

Strengthening Laboratory Management Toward Accreditation



Overview

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ABOUT SLMTA

BACKGROUND

To strengthen the tiered laboratory systems of its member countries in a stepwise fashion, WHO-AFRO has established a Stepwise Laboratory Quality Improvement Process Towards Accreditation (SLIPTA) initiative in accordance with its core functions of setting norms and standards and building institutional capacity. In partnership with WHO-AFRO, the US Centers for Disease Control and Prevention (CDC), the American Society for Clinical Pathology (ASCP), and the Clinton Foundation developed this task-based, hands-on training program to facilitate implementation of this initiative.

PURPOSE

This program aims to strengthen laboratory management, achieve immediate laboratory improvement, and accelerate the preparedness toward accreditation.

UNIQUE FEATURES

Task-based curriculum: The foundation of this program is a framework that defines the tasks a laboratory manager must perform in order to deliver quality laboratory services which support optimal patient care. Training activities are designed to enable laboratory managers to accomplish those tasks, using tools and job aides to enhance their management routines. It empowers laboratory managers to initiate immediate laboratory improvement measures, even without additional resources.

Training content closely linked to the SLIPTA Checklist: Another unique feature of the program is its linkage to the WHO-AFRO SLIPTA Checklist. The checklist serves as a roadmap for a laboratory moving towards accreditation, as it defines a well-managed laboratory in terms of observable, measurable results. It is also used to guide supervisory visits and planning for laboratory improvement projects. The same laboratory management tasks that guided the design of the training activities also informed the development of the WHO-AFRO SLIPTA Checklist. As a result, participants see a clear link between a task they are learning and resulting checklist items.

Emphasis on action and tangible improvement: An emphasis on action sets this program apart from laboratory management programs that impart only theoretical knowledge. Laboratory improvement projects are an integral part of this multiple-workshop program. Participants are assigned laboratory improvement projects after each workshop. Facilitators or supervisors visit participants' laboratories, provide coaching, and assess the progress. In subsequent workshops, participants present their improvement projects and share results and lessons learned. These sessions offer a great opportunity for participants to learn from each other and they facilitate the formation of a peer-learning network.

TARGET AUDIENCE

This program covers tasks performed by managers in level-II laboratories, as defined in the framework. However, managers from national reference laboratories (level IV) and regional laboratories (level III) can also benefit from this program as the tasks required to achieve laboratory accreditation are essentially the same.

ABOUT SLMTA

PROGRAM LENGTH

This highly interactive program is composed of more than 40 hands-on activities. To offer it in its entirety would require more than 9 days of training. Therefore, it is recommended that the training be delivered through a series of short workshops, with participants implementing laboratory improvement projects and supervisors providing support visits between workshops. In addition to classroom training, this program may be used as a mentor's or supervisor's toolkit for on-site training. Individual activities or tools may be selected on as-needed basis depending on the gaps identified during site visits.

A GUIDE TO THE TOOLKIT – Toolkit Overview


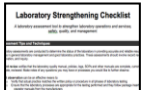
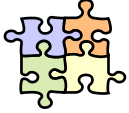



This toolkit contains an introduction, a cross-cutting section, and 10 modules. The cross-cutting section includes several activities that span the entire curriculum. The table below lists the key segments and estimated time requirement.

Toolkit Content	Estimated Duration
Introduction	50 min
Cross-Cutting	18 hrs 30 min
Module 1. Productivity Management	11 hrs 15 min
Module 2. Work Area Management	3 hrs 20 min
Module 3. Inventory Management	2 hrs 30 min
Module 4. Procurement Management	1 hr 15 min
Module 5. Routine/Preventive Maintenance of Equipment	1 hr 55 min
Module 6. Quality Assurance	3 hrs 55 min
Module 7. Specimen Collection & Processing	3hrs 35 min
Module 8. Laboratory Testing	1 hr 45 min
Module 9. Test Result Reporting	2 hrs 20 min
Module 10. Documents & Records Management	50 min
ESTIMATED TOTAL TIME:	52 Hours Plus IP Reports, Site Visits & Debrief

This training toolkit provides a comprehensive foundation to effect immediate behavioral changes and laboratory improvement. However, additional training and mentoring are necessary in order to achieve longer, lasting improvement and accreditation. Topics include:

- Quality control
- Biosafety
- Laboratory quality management system
- Writing SOPs
- Method validation
- Root cause analysis

A GUIDE TO THE TOOLKIT – Icons and Terms

ICON	USE
	Specifies the tasks from the laboratory management framework that the activity is designed to teach
	Indicates the checklist items that are supported by the management tasks taught in the activity. Successful performance of the tasks will fulfill the requirements for the checklist items.
	Denotes related activities; trainers are encouraged to reiterate the applicable points from the relevant activity to augment the learning
	Advises that there is a pre-requisite to the activity; the pre-requisite must be met before proceeding to this activity
	Indicates PowerPoint slides are used; slide numbers are referenced following the icon
	Suggests assigning overnight homework for participants to complete

TERM	USE
Handout	Provides information participants need during an activity
Worksheet	For use by participants during an activity to record their answers
Job aid	Provides tips, guidelines, and checklists participants can use back at work
Tool	Serves as a physical sample of a document or provides additional activity information to assist the facilitator in conducting the activity

A GUIDE TO THE TOOLKIT – How To Use

Overview

MODULE 1. PRODUCTIVITY MANAGEMENT

Performance Outcome

With satisfactory participation in the training and successful implementation of laboratory improvement projects, a participant's laboratory should achieve the following outcome:

- Efficient workflow
- Evenly distributed workload
- Uninterrupted service delivery

Checklist Items Supported by this Module

This module supports the requirements for the following items from the WHO-AFRO Accreditation Checklist for mid-level laboratories:

1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.11, 2.2, 2.4, 3.1, 3.2, 3.3, 3.4, 3.5, 3.7, 4.1, 5.4, 5.5, 5.7, 5.13, 7.12, 7.14, 8.3, 9.1, 9.3, 9.4, 9.8, 9.10, 9.15, 11.1, 12.1, 12.2, 12.3, 12.4, 12.8, 12.10, 12.11, 12.16

Learning Objectives (Management Tasks)

By the end of this module, participants should be able to perform the following management tasks:

