

REPUBLIC OF KENYA



MINISTRY OF HEALTH

# QUALITY IMPROVEMENT FRAMEWORK

2022



**NATIONAL TUBERCULOSIS, LEPROSY  
AND LUNG DISEASE PROGRAM**



# **QUALITY IMPROVEMENT FRAMEWORK**

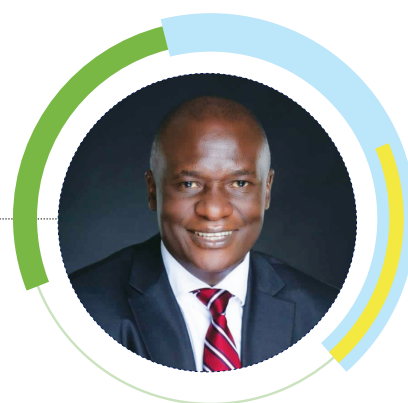
**2022**

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# FOREWORD



The Ministry of Health through NTLD-P is taking lead towards the achievement of the 2019-2023 National Strategic Plan aligned to the Global End TB targets, to this end provision of quality TB care services is central to the three strategic pillars of the NSP. To achieve this, the TB Quality Improvement Framework will be a great resource in mainstreaming a culture of program quality and efficiency in the delivery of TB care and treatment services.

The Division of National Tuberculosis, Leprosy and Lung Disease Program (DNTLD-Program) is mandated to develop policies and guidelines for the management of Tuberculosis (TB), Leprosy and Lung Health in the country. Tuberculosis is a major driver of morbidity and mortality in Kenya affecting all age groups. Major gaps still exist in the detection and management of TB, Leprosy and other lung diseases. The framework provides healthcare workers with the necessary guidance for capacity building and mentorship in the practice of quality improvement. This is to enable healthcare workers in TB care and treatment to have the necessary skills, knowledge and the capability to identify and define gaps and institute improvement interventions across the continuum of care. This framework is meant to act as a guide in the definition and measurement of tuberculosis care and treatment services, as well as to provide healthcare staff with a systematic approach to developing performance improvement efforts.

It is aligned with the Kenya Quality Model for Health which provides the ministry's strategic approach to the management of the quality of healthcare services in the country. To optimize its application, health facilities and quality improvement teams should endeavour to contextualize the framework's guidance to the local health system needs. This framework is also intended to contribute to strengthening clinical governance structures within the care delivery systems when fully optimized.

This framework is to be used together with the Program Quality and Efficiency Handbook as a hands-on guide to the application of Quality Improvement practice in health facilities. It provides healthcare workers with a step-by-step guide on how to identify areas of focus, design improvement ideas and their implementation within the local context of the health facility and community systems. Since quality improvement is a continuous process, to fully mainstream program quality and efficiency in TB care programming, quality improvement teams must consistently apply quality improvement principles from this framework, the accompanying PQE handbook, and, as needed, QI reference materials and best practices from other healthcare programs. Developing a resilient program quality and efficiency program will thus take time, and this serves as the first step on the stairway of progress.

**Dr. Patrick Amoth, EBS**

*Ag. Director General for Health*

# EXECUTIVE SUMMARY



The TB Quality Improvement Framework describes a vision and direction for achieving the NSP strategic pillar of Patient-Centred care and ensuring quality in the delivery of TB care and treatment services. The TB QI Framework has been developed to align with the Kenya Quality Model for Health (*KQMH*) which is the Ministry's grounding for an integrated approach to improving the quality of care. It follows the structure of the **Donabedian Model**<sup>1,2</sup> for evaluating the quality of care and excellence which is the guiding framework for the KQMH standards of care. It is designed as a reference tool for planning, improvement ideas generation, implementation and performance review of QI interventions.

This framework aims among other things;

- i. To mainstream continuous quality improvement into TB programming,
- ii. Provide an overall guiding framework for the institutionalization of quality improvement at the sub-national and national levels,
- iii. **Enable the TB program to continuously design, implement and evaluate quality improvement interventions in regular programming along the care cascade.**
- iv. Ensure the provision of high-quality TB services within the vision of a Kenya free of TB and leprosy, and reduce the burden of lung diseases within a mission to ensure the provision of quality care and prevention services for all people
- v. The framework is organized along the three dimensions of the *Donabedian Model*: Structure, Process, and Outcomes; these are further subdivided into subdomains with key performance indicators for each focus area, which include the establishment and strengthening of TB QI leadership and coordination, an adequate and appropriate skill mix of human resources, including community personnel for QI activities, and updated policies, standards, and guidelines.

Designed to be used in conjunction with the PQE Implementation Handbook to add value to patient-centered care, besides aligning to the 2018-2023 TB National Strategic Plan (NSP) goals. It provides an introduction to Quality Improvement practice using the 6S approach for workplace improvement, the Model for Improvement for planning and executing small tests of change and the Clinical Microsystems Approach for achieving microsystems excellence. It also provides users with guidance in performance measurements for improving practice. This Framework therefore, will be a great resource in providing Quality Improvement teams with greater clarity along the implementation cycle.

<sup>1</sup> Donabedian A. Evaluating the quality of medical care. *Milbank Q* 2005;83(4):691e729.

<sup>2</sup> H.T. Stelfox, S.E. Straus. Measuring quality of care: considering measurement frameworks and needs assessment to guide quality indicator development/ *Journal of Clinical Epidemiology* 66 (2013) 1320e1327

It further highlights the necessary coordination and management structure for QI programs and particularly indicates integration approaches with the existing QI structures in existence both at the facility and county/sub-county management levels. It provides for a phased approach for implementation towards embedding and mainstreaming QI practice in routine TB programming. The QIF urges QI teams and leaders/managers to focus on adapting and integrating implementation to existing structures and local demands to ensure success.

The TB program and health facility managers are encouraged to take responsibility for promoting a culture of program quality and efficiency, this culture should provide the foundation for a planned approach to quality that includes staff welfare and client values, identifies clear priorities, resource optimization, application of standard QI methodologies, continuous mentorship and technical assistance, supports the institutionalization of change, ensures consistency where openness, mutual respect and teamwork are encouraged and best practices are rewarded.

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**Dr. Andrew Mulwa**

*Ag. Director of Medical Services, Head Directorate  
Preventive and Promotive*

# ACKNOWLEDGEMENT



The Division of National Tuberculosis, Leprosy and Lung Disease Program (DNTLD-P) is grateful to all stakeholders for their support and contribution towards the development of the quality improvement framework for the DNTLD-P that was done through collaborative efforts from different institutions including Ministry of Health led by Division of National Tuberculosis and Leprosy Program (DNTLD-P), The Directorate of Health Standards Quality Assurance and Regulations (KQMH), NASCOP, together with implementing partners (CHS TB ARC II, Amref Health Africa, KCCB, Red Cross, LVCT) and SYSTEMS Evaluation limited.

DNTLD-P is grateful for generous financial support from GF/Amref Health Africa/TB ARC II which enabled the stakeholder meeting/workshop of the writing team. We also appreciate all those who have contributed in one way but have not been specifically mentioned. Your efforts are recognized and appreciated. Special gratitude also goes to the peer reviewers who participated in the reviewing of the document. Special appreciation to the communication team in the program for finalizing the document.

**Dr. Caroline Asin**

*Ag. Head, National TB Program*



# ABBREVIATIONS & TERMINOLOGIES

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<b>ACF</b>	Active Case Finding
<b>CHEW</b>	Community Health Extension Worker
<b>CHMT</b>	County Health Management Team
<b>CHV</b>	Community Health Volunteer
<b>CNR</b>	Case Notification Rate
<b>CQI</b>	Continuous Quality Improvement
<b>CTLC</b>	County TB and Leprosy Disease Coordinator
<b>DNTLDP</b>	Division of National Tuberculosis and Leprosy Disease Program
<b>DOT</b>	Directly Observed Therapy
<b>DR-TB</b>	Drug Resistant TB Disease
<b>DS-TB</b>	Drug Susceptible TB Disease
<b>DST</b>	Drug Susceptibility Test
<b>eQMH</b>	Electronic Kenya Quality Model for Health
<b>HCW</b>	Health Care Worker
<b>IHI</b>	Institute for Healthcare Improvement
<b>KASF</b>	Kenya AIDS Strategic Framework 2014/15-2018/19
<b>KHSSP II</b>	Kenya Health Sector Strategic Investment Plan II
<b>KPI</b>	Key Performance Indicators
<b>KQMH</b>	Kenya Quality Model for Health
<b>LTBI</b>	Latent TB Infection
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MDR-TB</b>	Multi-Drug Resistant TB Disease
<b>MoH</b>	Ministry of Health
<b>QIT</b>	Quality Improvement Team
<b>SCTLC</b>	Sub County TB and Leprosy Disease Co-ordinator
<b>SDP</b>	Service Delivery Point
<b>TB</b>	Tuberculosis
<b>TB QI</b>	Program Quality and Efficiency (TB QI)
<b>TB QIF</b>	TB Quality Improvement Framework
<b>TPT</b>	TB Preventive Therapy
<b>TSR</b>	Treatment Success Rate
<b>WHO</b>	World Health Organisation
<b>WIT</b>	Work Improvement Team

Table 1: Operational Definitions and Terminologies

Terminology	Description
Quality	The degree to which health services for individuals & populations increase the likelihood of desired health outcomes & are consistent with current professional knowledge – IoM (STEEEP)
Quality Improvement (QI)	A systematic approach that uses specific techniques/methodologies to improve quality
Continuous Quality (CQI) Improvement	A systematic approach of progressively applying improvement methodologies and techniques to improve quality
Quality Management (QM)	A set of improvement, assessment techniques, tools and systems elements used in quality improvement
Quality Management System (QMS)	A formalized system that documents the structure, responsibilities & procedures required to achieve effective quality management
Total Quality Management (TQM)	A management approach that focuses on quality and the role of people across an organization to develop changes in culture, processes and practice – Org-wide philosophy (Leadership, Client Focus, E-Based DM, Systems approach to Management)
Process	A set of interrelated or interacting activities which transforms inputs into outputs.
Process Owner	A person who is given the responsibility and authority for managing a particular process.

