Clinic-Laboratory Interface – Continuous Quality Improvement
(CLICQ!)

USER GUIDE

FEBRUARY 2022

Version 1

ABBREVIATIONS

ART	Antiretroviral Therapy
AIDS	Acquired Immunodeficiency Syndrome
CDC	US Centers for Disease Control and Prevention
CLICQ!	Clinic-Lab Interface Continuous Quality Improvement
CQI	Continuous Quality Improvement
DiCE	Diagnostic Cascade Evaluation Toolkit
D-M-A-I-C	Define – Measure – Analyze – Improve – Control
DOTS	Directly Observed Treatment-Short course
DR TB	Drug Resistant TB
HIV	Human Immunodeficiency Virus
LARC	Laboratory African Regional Collaborative
M&E	Monitoring and Evaluation
MoH	Ministry of Health
mWRD	Molecular WHO-recommended Rapid Diagnostic
NTP	National Tuberculosis Program
OPD	Outpatient Department
PEPFAR	US President's Emergency Plan for AIDS Relief
PII	Personally Identifiable Information
PLHIV	People Living with HIV
QA	Quality Assurance
SI	Strategic Information
SLMTA	Strengthening Laboratory Management Toward Accreditation
TA	Technical Assistance
TB	Tuberculosis
TPT	TB Preventative Therapy
WHO	World Health Organization

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INTRODUCTION

CLINIC-LAB INTERFACE CONTINUOUS QUALITY IMPROVEMENT (CLICQ!) PROGRAM

The process of moving a patient through the cascade of care, from presentation to treatment initiation, often results in patient or specimen loss. The interface between clinics (public or private) and testing laboratories (public or private) is comprised of interconnections that are vulnerable to patient loss and specimen loss: referred patients may not report for sample collection, samples may be improperly stored, misplaced or undergo transport challenges, laboratories may not conduct adequate testing, laboratories may not report results back to the clinics in a timely fashion and clinics may not record testing results in patient charts. Patient retention is further complicated by the various cascades of care and entry points. For example, persons with presumptive TB may access care through anti-retroviral therapy (ART) clinics, outpatient departments (OPD) or directly observed treatment-short course (DOTS) clinics. Strengthening the interface between all clinical entry points and laboratory services ensures patients have access to accurate, timely diagnostic test results, and are linked to appropriate treatment.

The Clinic-Lab Interface Continuous Quality Improvement (CLICQ!) program guides healthcare workers and laboratory staff through review of their clinic-laboratory data and identifies gaps within their patient cascade. Participants walk the patient pathway at their facility, identifying potential opportunities for patient loss at each step of clinical service. They track patients, in aggregate, through the cascade using their on-site registers. Lastly, they attend Learning Sessions to receive training on continuous quality improvement (CQI) practices, data review, and other strengthening activities (e.g., space organization, waste management, completing run charts, etc.).

Site-specific improvement projects are developed, based on insights from the completed exercises, that target prioritized gaps for closure. A metric-based monitoring and evaluation plan is developed for implementation by site clinic and laboratory staff, in parallel with the improvement projects, to track on-site progress. The program aims to build the capacity of national-, subnational and facility-level staff for enhanced data use, and to close/reduce site-specific gaps at any step within the patient pathway, or diagnostic cascade.

The Diagnostic Cascade Evaluation (DiCE) Toolkit is an Excel-based, companion tool that provides a standardized framework for comprehensive site assessments to quantify patient and specimen retention, as well as turnaround times, within the clinic-lab interface. Healthcare workers utilize the DiCE Toolkit to track patients through the diagnostic cascade according to their records. They participate in DiCE entry assessments to inform improvement project development prior to implementing new practices, policies, or mentorship activities. Progress assessments may be administered over the duration of the program to quantify improvements. At a minimum, one follow-up DiCE assessment is completed at each site at the end of the implementation period to measure program impact.

The primary goals of this program include: (1) improved TB case finding through increased patient retention, (2) improved initiation of TB Preventive Therapy (TPT) or treatment among persons that are positive for human immunodeficiency virus (HIV) and HIV-negative persons with presumptive or confirmed TB (3) reduce time to TB diagnosis and initiation of TPT or TB treatment among HIV-positive and HIV-negative persons with presumptive or confirmed TB.

Secondary goals include: (1) improved communication and coordination between clinic and laboratory facility staff, (2) integrated patient monitoring between HIV and TB programs, and (3) strengthened, CQI skills for on-site, healthcare-worker driven improvement of clinic-lab services.

