

REPUBLIC OF KENYA



MINISTRY OF HEALTH

# PROGRAM QUALITY AND EFFICIENCY

## IMPLEMENTATION HANDBOOK

2022



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



# **PROGRAM QUALITY AND EFFICIENCY**

## **IMPLEMENTATION HANDBOOK**

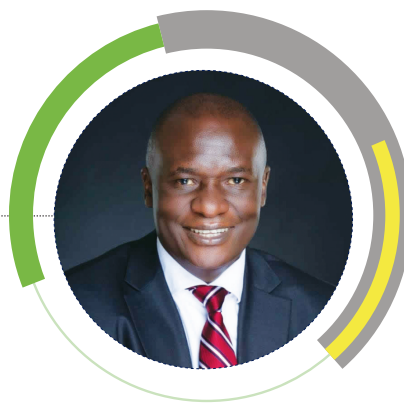
2022

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# PREFACE



The Division of National Tuberculosis, Leprosy and Lung Disease Program (DNTLD-Program) is mandated to develop policies and guidelines for managing Tuberculosis (TB), Leprosy and Lung Health in the country. Tuberculosis is a major driver of morbidity and mortality in Kenya affecting all age groups. There are still significant gaps in the diagnosis and treatment of tuberculosis, leprosy, and other respiratory disorders. This handbook, when used in conjunction with the TB QI Framework, provides step-by-step assistance in the implementation of a program quality and efficiency approach to resolving current gaps in the TB care and treatment continuum. This will also improve the quality of care given to people seeking services in health facilities across the country.

The success of a quality improvement initiative has so much to do with the implementation approach it follows, is, therefore, necessary to provide implementing teams with guidance on how to walk through the activity's implementation process. The TB QIF highlights the various implementation structures for program quality and efficiency program, it is for these structures that this handbook comes in handy by describing the course of action during the implementation of a QI initiative from problem identification to monitoring and evaluating a QI intervention being implemented.

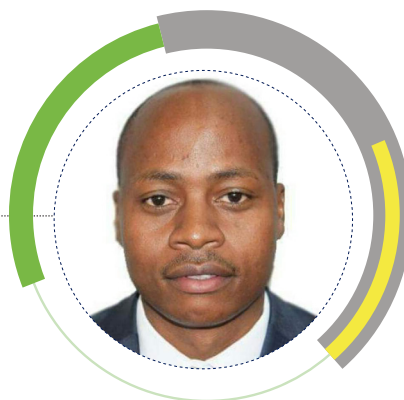
The handbook describes a step-wise approach to the application of quality improvement initiatives for integrated work and quality improvement teams. The handbook describes key steps and activities to be carried out in an improvement team set up both at the facility and community levels. This handbook is based on the TB Quality and Improvement Framework which provides the overarching principles and approaches for quality improvement interventions for the program.

This handbook provides teams with a planned approach to quality improvement interventions that encompass team formation, problem identification, resource planning and utilization while applying standard quality improvement methodologies. While great care has been taken to ensure its usefulness in supporting improvement teams, it is not sufficient on its own, and teams are encouraged to make use of any quality improvement resource materials, shared experiences from best practice QI learning forums within their reach for additional learning and to strengthen their grasp of quality improvement practices in service delivery.

**Dr. Patrick Amoth, EBS**

*Ag. Director General for Health*

# EXECUTIVE SUMMARY



This guide has been developed as a primer to meet the initial practical needs of Quality Improvement (QI) teams. A better learning experience just like in any other practice will be gained through sustained implementation of QI initiatives. Prior training on the art and science of quality improvement (QI) practice is key in enabling users to better grasp the instructions in the handbook.

The guide provides a follow through on how to handle key technical steps for a well laid out QI project. It also highlights basic coordination and relational principles that support improvement activities. It aims to enable a team to plan, execute, monitor and evaluate their quality improvement implementation cycles effortlessly. The guide seeks to equip QI teams with a reference point that is rich in the application for everyday use.

This implementation handbook is intended for use by the health care workers and quality improvement teams whether engaged in collaborative or stand-alone QI activities, to provide them with guidance in implementing QI activities in the TB program across all the service delivery points. It is also aimed at QI coaches and mentors supporting the work and quality improvement teams. To ensure sustainability and integration of QI initiatives, the handbook highlights key considerations to guide in the establishment of Quality and Work Improvement teams to drive implementation.

To aid QI teams implement qi interventions across the processes and outcomes in the TB care cascade, the handbook has been structured around four key elements of a standard Quality improvement initiative with successive steps filling into the next course of action. The set of inter-related steps in the implementation of a QI approach are batched in five sections as follows;

- i. **Problem Identification** – details the guide on how a QI team narrows down to a particular practice area for intervention
- ii. **QI Project Goal Setting** – provides a guide on setting appropriate and actionable goals for intervention,
- iii. **Activity Planning** - provides common tasks a team undertakes to set practice settings when implementing interventions, such as implementation models for use, task schedules and team management,
- iv. **Performance Measurement** – a guide for developing and tracking performance measures during the implementation cycle
- v. **Annexe** – provides a sample of introductory tools to aid a team during a QI implementation cycle.

While the handbook is intended to guide PQE implementing teams across the program, it does not replace technical QI guidance and support provided by Ministry of Health quality of care standards and available guidelines. Where necessary, the implementing teams should undertake appropriate consultations.

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

**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 to the development of this PQE handbook. This was possible through collaboration with different institutions including the Ministry of Health led by the Division of National Tuberculosis and Leprosy Program (DNTLD-P), The Directorate of Health Standards Quality Assurance and Regulations (DHSQAR), NASCOP, County representatives, and partners including CHS TB ARC II, Amref Health Africa, KCCB, Red Cross, LVCT and SYSTEMS Evaluation limited.

Lastly, I acknowledge with gratitude the financial support to undertake this activity from The Global Fund and USAID. Finally, special appreciation to the communication team in the program for finalizing the document.

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 review of the document.

**Dr. Caroline Asin**

*Ag. Head, National TB Program*



# ABBREVIATIONS

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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>CQI</b>	Continuous Quality Improvement
<b>CTLC</b>	County TB and Leprosy Disease Coordinator
<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>eKQMH</b>	Electronic Kenya Quality Model for Health
<b>HCW</b>	Health Care Worker
<b>KQMH</b>	Kenya Quality Model for Health
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MDR-TB</b>	Multi-Drug Resistant TB Disease
<b>MoH</b>	Ministry of Health
<b>DNTLDP</b>	Division of National Tuberculosis and Leprosy Disease Program
<b>QI</b>	Quality Improvement
<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 Disease
<b>TB QIF</b>	TB Quality Improvement Framework
<b>WIT</b>	Work Improvement Team

# INTRODUCTION TO THIS HANDBOOK

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This guide has been developed as a primer to meet the initial practical needs of QI teams, on its own, it is not a comprehensive resource for learning all the QI skills, techniques and knowledge. Other excellent improvement practice resources are available,<sup>1,2</sup> users are therefore encouraged to make references where necessary with the already established resources and the TB QI Framework. A better learning experience just like in any other practice will be gained through sustained implementation of QI initiatives. Prior training on the art and science of quality improvement (QI) practice is key in enabling users to better grasp the instructions in the handbook.

The guide provides a follow through on how to handle key technical steps for a well laid out QI project, it also highlights basic coordination and relational principles that support improvement activities. When applied, therefore, it will enable a team to plan, execute, monitor and evaluate their quality improvement implementation cycles effortlessly. In developing this guide, we seek to equip QI teams with a reference point during implementation.

## Who is this Handbook for?

This implementation handbook is designed for use by health care workers to provide guidance in implementing QI activities in the TB program across all the 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;

- i. TB Program Managers/Officers (CTLC/SCTLC)
- ii. QI Focal Persons/Coaches/Mentors
- iii. QI Teams
- iv. Work Improvement Teams
- v. County implementing partners
- vi. Health facility management teams.

It is also designed to guide quality improvement teams not necessarily engaged in PQE collaborative activities. Finally, it is aimed at QI coaches and mentors supporting the work and quality improvement teams.

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<sup>1</sup> Kenya Quality Model for Health. MoH

<sup>2</sup> Kenya HIV Quality Improvement Framework. NASCOP



**NOTE:** Quality / Work improvement teams shall be established in-line with the TB QI framework guide. The membership and roles shall also be aligned to the existing ToR as per KQMH and the TB QI Framework.

## What is the Purpose of this Handbook?

While the handbook is intended to guide PQE implementing teams across the program, it does not replace technical QI guidance and support provided by MoH quality of care standards and available guidelines. Where necessary, the implementing teams should undertake appropriate consultations.

## The Structure of the PQE Handbook

This handbook is designed to act as a guide to teams implementing Program Quality and Efficiency initiatives to improve TB case identification, management and health outcomes. This handbook contains a set of inter-related steps in the implementation of a QI approach for processes and outcomes across the TB care cascade;

- i. **Section I:** Problem Identification – details the guide on how a QI team narrows down to a particular performance gap for intervention.
- ii. **Section II:** QI Project Goal Setting – provides a guide on setting appropriate and actionable goals for an intervention.
- iii. **Section III:** Activity Planning - provides common tasks a team undertakes to address the identified root causes of the identified problem of the performance gap.
- iv. **Section IV:** Performance measurement – a guide developing and tracking performance measures during the implementation cycle.
- v. **Section V:** Annex – provides a sample of introductory tools to aid a team during a QI implementation cycle.