# CHAPTER 1:

## INTRODUCTION

### Background

Kenya is classified by World Health Organization (WHO) as a tuberculosis (TB) and TB/HIV high burden country. In 2016, the national TB prevalence survey revealed that the true burden of TB in Kenya was 426 cases per 100,000 population. The annual TB incidence is estimated at 169,000 new TB cases. Between 2015 -2018, annual TB incidence decreased at 6%. In 2020, it was estimated that 139,000 persons had TB. However, the country notified 72,943 TB patients which translates to about 48% of the TB patients not being diagnosed or treated.

The burden of TB disease In Kenya as highlighted in the 2020 Annual Report<sup>3</sup> shines a spotlight on several key program indicators that require improvement;

- i. **Active Case Finding:** The case notification rate (CNR) in 2020 was **154 per 100,000** population. This was a decline from the **165/100,000** population in the previous year. TB incidence in the same period (2020) was estimated at **289 per 100,000** population, indicating that at least **135 persons with TB were missed or not notified per 100,000 population**. The country thus needs to sustain its efforts to find all the missing cases.
- ii. **Treatment Success Rate:** This is the cure rate for bacteriologically-confirmed pulmonary TB patients. With only one county (Nyamira) attaining the national cure rate of 91.9% while the seven counties of; Baringo, Turkana, Elgeyo Marakwet, Trans Nzoia, Pokot, Taita Taveta and Narok had cure rates below 60%. This points to a great need to enhance quality of care measures.
- iii. **Linkage and Retention:** TB patients getting lost to follow-up has remained the biggest challenge to attaining the target TSR. Further points to the need to continue improving on quality of care and patient linkage and retention mechanisms.
- iv. **Culture and DST:** Case detection and quality of care are key challenges to making progress in the fight against drug resistant TB in Kenya. The estimated TB incidence is still high at 139,000 for Drug Susceptible TB (DS-TB) and 2,500 for Drug Resistance TB (DR-TB) as of 2020. The National Tuberculosis Strategic Plan 2019 – 2023 estimates that only 47% of TB cases in Kenya receive a first line DST and only 21% of estimated DRTB cases are detected. With the goal of the TB program of increasing these to 95% and 80% respectively by the end of the current strategic plan, highlights the need for heightened quality improvement mechanisms to achieve this.
- v. **TB/HIV Co-infection rate:** HIV testing among the notified TB patients was 98%, with only 9 counties; Elgeyo Marakwet, Homa Bay, Kakamega, Kisii, Kitui, Laikipia, Mandera, Nyamira and Trans Nzoia recording 100% testing rate. The quality of services needs to be closely monitored to ensure that correct practices are sustained.

<sup>3</sup> DNLT-D-P Annual Report 2020

**vi. Social Support and Nutrition:** The TB Patient Cost Survey, 2017 indicated that **27.1% of DSTB** and **53.7% of DRTB** affected households experienced food insecurity due to TB In 2020. Similarly, 45.4% of the notified 72,943 cases of TB and **53.9% (521/961) of drug resistant TB cases were undernourished** at the time of diagnosis. Quality improvement remains a viable approach in addressing some of the limitations in nutrition management of TB patients with malnutrition.

**vii. Latent TB Infection Management:** The management of latent TB through the use of TB preventive therapy (TPT) among the at-risk populations is a key strategy to ending TB by 2035. The MoH having updated its latent TB infection (LTBI) management guidelines in line with the most recent WHO guidelines, there is greater need to scale LTBI management interventions.

In 2020 for example; the number of under-five child contacts initiated on TB preventive therapy was **8,803 (61%)** against a target of **14,445**. Despite being an improvement compared to the uptake in 2019 of **49%**, the need to scale up this intervention to ensure that all children exposed to bacteriologically-confirmed cases are screened for TB and subsequently initiated on TPT when found to be negative is still evident. In the same year, **78% of 360** health care workers asymptomatic for TB were found to be positive for LTBI during a random selection of health care workers for TB screening in Kiambu County.

Given the above background, there is a need for a quality improvement framework for TB that provides guidance on mainstreaming of quality improvement in all the aspects of TB programming and ensures efficiency in delivery of the services in the entire TB care cascade.

## Purpose and Intended use of the QI Framework (Aims, Goals and Objectives)

Kenya Health Sector Strategic Investment Plan (KHSSP) aims to “improve access to and quality of person-centred essential health services.” In addition, the Kenya AIDS Strategic Framework 2014/15-2018/19 (KASF) has prioritized cost effective and quality prevention, treatment, care, and support services informed by a rights-based approach. The MOH has also developed the Kenya Quality Model for Health (KQMH) to serve as the conceptual framework for an integrated approach to continuous quality improvement.

Whereas the general principles of QI are standard irrespective of improvement models or health conditions, the processes, indicators and data collection approaches and tools vary depending on health-specific needs. Against this background, the Ministry of Health developed the Program Quality Improvement Framework that provides a platform for implementing quality improvement for TB services across different levels of the healthcare system. It uses a defined set of indicators, tools and methods for measuring and continuously improving the quality of care.

The overarching goal of the TB QI Framework is to provide guidance for quality improvement interventions that ensure provision of high-quality TB services within the vision to have a Kenya free of TB and leprosy, and reduce burden of lung diseases within a mission to ensure provision of quality care and prevention services for all people in Kenya with TB, leprosy and lung diseases<sup>4</sup>.

<sup>4</sup> National Strategic Plan for Tuberculosis, Leprosy and Lung Health 2019 - 2023

## Goal

To mainstream continuous quality improvement into TB programming and service delivery.

## Purpose

To provide an overall guiding framework for institutionalization of quality improvement at sub national and national levels for both public and private health facilities.

## Specific objectives:

1. To provide a coordination mechanism for QI in TB programming in Kenya.
2. To build capacity of the sub national and national levels in order to ensure they have adequate knowledge and skills to address quality issues at all levels of health care in an incremental manner.
3. To integrate quality improvement into the different aspects of TB programming as a catalyst towards the End TB strategy.
4. To provide a Monitoring and Evaluation framework for tracking of TB QI activities in Kenya.

## The Rationale for TB Quality Improvement

The provision of quality health services is anchored in Vision 2030 and the Kenya Health Sector Strategic Investment Plan (KHSSP). As outlined in Vision 2030, the Government of Kenya aims to create “a globally competitive and prosperous country with a high quality of life for all by the year 2030.” A high-quality healthcare system is essential to achieve this goal. KHSSP aims to “improve access to and quality of person-centred essential health services.”

In addition, the Kenya TB Strategic plan 2019 – 2023 has prioritized patient centred approach in attaining quality prevention, treatment, care, and support services informed by a rights-based approach. The MOH has also developed the Kenya Quality Model for Health (KQMH) to serve as the conceptual framework for an integrated approach to continuous quality improvement (CQI).

A systematic review for high burden TB countries conducted by Cazabon et al, (2017) acknowledged that despite the high coverage of DOTs, TB continues to feature as the leading infectious cause of death globally, responsible for an estimated 1.8 million deaths annually. A large proportion of people with TB are missed from the health system, leading to continued transmission, and contributing to the slow decline in TB incidence.

In Kenya, the National Prevalence Survey (2016) indicated that approximately **half of TB cases remain undetected and untreated**, while over three-quarters of people with TB symptoms who seek care within the health system do not get diagnosed and are missed. In addition, the survey showed that symptomatic screening missed TB patients, while chest radiography emerged as a useful tool for TB screening. Studies have shown that a typical TB patient will visit a health facility up to 5 times before a diagnosis of TB is made<sup>5</sup>. This is due to the low index of suspicion for TB within the community and amongst HCWs.

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<sup>5</sup> Harries A D, Nyirenda T E, Godfrey-Faussett, P, et al: Defining and assessing the maximum number of visits patients should make to a health facility to obtain a diagnosis of pulmonary tuberculosis, 2003, Int J Tuberc Lung Dis 7(10):953–958

There are many **losses within the health system** during the TB care cascade. The Inventory Study (2015) showed up to 21 per cent of smear positive patients were lost between diagnosis and treatment initiation or notification<sup>6</sup>. Additionally, up to five per cent of patients initiated on TB treatment in 2016 were lost to follow up and six per cent died<sup>7</sup>. Several root causes were identified that affect the quality of TB care in Kenya. The causal factors contributing to patients not being cured include being lost to follow up or dying while on TB treatment. Factors associated with being lost to follow up include: patients stopping medication as a result of high pill burden, adverse drug reactions, malnutrition, and inflexible timings interfering with their source of income, substance abuse and mental illnesses, long duration of TB treatment, self-stigma and inadequate patient-centred care. Overall treatment success rates have also been dropping and this is a reflection on the quality of care provided to TB patients, thus impacting on treatment outcomes.

In this era of the End TB Strategy therefore, we need to think beyond coverage and start focusing on the quality of TB care that is routinely offered to patients in high burden countries, in both public and private sectors<sup>8</sup>. Accordingly, high burden countries such as Kenya need to focus on quality of care for TB patients through the routine analysis of TB care cascades, direct systematic measurement of quality of care, and investment in quality improvement programs within both the public and private sectors.

The Kenya TB National Strategic Plan 2019 – 2023 has prioritized a patient centred approach towards TB prevention, care and treatment informed by a rights-based approach. This Strategic Plan is anchored to the End TB Strategy pillar 1 that speaks to Integrated patient-centred TB care and Prevention, supported by bold policies and supportive systems and intensified research and innovations. This is aligned to the global goal of ending TB by 2035 and the Sustainable Development Goal 3.3 of ending TB by 2030.