INTENDED AUDIENCE

National TB Programs (NTP), Ministries of Health (MoH), TB, HIV or other point-of-entry clinics, and/or TB reference or diagnostic laboratories committed to quantifying and closing the gaps within their diagnostic cascades of care. CLICQ! can be customized and implemented at national, subnational, or local levels. It is recommended that programs clearly define their specific goals and objectives prior to implementation. The scope of CLICQ! can be customized to focus on specific clinical entry points to the cascade (e.g., ART clinics, TB clinics, OPDs) and/ or specific patient populations of interest (e.g., drug-resistant TB [DR TB], pediatric and/ or HIV-associated TB patients). The predefined scope and customization guides participant selection and DiCE Toolkit modification.

> *NOTE: While the CLICQ! program was originally developed to target the TB and TB/HIV diagnostic cascades, the program structure, materials, and DiCE Toolkit may be customized and used to review and strengthen patient cascades across and between other disease areas.*

USER GUIDE PURPOSE

This user guide provides an outline of the customizable materials and steps for CLICQ! implementation. Each user can implement CLICQ! with the accompanying DiCE Toolkit to gain a comprehensive view of the gaps within their diagnostic cascade(s) as well as tailor the program to better target specific needs.

PRE-CLICQ! ACTIVITIES

BUDGET DEVELOPMENT

Many local factors can influence the total CLICQ! implementation budget, including (but not limited to) rates for local site visits, lodging, *per diem*, expert partner and mentor contracts, stationery, and conference and meeting rooms. Table 1 below contains a list of items recommended for consideration by programs when allocating and sourcing funds for CLICQ! implementation.

Table 1

Travel Costs	a. Gas
	b. *Per diem* (see below)
	c. Lodging (see below)
	
	Potential outings that may incur travel costs:
	    a. DiCE entry assessments (start of implementation period)
	    b. DiCE follow-up assessments (end of implementation period)
	    c. 2 Learning Sessions for CQI training and improvement project development and review
	    d. Stakeholder's workshop
	    e. Writing workshop

Per diem	Account for all participants. Possible attendees include:
	    a. Clinic and laboratory staff
	    b. CQI/ QA facility staff
	    c. Ministry of Health and program staff (national and subnational levels)
	    d. External partner staff

Lodging	Account for all participants. Learning Sessions include all participants. Regular site visits are local, therefore, only visiting MoH and program staff and external partner staff would be included.
Conference rooms or meeting halls	Each Learning Session ideally occurs in a room capable of accommodating all participants. **Note**: Hotel conference rooms where participants are lodging are convenient.
Stationery	This includes printing workbooks for CQI training, dry-erase boards, markers, paper, pens, etc.

Table 2 below gives examples of generic activity costs. **All programs will likely need to customize their budgets** according to country-specific needs and local costs for services.

Table 2: Examples of activity costs to guide the development of a CLICQ! budget.

ACTIVITY	TIMELINE	BUDGET
Customize and mock field-test the DiCE Toolkit **Recommended Participants: MoH and Program Staff, External Partner Staff**	**2 Weeks**	**$5,000**
- Customize the DiCE Toolkit to match the in-country registers and indicators (refer to the DiCE Adaptation Guide) - Conduct a mock field-test of the customized DiCE Toolkit including data abstraction and analysis - Review DiCE Toolkit performance and data (post-field-test) - Revise, validate, and finalize the DiCE Toolkit for CLICQ! implementation		
Stakeholders' Workshop for final program design and training **Recommended Participants: MoH and Program Staff, External Partner Staff**	**1 Week**	**$10,000**

- Provide overview and training to MoH TB/HIV staff (federal and/or subnational) on
  • CLICQ! Program design, tools, requirements, processes
  • DiCE Toolkit, data abstraction, data entry, and data analysis
- Finalize CLICQ! program design for implementation within country-specific context
- Finalize materials for DiCE Toolkit analyses and reporting (ex. Site visit forms)
- Finalize materials for CLICQ! Implementation (ex. Learning Sessions, Workbooks, Stakeholder meetings, site visits/TAs)
- Finalize site selections (clinics/laboratories) for CLICQ! Implementation		

DiCE entry assessments **Recommended Participants: MoH and Program Staff, External Partner Staff**	**5 Days** (1 day / site)	**$10,000**
- Conduct DiCE entry assessments at selected clinics and laboratories (1 day/site) • Visit includes site walkthrough to understand patient and data flow, data abstraction, presentation of initial findings to site staff - Collate data and prepare to present at Learning Session #1 for all participants **NOTE**: Cost is based on a total of 5 enrolled clinic/lab pairs. Fewer sites can be enrolled to reduce program costs.		
Learning Session #1 **Recommended Participants: MoH and Program Staff, External Partner Staff, Site-Level Staff**	**1 Week**	**$10,000**

- Ideally, Learning Session #1 immediately follows the DiCE entry assessments the next week
- Staff from clinics / laboratories and MoH are invited for a 1-week Learning Session
  • Training on TB diagnostic cascade, overview of CLICQ! and the DiCE Toolkit
  • Entry assessment results and analyses presented
  • Overview of CQI, improvement projects, mentorship, next steps		