## Establishing a Quality/Work Improvement Team

Quality improvement is a work approach in solving existing gaps within a health system to improve the quality of care and performance. Its success is pegged on the involvement of the team that is implementing the improvement ideas<sup>3</sup>. QI projects work best when priorities are set locally unless external benchmarking data show otherwise, to sustain implementation of the program quality and efficiency activities, every facility should establish work improvement teams or integrate existing improvement teams to drive the implementation. Some key considerations on individual skills mix to guide team membership composition;

- i. **Subject matter expert** – a clinician versed in TB clinical care.
- ii. **Improvement champion** – a member conversant with QI methodologies.
- iii. **Data handler** – member conversant with basic data abstraction and management techniques.

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<sup>3</sup> Kenya Quality Model for Health. MoH

- iv. **Care advocate** – a patient representative from the local TB community group.
- v. **Community health representative** – member conversant with TB care pathway within the community health unit.
- vi. **Process owner** – member with overall administrative/management responsibility of the program at the respective level.

# SECTION 1:

## PROBLEM IDENTIFICATION

### Overview

At the onset of every improvement initiative, teams will need to identify/scope for new projects/ programmes of work and identify gaps in clinical practice.

This section is to enable the team to handle three key steps in the QI cycle;

- i. **Gap Analysis:**– An overview of care dimensions against results achieved.
- ii. **Situation Analysis:**– A deeper dive into the potential listed problems analysing existing data to gain a deeper understanding of the gap identified.
- iii. **Root Cause Analysis:**– a look into a wider variety of potential causes of the identified problem.

This section guides the teams on how to approach this key step by reviewing existing evidence on the given topic to identify key issues for consideration.

### Phases:

- Initiation meeting – enable the team members to identify a QI topic and objectify it
- Relevant evidence retrieval as per the QI topic identified
- Critical analysis of evidence, and
- Development of project mandate.

**Table 1: Problem Identification Steps**

Stepwise approach to Problem Identification – Example based on TB ACF Cascade			
Key steps/ Questions	ACF Quality of Care dimensions based on standards, guidelines, client needs and expectations; QI Tools and Data Sources		
Key steps	Description	QI Tools	Data sources for ACF
<b>Step 1:</b> Identification of gaps/ diagnosing the problem	The first step in problem diagnosis is gathering information to establish the current status. The work improvement team (WIT) will lead the collection, analysis, synthesis and comparison of data with defined standards. This includes an assessment of the work environment.	1. Bar Graph 2. Pie Chart 3. Histogram 4. 5 S's Tool	1. Facility ACF Summary 2. Departmental ACF Summary 3. Data abstraction tool 4. Presumptive register 5. TB4 Register 6. CMR 7. Laboratory reports.

Key steps	Description	QI Tools	Data sources for ACF
<b>Step 2:</b> Situation Analysis	After the WIT has identified gaps, they should delve deeper into the listed problems to get a better understanding of the various dimensions of the problems to inform the process of prioritization.	<ol style="list-style-type: none"> <li>1. Brainstorming</li> <li>2. Time Series/Run Chart</li> <li>3. Flow chart/Process Map</li> <li>4. Pareto Chart</li> <li>5. Client focus groups.</li> </ol>	<ol style="list-style-type: none"> <li>1. Facility ACF Summary</li> <li>2. Departmental ACF Summary</li> <li>3. Data abstraction tool</li> <li>4. Presumptive register</li> <li>5. TB4 Register</li> <li>6. CMR</li> <li>7. Laboratory reports.</li> </ol>
<b>Step 3:</b> Problem prioritization	From the list of identified problems, the WIT should then proceed to prioritize the problems to focus on the most important problems which when addressed are likely to have the highest impact.	<ol style="list-style-type: none"> <li>1. Pareto chart</li> <li>2. Decision matrix</li> <li>3. Multi-voting.</li> </ol>	<ol style="list-style-type: none"> <li>1. Brainstorming Sessions</li> <li>2. Facility reports.</li> </ol>
<b>Step 4:</b> Root cause analysis	The WIT should then conduct a process of identifying the underlying sources of problems to identify appropriate solutions.	<ol style="list-style-type: none"> <li>1. Cause and effect diagram (fishbone)</li> <li>2. 5 whys</li> <li>3. Flow charts.</li> </ol>	<ol style="list-style-type: none"> <li>1. Brainstorming Sessions</li> <li>2. Facility reports.</li> </ol>

**Table 2: Problem Identification Guide - ACF Care Cascade Sample**

ACF Specific Considerations during problem diagnosis <sup>4</sup>		
While applying the above process to problem identification, there are some key considerations to take into account in the context of TB ACF. These considerations are however not exhaustive.		
Step in the cascade/ Domain	Considerations	Standards
<b>Workload</b>	<ol style="list-style-type: none"> <li>1. Include all service delivery points/departments that contribute to the facility ambulatory workload while establishing the facility workload such as OPD, MCH, pediatric OPD, nutrition clinic.</li> <li>2. Use process maps or flow charts to analyze patient flow through various service delivery points including the laboratory and identify where, why, and how patients are missed by active case finding.</li> <li>3. Check availability and quality of documentation of the workload and screening across all departments.</li> </ol>	<p>All service delivery points should be conducting TB ACF.</p> <p>All service delivery points should have the prerequisite tools for TB screening.</p>

<sup>4</sup> ACF Toolkit. Field guide on systematic screening of active TB in Kenya. 2016

Step in the cascade/ Domain	Considerations	Standards
<b>Screening</b>	<ol style="list-style-type: none"> <li>1. Review both quantitative and qualitative ACF data from both primary and secondary data sources, previous supervision reports, routine data abstraction, Patient feedback/Patient engagements forums/support groups/ Patient exit interviews.</li> <li>2. Compare the actual situation with the standards.</li> <li>3. Check how many service delivery points in the facility should be conducting ACF</li> <li>4. Check how many of these have ACF service in place.</li> </ol>	<p>100% of the workload should be screened for TB. All persons in the health facility need to be screened routinely for TB as per the symptomatic screening checklist &amp; ACF toolkit.</p> <p>Screening should be documented in the 705A and B.</p>
<b>Presumptive</b>	<ol style="list-style-type: none"> <li>1. Check the understanding among HCW of how presumptive TB cases are defined across different service delivery points.</li> </ol>	<p>10 -20% of people screened are presumptive for TB. All presumptive for TB must be documented in the presumptive register.</p>
<b>Investigated</b>	<ol style="list-style-type: none"> <li>1. Check availability of sample collection SOP/Job Aid and that it is in use.</li> <li>2. Check on the frequency of sample transportation.</li> <li>3. Measure and monitor Turn-Around Time for sample delivery to the laboratory and result feedback.</li> <li>4. Compare the yield of the outcome/test with the standard.</li> </ol>	<p>100% of presumptive TB should be investigated (laboratory and/or imaging).</p>
<b>Diagnosed with TB</b>	<p>This includes those bacteriologically confirmed from sputum, stool, aspirates as well as the clinically diagnosed (X-ray, history, etc.).</p> <p>Bacteriologically confirmed are expected to be 70% and clinically diagnosed 30%.</p>	<p>5-10% of the presumptive patients are expected to have TB.</p>
<b>Linked to treatment</b>	<ol style="list-style-type: none"> <li>1. Pay attention to the linkage process, use process and flow charts to find potential gaps that would result in loss of patients.</li> <li>2. Check that all diagnosed in the laboratory are initiated on treatment.</li> <li>3. Check for the presence of an active linkage process such as escorted linkage.</li> </ol>	<p>Linkage to treatments - 100% of all those diagnosed with TB should be started on treatment and notified.</p>
<b>Completed treatment</b>	<p>Treatment outcomes for all patients put on TB medication.</p>	<p>90% and above should be successfully treated.</p>

Step in the cascade/ Domain	Considerations	Standards
<b>Leadership and governance</b>	<ol style="list-style-type: none"> <li>1. Check for presence and activity of a facility quality improvement team including representation of ACF focal person, and community representative.</li> <li>2. Check for availability of an ACF focal person in the facility, an ACF champion in departments.</li> <li>3. Check regularity of facility management and departmental meetings and inclusion of TB/ACF in the agenda.</li> <li>4. Check for inclusion of TB/ACF in the facility and departmental work plans.</li> </ol>	<p>Established QI/Work Improvement Teams.</p> <p>Terms of Reference for QI/Work Improvement team members elaborated.</p>
<b>Community-facility linkage</b>	<ol style="list-style-type: none"> <li>1. Check that the facility has an established connection to the community health structures through the community health and public health departments.</li> <li>2. Check that TB/ACF tasks for the officers from these departments include mobilization, referral and linkage, and follow-up in the community are included in the roles of the CHVs.</li> </ol>	<p>Community-level activities linked to the facility-based quality improvement activities.</p>



## SECTION 2:

# QI PROJECT GOAL SETTING

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### Overview

For each project mandate that the work improvement team develops, an accompanying goal shall be developed. This enables the team to determine its desired progress path during the improvement process.