1. Organize the laboratory and coordinate work space to allow for smooth, efficient service operations
2. Design workflow for optimal productivity
3. Prioritize and assign work according to personnel skill level, workloads, and completion timeframe
4. Assess personnel competency against standards and determine corrective action and training needs
5. Conduct weekly staff meetings to coordinate activities, review lab operations, reward success, celebrate accomplishments, and resolve issues
6. Meet with staff individually to communicate expectations, provide feedback, coaching, or on-the-job training to ensure competency and productivity
7. Provide/coordinate new-hire orientation and training to staff
8. Maintain and update personnel records (training, certification, competency assessment)
9. Create a work plan and budget based on personnel, test, facility, and equipment needs
10. Create/review/forward reports on lab operations to upper management
11. Implement measures to motivate staff to improve quality of work and productivity (e.g., training, job rotation, employee of the month, thank-you letter, etc.)
12. Develop and implement lab improvement plans based on best practices and feedback from staff, patients, customers, quality indicators, and external assessment
13. Communicate to upper management regarding personnel, facility, and operational needs

Each module begins with an **Overview** of all the activities in the module, followed by the detailed description of each activity.

Overview

What's in this Module?

ACTIVITY TITLE	PURPOSE	DURATION
Process + Structure = Outcome	Optimal laboratory design involves two factors: physical layout of the allotted space and workflow path designed around the steps of the process to be performed in that space. In this activity, participants design a laboratory layout with regards to the workflow using the provided floor plan.	2 hrs
Improving a Problem Floor Plan	Optimal laboratory design requires that the physical work environment is safe and appropriate for testing. In this activity, participants will identify hazardous elements in the work environment of the provided laboratory floor plan. Using the floor plan, participants will redesign the layout so that the pr	45 min
Mapping Out the Floor Plan of Your Laboratory	A sig ml la ml la im of	1 hr 25 min
Redesigning the Floor Plan of Your Laboratory	A productive laboratory can be redesigned if opportunities, possibilities, and potential problems are recognized. To effectively redesign a laboratory, a manager must carefully consider the interrelationships between space, workflow, and equipment. In this activity participants redesign their laboratory layout to improve the workflow by repositioning movable items in their floor plan.	45 min
Making a Cup of Tea	Simple, daily tasks can easily become laborious when the needed supplies and materials are not readily available. This activity demonstrates that organization is the key to performing any daily activity, including making a cup of tea.	20 min
Whisper Down the Alley	To demonstrate the need for written step-by-step procedures so that staff members perform tasks in a standardized manner. The activity highlights the difference between how verbal directions can easily be mis-communicated and how written instructions consistently convey the information accurately.	20 min

This table lists all the activities in this module: title, purpose, and estimated duration.

A GUIDE TO THE TOOL KIT – How To Use

Activity Title marks the beginning of the activity

These handouts, worksheets, and job aids are **hyper-linked**. By right-clicking the title, you can open the document. These documents are also included within each activity.

Resources box lists materials required to conduct the activity, including teaching tools for facilitator and handouts, worksheets and job aids for participant.

PowerPoint references all the slides used in this activity. This item is **hyper-linked**. By right-clicking the item, you can open the appropriate PowerPoint file.

Linkage table lists the management tasks the activity is designed to teach and the checklist items that will be checked off if those tasks are performed

This table shows all the other activities to which this activity is related.

Activity-at-a Glance table provides a quick guide to the components of the activity – steps, time, and resources required. Use the **Key Points** column for the teaching notes. Then print out this table for use when conducting the activity.

TRAINER'S TOOLKIT 1-64

ACTIVITY How Do You Assign Personnel to Tasks? **Module 1**

PURPOSE:
A duty roster helps a manager coordinate tasks among laboratory staff to better serve participants on

RESOURCES FOR FACILITATOR:

- PowerPoint slides: 1.31 to 1.38
- Flipchart and markers
- Pencils with erasers

RESOURCES FOR PARTICIPANT:

- Handout 1: Duty Scheduling Scenario (118)
- Handout 2: Workload Statistics (119)
- Handout 3: Workstation Assignments (120)
- Worksheet: Duty Roster Schedule (121)
- Job Aid: Implementing a Duty Roster (122)

This activity supports the following laboratory management tasks and assessment checklist items

Management Tasks	1.2 Design workflow for optimal productivity
	1.3 Prioritize and assign work according to personnel skill level, workloads, and completion timeframe
	1.11 Implement measures to motivate staff to improve quality of work and productivity (e.g., training, job rotation, employee of the month, thank-you letter, etc.)
Checklist Items	3.1 Do work schedules show task assignments & coordination of work among lab staff?
	3.2 Are daily routine work tasks established, assignments) and monitored?

This activity is related to the following activities:

- Cross-Cutting: Workstation Set-Up
- Module 1: Creating a Management Calendar
- Module 1: Process + Structure = Outcome
- Module 1: Competency Assessment
- Module 1: Creating a Personnel File

Module 1: Productivity Management Activity: How Do You Assign Personnel to Tasks?

ACTIVITY AT-A-GLANCE 1-65

Step	Description	Time	Resources	Key Points
1	Explain why a duty roster is important	10 min	Slides 1.31 to 1.35	
	Demonstrate how to create a duty roster using a simple example	10 min	Slide 1.36	
	Produce the activity	5 min	Slide 1.37 Handout 1 Handout 2 Worksheet	
	Conduct the activity	20 min	Handout 1 Handout 2 Worksheet	
5	Discuss the selected roster	10 min	Handout 3 Worksheet	
6	Create "what if" scenarios	10 min	Worksheet	
7	Debrief the "what if" scenarios	5 min		
8	Debrief the activity	10 min	Slide 1.38 Job Aid	
9	Conclude the Activity	5 min		
TOTAL TIME:		85 min		

A GUIDE TO THE TOOLKIT – How To Use

TRAINER'S TOOLKIT 1-66

PROCESS

Preparation

- Print additional copies of [Worksheet: Duty Roster Schedule](#) to accommodate several attempts and “what if” scenarios by the participants.
- Write on a flipchart page sufficient room to add:
 - Testing menu
 - Workload
 - Personnel available
 - Operational hours
- Draw the duty roster to

Process details the steps to prepare for and conduct the activity.

Preparation provides instructions on how to get ready for the activity. Make sure to review this section with the Resources box.