Site Visits / Technical Assistance (TA) / Mentorship **Recommended Participants: MoH and Program Staff, External Partner Staff**	**8 Weeks** (In total – not consecutive)	**$10,000**
- On-site TA and mentorship by partners and MoH (following Learning Sessions #1 and #2) - Self-assessments using metrics from improvement projects (course corrections if necessary) **NOTE**: In-person site visits are recommended, however, remote mentorship via WhatsApp, Zoom, etc., can help reduce program costs and provide more real-time monitoring and TA to implementing sites.		
Learning Session #2 **Recommended Participants: MoH and Program Staff, External Partner Staff, Site-Level Staff**	**1 Week**	**$10,000**

- Staff from clinics / laboratories and MoH are invited for a 1-week Learning Session
  • Review of TB diagnostic cascade, CLICQ! and the DiCE Toolkit
  • Improvement project results and analyses presented by clinic and laboratory staff
  • Further training on CQI, secondary improvement projects (if possible), next steps		

DiCE follow-up assessments **Participants: MoH and Program Staff, External Partner Staff**	**5 Days** (1 day / site)	**$10,000**
- Conduct DiCE follow-up assessments at selected clinics and laboratories • Visit includes site walkthrough to understand patient and data flow (observe for newly implemented changes), data abstraction, presentation of initial findings to site staff - Collate data and prepare to present at Learning Session #2 for all participants **NOTE**: Cost is based on a total of 5 enrolled clinics/labs. Fewer sites can be enrolled to reduce program costs.		
Writing Workshop **Recommended Participants: MoH and Program Staff, External Partner Staff, Site-Level Staff**	**1 Week**	**$10,000**

Ideally, the Writing Workshop immediately follows the DiCE follow-up assessments the next week
  • Discuss overall challenges and successes, lessons learned
  • Review results for each site and discuss analysis plan for final report
  • Collect all feedback (including surveys) to include in final report including possible scale-up		

CUSTOMIZE AND MOCK FIELD TEST THE DiCE TOOLKIT

Each disease program will have country-specific registers that document patients and specimens as they progress through the diagnostic cascade. The utility of the DiCE Toolkit is predicated upon its resemblance to the national registers. Therefore, each program will likely customize the DiCE Toolkit such that it reflects the order of variables and content included in the national registers.

> **NOTE**: Refer to the '*DiCE Adaptation Guide'* for directions to use and customize the DiCE Toolkit.

After DiCE Toolkit customization, it is recommended to field-test the toolkit to ensure that the implementation team has a thorough understanding of data abstraction, data entry into the DiCE Toolkit, and data analysis. Review of DiCE Toolkit performance and data quality is recommended, post field-test. Prior to launching CLICQ!, it is recommended that users finalize and validate the DiCE Toolkit. DiCE Toolkit validation ensures that all formulas and links between cells and worksheets are functioning properly. It is recommended that the implementation team independently calculate a small sample of cells to ensure expected results are returned.

Duration	2 weeks
Recommended Participants	1. Ministry of Health and program staff 2. External partner staff
Companion Materials	1. DiCE Toolkit v.2.6 2. DiCE Adaptation Guide

REGION AND SITE SELECTION

Prior to CLICQ! implementation, programs will begin their selection process for: 1**.** Subnational regions 2**.** Clinic and laboratory sites for enrollment into CLICQ! and DiCE assessment.

1. *Subnational regions are purposefully selected while considering the following criteria:*
    a. Relatively high burden(s) of disease among all, high-risk, populations (e.g., TB, TB/HIV, pediatric TB and/or DR TB patients)
        - High burdens of disease will maximize opportunities to identify gaps within the diagnostic cascade(s) at participating clinics and laboratories
        - Focusing on one or more high-risk population will allow for targeted assessment of patient retention challenges among key groups of patients
    b. Ease of access: Facility accessibility will ensure that CLICQ! program staff are able to access CLICQ! clinics and labs to conduct DiCE assessments, supervisory visits, and Learning Sessions. Practical considerations for facility access may include:
        i. Infrastructure: Well-constructed, easily navigable roads may be prioritized, if necessary.
        ii. Security: Site access routes and locations are secure for the implementation team.
        iii. Political stability: Avoid areas that pose an unacceptable level of danger to any of the participants.

2. *Clinics and laboratories are purposefully selected while considering the following criteria:*
    a. Target population: Depending on specific objectives of CLICQ! customization (e.g., DR TB, pediatric TB, HIV-associated TB)
    b. Patient volume: Increased volumes may impact greater numbers of clients in need, while lower volume sites may accommodate specific risk groups of interest or those with decreased access to laboratory services.

c. <u>On-site versus referral laboratory services for initial molecular WHO-recommended Rapid Diagnostic (mWRD) diagnostic testing:</u> To capture differences in the clinic-laboratory interface associated with patient and/or specimen referral

d. <u>Site-to-site proximity</u>: Proximity enhances cross-facility sharing of lessons learned, logistics of conducting DiCE assessments, and ease of site visits and mentorship communication through shared oversight responsibility of program representatives.

e. <u>Practical, 'on-the-ground knowledge'</u>: MoH or local staff may provide details that affect site selection or rejection (e.g., sites with known diagnostic gaps, sites that are already receiving strengthening activities).