The steps below are provided as a guide to aid teams in goal setting:

1. The county profile will provide the baseline for every program indicator under review for PQE initiative, this will be disaggregated by county, -sub-county and health facilities for ease of context by the PQE team
2. The team shall apply an incremental approach in setting improvement goals to enable it meet the sub-county and county targets
3. The work and quality improvement teams will set goals based on the principles outlined below.

### Guiding Principles

The goals are similar to SMART objectives--remember you want to have 'stretch' goals. The team should set ambitious goals broken down into manageable bits for quick wins through small tests of change. This enables the team to build momentum from the small bits of success and not to lose focus from disappointments from the tests that don't meet expectations.

#### **1. What are we trying to accomplish?**

- a. Identify the problem and identify the overall goal (i.e. your long term outcome).
- b. Use words like improve, reduce, and increase.

#### **2. Why is it important?**

- a. This should answer the questions "so what?" or "why bother doing this project?"

#### **3. Who is the specific target population?**

- a. Who or what area is the project focused on?

#### **4. When will this be completed?**

- a. Include a specific time for completing the improvements (month/day/year).

#### **5. How will this be carried out?**

- a. It is NOT a specific list of tasks/strategies you will do, instead what methods you

will use at a high level (i.e. QI methods and principles).

## 6. What are your measurable goals?

- What are some processes and short term outcome goals that will help you know that you have achieved your overall project aim? (e.g. - ACF cascade standards).
- Include 4-6 goals.
- Break down the ACF cascade standards into achievable targets spread over a period of time to eventually achieve the standard.

## Aim Statement

Consistent with the program performance reviews and the problem identified in *Section I* i.e. after the root cause analysis process, the QI team should identify change ideas or countermeasures that can be implemented to address the root causes contributing to the identified problem. The basic QI tools for use during this process include;

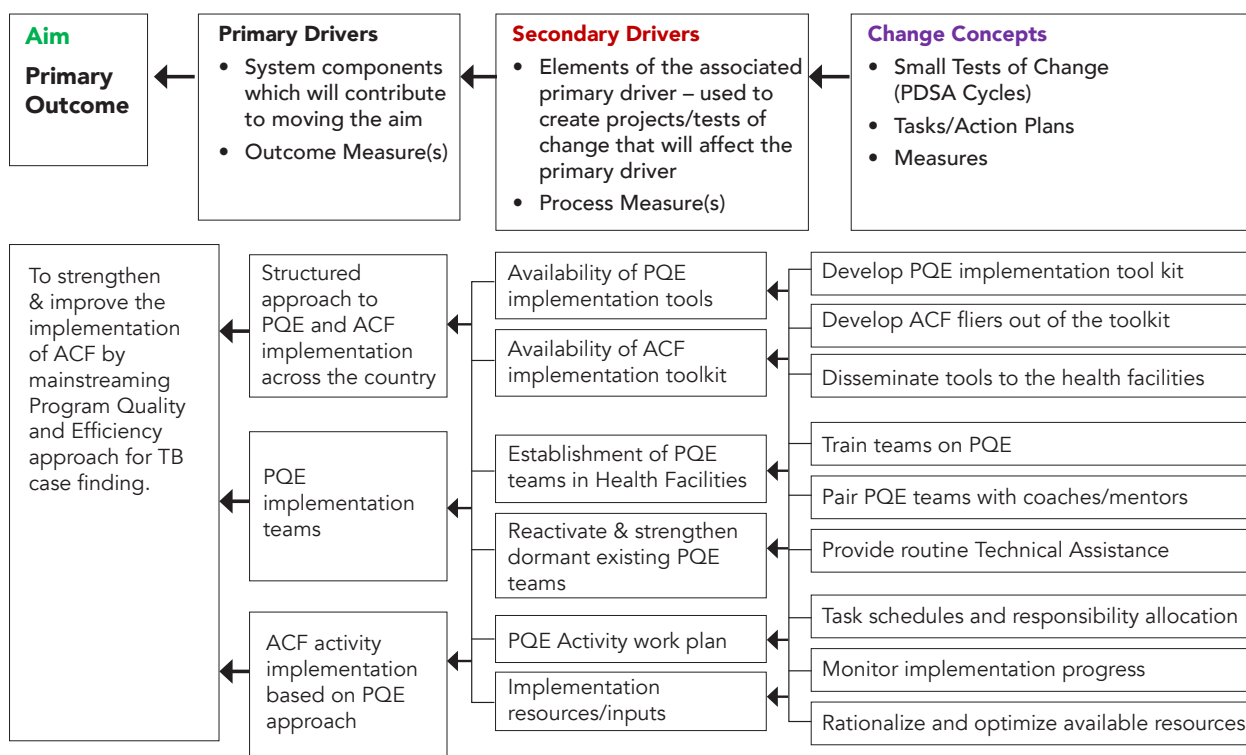
- Prioritization/Decision.
- Aim Statement Matrix.
- Driver Diagram.

**Table 3: Four Column Aim Statement Matrix** (*Examples in bold*)

QI Project Aims	Performance Measures	Link project to the Organizational Aims	Organizational QoC Aims
What does the QI project address:  <b>To increase the rate of presumptive case identification from the current 6% of all RTI patients seen at the OPD to 15% in the next 12 weeks</b>	How do you know your project is progressing towards your aims:  <b>Presumptive cases identified from all RTI patients seen at the OPD (Ratio or Rate)</b>	How you know your project is progressing towards your aims:  <b>% Increase from the identification rate of 6% of all RTI patients seen at the OPD</b>	How the project contributes to improving the ACF cascade indicator:  <b>How do we measure the impact this the project will have on ACF? – Increase in overall Case Identification</b>

**Figure 1: Driver Diagram Template**

**Improvement focus:** Active Case Finding



The driver diagram should be used to list possible change ideas for each aim statement. The change ideas are then scored using a prioritization/decision matrix to pick on which change idea to be implemented first.

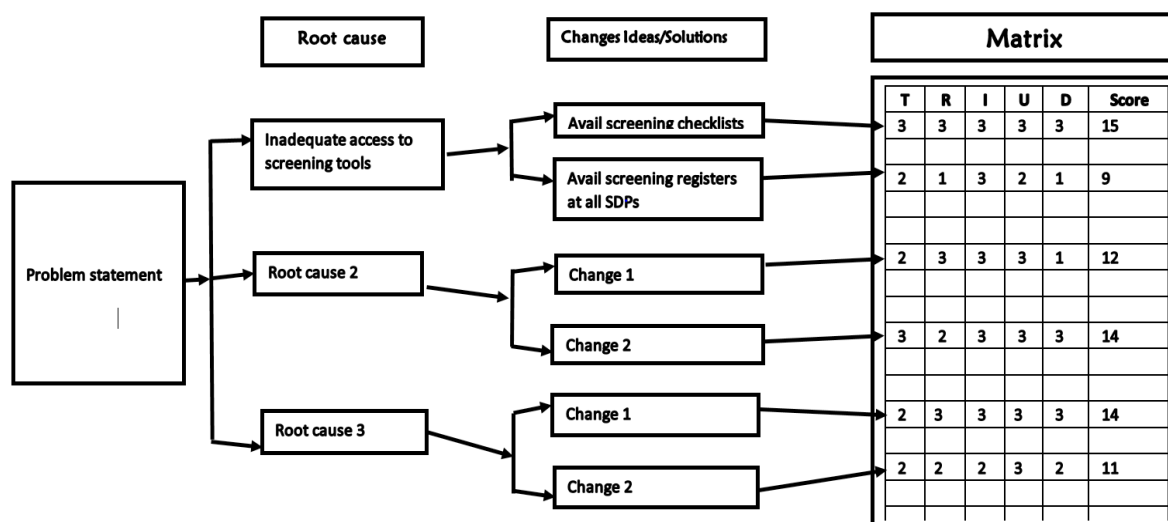
The matrix ranks change ideas from 1 to 3 based on:

- **T**ime required to implement the change (least time to implement the change idea ranks high),
- **R**esources needed to implement the change (fewer resources ranks high)
- **I**mportance of the change in improvement (more important ranks high)
- The **U**rgency to implement the change (more urgent gets a higher rank)
- **D**ifficulty in implementing the change (easy to implement ranks high while a change that is difficult to implement is ranked low).

**Table 4: Sample TRIUD Decision/Prioritization Matrix Template**

Proposed change ideas for implementation consideration	Score the change ideas using the matrix below, the highest-ranked idea is prioritised for implementation					
	T	R	I	U	D	TOTAL
1.						
2.						
3.						
4.						
5.						
Notes:						
<p><b>T</b> – Time required to implement the change (least time to implement the change idea ranks high),</p> <p><b>R</b> – Resources needed to implement the change (fewer resources ranks high).</p> <p><b>I</b> – Importance of the change in improvement (more important ranks high).</p> <p><b>U</b> – Urgency to implement the change (more urgent gets a higher rank).</p> <p><b>D</b> – Difficulty in implementing the change (easy to implement ranks high while a change that is difficult to implement is ranked low).</p>						

**Figure 2: Tree Diagram with Decision Matrix**



**NB:** Where two or more change ideas get an equal score, the QI team member should rank and score the change ideas individually, the change idea that is scored highest by most members, is prioritized for testing.