While some work has been initiated on Quality Improvement for TB programming by various Implementing Partners in collaboration with the TB program, this has been done on a small scale. There is therefore a need to build on some of the best practices and lessons learned. This QI Framework for TB programming will also provide an anchor on which all QI for TB interventions for the country can be institutionalized, optimized and scaled up across the country.

## Scope and Target Audience of the TB QI Framework

This framework shall be used alongside; the KQMH implementation guides and TB care guidelines to provide QI implementation basis to the improvement of all TB care indicators across all levels of TB program service delivery in Kenya.

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<sup>6</sup> Tollefson, D., Ngari, F., Mwakala, M., Gethi, D., Kipruto, H., Cain, K., & Bloss, E. (2016). Under-reporting of sputum smear-positive tuberculosis cases in Kenya. *International Journal of Tuberculosis and Lung Disease*, 1334–1341

<sup>7</sup> National Tuberculosis Leprosy and Lung Disease Program: Annual Report, 2017.

<sup>8</sup> Cazabon, D., Alsdurf, H., Satyanarayana, S., Nathavitharana, R., Subbaraman, R., Daftary, A., & Pai, M. (2017). Quality of tuberculosis care in high burden countries: the urgent need to address gaps in the care cascade. *International Journal of Infectious Diseases*, 56, 111-116.

This QI framework is packaged as a reference and guide for the implementation QI activities in the TB program across various service delivery points namely; TB and CCC clinic, laboratory, outpatient services, In-patient services, special clinics/units and community-based care. It is especially aimed at guiding the following key teams and personnel in QI implementation and oversight both at health facility and the community level care cascade;

- i. DNTLD-P Leads
- ii. TB Program Manager/Officers
- iii. County TB and Leprosy coordinators (CTLC) and sub county TB and Leprosy Coordinators (SCTLC)
- iv. QI Focal Persons/Coaches/Mentors
- v. QI Teams
- vi. Work Improvement Teams
- vii. County implementing partners
- viii. Health facility management teams.





# CHAPTER 2:

## TB QI FRAMEWORK

### Overview

The development of this framework was necessitated by DNLTD-P's facility based ACF implementation. A Program Quality and Efficiency (TB QI) Taskforce (comprising of TB program subject matter experts, the MoH Directorate of Health Standards Quality Assurance and Regulations, TB program implementing partners, QI implementing agencies and an independent Healthcare Quality Improvement Advisor), provided guidance through a blend of desk reviews, expert group critique and plenary discussions. The task force reviewed existing QI frameworks<sup>9</sup> and Quality models<sup>10,11</sup> to inform the desired TB QI Framework. This information was used to align and identify basic precepts forming core components of the TB QI Framework.

This framework has been developed with a keen consideration of the relevant context to TB programming along the care of cascade spanning from TB screening, diagnosis, treatment and follow up.

### DNLTD-P QI Framework (TB QI-F)

The TB QI Framework has been developed to align with the Kenya Quality Model for Health (KQMH) which is the Ministry's grounding for an integrated approach to improving quality of care. It follows the structure of the *Donabedian Model*<sup>12,13</sup> for evaluating quality of care and excellence which is the guiding framework for the KQMH standards of care.

The aim of this Framework is to enable the TB program to continuously design, implement and evaluate quality improvement interventions in regular programming along the TB care cascade. The framework is structured along the 3 dimensions of the *Donabedian Model* of Structure, Process and Outcomes; these are further broken down into sub domains with key performance indicators for each focus area as follows:

- A. Structure** – describes the context in which care is delivered including People Infrastructure, Materials, and Implementation guides and Tool kits.
  - i. Establish and strengthen TB QI leadership and coordination.
  - ii. Adequate and appropriate skill mix of human resource including community personnel for QI activities.

<sup>9</sup> Kenya HIV Quality Improvement Framework.

<sup>10</sup> Kenya Quality Model for Health

<sup>11</sup> Institute of Healthcare Improvement's Model for Improvement.

<sup>12</sup> Donabedian A. Evaluating the quality of medical care. *Milbank Q* 2005;83(4):691e729.

<sup>13</sup> H.T. Stelfox, S.E. Straus. Measuring quality of care: considering measurement frameworks and needs assessment to guide quality indicator development/ *Journal of Clinical Epidemiology* 66 (2013) 1320e1327.

- iii. Updated policies, standards and guidelines.
- iv. Appropriate and adequate infrastructure to support QI activities.
- v. Seamless recording and reporting for TB QI.
- vi. Optimal resource allocation to support TB QI.

**B. Process** - Describes the series of actions in implementing the QI Framework to facilitate the progress towards the desired outcomes through TB CQI.

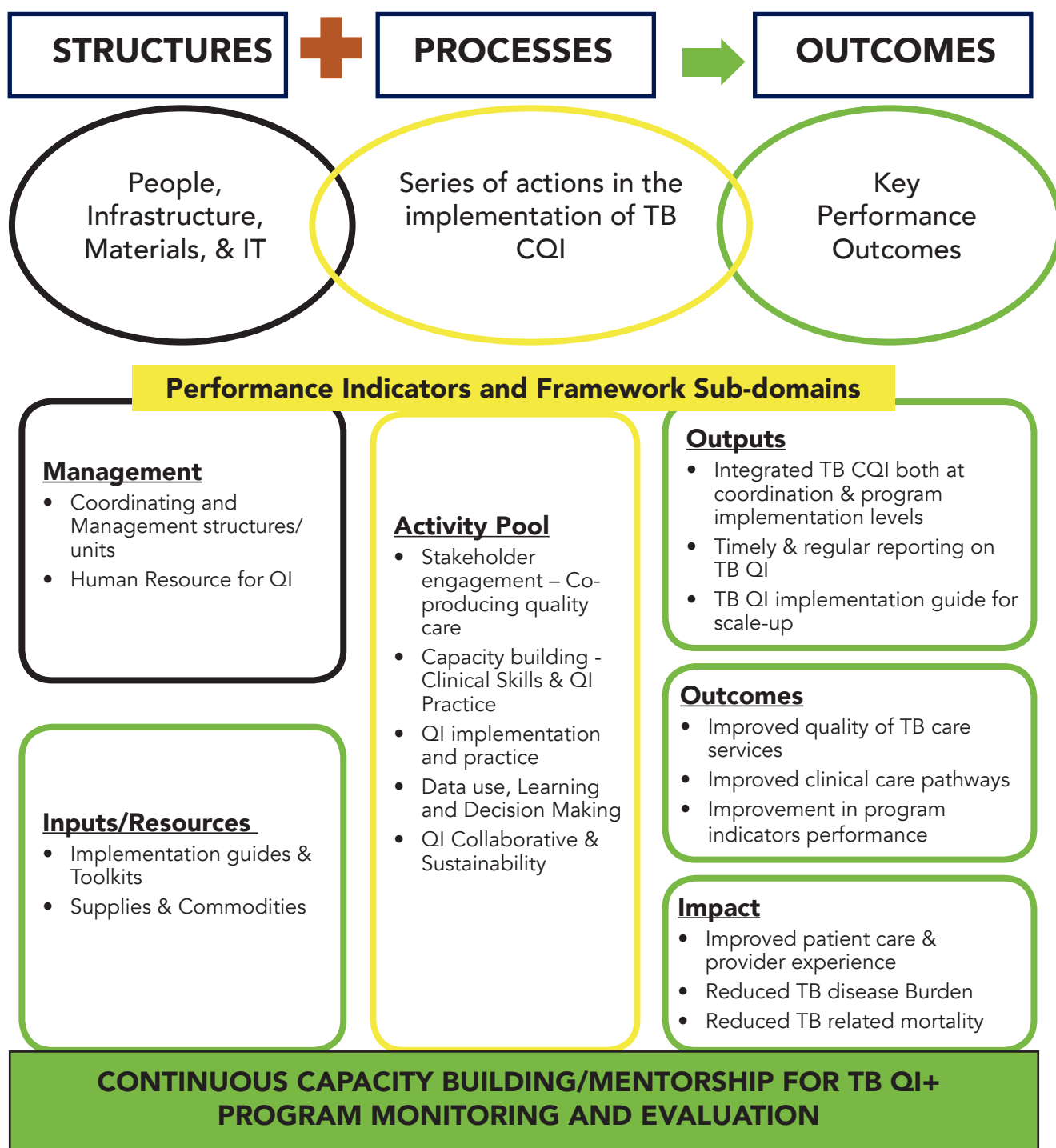
- i. Capacity building for TB QI implementation.
- ii. QI implementation and practice.
- iii. QI data use and learning.
- iv. QI implementation through collaborative activities.
- v. Integration of community and facility-based QI initiatives for TB Care.

**C. Outcomes** – Key performance outcomes

The county and sub county teams shall assess its performance on a monthly basis along TB care cascade using defined key performance indicators (KPIs) including analysing and documenting trends.

- i. Outputs – Immediate tangible and intangible results to be realised with the initiation of the TB QI implementation process e.g., integration of TB CQI in routine service delivery.
- ii. Outcomes – the desired performance level achievement from the implementation of the QI processes e.g., Improvement of program level indicator performance as a result of the CQI process.
- iii. Impact – Desired long-term results to be realised with sustained implementation of the TB QI initiatives e.g., improved patient care experience along the TB care cascade.