	Mon	Tues	Wed	Thurs	FRI
Staff A					
Staff B					
Staff C					

Suggested time for each step

Step 1. Explain what a duty roster is and why it is important 10 min

- Project Slide 1.31 to introduce the activity.
- State that a duty roster designates personnel to specific workstations. It defines who is responsible for completing ‘what’ and ‘when.’
- Project Slides 1.32 to 1.33 to provide examples of a staffing schedule and workstation duty roster for the participants.
- Project Slides 1.34. Ask participants to explain the difference between staffing schedule (routinely provided to the hospital and laboratory coverage) and a duty roster (designating specific personnel to specific workstations). Facilitate a discussion that contrasts the utility of both.
- Stress the importance of clearly defining and listing the workstation’s assignment. These tasks should be placed at the workstation and/or near the duty roster. Link this to the *Workstation Set-Up and Process + Structure + Outcome* activities.
- Emphasize that duplication is avoided, and the allotted time is used within the allotted time.
- Project Slide 1.35 to discuss the duty roster. As page under the

references the slides used during the step.

suggests that you reiterate the relevant points from a previous activity - in this case, Workstation Set-up and P+S=O.

Module 1: Productivity Management Activity: How Do You Assign Personnel to Tasks?

TRAINER'S TOOLKIT 1-70

KEY MESSAGES

- An organized, detailed, and well thought-out duty roster will increase productivity, efficiency, and morale.
- Four factors influence the duty roster: testing menu, workload, personnel available (number of staff, skill level, and hours worked), and operational hours.
- A duty roster provides visual access to accommodate changes affecting operations.

Can they:

- Assign personnel to tasks by assessing workload, staff availability, and hours of operation?
- Reschedule changes to address encountered problems or requests?

ACTIVITY OBJECTIVES MET?

Activity Objectives Met?
Use these questions to assess whether participants have achieved the learning objectives and can successfully perform the targeted management tasks.

Key Messages
provide the essence of the activity: why and how in a nutshell.

	MON	TUES	WED	THURS	FRI	SAT	SUN
MR. KADOC - G	P	P	P	P	P		
DAY DUTY	BU, LU, ESS, WBC, WBC, BS	CDL	OFF	OFF	OFF		
MR. KATA - K	WBC, JG	ME, S, U, JI	MS, SP, BG				
DAY DUTY	OFF	OFF	OFF	BS, BU, HR, WBC	BS, SP, JES		
MR. GESA - M				USS	P	U, WBC	
EVENING / NIGHT	BS, HD, JG, BS	BS, BS, JG, BS	BS, JL	HR, BS, SS, J	SS, BS, JG, BS		
MRS. LYAKA - G	SS	P	P	NG, JI	P	P	

PREPARED BY: *[Signature]*
LYAKA GEREBEDE

Posted Duty Roster

Module 1: Productivity Management Activity: How Do You Assign Personnel to Tasks?

A GUIDE TO THE TOOLKIT – How To Use

TRAINER'S TOOLKIT 1-98

Connections and Applications

- The efficiency or inefficiency at the start of the day will cascade and affect the workload throughout the remainder of the day. It is important to communicate and monitor start-of-shift tasks, including the expected time for completion.
- Know the peaks and troughs in daily workload patterns to help balance and coordinate assigned daily tasks.
- Delays in the completion of tasks should be documented in the appropriate calendar, to the ordering physician.
- If one's staff will impact how the day should be communicated to the ordering physician.
- Establishes his activities to share at a meeting and establish a daily routine.
- completes start of shift times
- ates his activities to share at a meeting
- material need to thaw for 15 minutes
- to remove aliquots from the freezer
- temperature. Next, he performs and documents
-) as the QC material thaws. Lastly, he
- this approach to one in which a manager
- 's, returns to the freezer to thaw QC material to thaw.
- tasks with available staff, with the manager
- he highest priority. The calendar, a quick visual account and allows
- ordingly, especially when quick assessment of the calendar and
- request for a day off can be granted.
- that if weekly maintenance is performed before Friday, the request could be granted. For unexpected events, the manager can quickly survey the calendar and roster information, to enable quick decisions in planning or rescheduling. Link this to the *Creating a Management Calendar* activity.
- A duty roster will reveal gaps in training and competency. An action plan to address these gaps will create a stronger, cohesive, and more productive laboratory team.
- An organizational chart, outlining the hierarchical relationships between organizational areas, helps clarify workflow, reporting lines, and areas of responsibility. It is a visual aid that illustrates the relationships between positions.
- Conscious use of time will assist a supervisor to be well organized and well prepared. Without a structured and disciplined time management system, a supervisor can easily become overwhelmed. The calendar and duty roster serve as time management tools that can schedule the future, address the present, and record the past. Link this to the *Creating a Management Calendar* activity.

Connection and Applications table provides further information to extend the learning to additional work applications. Use your judgment to decide how much or when to include this extra information.

Module 1: Productivity Management Activity: How Do You Assign Personnel to Tasks?

TRAINER'S TOOLKIT 1-99

Handout 1: Scenario

Duty Scheduling Scenario

- The laboratory and clinic hours are 8:00 to 4:00 pm.
- The HIV Clinic is open to 6:00pm on Tuesdays and Thursdays. During this extended time only 5 patients are seen. The primary request is for a HIV Rapid test; however, on occasion other tests may also be requested.
- Wednesday is the busiest day for HIV ART clinics.
- 80% of the workload is collected during the 8:00 to 4:00 pm shift.
- Work shift times for staff are 8:00-4:00 pm (i.e. 8-4 shift, 9-5 shift).
- More than one workstation is used for HIV testing.
- The clinic employs one Lead Phlebotomist. You, the manager, are responsible for all workstation areas.

Use the following abbreviations:

- H = Hematology
- C = Chemistry
- UA = Serology and Urinalysis
- BB = Blood Bank
- M = Microbiology

All tools for facilitation, where available, are included at the end of the activity after the Connection and Applications table. They are followed by all the handouts, worksheets, and job aids for participant in the order of use. These handouts, worksheets, and job aids are also available in electronic format by hyper-linking from the Resources box.

Module 1: Productivity Management Activity: How Do You Assign Personnel to Tasks?