The QI team will set process and short terms outcome goals based on gaps identified along the TB ACF cascade of care, in line with the standards outlined in the table below:

**Table 5: ACF Care Cascade Standards**

Component	Standards	Assumptions	Source documents
<b>Workload</b>	All service delivery points should be conducting TB ACF  All service delivery points should have the prerequisite tools for TB screening.	All SDPs across the facility document workload output.	MOH 717,  MOH 731 and MOH 366 (HIV Care and treatment - Daily Activity Register).
<b>Screening</b>	100% workload should be symptomatically screened for TB.  100% of bacteriologically confirmed TB patients and children under 5 years with TB should have their contacts screened.	All clients/patients visiting the health facilities will be symptomatically screened for TB.  All contacts of bacteriologically confirmed TB patients and children under 5 years with TB will be screened.	TB symptoms questionnaire.  ACF Rubber stamp.
<b>Presumptive</b>	10 - 20% of people screened are presumptive for TB.	15 - 30% of people screened will have respiratory symptoms.  At least 60% of those with respiratory symptoms who are clinically evaluated are presumptive.	MOH 705 A & B at OPD  Other departments will use daily activity registers and/or summaries to get the proportion of clients with respiratory illness among the total caseload.
<b>Investigated</b>	100% of presumptive TB should be investigated (laboratory and/or imaging).	Presumptive persons should be investigated either through laboratory tests and or imaging.	Presumptive TB register Lab register Imaging registers.
<b>Diagnosed with TB</b>	5-15% of the presumptive will be diagnosed with TB.	This includes those bacteriologically confirmed from sputum, stool, aspirates as well as the clinically diagnosed (X-ray, history, etc.).  Bacteriologically confirmed are expected to be 70% and clinically diagnosed 30%.	Presumptive register.
<b>Linked to treatment</b>	100% of people diagnosed with TB should be put on treatment.	All diagnosed TB cases (Cases Identified) should be notified from the facility to the national level.	TB Patients Record card (TB-5)  TB treatment registers (TB-4).

Component	Standards	Assumptions	Source documents
<b>Completed treatment</b>	90% and above should be successfully treated.	Treatment outcomes for all patients put on TB treatment.	TB4 facility treatment register.



#### Box 1: Sample Goal Statement

To increase linkage to treatment of persons diagnosed with TB from the current **76%** to **90%** in the next **6 months**.

## SECTION 3:

# ACTIVITY IMPLEMENTATION

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### Overview

This section provides a team with guidance on how to approach the implementation of a QI initiative, from planning to execution. It highlights the conduct of team engagements, proposed key tools to aid the process and the proposed QI methodology for deploying the small tests of change.

### Operationalizing the team

Key elements that drive a quality or work improvement team's success at the facility

- i. Having the right mix of people for the local improvement team in each workplace; include patients, clinicians, middle managers, and others who do the work.
- ii. Identifying a team leader who is not necessarily the most senior clinician, but someone able to champion the cause, is committed and can encourage and facilitate teamwork within the workplace.
- iii. Senior program/facility staff's ability to acknowledge the importance of the work, and provide support and resources (allowing meeting time), but not impeding the operations of the team.

### Roles and Responsibilities of Team Members

Each member of a QI/Work Improvement Team is responsible for any aspect of the team's objectives and is relied upon for his/her active participation through; information and experience sharing, perspectives and ideas generation, decision making and activities planning. Some of these responsibilities include and are not limited to;

- i. Attending and participating in all team meetings.
- ii. Helping ensure that the team stays on track and focused on its goals.
- iii. Sharing responsibility for tasks outside of team meetings e.g. communicating team decisions, clients/staff education and data collection.
- iv. Reviewing and defining the roles of team members.
- v. Reviewing and defining team goals and objectives.
- vi. Establishing team ground rules and meeting schedules.

## Meeting Guide for Implementation Teams

Every team should at the onset establish the meeting ground rules, along with these areas and much more as per context:

- i. **Attendance:** Accepted reasons for non-attendance and the procedure to follow for expected absence
- ii. **Quorum:** Minimum number of team members present for meeting to proceed
- iii. **Meetings:** Agreed venue, time, frequency, breaks, and acceptable interruptions
- iv. **Participation:** Active participation guide, speaking freely, listening to each other, basic conversation courtesy and conduct
- v. **Tasks/action points:** Responsibility allocation and completion timelines

**Meeting productivity guide** - suggested key considerations;

Consider 30 minutes to 45 minutes meeting duration every week or every two weeks depending on the task.

- i. Every meeting should have an agenda brief with a:
  - a. Defined meeting agenda.
  - b. Defined meeting objective/and purpose.
  - c. Summary of key action points after every meeting.
- ii. Appropriately document meetings using:
  - a. Meeting template annexed
  - b. Implementation progress tracker may also be tracked using:
    - QI Project Checklist.
    - PDSA Summary sheet.
    - QI Project Plan.

## Implementing a small test of change

Having prioritized a change idea and an aim statement developed for it, the QI team should plan on how to put the idea to test, allocate and spread out the tasks to enable ease of implementation. The basic QI tools to support the team in this process are;

1. Work Environment Improvement (5S) Tools.
2. Activity plan template.
3. PDSA Cycle Template.
4. PDSA test recording template.

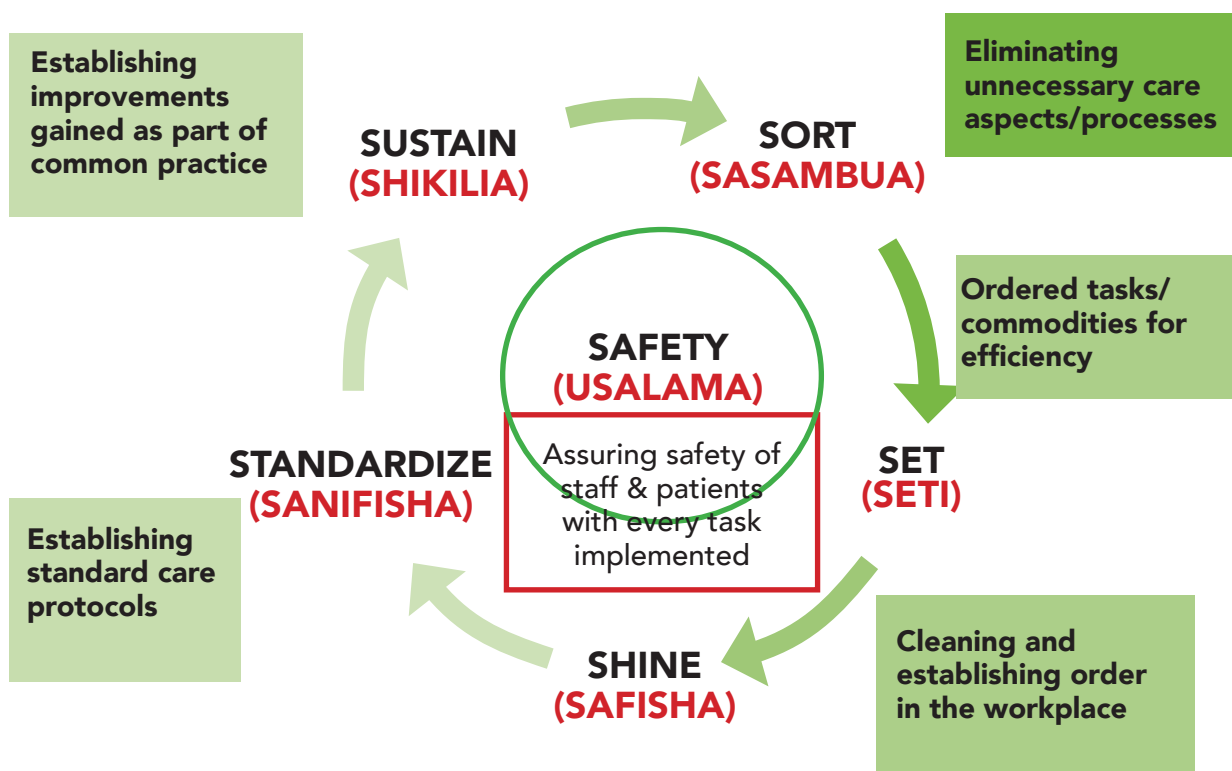


## Improvement Methodology

### 1. Work Environment Assessment and Improvement

Work environment assessment and improvement is a critical process in the quality improvement cycle. The 6S Process provides a structured approach to enable a team to organize and achieve cleanliness around the workspaces. It's an organization approach guided by 6 words that start with the letter S;

Figure 4: 6S Template



Once the workplace has been organised, the team is in a better position for the introduction of continuous quality improvement using the Model for Improvement methodology described here.