Figure 1: TB QI Framework



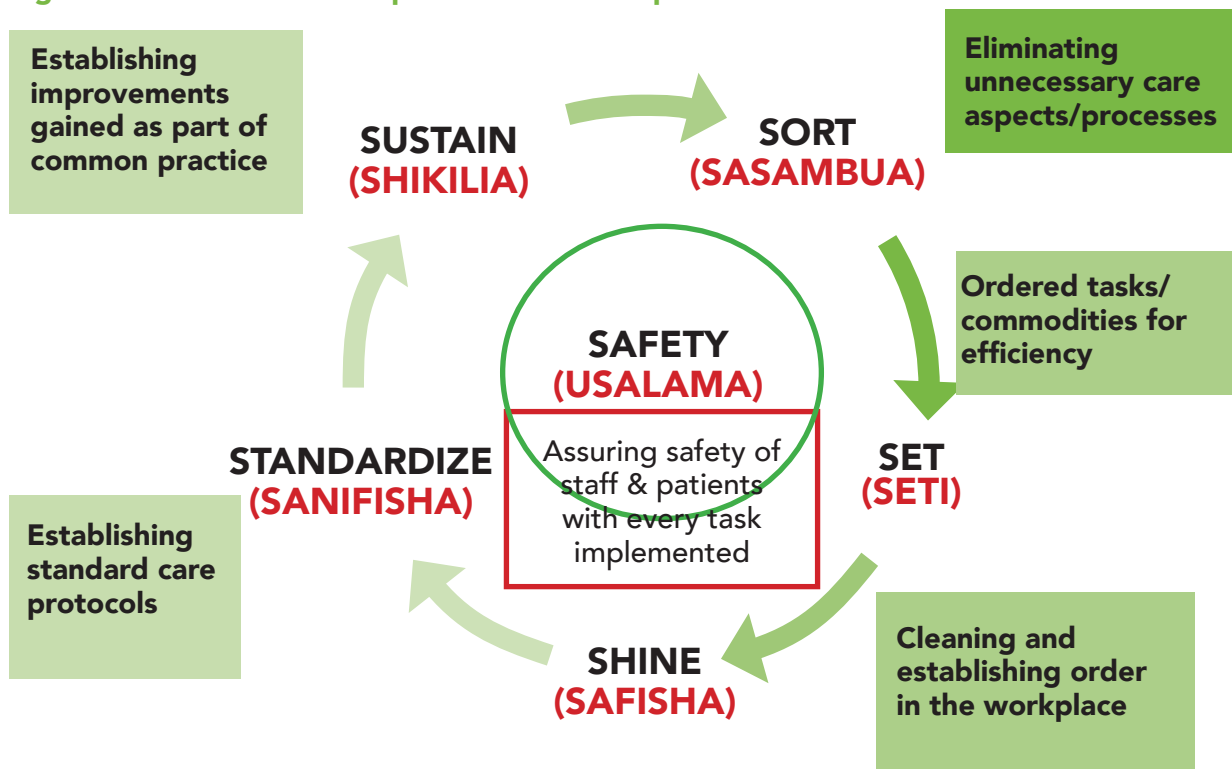
## I. Guiding Improvement Model and Principles

The overarching model for the DNTLD-P QI-F is the KQMH from which it draws its principles of implementation and adopts the total quality management approach through;

### i. 6S - Work Environment Improvement approach;

This is a provider-focused strategy for improving the 'work environment'. The model engages and supports health workers to acquire skills and competencies required to embrace and effect 'change' within the workplace.

Figure 2: 6S Work Place Improvement Technique



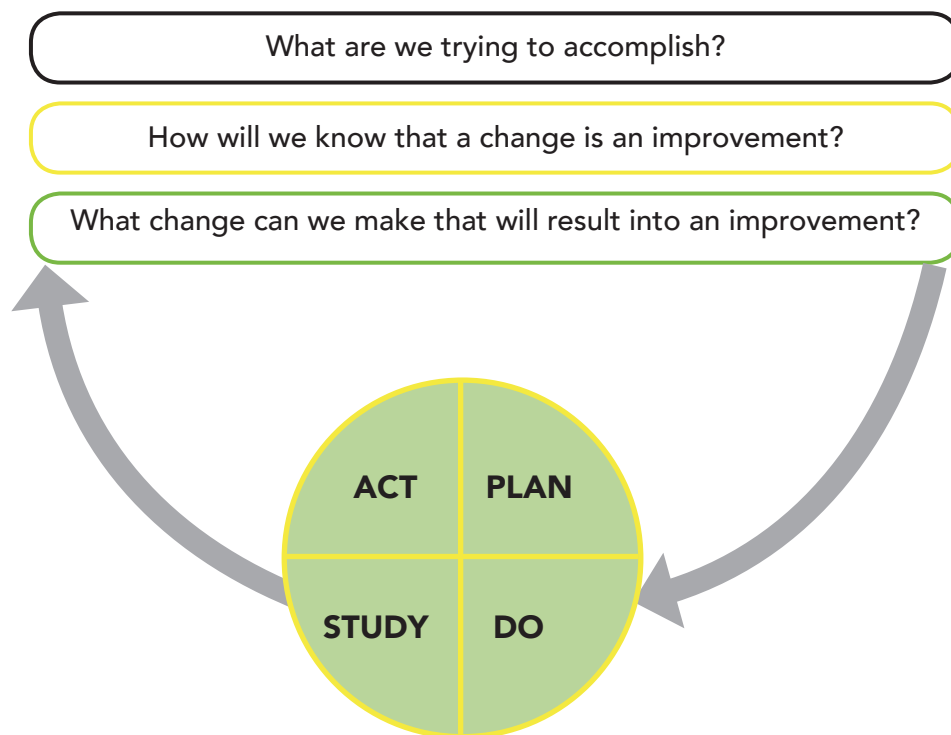
### ii. Continuous Quality Improvement

CQI shall be implemented by making use of the Institute for Healthcare Improvement Model for Improvement; A simple strategy used to accelerate improvement activities by conducting small-scale tests of change in real settings by using Deming's PDSA cycle, the PDSA denotes;

- Plan** a change
- Do** it in a small test.
- Study** its effects.
- Act** on what is learnt from implementation.

Several small PDSA test cycles can be linked (tested concurrently) until ready for scale-up.

**Figure 3: Model for Improvement** (Adapted from Institute for Healthcare Improvement)



### iii. Clinical Microsystems Approach<sup>14,15</sup>

Microsystems are the smallest functional units of a healthcare system that provide care to service users, essentially the places where patients, families and care teams meet. The Clinical Microsystems approach differs from the team-based improvement approaches like 6S and PDSA cycles in that; the patient, the information and information systems, the facility's goals and results are considered as parts of the microsystem.

It enables the point of care teams to gain a greater understanding of the environment within which care is delivered, this is made clearer by the teams understanding of these five elements;

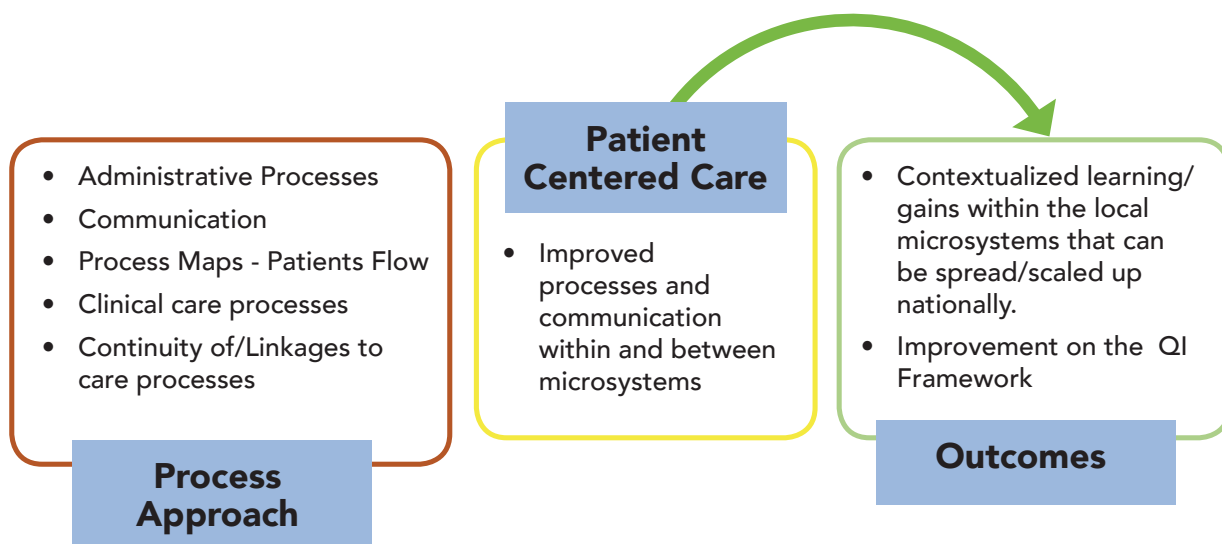
- i. What is the **Purpose** of the microsystem?
- ii. Who are our **Patients**?
- iii. Who are our **Professionals**?
- iv. What are our **Processes**?
- v. What **Patterns** of work do we have and need to understand?

KQMH identifies **patient-centred** and **process approaches** within a larger **Systems-Thinking** approach as key principles in improving quality of care across the service delivery continuum. Based on these 3 key principles, the Clinical Microsystems Approach to improvement is most appropriate for QI efforts in point of care units shall enable the sustainability of quality improvement processes beyond the Work Improvement Teams.

<sup>14</sup> Nelson EC, Batalden PB, Huber TP, et al. Microsystems in healthcare: Part 1. Learning from high-performing front-line clinical units. *Jt Comm J Qual Improv.* 2002;28:472–93.

