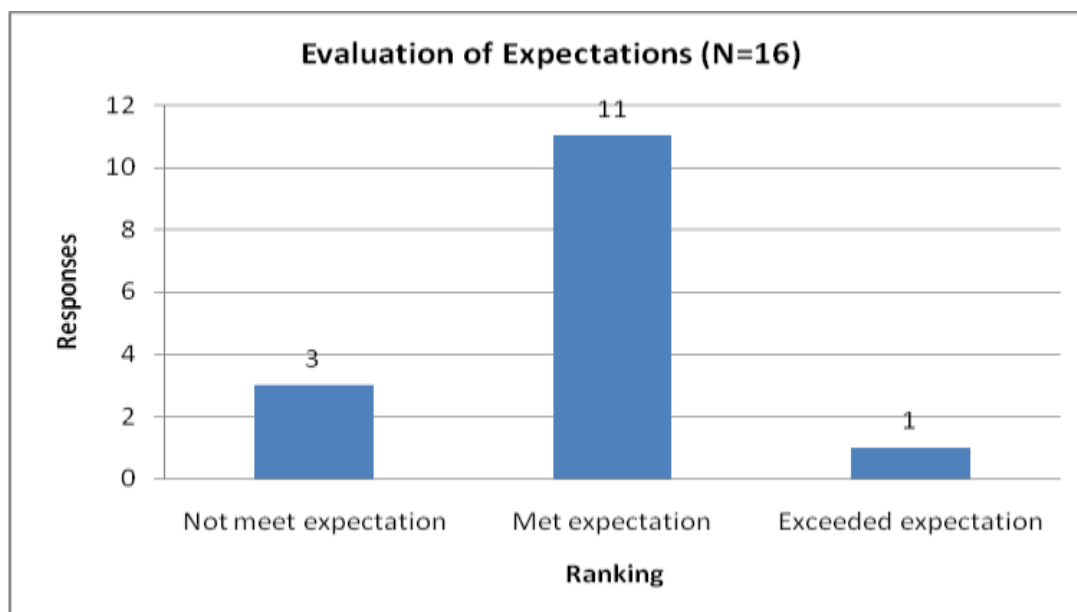
Figure 5: Assessment of the training expectation by participants
From figure 5 above, majority felt that their expectation where met in the training.

2.1   Most significant change and lessons

In terms of the most significant aspects learnt from the workshop, participants reported the following:

 ➢ Need to conduct a data management systems assessment to establish gaps and develop a plan to bridge the gaps

 ➢ Need to establish a checklist to guide managers of data within the lab on the process, procedures and flow of data, along with key formulas for calculations of TB lab specific indicators.

Lessons

 ➢ All components of M&E systems are relevant in the TB laboratories. However, however each Lab needed to customize these components and continually evaluate their adherence and performance on the 12 M&E components.

 ➢ Participants were encouraged to routinely conduct a internal data verification exercise to measure the accuracy, reliability and timeliness of data reported to their TB programs.

 ➢ Participants were given the capacity to asses their Electronic Laboratory Information Systems, to ensure that they are linked with the national systems, and capture all relevant TB lab specific indicators, with the relevant security and contingency measures.

3   Conclusion, recommendations

3.1   Conclusion

This workshop achieved the intended objectives of learning Monitoring and Evaluation Principles, defining Lab Specific Indicators of the END TB Strategy, Data Quality Assurance, GF Project Framework, project Indicators, GF project tools, Reporting Timelines/tools, and Data Sources.

Participants however highlight the need for an advanced data management training, where they would have the opportunity to learn more about practical tabulation of TB lab indicators.