**Table 7: 6S Description**

6S Phase	Sort	Set	Shine	Standardize	Sustain	Safety
Actions	Eliminate clutter, unnecessary processes or things that add no value to care delivery  Maintain only essential tools and equipment	Organize and store everything in its rightful place with clear labels  Organize equipment /items in a way that supports ease of usage	Keep spaces clean and tidy at all times and it is better to clean as work is done  Tidy up workspaces at the end of the day ready for the next day or person	Make the 1 <sup>st</sup> <b>3S</b> (Sorting, Setting & Shining) the norm in all workspaces  Document the process for each service & develop standard operating procedures	Train staff on the 6S discipline  Consistently apply the 6S approach to all workspaces to enable the culture to take root	Assure safety for staff and patients when carrying out the work environment improvement tasks e.g. appropriate PPE for staff while sorting a storage room

## 2. The Model for Improvement (PDSA)<sup>5</sup>

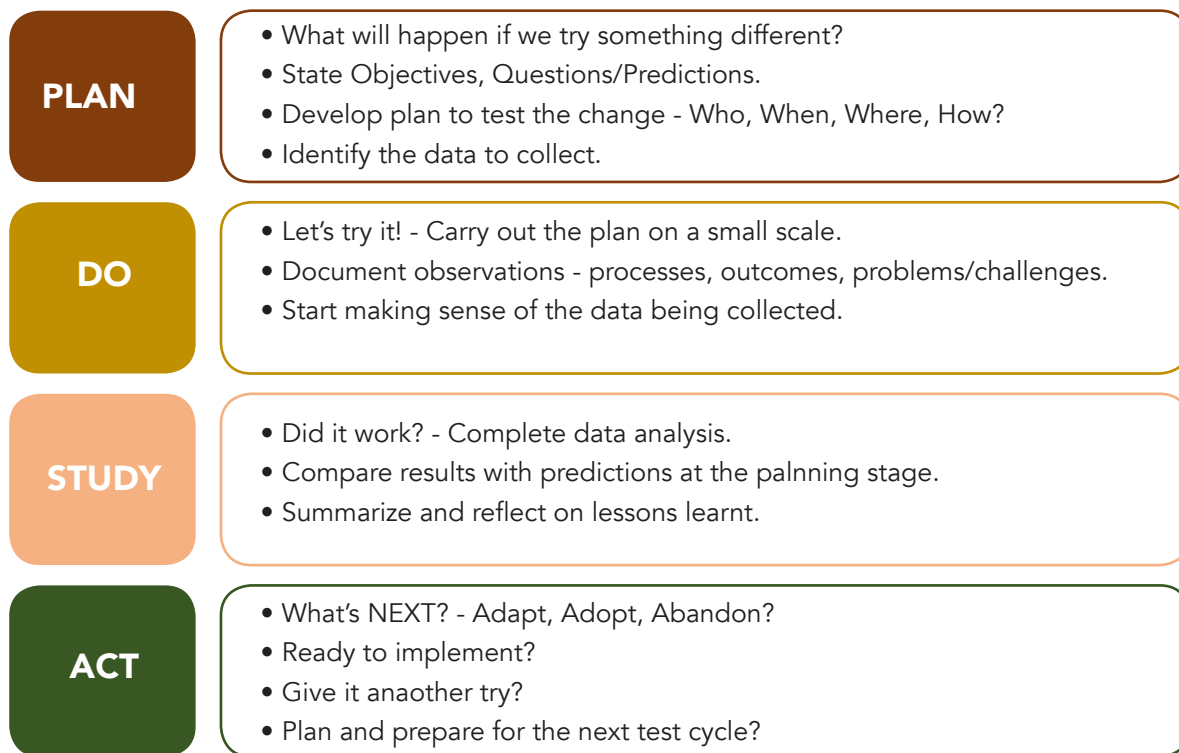
PDSA model is a framework for developing, testing and implementing changes in the improvement practice. PDSA is used for action-oriented learning and incorporates testing a change in the real work setting by planning, implementing, observing results, and then acting on what is learned, Once the QI team makes a decision on which change idea will be implemented first, activity planning and resource allocation should be done to support the implementation of the change idea. This can be done using the PDSA improvement model (**Plan, Do, Study and Act**). Detailed planning should be done by the team before commencing implementation and testing of each proposed change idea.

**Figure 5: PDSA Explainer**

### **PDSA Primer Questions that every test cycle should answer:**

1. What are we trying to accomplish?
2. How will we know that change is an improvement?
3. What change can we make that will result in an improvement?

<sup>5</sup> Institute for Healthcare Improvement. Model for Improvement: [ihl.org/PDSA](https://www.ihl.org/PDSA)



## PLAN

- The team should state what they aim to achieve (Prediction) on implementation of the proposed change idea
  - What is the expected result following change idea implementation?
- The implementation plan should be developed to answer the below question with sharing of tasks among the team members
  - What will be done?
  - When will it be done?
  - Who will do it?
  - Where will it be done?
  - How will be done?

**NB:** A detailed work plan with activities, period, and the responsible person per activity by names

**Table 8: Activity Plan Template**

Objective	Task	Timeframe	Responsible person (indicate names)	Status of implementation

- Plan for monitoring of the change idea to be implemented
  - **What will be measured?** - A process indicator to measure the change idea; Define the process indicator and describe what will be the numerator and the denominator
  - **Where will it be done?** - Where will the data be collected (on excel sheet or existing M&E tool)
  - **Who will do it?** - Responsible person identified to carry out the specific tasks and collect the data to monitor the process indicator
  - **When will it be done?** - Defined time period, either daily weekly or monthly to at least have 6-10 data points
  - **How will be done?** – Clear description of task to be implemented

## DO

Once the team develops their implementation plan, proceed to implement the change idea and collect data as planned.

It is recommended that change ideas are tested within the shortest period possible for collection of just enough data for learning. The testing period should be sufficient to collect 10 - 12 data points as per the reporting frequency for the measurement indicator being tracked

Documentation should be done step by step during the implementation period.

## STUDY

- Analyze the collected data for the defined period stated in the plan
- Small tests of changes (STOC) should be done using a run chart.
- Compare the analyzed data with your set prediction
- Is there an improvement? If yes, by how much?
- Is the process more difficult using new methods?

## ACT

- Based on the data analysis, was the change successful?
- If yes, adopt the change and impliment it as part of the improvement process
- If not successful, review the change to determine reasons for poor performance, refine the process, and plan another test cycle

**Table 9: PDSA Test Cycle Recording Template**

PDSA Experiment Cycles Record					
Date			Target Condition (Aim/Problem Statement)		
Process					
PLAN		DO		STUDY	ACT
Task	Expectation			What Happened	What we learnt

**NB:** The PDSA cycle should be applied to each change idea individually. At the end of each cycle, data analysis should guide on whether the change idea was successful, requiring scale-up/sustaining or if it was not successful.

### 3. Community Based Implementation

Communities, households, and individuals are the central actors in primary health services and are key in the quality improvement initiatives across the TB care cascade. Community-level Work Improvement team members will be integrated into the facility WIT/QITs, this is to enable identification and incorporation of relevant community activities that will help improve implementation of the problems identified for Quality Improvement.

Suggested key community level-oriented efforts to drive ACF-PQE implementation;

1. Community-based health education
2. Finding people with TB symptoms within the community health units
3. Prevent the spread of TB and
4. Supporting access to diagnosis and treatment linkages
5. Providing community level DOTs services
6. Enabling patient-level engagement for improved quality of care.

**Table 10: Community Level ACF care cascade activities**

	Activity	Suggested steps
1	Investigation contacts of TB patients	<ol style="list-style-type: none"> <li>1. HCW line-list contacts of index TB patients and give to CHVs</li> <li>2. CHVs visit households of the patients to provide health education and screen all contacts</li> <li>3. CHV refer Contacts with TB symptoms to health facilities for further investigations using MOH 100</li> <li>4. CHVs refer all children under five years for initiation on TB preventive therapy (TPT)</li> <li>5. CHV work with HCW to ensure correct documentation</li> <li>6. Other community members can also be trained to identify signs of TB and how to refer possible TB patients to the appropriate facilities.</li> </ol>
2	Integrated community outreaches	<ol style="list-style-type: none"> <li>1. HCWs and SCTLCS identify hotspots</li> <li>2. Ride on existing outreaches for</li> <li>3. Link up with the county to organize targeted outreaches</li> <li>4. CHVs support mobilization</li> <li>5. CHV work with HCW to ensure correct documentation</li> </ol>
3	Tracing patients who interrupt TB treatment	<ol style="list-style-type: none"> <li>1. HCW identify any treatment interrupters from the TB4 register and the appointment diary.</li> <li>2. HCW call all patients who miss appointments within 24 hours of missing their scheduled appointment.</li> <li>3. HCW give a list of treatment interrupters who are not reached on phone and those who do not turn up on the date of the re-scheduled appointment to the CHEWs/CHVs for physical tracing and fill section A of the interrupters tracing form.</li> <li>4. The CHV will trace the patient in the community and document the outcome</li> <li>5. CHV work with HCW to ensure correct documentation</li> </ol>

# SECTION 4:

## PERFORMANCE MEASUREMENT

### Overview

Performance measurement is the process of collecting, analyzing and reporting information for purposes of tracking a process, project, system or organization, and is aimed at helping organizations measure achievements of strategic goals and streamlining decision making. It is a tool for identifying bottlenecks, gaps and tracking progress in quality improvement initiatives to recommend improvement change ideas.

### Data Review Guide

#### Purpose

This section describes the procedure for review and analysis of data during the implementation of the TB quality improvement.