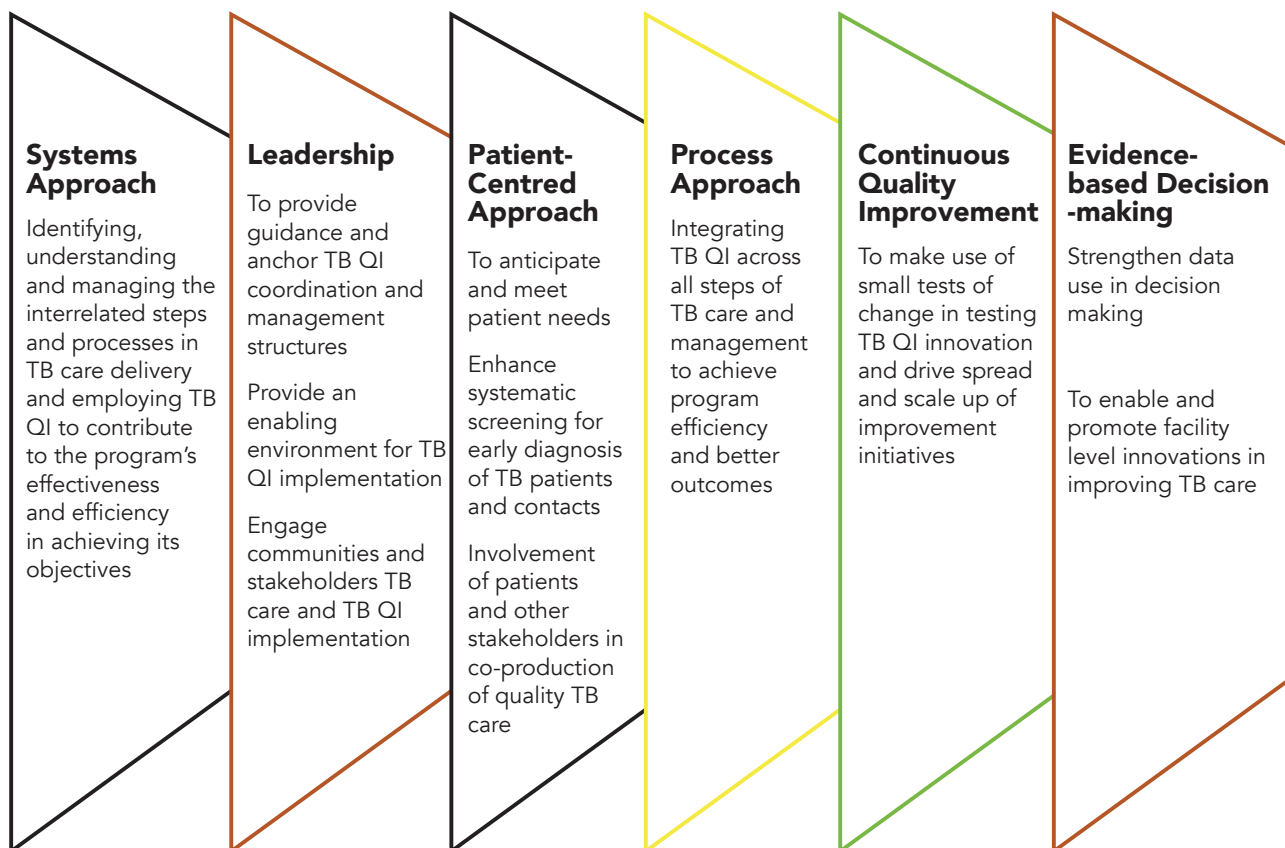
<sup>15</sup> Donald S. Likosky, PhD. Clinical Microsystems: A Critical Framework for Crossing the Quality Chasm. *JECT.* 2014;46:33–37.

**Figure 4: Sample Clinical Microsystems Activities Flow**



The KQMH Principles adopted are aligned to the 2018-2023 NSP and the 2030 Global End TB strategy pillars shown in the figure below;

**Figure 5: QI Implementation Principles**



## CHAPTER 3:

# QI IMPLEMENTATION STRUCTURES & LEADERSHIP

The TB QI implementation will be streamlined into the operations of the existing structures for quality management in the ministry of health. Any change or review to the ministry of health quality management structures shall subsequently be reflected in the organization of the TB QI coordination and management structure to ensure consistency and guarantee sustainability of the program.

### TB QI Coordination Structures

At the national level, there is an existing Quality Improvement (QI) Technical Working Group (TWG) for quality improvement whose responsibility is to coordinate implementation of the QI at the national level crafted from well-developed goals in line with key program priorities, plans, collaboration protocols and monitoring tools. At the County and the sub county level there is a quality improvement team incorporated within the CHMT/SCHMT whose responsibility is to support the facility quality improvement teams and Work improvement teams. Where these structures do not exist or are inactive, effort should be made to establish and strengthen them.

**Table 2: TB QI Coordination Structure**

Level	Coordination Structure	Description and Membership
<b>National - DNTLD-P</b>	National TB QI Taskforce	The QI TWG domiciled at the national level/NTLD-P will guide and oversee implementation at all levels and convene an annual experience sharing forum.  Head of DNTLD-P and section leads; program officers; implementing partners; TB community and the private sector.
<b>County</b>	County QI Team	County health management team, representative's county from implementing partner; TB Coordinators, TB champions, Health Facility (ensuring representation of all facility levels) and private sector
<b>County/Sub County</b>	CTLC/SCTLC	Are the persons immediately accountable for creating, sustaining and improving TB care, as well as, being responsible for the outcomes of all service delivery processes. They are tasked with the program wide view of TB care in the counties and sub counties.

Level	Coordination Structure	Description and Membership
<b>Sub-County</b>	Sub-county QI Team	Sub-County Health Management Team-including SCTLCs, representatives from county Implementing partner representatives; TB champions/Community, facilities and the private sector
<b>Facility</b>	Facility Quality Improvement Team (QIT)	Existence of Quality Improvement Teams at county, sub-county and facility levels (County, Sub County and Facility) and Work Improvement Team at departmental level is key for the implementation success and institutionalization of the QI Framework  Facility health management team, departmental heads, Community representative, TB champions representative, facility QI manager from supporting implementing partners
	Work Improvement Team (WIT)	Departmental staff; TB WIT will include staff providing TB services in other departments where TB services are provided (OPD, Special clinics, MCH and others)
<b>Community Level</b>	Community Health Unit/Work Improvement Team	Members - Chief, CHEW, CHA, CHVs, Facility In-charge, TB Champion  Responsibilities - Mobilization, awareness creation, referrals

**Table 3: Coordinating Structures Roles and Responsibilities**

Unit	Roles
<b>NTP QI TWG</b>	<ul style="list-style-type: none"> <li>i. Establish and oversee QI Program goals and quality management plans</li> <li>ii. To develop, coordinate and review the implementation plans to improve TB care outcomes in the country</li> <li>iii. Conduct baseline assessments and engage relevant stakeholders to enhance commitment and sustained implementation cycles.</li> <li>iv. To sensitize, train and capacity build QI implementation teams, TOT at the county level followed by various levels of care delivery.</li> <li>v. To conduct periodical monitoring and provide technical advice to County and Subcounty QIT</li> <li>vi. To document all QI activities conducted by the program.</li> <li>vii. To review implementation progress, action plan and provide quarterly, semi-annual and yearly progress reports to the DNTLD-P</li> <li>viii. To organize experience sharing forums for QI.</li> </ul>
<b>County/SC QIT</b>	<ul style="list-style-type: none"> <li>i. To train and capacity build county Health facility staff on QI implementation</li> <li>ii. To coordinate implementation of QI framework to improve TB care outcomes in the respective health facilities.</li> <li>iii. To provide necessary input for QI activities</li> </ul>



Unit	Roles
<b>CHMT/ SCHMT/ FHMT</b>	<p>The CHMT/SCHMT/FHMT will provide operational level oversight.</p> <p>The County Quality Improvement Team through the QI Focal person will provide inline technical support.</p> <p>The Facility HMT through the QI Mentor will provide oversight and ongoing technical support to the QIT/WIT.</p>
<b>Facility QIT</b>	<ol style="list-style-type: none"> <li>To provide QI mentorship to facility WITs</li> <li>To conduct facility-based situation analysis to aid implementation</li> <li>To conduct periodical monitoring and provide technical advice to WIT</li> <li>To document all QI activities conducted in the Health Facility</li> <li>To provide necessary input for QI activities</li> <li>To review implementation progress, action plan and provide quarterly progress reports to Health Facility Management team</li> </ol>
<b>Work Improvement Team</b>	<ol style="list-style-type: none"> <li>To promote the implementation of QI activities in the workplaces</li> <li>To identify, analyse, and solve problems and improve outputs of their work unit</li> <li>To collect the voice of frontline staff</li> <li>To implement QI activities</li> <li>To monitor activity implementation progress at work station section level</li> <li>To document and report activities undertaken to the facility QIT/HMT</li> </ol>
<b>CTLG/SCTLG</b>	<p>Responsible for ensuring that there is synergy in the manner in which QI activities interacts with routine TB care service delivery.</p> <ol style="list-style-type: none"> <li>Support the QI teams in defining and managing the various TB care delivery interfaces with other care delivery processes in the facility</li> <li>Describe TB preventions and care processes, evaluate and propose process areas for improvements</li> <li>Identify, document and propose and capacity building requirements that enable QI capability</li> <li>Communicate changes in TB prevention and care delivery to QI teams</li> <li>Track and analyse QI project implementation progress for success stories and possible areas of improvements based on process performance targets</li> <li>Facilitate QI teams' resource allocation by making available necessary resources and information</li> <li>Support the QI teams in identifying risks and opportunities with current TB prevention and care processes.</li> </ol>

Unit	Roles
<b>QI Coach/ Mentor</b>	<ul style="list-style-type: none"> <li>i. To support the program leads in engaging the management and facility teams in QI</li> <li>ii. To teach, explain and mentor teams on the usage of QI methodologies and tools; 6S, Model for Improvement</li> <li>iii. To support QI teams in developing change ideas and strategy, using QI tools, and advise on how to complete project documentation</li> <li>iv. To provide monthly progress reports to the next level QI structure</li> <li>v. Together with the County or Sub County TB technical leads provide support supervision.</li> </ul>

## QI Coach and Mentors

QI coaches and mentors will be persons with a deeper knowledge of improvement methods and tools. They will be identified and sensitized at different levels (County, Sub County and facility) and tasked with supporting the development of QI structures and implementation capability. They will be tasked with the role of building the capacity of the QIT and WIT and ensure they meet regularly to review the progress of QI activities. At the facility level a QI mentor will be identified through the guidance of the facility in charge, sensitized and tasked with the responsibility of steering the activities of the facility QIT. Focal persons for different WIT will also be identified.