Prior to the Stakeholders' Workshop, programs can compile a spreadsheet of all potential clinics and laboratories in the selected region. To facilitate discussion on site selection during the Stakeholders' Workshop, the list is narrowed using criteria outlined above, in combination with any relevant available programmatic data on TB diagnosis and treatment, and then final selections made to best meet programmatic goals. Begin eliminating sites that do not meet the recommended minimum metrics:

- Sites reporting: **Positive symptom screens AND treatment initiations > 0**
- Sites are ideally **within ~2hr drive** from base/hotel (use ArcGIS or Google Maps)
- Sites may be comprised of **both on-site and referral diagnostic testing**

STAKEHOLDERS' WORKSHOP

The purpose of the Stakeholders' Workshop is to bring together CLICQ! stakeholders to discuss the final details prior to launching CLICQ! Stakeholders are identified and invited to the workshop. Stakeholders may include those with authority and oversight (e.g., National/subnational MoH personnel from disease programs, facility managers and administration) and those with a vested interest in CLICQ! (e.g., implementing staff, partner staff, clinic/laboratory staff). Refer to the companion presentation template that can be modified (as needed) prior to workshop.

Duration	1 week
Recommended Participants	1. Ministry of Health and program staff 2. External partner staff
Companion Materials	1. Stakeholders' Workshop Template 2. DiCE Toolkit v.2.6

The following activities may be completed during the Stakeholders' Workshop:

1. Trainers provide an overview of the CLICQ! Program, timeline, and protocol
2. Trainers provide an overview, training, and competency assessment on the finalized DiCE Toolkit
3. All participants review the proposed sites for enrollment.
4. Participants reach a final consensus on site selection to meet the pre-determined number for program enrollment.
5. All participants develop a plan for site sensitization.
6. Each 'stakeholder group' assigns roles and responsibilities to their members for DiCE entry assessments, DiCE follow-up assessments, and mentorship visits. Establish site visit and/or remote monitoring schedule.
7. Discuss data management, ownership, reporting.

CLICQ! IMPLEMENTATION

DiCE ENTRY ASSESSMENTS

CLICQ! launches when staff (MoH and other stakeholders) arrive at the selected sites to begin evaluating the diagnostic cascade using the DiCE Toolkit. Each site assessment takes approximately one working day for completion.

> **NOTES**: Advanced communication with the clinic and laboratory staff will help to make the DiCE entry assessment progress with fewer delays. Communicate needs in advance:
>
> 1. Request a room with tables and chairs for evaluators to abstract register data.
> 2. Request the presumptive TB register, laboratory register, and TB treatment register to be collected and deposited in the data abstraction space.
> 3. Request facility administrators be available for in- and out-briefs and participation in the site walkthrough and data reviews, as desired.
> 4. Request staff member(s) from the clinic and lab (and CQI/ QA department, if relevant) with knowledge of patient and data flow to participate in a walkthrough.

Duration	1 day per site

Recommended Participants	1. Ministry of Health and program staff
	    a. National and subnational TB and HIV/AIDS programs
	    b. National and subnational M & E
	    c. Subnational Director of Laboratory Services
	    d. National and Subnational Quality Teams
	2. Partner staff
	3. Site level staff

Companion Materials	1. DiCE Toolkit v.2.6

Site assessments are comprised of the following activities:
1. Introductions and brief overview for purpose of visit.
2. Renew the request for a room with tables and chairs to conduct data abstraction after the walkthrough.
3. Evaluators and site staff conduct a walkthrough of the clinic/laboratory to gain an understanding of patient and specimen flow (this includes identifying data sources). The walkthrough is conducted with site staff that are knowledgeable of the workflow and are able to answer evaluators' questions. During the walkthrough, note the various clinical entry points. There may be multiple registers.
4. Renew the request for the following registers for data abstraction using the DiCE Toolkit:
   a. Presumptive Register
   b. Laboratory Register
   c. Treatment Register

   NOTES:
   1. Explain to clinic/lab staff that no personally identifying information (PII) from patients will be collected.
   2. Explain to clinic/ lab staff that they are not being 'assessed' for punitive purposes, but instead to learn about successes and challenges associated with patient services so that all may learn from each other and improve.

5. Return all registers to site staff and prepare a preliminary presentation of the DiCE Toolkit results
   - MS PowerPoint presentation with screenshots from the DiCE Toolkit 'Analysis' tab
6. Present results to all clinic and lab staff, as well as facility administrators. Explain the upcoming Learning Sessions, training and monitoring that will be provided and how it will benefit the site and its staff.