#### Scope of the data review guide

This guide can be used by facility and community-based PQE teams to guide the following:-

- Data mining and summarizing.
- The review process and observations reporting.
- Observations trend analysis.
- Comparing achievements with targets (compliance to set project targets).

#### Frequency

The data review process will be conducted regularly (weekly, fortnightly, monthly) as agreed by the WIT, depending on the area of focus. The process will be chaired by the WIT Team Lead.

#### Standard Recording and Reporting Tools to be used

1. MoH 204 A & B
2. MoH 705 A & B
3. Presumptive TB Register
4. Laboratory Register
5. TB Facility Register
6. Departmental and Facility Summary Tools e.g. ACF Facility Summary.

## Standard Operation Procedure

Before the data review process, the WIT team need to:

1. Review the indicators discussed and agreed upon during goal setting.
2. Agree and document the method of tracking data e.g run charts/ graphs etc.

## Procedure for Data mining and summarizing

1. Gather all data recording and reporting tools for the period under review
2. Assess tools for completeness and accuracy
3. Aggregate all the data from the various SDP tools against the relevant reporting indicators.

## Observations trend analysis

1. Generate run charts/graphs on performance trends of key indicators during the period of interest. If the facility is using physical tools plot data in the developed run charts/graphs
2. Highlight the peaks and dips for further detailed discussions.

## Comparing achievements with targets (compliance to set QI targets)

1. Check for deviations against the set targets across all the indicators.
2. Brainstorm on the possible causes of the deviations
3. Develop an action plan on the issues identified.

## Procedure for Data Review Process

1. The WIT to schedule a data review meeting with the facility staff.
2. Review the data that has been mined from the recording and reporting tools against the set targets
3. For those areas that the target has been met, brainstorm on the best practices and areas of sustenance
4. For those areas that the target has not been met, discuss the possible bottlenecks and identify areas of improvement.
5. Objectively and realistically, identify the areas of focus for the next QI cycle

NB: Process indicator should be developed with defined Numerator and Denominator to track the QI process implementation e.g.

**Table 11: Indicator Reference Sheet Template**

Process Indicator	Numerator	Denominator
The proportion of patients screened for TB using a screening checklist	Number of clients screened using a TB symptoms screening checklist at the SDPs	Total number of clients visiting the health facility



**Table 12: Data Abstraction Guide**

<b>QI Data Abstraction Tool:</b> Indicator _____						
<b>Review Period:</b> From _____ To: _____						
<b>INSTRUCTIONS:</b> For every indicator, calculate the numerator and denominator based on the definition. Sources vary depending on the indicator. Transfer the num/den values to your QI Indicator Summary report.						
<b>Option:</b> Instead of using this tool, the team could directly populate the indicator reference sheet, using the preceding performance reports.						
S.No.	Performance Measure	Definition: Numerator (Source)	Definition: Denominator (Source)	Num	Den	%
1.0	Rate of facility presumptive case identification	Number of the presumptive TB cases accurately filled during the review period <b>(Presumptive Register)</b>	Number of patients screened for TB in the facility during the review period <b>(204 A&amp;B Register)</b>			



## SECTION 5:

# SELECTED QI TOOLS SAMPLE

**Table 13: Tools description**

Tool	Purpose	Location	Responsible Person
MoH 204 A & B	A facility tool for recording TB screening data (number screened for TB)	OPD	Clinician
MoH 705 A & B	Provides the monthly facility workload	Health records office	Facility HRIO
Presumptive register	A tool used in the facility to record people who are presumed to have TB	SDPs	Clinician
Facility/ dept ACF summary tools	Summarizes TB case finding data along the care cascade	SDPs and Health records office	Department In-charge
Lab Register	Collects data of people who have investigated for TB disease among the presumptive	Lab	Laboratory Technologist
TB4 facility register	Collects data on people who are being initiated on TB treatment	Chest Clinic	TB Clinician
Data review guide	Provides a step by step process of mining data from the various tools to measure the achievement	QI Office	Work Improvement Teams
WIT/QIT Meeting Template	To provide a structured approach to documenting team discussions	WIT/QIT Folder	WIT Team Scribe
WIT/QIT Work planning Template	Provides a team with a guide on key elements for consideration in the development of the activity work plan	WIT/QIT Folder	WIT Team Scribe
Run Chart	Enables a team to monitor progress and visualize achievement through the implementation cycle of a QI project	WIT/QIT Folder, Project corner/ wall display	WIT Team Scribe
QI Project Checklist	Enables the team to track progress in the course of implementing a QI project. Not every QI cycle will necessarily include every step	WIT/QIT Folder	WIT Team Scribe
WIT QI Project Template	Used to document the improvement journey and develop a presentation that can be used during dissemination or to document lessons learned if an intervention was not successful	WIT/QIT Folder	WIT Team Scribe

**Table 14: QI Tools and Usage**

	QI Tool / Usage	Problem Identification	Root Cause Analysis	Activity Planning	Performance Measurement	Sustenance/ Maintenance
1	Bar graph, Pie Chart, Histogram	X				
2	Brainstorming	X	X			
3	Cause & Effect/Fishbone Diagram		X			
4	Client Focused Group Discussion	X				
5	Decision Matrix			X		X
6	Driver Diagram			X		
7	Flow Chart/Process Map	X	X			
8	Pareto Chart	X	X		X	
9	Run Chart/Time Series Chart	X			X	
10	Statistical Process Control Chart	X			X	
11	'6S' tools – Tags, Colour Codes, 6S Corner/Board				X	X
12	5 Why Template		X			
13	QI Team meeting template	X	X	X	X	X
14	QI Activity work-planning template	X	X	X	X	X
15	QI Project Implementation Checklist	X	X	X	X	X
16	QI Project Summary Sheet					X

## ANNEXES:

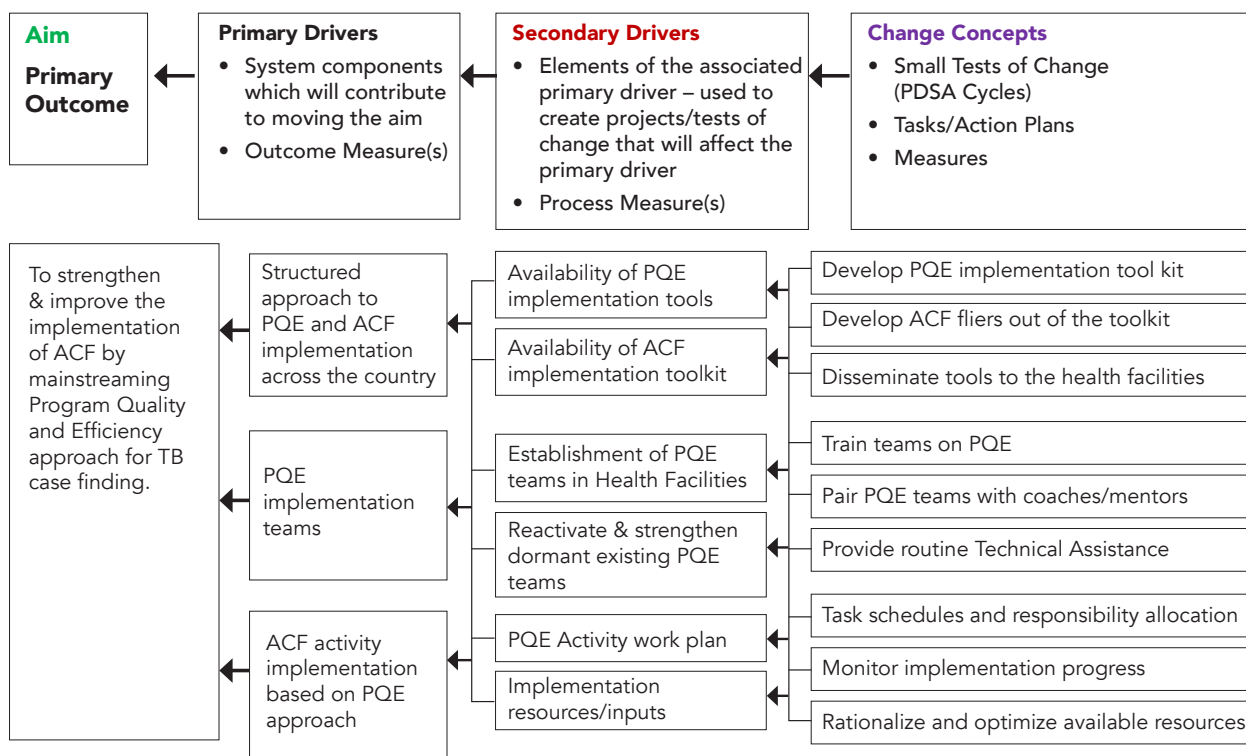
# SAMPLE OPERATIONAL & QI TOOLS

**Table 15: Data Review Guide Template**

ACF care cascade	Standard performance measurements	Standard recording and reporting tools	Understanding of the data collection tools usage	Review data (collate from all SDPs and check against expectation)	Baseline (Current status)	Target (What Target did you set for this QI project)	Achievement (Achieved results based on the indicators)	Comments (Challenges, best practices. Lessons learnt)
Screening	100% of the workload	MoH 204 A & B MoH 705 A & B TPT / ICF cards						
Identification of presumptive	10-15% Of all screened	Presumptive register Facility and departmental summary						
Testing	100% of all presumptive should be linked to testing	Lab register/ Presumptive register						
Testing yield	10% of all tested should be TB positive	Lab register/ TB4 register						
Care and Treatment	100% Of all those diagnosed should be linked to treatment	TB4 Register						
Other cross-cutting issues e.g. infrastructure, training								