## Capacity Building on QI

### a) National/County/Sub County/Facility

Prior to the start of implementation, staff at different levels will be capacity built on QI. Ongoing capacity building should be incorporated in regular supportive supervisions and technical assistance missions. Staff who are already trained will be utilised to sensitize others.

### b) Regular review of data against targets

Objective target setting remains a key pillar in QI implementation. Staff at various implementing levels will periodically review data to understand their performance against targets to adopt best practices, flag out areas of improvement early and guide customization.

## Creating an Enabling Environment for QI

### a) Defined Framework with clear roles and responsibilities

Availability of a well-articulated QI framework with clear roles and responsibilities enables different players to adequately comprehend what their roles are and hence plug in appropriately.

## b) Defined recording and reporting structures

Documentation of each milestone is essential for proper tracking, monitoring and evaluation. Indicators to be tracked during implementation of QI activities are spelt out in Chapter 5 of this framework.

## c) Conducive environment

Support from the management remains integral in implementation of the QI Framework. Support will be provided by the QIT team at different levels (County, Sub- County, facility and departmental). The County QI contacts person, CTLC, SCTLCS, facility in-charge and the QI leads at different WIT will be key in providing this support. Further, requisite resources, tools and continuous mentorship should be availed to ensure mainstreaming of the same into routine service delivery.

**Figure 6: Coordination Structure**

PQE Taskforce						Program Quality and Efficiency
The Ministry of Health through NTP will provide stewardship through-out the PQE process.  County and Facility level buy-in will be sought through an elaborate stakeholder engagement process for sustainability	The CHMT will provide county level oversight.  The County Quality Improvement Team will provide inline technical support.  The CTLC will be the process owner for all TB QI interventions in the county	County HMT				
		The SCHMT through the <b>SC QIT &amp; QI Focal Person</b> will provide oversight and ongoing technical support to facilities.  <b>SCTLC</b> will be the TB PQE process owner in the Sub County	Sub County HMT			
			The Facility HMT through the <b>QI Mentor</b> will provide oversight and ongoing technical support to the WIT.  <b>Facility In-charge</b> will be the PQE process owner in the facility.	Facility HMT		
				PQE / WIT		
				The facility based PQE/Work Improvement Teams will implement and report on PQE activities  <b>PQE TL</b> will be the process owner	<b>Integration for Sustainability</b>  PQE activities will be mainstreamed into existing QI management & reporting structures	



## CHAPTER 4:

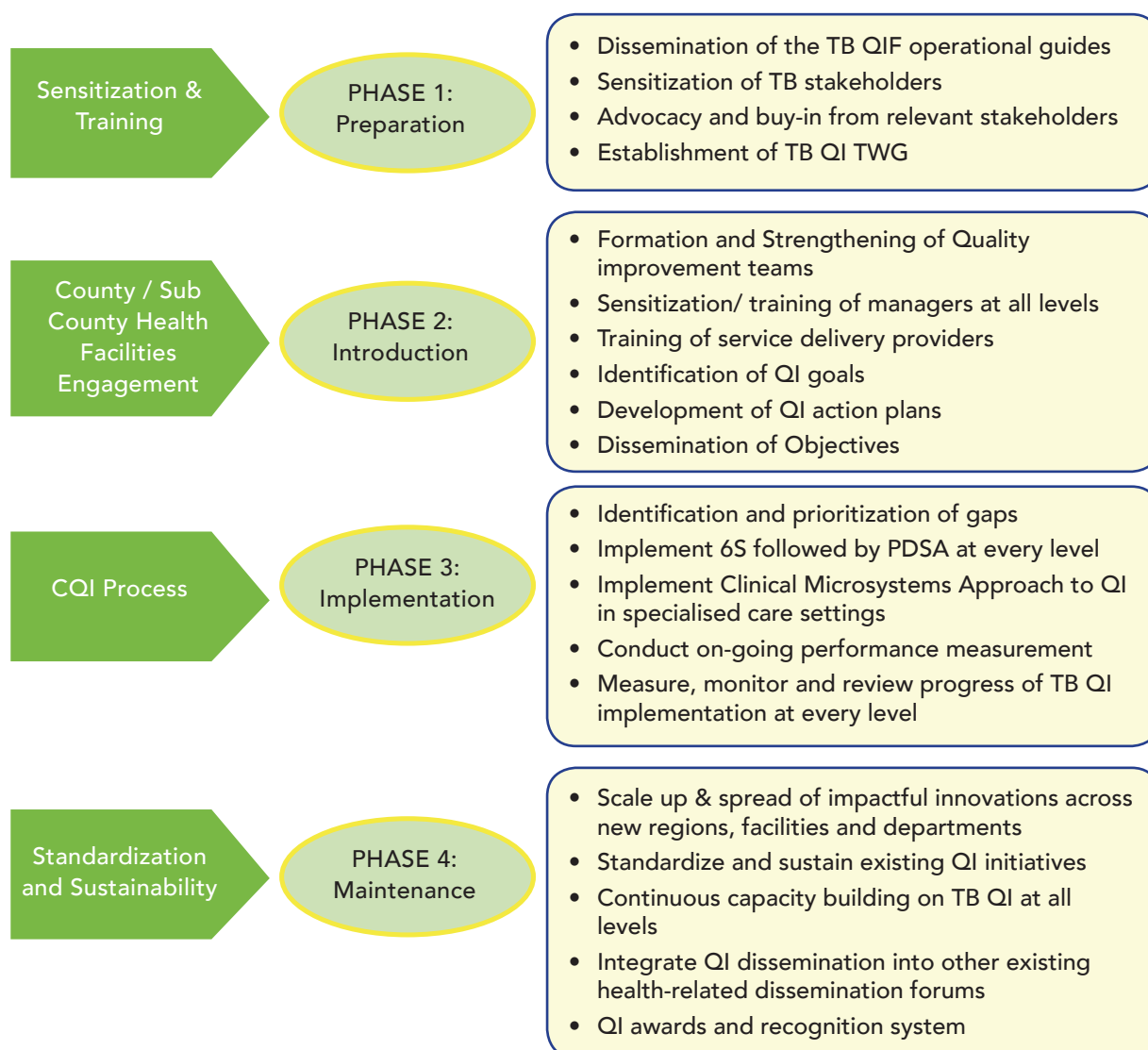
# IMPLEMENTATION PLAN

### Overview

An implementation plan is an essential aspect of the roll-out of the TB QIF. The plan will serve as a guide to systematically introduce the necessary processes, structures, support systems to enable successful roll-out of quality improvement in TB program. This will ensure that different TB care services adapt, implement and sustain this initiative and this chapter provides a summary overview of this plan.

### Implementation Plan

Presented in distinct phases anchored on KQMH as described



## Phases of the TB QIF Implementation

### Phase 1: Preparation

The preparatory phase outlines the TB QI framework that is necessary to support implementation. This phase will include engagement of National with TB Stakeholders with a goal of establishing Quality improvement and integration in the health care services. Stakeholders will support the processes required to integrate TB QI at all levels. A TB QI taskforce will be established leveraging on existing QIT/WITS to provide leadership for CQI initiatives and ensure TB QIF is appropriately implemented. The taskforce will be sensitized comprehensively on the TB QI framework to facilitate integration in existing work plans for seamless implementation. This approach will ensure ownership by the county and sub county health management teams or and other multi-disciplinary teams.

### Phase 2: Introduction

This phase will include formation and strengthening of existing Quality improvement teams to spearhead the implementation of the framework. Sensitization on the TB QIF principles and training of QI managers: facility management and QIT/WIT in particular, will be introduced to the principles and concepts of TB QIF: notably, the 6S, the PDSA methods and Clinical Microsystems Approach to QI. Frontline health providers will be trained to be QI coaches to enable them identify key program performance gaps and address them integrating quality improvement. They will be capacity build to cascade the same to all other health care providers. Development of TB QIF action plans will be developed outlining detailed activities, resources and timelines for the specific deliverables related to implementation of the TB QIF.

### Phase 3: Implementation

The implementation phase will encompass the CQI processes that will be adopted and utilized by health care provider to address the identified gaps. The QI gaps will be analytically identified and prioritized using QI tools and comprehensively addressed. The Implementation of the CQI process will follow the QI cascade of Work Environment Improvement process through the 6S approach, Team based approach through the Model for Improvement (PDSA) and the Point of Care Improvement through the Clinical Microsystems approach. Monitoring systems on TB QIF implementation will be established to review progress of TB QIF implementation at every level

### Phase 4: Maintenance

The maintenance phase will ensure that all the quality improvement advances that are achieved over time are sustained at all levels. There will be continuous capacity building on TB QIF at all levels and all the CQI initiatives will be standardized and replicated through a culture of data use to improve TB services. The service providers including other stakeholders will roll out the TB QIF Framework in newly targeted regions, facilities and departments. It will be key to Integrate QI dissemination into other existing health-related dissemination forums to expand utilization of the initiatives. To motivate health care providers, QI awards and recognition systems will be established where applicable. The key is to reinforce results and find small and regular ways to recognize QI teams that put in exemplary performance. There will be constant communication at all leadership levels ensuring proper documentation as this forms the basis for reviewing progress and detailed best practice sharing of achievements.