A GUIDE TO THE TOOLKIT – How To Use

PowerPoint Slide (Notes Page)

Workstation Assignments

HIV	rapid HIV testing
UA	routine urinalysis, pregnancy
TB	AFB testing
FBC, BS	full blood count, malaria blood smears
RPR	RPR
Phleb	phlebotomy, glucometer

Laboratory Duty Roster (Workstation Assignments)

	Monday 1/2/2009	Tuesday 2/2/2009	Wednesday 3/2/2009	Thursday 4/2/2009	Friday 5/2/2009
Lead Tech	HIV, UA	FBC, BS	Evening	FBC, BS	RPR, Phleb
Tech A	Evening	RPR, Phleb	HIV, UA	Evening	FBC, BS
Tech B	TB	Evening	FBC, BS	RPR, Phleb	Evening
Tech C	FBC, BS	HIV, UA	TB	HIV, UA	TB
Tech D	RPR, Phleb	TB	RPR, Phleb	TB	HIV, UA

Daily HIV TAT 28 min 45 min 26 min 53 min 27 min

Target HIV TAT 30 minutes
Average HIV TAT for the week 36 min

© Productivity Management

This HIV daily TAT is an oversimplified example of how the duty roster can be used as a record of the past laboratory activities. Do not approach this example from a punitive viewpoint, but highlight how this duty assignment information can assist a manager to determine the root cause of an issue. For example, perhaps Tech C is responsible for a duty that affects the TAT or the TAT on specific days. Another example that can be described to the class could be the following scenario: a nurse called on Wednesday and spoke with the tech performing the FBC's. As the manager is informed the following week about how helpful the tech was in answering all the nurse's questions, the manager can use the professionalism.

Be sure to check out the **Notes section** of the PowerPoint file. Some slides contain notes to facilitator.

Materials participant will need for the activity are listed here. They are **hyper-linked**. By right-clicking the title, you can open the document.
NOTE: Although not absolutely necessary, some of these handouts, worksheets and job aids are better printed **in color**. All should be printed **single-sided** for ease of use.

Assembling Participant Material

PARTICIPANT'S TOOLKIT 29

ACTIVITY SUMMARY SHEET

ACTIVITY How Do You Assign Personnel to Tasks? **Module 1**

PURPOSE:
A duty roster helps a manager coordinate tasks among laboratory staff to better serve customers. It assigns personnel to workstations with well-defined tasks and responsibilities. In this activity, participants learn to create a duty roster based on testing menu, workload, personnel available, and operational hours.

This activity supports the following laboratory management tasks and assessment checklist items

Management Tasks	Checklist Items
<ul style="list-style-type: none"> 1.2 Design workflow for optimal productivity 1.3 Prioritize and assign work according to personnel skill level, workloads, and completion timeframe 1.11 Implement measures to motivate staff to improve quality of work and productivity (e.g., training, job rotation, employee of the month, thank-you letter, etc.) 	<ul style="list-style-type: none"> 3.1 Do work schedules show task assignments & coordination of work among lab staff? 3.2 Are daily routine work tasks established, assigned (duty roster or workstation assignments) and monitored?

KEY MESSAGES

- An organized, detailed, and well thought-out duty roster will increase productivity, efficiency, and morale.
- Four factors influence the duty roster: testing menu, workload, personnel available (number of staff, skill level, and hours worked), and operational hours.
- A duty roster provides visual access to accommodate changes affecting operations.

Can you:

- Assign personnel to tasks by assessing workload, staff availability, and hours of operation?
- Reschedule changes to address encountered problems or requests?

SELF-ASSESSMENT

For this activity, you will need:

- [Handout 1: Duty Scheduling Scenario](#) (118)
- [Handout 2: Workload Statistics](#) (119)
- [Handout 3: Workstation Assignments](#) (120)
- [Worksheet: Duty Roster Schedule](#) (121)
- [Job Aid: Implementing a Duty Roster](#) (122)

SLMTA IMPLEMENTATION GUIDELINES

Purpose: To scale up quickly while maintaining the authenticity, standardization, and quality of the SLMTA program to propel laboratories toward accreditation.

Guideline #1: Distinguish between SLMTA Training and TOT

Know the difference. See comparison table below.

	SLMTA Training	SLMTA TOT (Training of Trainers)
Who are the facilitators?	Qualified Trainers (see Guidelines #2 and #3 for criteria)	Qualified Master Trainers (see Guideline #4 for criteria)
Who are the participants?	Lab managers, QA officers, or department heads who will implement improvement in their own laboratories	Trainers who will implement SLMTA training, including teaching SLMTA workshops, mentoring and making supervisory visits to monitor improvement projects
Criteria for selecting the participants	<p>Minimum of 1-2 years of technical and QA experience in a general clinical laboratory setting</p> <p>Laboratory management experience preferred</p> <p>Commitment & motivation for laboratory improvement</p>	<p>Minimum of 1-2 years of technical and QA experience in a general clinical laboratory setting</p> <p>Proven ability to manage a laboratory successfully</p> <p>Experienced in training and mentoring laboratory staff</p> <p>Designated by MOH to implement SLMTA in support of the accreditation process</p> <p>Highly motivated</p>
Duration/delivery model	Three 3-4 day workshops, separated by 3-month periods for improvement project implementation and on-site monitoring, coaching and supportive supervision.	One 2-week long workshop
What are participants expected to do after training?	<p>Apply the SLMTA training to their facility to improve laboratory operations and management based on gap analysis.</p> <p>Execute improvement plans between workshops.</p> <p>Achieve at least one-star increment from baseline audit on the WHO-AFRO SLIPTA Checklist by the completion of the program map.</p>	<p>Demonstrate leadership in planning for national rollout of SLMTA in accordance with national accreditation goals.</p> <p>Conduct a gap analysis based on findings from baseline audit using the WHO-ARFO SLIPTA Checklist</p> <p>Implement SLMTA program map in-country.</p> <p>Teach activities, conduct site visits and monitor and validate improvement projects.</p>

SLMTA IMPLEMENTATION GUIDELINES

Guideline #2: Use only Qualified Trainers for SLMTA Training

A qualified trainer meets all of the following criteria:

- Full participation in an ILB-sponsored or endorsed TOT (at ACILT or in country)
- Recommendation from a Master Trainer based on Teachback performance

Guideline #3: Use Team Teaching

SLMTA training should be taught by a team of facilitators. Qualified trainers fresh from TOT should be paired with an experienced trainer for at least their first SLMTA training and receive feedback from more experienced colleagues in the style of the TOT.

Guideline #4: Use only Qualified Master Trainers to Teach TOT

Master Trainers must be qualified SLMTA trainers and meet one of the following criteria:

- Have assisted in teaching a SLMTA TOT with a Master Trainer and received the recommendation to become a Master Trainer.
- Have co-facilitated SLMTA training with other qualified trainers through the full 3-workshop series and demonstrated laboratory improvement results at the end of the SLMTA program.

Guideline #5: Form a National Team

Consider forming a national team of trainers and mentors with dedicated time for SLMTA rollout. Conducting training and follow-up site visits takes time should not be imposed upon someone who already has a full-time job.

Guideline #6: Keep CDC/International Laboratory Branch in the Loop

All requests for in-country TOT must involve CDC/GAP/ILB in the planning process.

- ILB will assist with planning to ensure all critical factors are considered.
- ILB will provide technical assistance for organizing/facilitating the in-country TOT with partners.

Guideline #7: Keep Class Size Small

Given the hands-on nature of SLMTA, it is imperative that class size remains small. See table below for “Trainer to Participant Ratio.” Another consideration is the number of labs represented in each cohort. Resources must be allocated for follow-up visits and monitoring of improvement project implementation. If resources are limited in that regard, you should limit the number of participating labs in each phase of rollout.

	SLMTA Training	SLMTA TOT
Trainer-to-Participant Ratio	1:12 (but not to exceed 24 people)	1:8 (but not to exceed 24 people)

Guideline #8: Plan SLMTA programs with the follow-up requirements fully in mind

Ensure adequate resources to support the requisite improvement projects and site visits. At a minimum a coach or mentor should visit each participating laboratory (or section of a large laboratory) soon after each workshop to ensure the start of the improvement projects, and again before the next workshop to monitor and validate the progress of the improvement projects. Each visit should be at least half day long. The number of laboratories in a cohort

SLMTA IMPLEMENTATION GUIDELINES

and their distance from each other will determine amount of resources (manpower, transportation costs) required, or vice versa.

Guideline #9: Start Small and Focused

Countries should initially work with a small number of pilot laboratories to establish a success model before large-scale rollout. The number of labs targeted for accreditation at any given time will depend on available resources, time, will and capability. Pilot laboratories are selected based on a baseline audit with the WHO AFRO SLIPTA Checklist and fulfillment of SLMTA's entry prerequisites:

- Lab director, with decision-making power, in place
- QA manager in place
- Participant committed to same job responsibilities throughout the program (preferred)

Guideline #10 – Monitor SLMTA Program Rollout Properly

Ensure SLMTA implementation is monitored properly.

- Use the WHO-AFRO SLIPTA Checklist for baseline audit (before the commencement of SLMTA) and the exit audit. The difference in the scores between the baseline and the exit audits is the training impact.
- Use a qualified auditor to conduct baseline audit and the exit audit. Qualifications can be either completion of WHO AFRO auditor training or training in ISO 17025 or ISO 15189.
- Additionally, use the WHO-AFRO SLIPTA Checklist for on-going monitoring of participating laboratories by coaches and mentors.

Guideline #11: Build In-Country Capacity

To ensure sustainability, in-country trainers should be used as much as possible without compromising the quality of the program or compliance with the aforementioned guidelines. If SLMTA implementation is done through partners, in-country trainers who have completed the SLMTA TOT should be incorporated into the training team whenever possible.

Guideline #12: Consider these Costs

Plan for the following cost categories:

SLMTA training	3-workshop series: Workshop 1 (4 days), Workshop 2 (3 days), Workshop 3 (3 days) Trainer and participant per diem, training venue, lodging, teaching materials, printing cost, etc.
SLMTA site visits	Two visits per site after each workshop, each at least ½ day long (total of 6 visits per site), multiplied by the number of labs Transportation time and costs (fuel, vehicle, driver, etc.)
Other trainings	Consider Quality Control, Writing SOPs, How to be an effective QA Manager, BioSafety, QMS, etc.
Audit	Auditor fee for baseline audit and end-of-workshop audit
Lab renovation	As needed basis
Accreditation process	Consult WHO-AFRO Stepwise Laboratory Improvement Process Towards Accreditation (SLIPTA) policy and guidelines

SLMTA IMPLEMENTATION READINESS CHECKLIST

Pre-SLMTA

A. Strategic Country Planning for Laboratory Accreditation

1. Is political will for accreditation present?
 - Are the key persons with the power to accomplish accreditation supportive and committed to accreditation?
2. Are resources allocated?
3. Are systems in place that will be needed to accomplish accreditation? (Specifically supply chains, equipment maintenance, quality assurance, logistics, etc.)
4. Will the SLMTA program be included in the country accreditation plan?
 - If so, are funding streams and partner support aligned toward this goal?
5. How will the country's needs for other complementary programs, (i.e. Biosafety, Quality Control, Quality Management Systems, Training for QA Managers, SOP Writing, etc.) be met?
6. Are laboratory referral networks in place and functioning?
7. Are accommodations for External Quality Assessment /Proficiency Testing in place?

B. Stakeholder Meeting

1. Are all key stakeholders identified?
2. Do laboratory leaders meet personally with all key stakeholders prior to meeting?
 - Has the strategic plan been shared?
 - Has each stakeholder been given an opportunity to determine how his/her organization can provide assistance and fit into this plan?
 - Has a commitment of support from each stakeholder been assured prior to the meeting?

SLMTA IMPLEMENTATION GUIDELINES

3. Is the Strategic Plan used to guide the outcome of the meeting?
4. Is the meeting an opportunity to affirm support from all key stakeholders and provide momentum to the accreditation plan?

C. Baseline Audit

1. Is the baseline audit conducted?
 - Do qualified personnel conduct it?
 - Is the *SLIPTA Checklist* used?
 - When undertaking the audits with the in-country personnel, is consideration given to the makeup of the audit team (i.e. experience, expertise, availability) as well as the division of checklist among team members and in the different departments, report compilation and completion, etc.?
2. Is this baseline used to select the labs for accreditation? Are the laboratories divided for staging of the program, with first phase candidate labs that will begin the program and second phase candidate labs that will participate once program success has been demonstrated?
3. Is this baseline used to perform gap analysis?
 - Are these results communicated to the laboratory/laboratories involved?
4. Is the gap analysis used to direct and prioritize the accreditation plan?
 - Are results used to guide laboratory improvement?

SLMTA Program

A. Participant Selection

1. Are the participants selected with regard to the SLMTA Implementation Guidelines?
2. Are the participants selected with priority given to the laboratories chosen for the first and then second phase candidate laboratories?