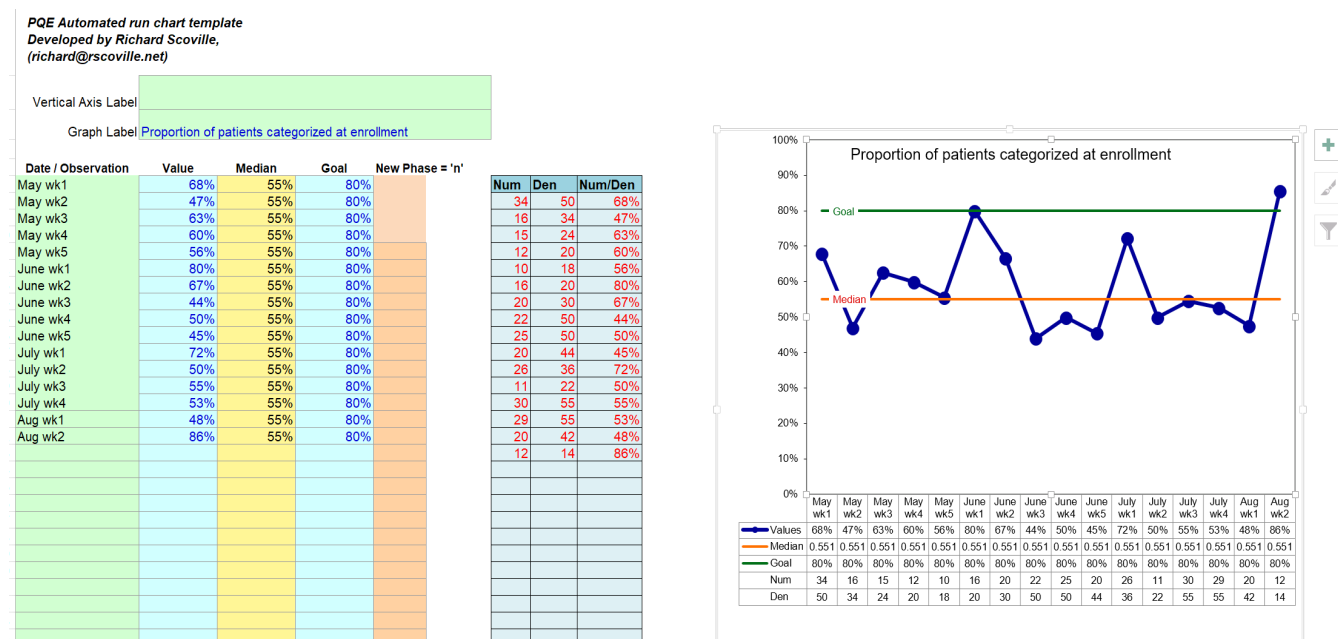
## Driver Diagram (Adapted from Agency for Healthcare Research and Quality)

### Improvement focus: Active Case Finding

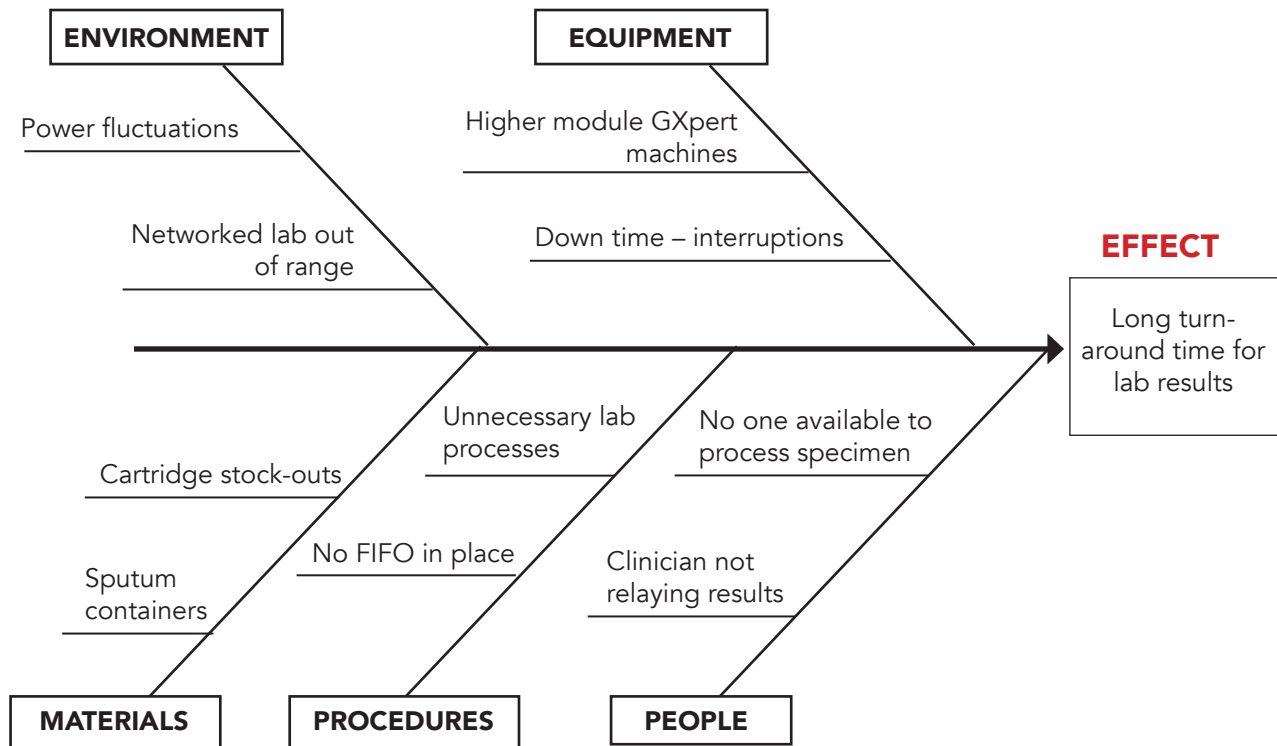


A driver diagram enables a team to conceptualise a problem, determine its system components and create a pathway to get to the goal

Figure 6: Run Chart Sample



**Figure 7: Fishbone Template**



**Figure 8: 5 WHYs Template – Adapted from Agency for Healthcare Research and Quality**

<b>DEFINE THE PROBLEM</b>	Define problem here		
<b>WHY IS THIS A PROBLEM?</b>	<p><b>PRIMARY CAUSE</b>  <b>Why is it happening?</b></p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">1 - It is happening because</div> <div style="margin-left: 40px;"> <b>Why is that?</b>  <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">2 - It is happening because</div> <div style="margin-left: 40px;"> <b>Why is that?</b>  <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">3 - It is happening because</div> <div style="margin-left: 40px;"> <b>Why is that?</b>  <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">4 - It is happening because</div> <div style="margin-left: 40px;"> <b>Why is that?</b> ROOT CAUSE  <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">5 - It is happening because</div> </div> </div> </div> </div> <p><b>NOTE: If the final "Why" has no controllable solution, return to the previous "Why."</b></p>		
<b>CORRECTIVE ACTION TO TAKE</b>	<b>CORRECTIVE ACTION</b> <div style="border: 1px solid black; padding: 5px; min-height: 50px;">Describe action here</div>		<b>PARTY RESPONSIBLE</b> <div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> <b>DATE ACTION TO BEGIN</b> <div style="border: 1px solid black; width: 100%; height: 20px; margin-bottom: 5px;"></div> <b>DATE TO COMPLETE</b> <div style="border: 1px solid black; width: 100%; height: 20px;"></div>