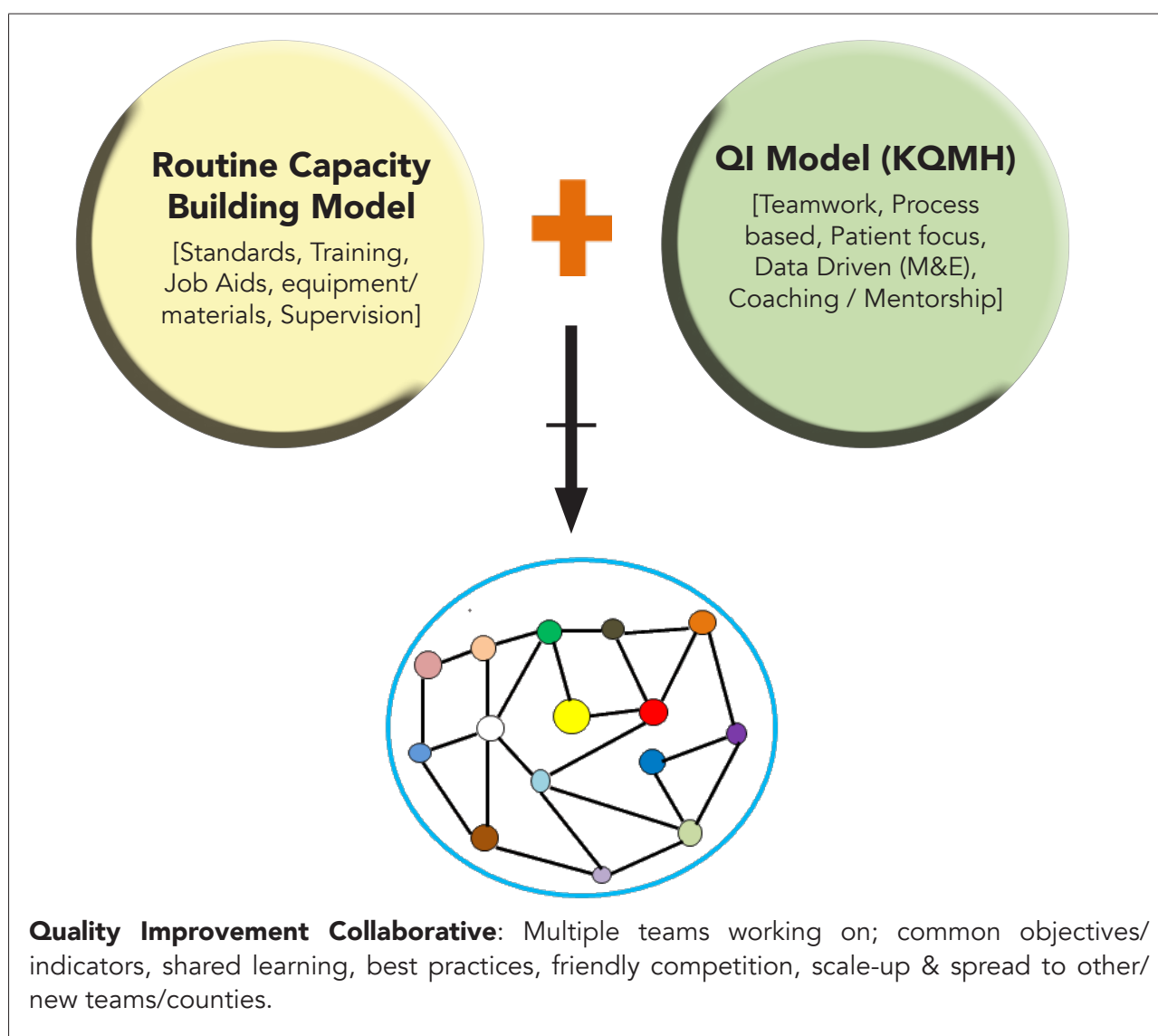
Listed below are some of additional ways to sustain gains made by CQI teams.

- i. Make use of available QI information for ongoing updates to clinical and QI personnel.
- ii. Have regular communication about quality improvement activities.
- iii. Celebrate and recognize team efforts.
- iv. Appoint mentors to orient new staff to QI activities.
- v. Continuously seek feedback from staff and patients on how QI activities can be improved.

## The Quality Improvement Collaborative Approach for the TB QIF Implementation

This framework integrates QI Collaborative approach in implementing QI activities with focus on facilitating program-wide learning and developing collective solutions to respond to program indicators and the improvement of TB care outcomes within the NSP 2019 - 2023.

**Figure 7: Quality Improvement Collaborative Approach**



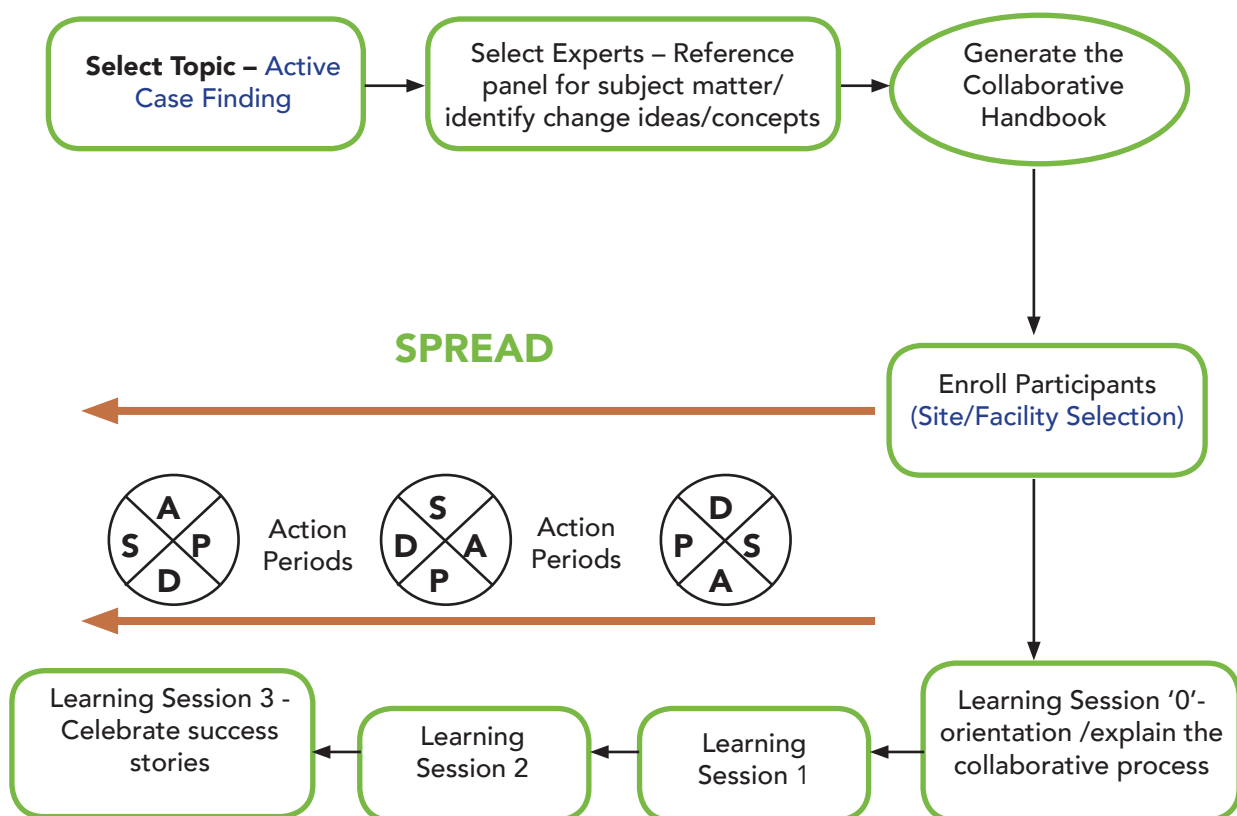
The QIC unifies the current clinical competency building activities by the program with KQMH being the MoH's quality improvement model to implement the NTLD – QI program through a collaborative approach to enable a facilitated spread and scale-up within the shortest timeframes possible.

The implementation approach brings together multiple quality improvement teams from various counties and facilities in developing local and contextualised innovations to enable a culture of continuous improvement and learning through experience sharing.

The structure of any QIC for TB QI shall be a multi-site quality improvement initiative that bears the following essential characteristics;

- i. A specific improvement indicator for all the collaborating teams (TB Program teams across counties)
- ii. A dedicated team of subject matter experts and quality improvement practice experts providing technical support during the span of the collaborative
- iii. Multiple QI teams from the counties participating in the collaborative with specific timelines
- iv. A single improvement model adopted being KQMH for use by the teams in the collaborative (setting targets, collecting data and testing changes); and
- v. A structured series of activities to facilitate learning during the collaborative process and progress monitoring of the QI activities.

**Figure 8: Collaborative Improvement Process<sup>16</sup>**



<sup>16</sup> Institute for Healthcare Improvement Breakthrough Collaborative Series



**Training and Capacity Building Approach** (KQMH being the model adopted training materials/guides and available and TB QI may just contextualize it).

The DNTLD – TB QI Coordinating Taskforce is tasked with the selection of key training personnel and identification of capacity building needs of these trainers. These trainers will jointly support the implementation of the TB QI. A cascade training approach will be applied at county, sub-county and facility levels respectively. The DNTLD – TB QI Coordinating Taskforce will oversee the development of the TB QI training materials and training of trainers. The modular training package shall include training on:

- i. TB QI Framework
- ii. TB QI Framework Operational Manual (includes tools/templates)
- iii. QI Indicator Database.