B. Criteria for Completion of SLMTA

- Have the criteria for completion and issue of SLMTA certificates been established?

SLMTA IMPLEMENTATION GUIDELINES

- Will certificates be issued at the end of the three workshops, or at the completion of a third round of improvement projects?
- Has it been determined who will assess that criteria for completion have been met?
- Has it been determined how will this be assessed?

C. Venue

Is a venue chosen to accommodate an interactive curriculum including sufficient wall space and room size?

D. Workshop Scheduling

1. Are dates, funding, and logistical support available for the three workshops?
2. Is the timing of each workshop approximately 3 months apart?

E. Printing of Materials

1. Are roles and responsibilities for the printing and assembly of the participant manuals assigned?
2. Have printing instructions been clarified?

F. Participant Feedback

1. Are participant feedback forms printed?
2. Are roles and responsibilities for collating the feedback assigned?
3. Has consideration been given to how this information will be utilized?

G. Workshop materials

Have the materials on the in-country preparation list (obtained from SLMTA) been acquired?

H. Registration

Have provisions been made for participant registration?

I. Participants details – Transportation, hotels, funding, etc

Have arrangements been made and clarified for these details in advance of the workshops?

J. Site Visit Scheduling

1. Are roles and responsibilities for site visits assigned?

SLMTA IMPLEMENTATION GUIDELINES

- Has it been determined who will be responsible for conducting site visits?
- Has oversight responsibility for the site visits been determined?
- 2. Are standardized site visit tools utilized (SLMTA provides these tools)?
- 3. Has the method for assessing improvement projects been reviewed (SLMTA provides these tools)?

K. Improvement Project Support

- 1. Has it been determined, who will be responsible for selecting the specific Improvement Projects (SLMTA provides standardized projects, but it may be customized to better suit country needs)?
- 2. Has the method for assessing improvement projects been reviewed (SLMTA provides these tools)?

Post SLMTA

A. Maintaining the Gains

Have roles and responsibilities for maintaining the supportive site visits been considered?

B. Moving toward Accreditation

Are roles and responsibilities for oversight of the accreditation process assigned? Who owns accreditation – the MOH, the individual laboratories, the laboratory managers, etc?

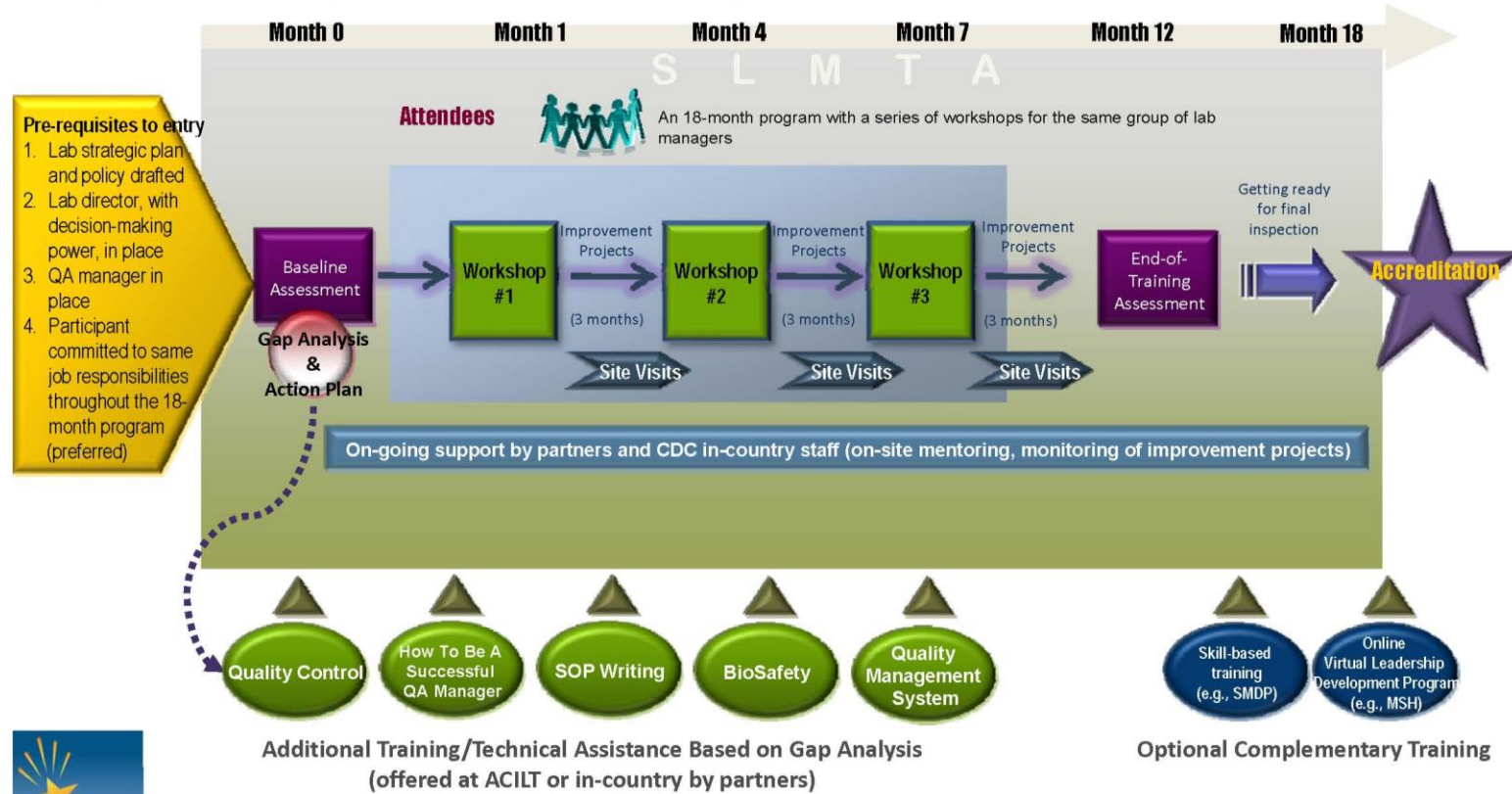
Has it been determined, who will be responsible for continued post-SLMTA monitoring of the laboratories using the WHO-AFRO SLIPTA Checklist and how often it will be done?