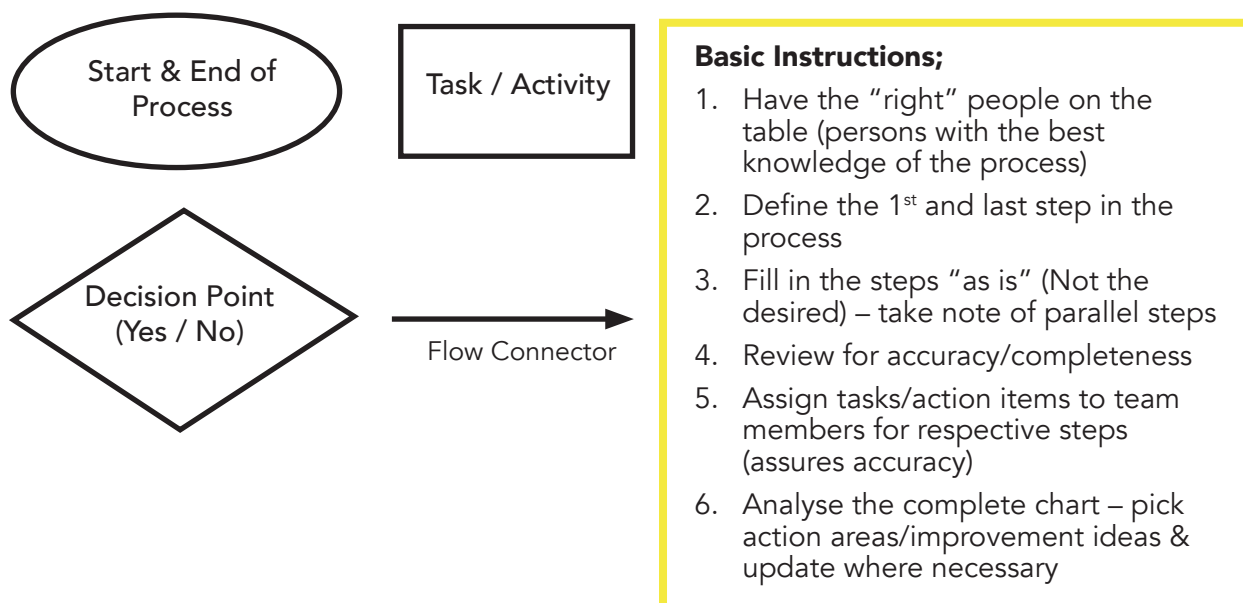
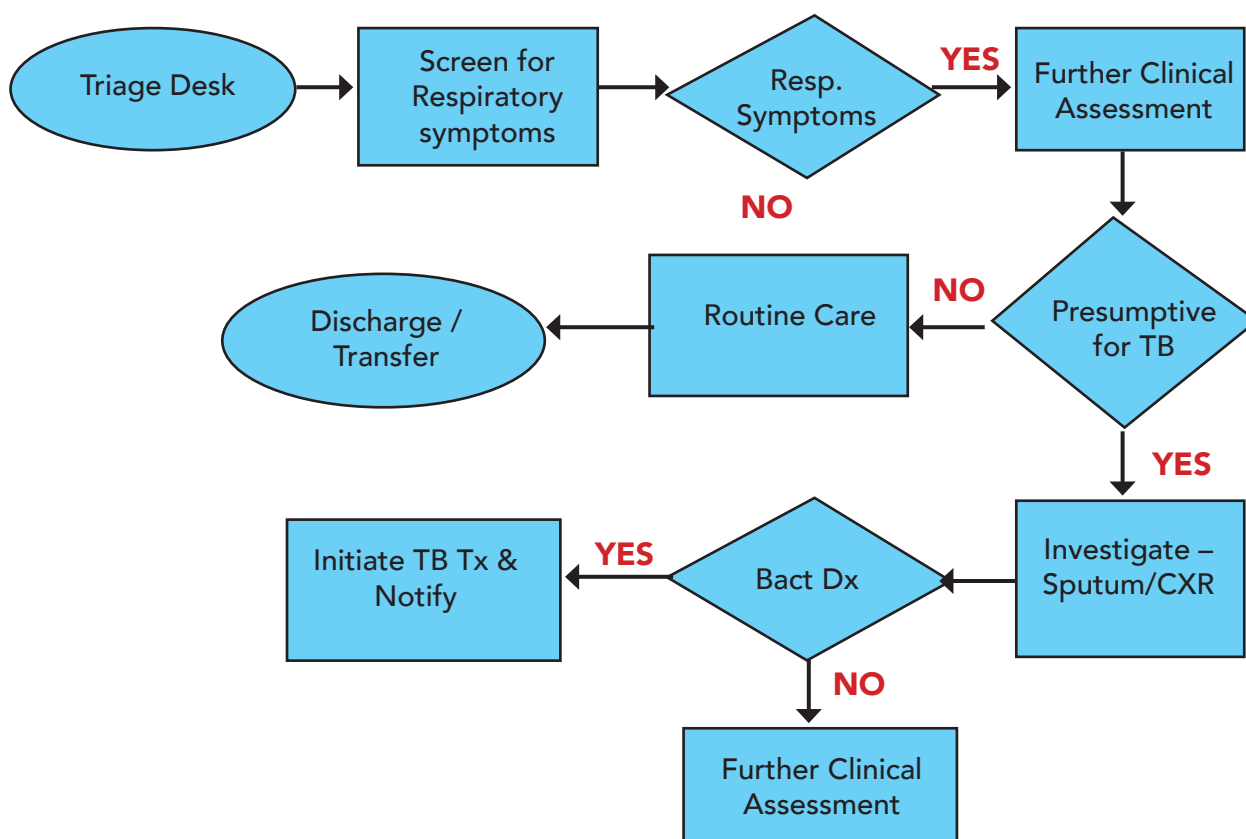


Figure 9: Sample Case Finding Flow Chart





## QI TEAM MEETING TEMPLATE

<b>Facility:</b>	<b>MFL Code:</b>	<b>Department:</b>
<b>WIT Unit:</b>	<b>Date</b>	<b>Venue:</b>

**Members present:**

**Apologies:**

**Agenda: (Sample)**

1. Review previous meeting minutes
2. Status Report on previous action points
3. Discuss current performance data and QI projects progress.
4. Way forward
5. AOB.

**Meeting Minutes: (Main points of discussion during the meeting)**

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**Action Points:**

SN	Tasks	Responsible Party	Due Date	Status
1				
2				
3				

**Ownership:**

**WIT T/L:** ..... **Date:** ..... **Sign:** .....

**WIT Scribe:** ..... **Date:** ..... **Sign:** .....

**WIT Member:** ..... **Date:** ..... **Sign:** .....

**WIT Sponsor:** ..... **Date:** ..... **Sign:** .....

**NB:** Meeting minutes to be shared with all members of the team after each meeting with a copy filed in the WIT document folder.

## QI PROJECT PLANNING TEMPLATE

<b>County/Sub County:</b>	<b>Team Lead:</b>	<b>Team Members:</b>	<b>Project Title: Reducing sputum sample rejection by 30% in the next 3 months</b>
<b>Facility:</b>	<b>Project Champion:</b>		<b>Project Period:</b>
<b>Department:</b>	<b>Project Sponsor:</b>		

Task List – From the Driver Diagram Change Ideas	Process Measure	Goal
1. Patient education		
2. Specimen collection support		
3.		

Task List No.	Change Idea	Tasks to prepare for Test	PDSA	Responsible Person	Timeline (T=Test; I=Implement; S=Spread)											
					Week											
					1	2	3	4	5	6	7	8	9	10	11	12
1	Provide fliers with sputum collection	Avail enough fliers at SDPs	The clinician will hand the flier with a specimen bottle	James & Rita	T	T										

**Figure 10: PDSA Cycle Short Form – Adapted from Institute for Healthcare Improvement**



## MODEL FOR IMPROVEMENT

DATE \_\_\_\_\_

Objective for this PDSA Cycle:

Is this cycle used to develop, test, or implement a change?

What question(s) do we want to answer on this PDSA cycle?

### Plan:

*Plan to answer questions: Who, What, When, Where*

*Plan for collection of data: Who, What, When, Where*

**Predictions (for questions above based on plan):**

### Do:

*Carry out the change or test; Collect data and begin analysis.*

### Study:

*Complete analysis of data;*

*Compare the data to your predictions and summarize the learning*

### Act:

*Are we ready to make a change? Plan for the next cycle*

PDSA\_Short Form

Page 1 of 1

## PDSA Worksheet for Testing Change

**Aim:** (the overall goal you wish to achieve)

Every goal will require multiple smaller tests of change

Describe your first (or next) test of change:	Person responsible	When to be done	Where to be done

### Plan:

List the tasks needed to set up this test of change	Person responsible	When to be done	Where to be done

Predict what will happen when the test is carried out	Measures to determine if prediction succeeds

**Do:** Describe what happened when you ran the test

**Study:** Describe the measured results and how they compared to the predictions

**Act:** Describe what modifications to the plan will be made for the next cycle from what you learned

**Figure 11: QI Project Summary Sheet/A3 Template**

<b>County/Sub County:</b>	<b>Team Lead:</b>	<b>Team Members:</b>	<b>Project Title:</b>
<b>Facility:</b>	<b>Project Champion:</b>		<b>Project Period:</b>
<b>Department:</b>	<b>Project Sponsor:</b>		

**Problem Statement:** Description of the problem and its effect

**Countermeasures:** Action plan and findings of tested solutions (**PDSA-Plans, Do**)

Root Cause	Test of Change	Responsible	Due Date	Findings

**Situation Analysis:** Depiction of the current state, its processes, and problem(s) (**Baseline Run Chart, Pareto Chart**)

**DO:** Description of the change ideas selected for test

**Aim/Goal Statement:** How will we know the project is successful; standard/basis for comparison

**Performance Measures:** Summary of the solutions' results, overall goal success, and any supporting metrics (**Project Run Chart**)

Goal & Metrics	Baseline	Target	Achievement
Goal			
Supporting Metric			
Supporting Data			

**Root Cause Analysis:** Investigation depicting the problems' root causes (**Fish-bone & 5Ys Chart**)

**Act:** Action taken as a result of the Check, and the plan to sustain results (**SOPs Developed as a result of the QI Project**)

## List of Reviewers

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