All training will be carried out in three formats;

- i. **Structured didactic format** - To provide an understanding of the theory and structural components of CQI. Where possible, it is best conducted at facility level for implementers.
- ii. **The experiential format** – To enable participants learn by implementing QI interventions as they interact with the methodologies and tools. This is achieved through simulated exercises and the implementation of actual QI project activities.
- iii. **The self-learning format** – Making use of self-paced continuing medical education (CME) through reading learning materials from various sources such as libraries, journals and through e-learning. This allows healthcare providers to understand key quality concepts, evaluate their QI knowledge and learn about other QI topics in health literature.



## CHAPTER 5:

# TB QIF MONITORING AND EVALUATION

### TB Program Indicators

This section acknowledges the relevance of the utilization of performance measurement to assess care services and outcomes against evidence-based standards. It therefore, forms a basic component of the TB QIF that for all program level performance indicators, TB QI activities will be measured and reported along the existing national M&E framework as stipulated in the National Strategic Plan 2019-2023.

### TB QI Indicators and Performance measurement

Performance measurement is the process of collecting, analysing and reporting information on the performance of a service, system or organization. The framework shall make use of performance measurements to assess **TB QI implementation** and **TB care services based on care indicators**; this shall enable the program to continuously develop strategies for better TB QI implementation and TB care outcomes.

TB QI performance data shall be collected from various data sources across the entire implementation level at varied intervals to enable the TB QI taskforce assess, monitor and evaluate TB QI implementation.

Continuous monitoring of the implementation of QI interventions shall be aligned with routine program performance reviews to aid the program M&E team assess and evaluate the impact TB QI integration in TB Care delivery.

**Table 4: TB QIF M&E Framework**

QI Performance Measures by Type	Description	QI Performance Indicator	Data Source	Data Collection Method	Review Frequency	Review Level
Structural Performance Measures	Structural elements/features of the TB QI Framework implementation plan that supports TB QI Activities	<ol style="list-style-type: none"> <li>1. Development of TB QI implementation guides/materials (Guide, training package, desk guides/flipcharts, posters).</li> <li>2. Ratio of HCWs trained on TB QI implementation</li> <li>3. Number of QIT/WIT established</li> <li>4. Number of integrated county &amp; facility level QI teams</li> </ol>	1. TB QI Taskforce	<ol style="list-style-type: none"> <li>1. TB QI Taskforce reports</li> <li>2. County &amp; Sub County QI Reports</li> </ol>	2. Annually	National – TB QI Taskforce
Process Performance Measures	Captures the changes QI efforts make to the TB care value stream.	<ol style="list-style-type: none"> <li>1. Ratio/Percentage of TB QI projects completed.</li> <li>2. Number of TB QI learning and feedback sessions held.</li> </ol>	<ol style="list-style-type: none"> <li>1. TB QI Activity plans &amp; reports</li> <li>2. eKQMH TB QI activity reports</li> </ol>	<ol style="list-style-type: none"> <li>1. QI activity reports</li> <li>2. EMR/eKQMH xxxxdata abstraction</li> </ol>	<ol style="list-style-type: none"> <li>Quarterly</li> <li>3. Annually</li> </ol>	<ol style="list-style-type: none"> <li>4. TB QI Taskforce</li> <li>County QIT</li> </ol>
Outcome Performance Measures	End results of TB care as a result of QI initiatives	<ol style="list-style-type: none"> <li>1. Improvement rates on TB program indicators through QI interventions.</li> <li>2. Number of QI strategy approaches integrated into routine TB programming activities</li> </ol>	3. TiBU TB program reports on efforts to improve outcomes through QI activities	4. EMR/eKQMH data abstraction	<ol style="list-style-type: none"> <li>Annually</li> <li>5. Quarterly</li> </ol>	<ol style="list-style-type: none"> <li>TB QI Taskforce</li> <li>County</li> <li>Sub County</li> <li>6. Facility</li> </ol>
Balancing Performance Measures	Measure of unintended consequences of a change elsewhere in the system	1. Increased TB case detection service time for cases identified through the TB QI a/ pathway.	<ol style="list-style-type: none"> <li>1. TB QI/QI operational Plans</li> <li>2. QI Activity Work-plans</li> </ol>	1. Activity reports	<ol style="list-style-type: none"> <li>Annually</li> <li>2. Quarterly</li> </ol>	<ol style="list-style-type: none"> <li>TB QI Taskforce</li> <li>County</li> <li>Sub County</li> <li>3. Facility</li> </ol>
*PDSA Test Performance Measures	Measures collected with every test (PDSA) implemented.	1. The success rates of the change ideas tested for TB program quality and efficiency	<ol style="list-style-type: none"> <li>1. TB QITs/WITs</li> <li>2. TB QI collaborative projects</li> </ol>	2. QI project reports	3. Quarterly	<ol style="list-style-type: none"> <li>TB QI Taskforce</li> <li>County</li> <li>Sub County</li> <li>4. Facility</li> </ol>

**M&E Structures and Mechanisms** (The monthly, quarterly, semi-annual, annual or biannual activities)

TB QI coordinating and implementation structures and units across all levels of implementation (Health Facility, Sub-County, County and TB QI Taskforce) will be actively engaged in monitoring and evaluating the implementation of the TB QI Framework in the country.

The QI teams/coordinating units will employ various methods including and not limited to; meetings, support supervision, mentorship visits, and periodic performance reviews as outlined below.

**Table 5: TB QIF M&E Coordinating Structure**

Monitoring Level	M&E Structure	Monitoring Mechanism
<b>National</b>	TB QI Taskforce	<ul style="list-style-type: none"> <li><b>i.</b> Quarterly National TB QI taskforce meetings (includes report review sessions)</li> <li><b>ii.</b> Incorporate TB QI into existing MoH QI stakeholders' forums</li> <li><b>iii.</b> Provide TB QI implementation technical assistance to the counties</li> <li><b>iv.</b> Monthly/Bi-monthly TB QI collaborative learning sessions</li> <li><b>v.</b> Bi-annual Kenya TB QI implementation report</li> <li><b>vi.</b> Semi-annual/annual TB QI program evaluation</li> <li><b>vii.</b> Annual TB QI best practice awards</li> </ul>
<b>County</b>	County QIT	<ul style="list-style-type: none"> <li><b>i.</b> Receive and review quarterly/semi-annual/annual sub-county TB QI reports and TB QI indicator summary reports from sub-counties/facilities</li> <li><b>ii.</b> Monthly/Bi-monthly TB QI collaborative learning sessions</li> <li><b>iii.</b> Prepare county TB QI summary reports</li> <li><b>iv.</b> Quarterly county QI committee meetings</li> <li><b>v.</b> Quarterly mentorship visits to implementing facilities</li> <li><b>vi.</b> Semi-annual/Annual TB QI program evaluation</li> </ul>
<b>Sub-County</b>	SC QIT	<ul style="list-style-type: none"> <li><b>i.</b> Receive and review quarterly/semi-annual facility TB QI reports and TB QI indicator summary reports from facilities</li> <li><b>ii.</b> Prepare sub-county TB QI summary reports</li> <li><b>iii.</b> Quarterly sub-county QI committee meetings</li> <li><b>iv.</b> Quarterly mentorship visits to implementing facilities</li> <li><b>v.</b> Quarterly/Semi-annual TB QI program review</li> </ul>
<b>Facility</b>	Facility QIT/ WIT	<ul style="list-style-type: none"> <li><b>i.</b> Monthly health facility QIT meetings</li> <li><b>ii.</b> Internal supervision or mentorship by facility management for WITs</li> <li><b>iii.</b> Compile 6 monthly Facility QI Report and Facility TB QI indicator</li> <li><b>iv.</b> summary report and submit to Sub-County QI team</li> <li><b>v.</b> Quarterly TB QI implementation review</li> </ul>

## TB QI Framework Review and Evaluation

The DNLTD through the TB QI taskforce shall review and evaluate implementation progress once every three years. This evaluation will be facilitated by the national TB QI Taskforce and will assess implementation achievements against goals, explore lessons learnt and challenges encountered during the course of implementation, and measure the overall effectiveness of the TB QI framework on quality of TB care service delivery.

DNLTD shall ensure that the evaluation methodology employed is comprehensive enough and assures system-wide assessment of the TB QI implementation. Information shall be gathered from data source and document reviews through; surveys, interviews and focus group discussions meetings with stakeholders and implementing units.

Sources of data will include;

- i. County and facility TB QI reports - eKQMH
- ii. DNLTD TB program performance reports

The three-year TB QI evaluation report will include:

- i. A summary of completed and on-going QI activities nationally and per county
- ii. Trends of identified performance measures from the TB QI framework and other TB care dimensions
- iii. Analysis of TB program data with a greater emphasis on performance indicators and service delivery outcomes
- iv. A revised package of TB QI Indicators
- v. Evaluation of the effectiveness of the TB QI program including progress towards integrated patient-centred care and prevention
- vi. Lessons learnt during each phase of TB QI implementation, and assessment of interventions for identification of best practices
- vii. Recommendations for future TB QI improvements and scale up.

## Knowledge Management Plan

To enable sustainability and spread of the QI program the NTP will facilitate journaling and publication of QI activities, the publications shall be in the form of;

- i. Conference poster presentations or articles
- ii. Best practice packages for ongoing program improvement

In addition, the NTP shall conduct annual experience sharing forums, that will engage all TBPQE project implementers and stakeholders. The best performing facility WITs/ sub-county QITs and Counties will be recognized with the issuance of certificates and opportunities to share their results at different forums including conferences. The NTP will undertake documentation of best practices and lessons learnt annually.

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