LEARNING SESSION 1

Ideally, immediately following entry assessments, all participants travel to a prearranged venue for the first Learning Session. Virtual meeting formats may be effective for this program but have not yet been field-tested. Learning Session 1 spans five days where participants receive CQI training, review site-specific data from the DiCE entry assessments, and cover expectations for improvement projects to close selected gaps. See the example agenda for Learning Session 1 (Table 3).

> **NOTE**: Ideally, staff that provide the Learning Session training will have expertise with structured mentorship programs, such as trainers or Master Trainers with Strengthening Laboratory Management Toward Accreditation (SLMTA) implementation experience. Such individuals will have a firm understanding of the principles of CQI and mentorship within a structured participant- and data-driven program.

Duration	1 week

Recommended Participants	1. Ministry of Health and program staff
	   a. National and subnational TB and HIV/AIDS programs
	   b. National and subnational M & E
	   c. Subnational Director of Laboratory Services
	   d. National and subnational Quality Teams
	2. External partner staff
	3. Site level staff
	   a. ART clinic
	   b. or TB clinic
	   c. Laboratory
	   d. Monitoring and Evaluation (M&E)
	   e. Strategic Information (SI)
	   f. Quality Improvement

Companion Materials	1. LARC 2.0 Activity Workbook (guides participants through workshop activities)
	2. Learning Session 1 Presentations
	   a. LS1 - 01 Brief Overview of CLICQ!
	   b. LS1 - 02 Overview of CQI
	   c. LS1 - 03 Overview of Process Mapping
	   d. LS1 - 04 Process Mapping Activities I and II
	   e. LS1 - 05 Improvement Projects - Problem & Aim Statements and Metric Selection
	   f. LS1 - 06 Intro to D-M-A-I-C- Model
	   g. LS1 - 07 Overview of D from D-M-A-I-C Model
	   h. LS1 - 08 Overview of M from D-M-A-I-C Model
	   i. LS1 - 09 Improvement Projects - Participant Presentation Template
	   j. LS1 - 10 Overview of A from D-M-A-I-C Model

Table 3. CLICQ! Learning Session 1 Agenda Example

DAY 1		DD, MM, YYYY
TIME	**ACTIVITY**	**FACILITATOR**
0830 – 0900	Welcome – Registration	
0900 – 0930	Opening Remarks – Workshop Objectives	
0930 – 1000	TB CLICQ! Overview: Purpose, Goals, Timeline	
1000 – 1100	CQI Overview	
1100 – 1130	**Tea Break**	**All**
1130 – 1230	Introduction to Process Mapping	
1230 – 1330	Process Mapping – Group Activity I	
1330 – 1430	**Lunch**	**All**
1430 – 1530	Process Mapping – "Walk the process" – Activity II	
1530 – 1615	Update Process Maps (after completing "Walk the Process")	
1615 – 1645	Capture Opportunities for Improvement (OFI)	
1645 – 1700	Wrap-up	
DAY 2		DD, MM, YYYY
0900 – 0930	Review DAY 1 – Overview of DAY 2 activities	
0930 – 1100	Affinity Grouping; Prioritize OFI; Impact – Effort Grid; Select Project	
1100 – 1130	**Tea Break**	**All**
1130 – 1230	Project Focus - Problem Statement, Aim Statement with Metric Selection	
1230 – 1330	Refinement of Metric; Data Collection Tool / Plan	
1330 – 1430	**Lunch**	**All**
1430 – 1630	Action Planning, Elevator Speech, Communication Plan Review previously assigned Team Roles & Responsibilities and Stakeholder Analysis	
1630 – 1700	Wrap Up – Preparing for Report Out at Learning Session #1	
DAY 3		DD, MM, YYYY
0900 – 1100	Why CLICQI, who needs CLICQI, Guiding principle for CQI Introduce *DMAIC*. This Learning Session only covers *D-M-A*. (*Learning Session 2 covers I-C.*)	
1100 – 1130	**Tea Break**	**All**
1130 – 1230	CQI (Model for Improvement, Improvement tools)	
1230 – 1300	Summary of the facilities problem and Improvement tool to be applied	
1300 – 1400	**Lunch**	**All**
1400 – 1500	*D - DEFINE* – Stakeholder Analysis, Process Mapping, Project Outline, Elevator Speech	
1500 – 1600	*M - MEASURE* – Change Management (Motivation, How to change when change is hard) - ACTIVITY	
1400 – 1630	Review PPT Template/ Presentation Guidelines, Group Work on Presentations	
1630 – 1700	Wrap Up	
DAY 4		DD, MM, YYYY
0900 – 1100	TEAM PRESENTATIONS – 6 Teams (30 minutes each – 15-min presentation & 15 min Q & A)	
1100 – 1130	**Tea Break**	**All**
1130 – 1300	TEAM PRESENTATIONS Continue	
1300 – 1400	**Lunch**	**All**
1400 – 1430	Mentorship Expectations	
1430 – 1530	Project Management (Meeting Action plan, Critical to Quality, VOC)	
1530 – 1600	Team Management/formation	
1600 – 1630	Communication Management &	
1630 – 1700	Wrap Up	
DAY 5		DD, MM, YYYY
0900 – 0930	"Name that Tool"	
0930 – 1100	*A - ANALYZE* – Overview including "Fishbone Activity"	
1100 – 1130	**Tea Break**	**All**
1130 – 1200	Identify greatest challenges in implementing CLICQ! over the next 2 months	
1200 – 1300	Review deliverables Assigned Session #1 / Group Action Planning / Baseline Data Collection	
1300 – 1400	**Lunch**	**All**
1400 – 1500	Continue: Review deliverables Assigned Session #1 / Group Action Planning / Baseline Data Collection	
1500 – 1600	Course Evaluation	
1600 – 1630	Wrap Up and Workshop Closure	