3.2 Recommendations

The key recommendations from this workshop included:

- ➢   Have more practical sessions on M&E indicators
- ➢   Have training on data analysis software
- ➢   Have refresher training for all country data managers so that they do not fall back
- ➢   Conduct the training over a five-day period instead of Three days to all more time to expound on topics

Annexes

Annex 1: List of training participants

Name	Country/Lab	Designation/Title
1. Abdifatah Shawir Elmi	Somaliland HTCB	Data Officer
2. Clayton Iipinge	Namibia NTRL	Medical Laboratory scientist
3. Esther Kalito	Zambia CDL	BTM- Lab technologist
4. Evelyn Nabanoba	Uganda SRL	Data and Info. Assistant
5. Fabio Ponda	Mozamique	Data manager
6. Firmin Njekwizera	Burundi	Data manager
7. Idoru John Samson	South Sudan	Data manager
8. Imriti Chetanard	Mauritius	Medical Laboratory technologist
9. Lia Alem Tekle	Eretria NTRL	Data Officer
10. Mohed Alkadir Hassan	Somalia NTRL	Lab technician
11. Motiatsi Mokatse	Lesotho	Data Clerk
12. Nellie Mukiri	Kenya NTRL	NTRL Manager
13. Ngwenya Ayanda	Eswatini NTRL	PT Scheme manager
14. Nomsa Mulima	ECSA-HC	/Facilitator
15. Ofimile Motshabi	Botswana	Medical scientic officer
16. Seiph Mbegu	Tanzania	Data Analysist
17. Tawanda Dzinotizei	Zimbabwe	Data Analysist
18. Tobias Sebastian	Malawi	Data Officer
19. Twalib	Tanzania	Assistant data manager
20. Wabwire Ivan	Uganda SRL	Data Clerk

Annex 2: Schedule/Timetable

DATA MANAGEMENT TRAINING
12th, 13th and 14th March 2019, KAMPALA, UGANDA
SCHEDULE

TIME	SESSION	FACILITATOR
DAY 1 – 12th March 2019		
09:00-09:45	Welcome / Opening Remarks	ANITAH /DENNIS
9:45- 10:10	Brief Project Overview / Training Objectives & Understanding Specific Training Needs	NOMSA/UPENDO
10:10-10:40	Pre-test	COLLIN
10:40-11:15	**BREAK**	
11:15-12:00	Monitoring and Evaluation Principles	NOMSA
11:15-12:00	Introduction to data management for Labs	COLLIN
12:45-14:00	**LUNCH**	
14:00-14:45	Data Capture and collection	COLLIN
14:45-15:30	Defining Lab Specific Indicators (END TB Strategy)	PATRICK
DAY 2 – 13th March 2019		
09:00-09:45	Data Quality Assurance	COLLIN
09:45-10:30		
10:30-11:00	**BREAK**	
11:00-11:45	Basic Concepts of Data Analysis	JUSTUS
11:45:12:30	Data Presentation and Interpretation	NOMSA
12:30-14:00	**LUNCH**	
14:00-14:45	Data Demand and Use	COLLIN
14:45-15:30	Linking Data to Action	
15:30-16:00	**BREAK**	
16:00-16:45	Information Communication and Dissemination	DAINA
16:45-17:00	GF Project Framework, project Indicators, GF project tools, Reporting Timelines/tools, Data Sources	NOMSA
DAY 3 – 14th March2019		
09:00-09:45	**Group work: Data Exercise (Analysis in Excel, and Reporting of**	COLLIN/JUSTUS
09:45-10:30	**findings in PP Slides)**	
10:30-11:00	**BREAK**	
11:00-11:45	Data coordination for the GeneXpert Network	MARVIN
11:45:12:30	Conducting a data needs Assessment	COLLIN
12:30-13:45	**LUNCH**	
13:45-14:30	Paper Based and Computerized Information Management [T]	JUSTUS / DIANA
14:30-15:15	Data/Information Security and Contingency Planning	JUSTUS / DIANA
15:15-15:45	**BREAK**	
15:45-16:30	Open Session Q&A [D] Development of Actions and Way forward [D] towards Data management concepts.	COLLIN
16:30-16:45	Post Test session	