SLMTA PROGRAM MAP

[Program Map \(hyperlink\)](#)

Strengthening Laboratory Management Toward Lab Improvement and Accreditation Recommended Program Map

◆ Strengthen laboratory management ◆ Achieve immediate laboratory improvement ◆ Accelerate the process toward accreditation readiness




APPENDIX

ACTIVITY **Conducting a Site Visit** **For TOT Only**

PURPOSE:

Site Visits are an integral part of laboratory improvement, providing the connection between the presentation of new knowledge, skills, or tools and actual laboratory practice. This activity allows participants to explore the functions of site visits, to design a format for assessment, and to gain insight into how to conduct effective site visits.


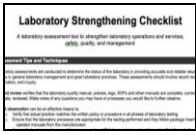
RESOURCES FOR FACILITATOR:

-  [PowerPoint slides: #1 - #7](#)
- [Tool: Defining Questions for Assessment Development](#)
- Flipchart & Markers

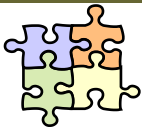
RESOURCES FOR PARTICIPANT:

- [Worksheet: Site Visit Assessment](#)
- [Job Aid 1: Training Follow-up and Assessment](#)
- [Job Aid 2: Supervisory Assessment](#)
- [Job Aid 3: Improvement Project Supervisor Assessment](#)
- Pens

This activity supports the following laboratory management tasks and audit checklist items

<p>Management Tasks</p> 	<p>1.1 Meet with staff individually to communicate expectations, provide feedback, coaching, or on-the-job training to ensure competency and productivity</p> <p>1.2 Develop and implement lab improvement plans based on best practices and feedback from staff, patients, customers, quality indicators, and external assessment</p>
<p>Checklist Items</p> 	<p>6.1 <u>Internal Audits</u> Are internal audits conducted at intervals as defined in the quality manual and do these audits address areas important to patient care?</p> <p>6.2 <u>Audit Recommendations and Action Plan & Follow up</u></p> <p>11.2 <u>Quality Management System Improvement Measures</u> Does the laboratory identify and undertake continual quality improvement projects?</p> <p>11.4 Are quality indicators (TAT, rejected specimens, stock-outs, etc.) selected and tracked?</p>

This activity is related to the following activities:

	<p>Cross cutting: Process Mapping, Planning Improvement Projects - Master Class, Reporting Improvement Projects</p> <p>Module 2: Conducting a Safety Audit</p>
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ACTIVITY AT-A-GLANCE				
Step		Time	Resources	Key Points
1	Explore importance of site visits for laboratory improvement	10 min	Flipchart & Markers Slides #1- #3	
2	Introduce activity - Design a format for site visit/assessment	10 min	Slides #4 - #5 <u>Tool</u>	
3	Conduct the activity	15 min	Slide #6 <u>Worksheet</u>	
4	Debrief the activity	10 min	Slide #7 <u>Job Aid 1, 2, & 3</u>	
5	Conclude the Activity	5 min		
	TOTAL TIME:	50 min		


PROCESS

Preparation

- No additional preparation required.



Step 1. Explore importance of site visits for laboratory improvement

10 min


- Project  Slides #1 - #3. Site Visits are an integral part of laboratory improvement and an obligatory component of the SLMTA program. Focus the discussion on the benefits of site visits and how the site visits fit into the overall SLMTA program. Share the concept of multiple workshops with supportive site visits strategically situated between the workshops. Note that if site visits are so important to SLMTA, we must understand what we are to accomplish on these visits and how to conduct these visits - we need a prescriptive approach to site visits. This activity will provide the needed prescription.
- Ask participants to enumerate the various possible **functions** of site visits. Explore the types of site visits and their purposes. The following are suggested responses which relate to SLMTA site visits:
 - Laboratory Audit:
 - To provide an objective measurable audit of laboratory function.
 - Training Follow-up:
 - To assess the effectiveness and appropriateness of the training curriculum and delivery
 - To provide the connection between the presentation of new information, skills, or tools and actual laboratory practice
 - Assessment of Improvement Projects
 - To ensure that improvement projects are on track for completion
 - To provide assistance with challenges encountered in the execution of the project
 - To validate improvement project results
 - Supportive supervision:
 - To coach and mentor the laboratorian in performing managerial tasks
 - To follow up on those priority issues on which the laboratory is currently working
- Capture the categories of site visits identified using the flipcharts and markers.
- Discuss the benefits of a **standardized format** for site visit/assessment:
 - Standardization of assessment and responses
 - Guidance to the person performing the site visit, especially if the person performing the visit is new to this laboratory
 - Guidance to laboratorians at the site as to what information will be requested
 - Documentation of site improvement priorities, i.e. what area or specific items from the SLIPTA Checklist are currently being addressed by the laboratory
 - Reminder for items that need follow-up

- Ability to make the site visit focused and efficient
- Efficient use of the valuable time
- Summarize the discussion.

Step 2. Introduce the activity - Design a format for site visit/assessment 10 min


- Project  Slide #4.
- State that laboratory audits - whether to establish a baseline, monitor progress, or to reach the goal of accreditation - are completed using the WHO-AFRO SLIPTA Checklist.
- The site visits that are essential for SLMTA success must serve several purposes: 1) Post-training follow-up, 2) Assessment of improvement projects, and 3) Follow-up on those priority issues on which the laboratory is currently working.
- Inform participants that they will be designing a format for site visit/assessment. This format will address all of the purposes noted above.
- Discuss with participants the factors to consider when developing a format for objective evaluation. Possible considerations include:
 - First and foremost, clearly define the information that is most beneficial and most important for your purpose. Refer to [Tool: Defining Questions for Assessment Development](#).
 - Design questions that will elicit this information most efficiently - with a method that is easy to understand and administer.
 - Phrase questions clearly and unambiguously.
 - Design questions that would yield the same results irrespective of the assessor.
 - When a measured response is needed, create options that can be quantified or qualified objectively.
 - Project  Slide #5. Note that the type of question created determines the type of response generated. In general, questions can be answered by responses that are 1) open-ended, requiring a short-text response, 2) Closed, requiring a yes/no response, or 3) an array or a scaled measurement response, i.e. the Likert scale ranking responses from 1 (never present) to 5 (always present).
- Divide participants into groups of 4-5 persons.
- Inform participants that they will have 10 minutes to develop questions with appropriate response types.

Step 3. Conduct the activity 15 min

- Project  Slide #6.
- Refer participants to [Worksheet: Site Visit Assessment](#).
- Ask them to develop at least 5 questions with response types that would meet the purpose of their site visit. Remind participants to develop an assessment to follow up training, assess & support improvement projects, and provide supervisory support, following up on priority issues. Consider working through the development of one question with the group.
- Allow 15 minutes for group work.

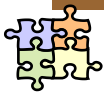
Step 4. Debrief the activity

10 min

- Ask groups to share the questions they developed.
- Remind them to begin by clearly defining the information needed based on the purpose of the visit. Refer to [Tool: Defining Questions for Assessment Development](#).
- Project  Slide #7. Relate the essential nature of the site visits to the success of laboratory improvement in general and the SLMTA program in particular.
- Refer to [Job Aid 1: Training Follow-up and Assessment](#) and [Job Aid 2: Supervisory Assessment](#) for suggested questions. Use [Job Aid 3: Improvement Project Supervisor Assessment](#) for assessing the outcomes of improvement projects.

Step 5. Conclude the activity

5 min



- Link to *Process Mapping* and *Using the Checklist for Laboratory Improvement* activities.
- Highlight or reiterate the key messages below.
- Make sure participants achieved objectives of the activity.



KEY MESSAGES

- Site visits can serve several purposes.
- Designing an assessment based on the purpose of the site visit allows for efficiency, documentation, and standardization of these visits.
- Site visits are crucial to assure the successful transfer of knowledge, skills, and practices from the workshop to the laboratory.

Can they:

- State the purpose of site visits and the benefits of using a standardized format for laboratory improvement through the SLMTA program?
- Design an appropriate format for site visit assessment?
- Defend the essential nature of site visits?



ACTIVITY OBJECTIVES MET?


Connections and Applications

- The importance of site visits to laboratory improvement cannot be over-emphasized.
- Site visits are crucial to the success of the SLMTA program leading toward accreditation. Implementation with accountability is a key tenant of this program.

Tool: Defining Questions for Assessment Development

I. Assessing Training:

- Is the implementation of the Improvement Projects (IPs) progressing satisfactorily? Are there any misconceptions or commonly encountered issues?
- Is the training effective? What was the level of adoption of the new tools presented? If the new tools were not adopted, why not?
- Is the training meeting the participants' needs? If not, what can be done to modify or customize the curriculum to address these needs?

II. Evaluating Improvement projects:

- Have the assigned improvement projects been started?
- In yes, how are the projects progressing? Are there any issues that are causing difficulties? Does the laboratorian understand the improvement model? Are there adjustments or corrections that need to be made in the process?
- If no, why not? Are there obstacles that need addressing? Is there adequate support from administration? Are there additional resources that are needed? Does the laboratorian understand the improvement model? Is additional training needed?
- If the projects are in progress, are they on course for completion according to the time frame?
- If the projects are completed, verify the results. Was actual data collected? Are the results measurable? Can the results be verified by photography?

III. Supportive Supervision:

- Are there positive behaviors, changes, practices that need reinforcement?
- Are there issues where the laboratorian needs guidance and coaching for resolution?
- Are there instances where the laboratorian needs to observe and experience managerial tasks performed by a competent supervisor?
- What priority issues are identified that need to be assessed on the next visit?
- Is there objective data, including photographs, audit checklists, etc. included with the report for ongoing monitoring?

Worksheet: Site Visit Assessment

Supervisor / Assessor: Please use this form to evaluate the assigned laboratory. Base your assessment on what you actually observed at the laboratory, in addition to information gleaned from the interview. Include objective data when available including photographs. Attach relevant checklist for ongoing monitoring purposes.

LABORATORY: _____ NAME: _____
 ASSESSOR: _____ DATE: _____

1.	
2.	
3.	
4.	
5.	

Job Aid 1: Training Follow-up and Assessment

Supervisor / Assessor: Please use this form to evaluate the assigned laboratory. Base your assessment on what you actually observed at the laboratory, in addition to information gleaned from the interview. Include objective data when available including photographs. Attach relevant checklist for ongoing monitoring purposes.

LABORATORY: _____ NAME: _____
 ASSESSOR: _____ DATE: _____

1. Is the implementation of the Improvement Projects (IPs) progressing satisfactorily? Are there any misconceptions or commonly encountered issues?

2. Is the training effective? What was the level of adoption or uptake of the new tools (may or may not be related to the improvement projects) presented?
 (Rate this on a scale of 0 to 5, with 0 = No Uptake and 5 = Complete Uptake.)
If the new tools were not adopted, why not?

Tool 1 (e.g. Duty Roster)	Tool 2 (e.g. Staff Meetings)	Tool 3 (e.g. Equipment Maintenance Monitoring)

3. Are the job aids, worksheets, etc, presented at the training being utilized in the laboratory?

4. Is the training meeting the participants' needs? If not, what can be done to modify or customize the curriculum to address these needs?

Job Aid 2: Supervisory Assessment

Supervisor / Assessor: Please use this form to evaluate the assigned laboratory. Base your assessment on what you actually observed at the laboratory, in addition to information gleaned from the interview. Include objective data when available including photographs. Attach relevant checklist for ongoing monitoring purposes.

LABORATORY: _____ NAME: _____
 ASSESSOR: _____ DATE: _____

<p>1. Are there positive behaviors, changes, practices that need reinforcement?</p>
<p>2. Are there issues where the laboratorian needs guidance and coaching for resolution?</p>
<p>3. Are there instances where the laboratorian needs to observe & experience (mentoring) managerial tasks performed by a competent supervisor?</p>
<p>4. What issues are identified that need to be followed up on the next visit? Include reference to specific checklist items or note checklist scoring for comparison. Attach relevant checklist.</p>

Job Aid 3: Improvement Project Supervisor Assessment

Supervisor / Assessor: Please use this form to evaluate the assigned improvement projects. Base your assessment on what you actually observed at the laboratory, in addition to information gleaned from the interview. Please indicate what objective measurement was used to quantify or qualify the improvement.

LABORATORY: _____ NAME: _____
 ASSESSOR: _____ DATE: _____

Project 1	Project 2	Project 3
1. What was attempted? What was the scope of the project?		
2. What results or outcomes were achieved? (Rate this on a scale of 0 to 5, with 0=No Results and 5=Excellent Results.)		
3. What objective metric or data was used to measure the improvement?		
4. If the project did not work out, what were the barriers to success?		
5. Indicate how participants dealt with challenges. Note any creative or ingenious ways used to deal with challenges. What were the most important <u>lessons learned</u>?		