TECHNICAL ASSISTANCE – MENTORSHIP SITE VISITS (POST LEARNING SESSION 1)

After the clinic and laboratory staff return to their respective sites, they begin implementing their improvement projects. This includes monitoring progress using the aims, objectives, metrics, and targets selected during Learning Session 1. MoH and program staff and/or external partner staff conduct routine remote or on-site visits at the enrolled sites to provide mentorship and, if necessary, course corrections for the improvement projects. Supervisory support is conducted according to the schedule established in the Stakeholders' Workshop. Monitoring visits and communication provide opportunities for site staff to ask questions and gain a deeper understanding of CQI principles. The number of site visits prior to inviting participants to the next Learning Session can be modified if improvement metrics indicate a lack of readiness.

> **NOTE**: MoH and program staff lead site visits to strengthen familiarity with CLICQ! program processes that are impactful and gain insight into how successful activities may benefit integration into routine program practices.

> **NOTE**: In-person site visits are recommended, however, remote mentorship via WhatsApp, Zoom, etc., can help reduce program costs, and facilitate real-time monitoring, Q&A with participating facilities and cross-facility experience sharing.

> **NOTE**: Conduct discussions with relevant stakeholders for sustainability (including regular calls/meetings) informed by lessons learned (from this and/ or previous iterations of CLICQ! implementation).

Duration	1 day per site
Recommended Participants	1. Ministry of Health and program staff 2. External partner staff 3. Site level staff
Companion Materials	1. Site Visit Form This form documents the improvement project metric data including successes and challenges experienced. This form is completed during each site mentorship visit. This form has an Excel version and a WORD version. **NOTE**: Site staff may have questions that refer to the activity workbook from Workshop 1. It may be useful to keep a copy on hand. Bring copies of the developed improvement projects and expected metrics and targets for reference.

LEARNING SESSION 2

After the pre-determined number of mentorship site visits (or when improvement metrics demonstrate readiness), all participants travel to a prearranged venue for the second Learning Session. Similar to Learning Session 1, virtual formats may work for this event, but have not yet been field-tested. Learning Session 2 spans five days where participants receive more CQI training, review site-specific data from the selected metrics, and receive feedback on improvement projects from _**all**_ participants. Feedback from all participants on improvement projects, metrics, challenges, and successes is a critical component of developing an understanding of CQI. Many of the participants will be engaged in similar improvement projects and will be able to help with site-specific 'lessons learned.'

At the end of the Learning Session facilitators provide training on preparing run-charts to monitor improvement project impact over time. Encourage participants to sustain their achievements and develop new improvement projects that focus on other identified gaps.

See the example Learning Session 2 agenda (Table 4).

Duration	1 week

Recommended Participants	1. Ministry of Health and program staff
	    a. National and subnational TB and HIV/AIDS programs
	    b. National and subnational M & E
	    c. Subnational Director of Laboratory Services
	    d. National and subnational Quality Teams
	2. External partner staff
	3. Site level staff
	    a. ART clinic
	    b. DOTS or TB clinic
	    c. Laboratory
	    d. M&E
	    e. SI
	    f. Quality Improvement

Companion Materials	1. LARC 2.0 Activity Workbook
	2. Learning Session 2 Presentations
	    a. LS2 - 01 Overview of I from D-M-A-I-C Model
	    b. LS2 - 02 Overview of C from D-M-A-I-C Model

Table 4. CLICQ! Learning Session 2 Agenda Example

DAY 1		DD, MM, YYYY
TIME	ACTIVITY	FACILITATOR
0830 – 0900	Welcome – Registration	
0900 – 0930	Opening Remarks – Workshop Objectives	
0930 – 1000	TB CLICQ! Review	
1000 – 1100	*DMAIC* Review	
1100 – 1130	**Tea Break**	All
1130 – 1215	Facility Presentation #1	
1215 – 1300	Facility Presentation #2	
1300 – 1430	**Lunch**	All
1430 – 1515	Facility Presentation #3	
1515 – 1615	Q & A Session	
1615 – 1645	Wrap-up	
DAY 2		DD, MM, YYYY
0900 – 0930	Review DAY 1	
0930 – 1015	Facility Presentation #4	
1015 – 1100	Facility Presentation #5	
1100 – 1130	**Tea Break**	All
1130 – 1200	Deliverables for Workshop #2	
1200 – 1330	Simulation: Phase I (see simulation guidance)	
1330 – 1430	**Lunch**	All
1430 – 1530	*I - Improvement* Tools – PDSA	
1530 – 1630	*I - Improvement* Tools – LEAN	
1630 – 1700	Wrap Up	
DAY 3		DD, MM, YYYY
0900 – 0930	Review DAY 2	
0930 – 1015	*I - Improvement* Tools – Process Map	
1015 – 1100	Simulation: Phase II	
1100 – 1130	**Tea Break**	All
1130 – 1300	Simulation: Phase II (Discussion)	
1300 – 1400	**Lunch**	All
1400 – 1500	Data Display	
1500 – 1545	Creating a "Run Chart" – ACTIVITY	
1545 – 1630	Creating a "Run Chart" – ACTIVITY Continued	
1630 – 1700	Wrap Up	
DAY 4		DD, MM, YYYY
0900 – 0930	Review DAY 3	
0930 – 1030	Pitfalls	
1030 – 1130	*C - Control* Tools I	
1130 – 1200	**Tea Break**	All
1200 – 1300	*C - Control* Tools II	
1300 – 1400	Convince the Stakeholders	
1400 – 1500	**Lunch**	All
1500 – 1630	Group Work: Complete PPT final reports, action planning, next steps	
1630 – 1700	Wrap Up	
DAY 5		DD, MM, YYYY
0900 – 0930	Review DAY 4	
0930 – 1030	Lessons Learned from CLICQ!	
1030 – 1100	**Tea Break**	All
1100 – 1300	Round Table Discussion: Next Steps and Sustainability of CLICQ! at the Sites	
1300 – 1400	**Lunch**	All
1400 – 1430	Workshop Evaluation	
1430 – 1530	Closing Remarks, Group Photo, Farewell	

TECHNICAL ASSISTANCE – MENTORSHIP SITE VISITS (POST LEARNING SESSION 2)

After the clinic and laboratory staff return to their respective sites, they continue monitoring the impact of their improvement projects. Each week site visits continue to be conducted at the enrolled sites to provide mentorship (including for any secondary improvement projects) and course corrections if necessary. Site staff continue their journey in gaining a deeper understanding of CQI principles. The number of site visits prior to the follow-up DICE assessment can be modified if improvement metrics indicate a lack of readiness.

> **NOTE**: MoH and program staff are strongly encouraged to attend these site visits to strengthen familiarity with CLICQ! program processes that are impactful and gain insight into how successful activities may benefit integration into routine program practices.

> **NOTE**: In-person site visits are recommended, however, remote mentorship via WhatsApp, Zoom, etc., can help reduce program costs.

> **NOTE**: Conduct discussions with relevant stakeholders for sustainability (including regular calls/meetings) informed by lessons learned (from this and/ or previous iterations of CLICQ! implementation).

Duration	1 day per site (site visits occur at partner staff discretion)
Recommended Participants	1. Ministry of Health and program staff 2. External partner staff 3. Site level staff
Companion Materials	1. Site Visit Form **NOTE**: Site staff may have questions that refer to the activity workbook from Learning Session 1. It may be useful to keep a copy on hand. Keep a copy of the developed improvement project and expected metrics.

DiCE FOLLOW-UP ASSESSMENTS

At the end of the CLICQ! evaluation period, a follow-up DiCE assessment is conducted at each of the enrolled sites. The assessments are conducted in the same fashion as the entry assessments (see '*DiCE Entry Assessments*' above).

Duration	1 week (1 day per site)

Recommended Participants	1. Ministry of Health and program staff
	   a. National and subnational TB and HIV/AIDS programs
	   b. National and subnational M & E
	   c. Subnational Director of Laboratory Services
	   d. National and subnational Quality Teams
	2. External partner staff
	3. Site level staff

Companion Materials	1. DiCE Toolkit v.2.6

In addition to the DiCE assessment, evaluators observe for evidence that site staff implemented their '*improvement projects.*'. A presentation of the results will be given to all site staff with the preliminary results of the DiCE assessment. Encourage participants to sustain their achievements and integrate successful practices into their routine programming. ***Participants are recommended to continue developing new improvement projects that focus on other identified gaps.***

POST-CLICQ! IMPLEMENTATION ACTIVITIES

WRITING WORKSHOP (OPTIONAL)

The purpose of the Writing Workshop is to bring all the participants from the CLICQ! program together to discuss site level achievements, challenges, lessons learned and next steps. All stakeholders participate in activities with the aim of developing an '*Implementation Report'* that outline overall results and impact of CLICQ!. The report is recommended to include short-, mid-, and long-term activities with assigned roles and responsibilities, deadlines, and any other deliverables. Discussion can also include a data analysis plan, and publishing results in a peer-reviewed journal (Day 3). See the example workshop agenda (Table 5).

> **NOTE**: Although the Writing Workshop and Implementation Report are optional, it is encouraged for scale-up and sustainability.

Duration	3 days

Recommended Participants	1. Ministry of Health and program staff
	   a. National and subnational TB and HIV/AIDS programs
	   b. National and subnational M & E
	   c. Subnational Director of Laboratory Services
	   d. National and subnational Quality Teams
	2. External partner staff
	3. Site level staff
	   a. ART Clinic
	   b. DOTS or TB Clinic
	   c. Laboratory
	   d. M&E
	   e. SI
	   f. Quality Improvement

Companion Materials	1. N/A

The following activities are recommended for completion during the Stakeholders' Workshop:
1. Facility staff can give their final presentations that include improvement project details with results, project impact, and an overview of their perceived and experienced successes, challenges, and barriers to implementation.
2. Breakout groups: each group develops a section of the CLICQ! program '*Implementation Report*'
3. The draft report can be presented to the group for final discussion

> **NOTE**: If time or financial resources constrain participation, facility staff may attend only the first day of the Writing Workshop.

DAY 1		DD, MM, YYYY
TIME	ACTIVITY	FACILITATOR
0900 – 0930	Welcome – Opening Remarks (Coffee and Tea)	
0930 – 1000	Overview of CLICQ!, Goals, Participants	
1000 – 1100	Facility Presentation #1	
1100 – 1130	**Tea Break**	**All**
1130 – 1230	Facility Presentation #2	
1230 – 1300	Facility Presentation #3	
1330 – 1430	**Lunch**	**All**
1430 – 1530	Facility Presentation #4	
1530 – 1630	Facility Presentation #5	
1630 – 1700	Wrap-up	
DAY 2		DD, MM, YYYY
0900 – 0930	Welcome – Opening Remarks (Coffee and Tea)	
0930 – 1100	Overview with Q and A	
1100 – 1130	**Tea Break**	**All**
1130 – 1330	Breakout Groups	
1330 – 1430	**Lunch**	**All**
1430 – 1630	Report Back from Breakout Groups	
1630 – 1700	Wrap Up	
DAY 3		DD, MM, YYYY
0900 – 0930	Welcome – Opening Remarks (Coffee and Tea)	
0930 – 1000	Overview of Workshop Activities	
1000 – 1100	Presentation of Draft Report	
1100 – 1130	**Tea Break**	**All**
1130 – 1300	Wrap Up: Closing Remarks, Farewell	

**Table 5. TB CLICQ! Writing Workshop Agenda Example**

SUSTAINABILITY AND WAY FORWARD

The '*Implementation Report*' for CLICQ! program introduction is completed and disseminated to necessary stakeholders. This could include an optional 'Results Sharing Meeting' that celebrates the success of CLICQ! roll-out. Conduct discussions with relevant stakeholders for sustainability (including regular calls/meetings) and scale-up to other sites and/or regions in the country, informed by lessons learned (from this and/ or previous iterations of CLICQ! implementation). If scale-up is desired, programs can develop a prioritized scale-up plan that considers cross-communication between former and projected CLICQ! sites to develop a CLICQ! community of practice.

Participants at every level, including site-level staff from the clinics and labs, should recognize and can discuss the importance of CQI process sustainability. Maintaining achieved successes are recommended and can be used to develop new improvement projects and metrics that focus on other previously identified or newly recognized gaps. Stakeholders can continue to track improvement project metrics, as relevant, as well as M&E of interventions, and periodic DiCE assessments to confirm sustained successes and identify areas in need of attention. Above site- and site-level quality teams should use program impact data to guide inclusion of CLICQ!/ DiCE into routine activities.

> **NOTE**: It is recommended that all activities, including the optional 'Results Sharing' meeting, are completed in a timely fashion. The action items from the implementation report should begin immediately, including M&E activities.

ACKNOWLEDGEMENTS
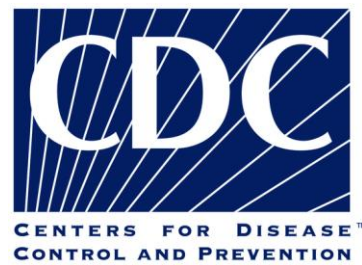
The CLICQ! Program was developed based on content and lessons learned from the following programs: