

Implementing Quality Improvement Strategies: A Quick Reference Guide for Woreda & Health Facility Levels

Root Cause Analysis by Using Fish bone Analysis

Community

- Leadership
 - budget shortage
 - work load
- Culture belief
 - child transferred to other Kebele
- fear of side effects

Health facility related

- Geographical barriers
 - steep and uphill
 - Hard to reach area
- poor commitment
- Loss to follow up
- poor communication in HP SHC
- Poor de-faulter tracing Mechanism
- GAP in KAP

High BtOM DOR

24	< 5 Pneumonia episode	5802
25	Number of Health Post	2150
26	No of Private clinic	04
27	No of Kebeles	01
28		02
29		
30		

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Quality improvement in public health is a problem solving process, which is focused on activities that are responsive to community needs and improving population health.

According to the Ethiopian Federal Ministry of Health in Ethiopia, “Quality and equity are defined together, believing that the two must go hand-in-hand. Quality is defined to be ‘Comprehensive care that is measurably safe, effective, patient-centered, and uniformly delivered in timely way that is affordable to the Ethiopian population and appropriately utilizes resources and services efficiently.’”¹

HOW TO USE THIS GUIDE

This guide is intended for health workers, EPI focal points at the Woreda Health Office (WoHO) and Primary Health Care Unit (PHCU) levels. It provides step-by-step instructions on how to implement various quality improvement (QI) tools and methods and serves as a practical tool for supervisors to use on supportive supervision visits to the health facility level.

The left side of the tool explains each step in detail and the right column provides an example from a quality improvement team (QIT).

¹ Quality Improvement Manual for Community Health Services. Ethiopian Federal Ministry of Health. 2019.

THE SEVEN STEP IMPROVEMENT PROCESS

DESCRIPTION

STEP 1 Identify the problem

Discuss with your colleagues: what problems are you experiencing in your health facility?

How to identify problems?

Choose one or more of the following options to help identify the problem in your woreda/health facility:

1. **Review:** the previous year's data may reveal program gaps/challenges (larger system problems).
2. **Observation:** directly observe health staff providing services to clients. Are there challenges in immunization sessions?
3. **Individual or group discussion:** discussion with colleagues (i.e the QIT) can identify problems with the management and delivery of health services.
4. **Process mapping:** A flow diagram or process map (as shown in the figure to the right) provides a picture of a process or procedure. It serves to clearly define a process, standardize procedures, design a new or modify an existing process and/or point out aspects of a process that are unclear.

Process maps help to identify problems and generate solutions by answering questions such as:

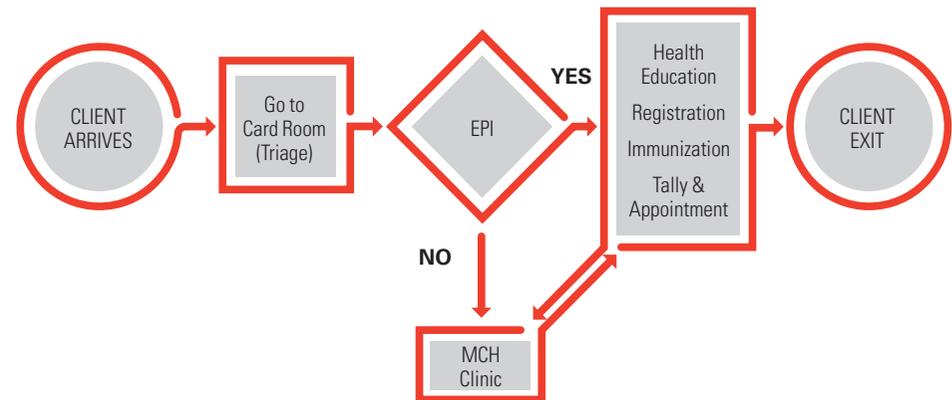
- Is the process standardized, or are the people doing the work in different ways?
- Are steps repeated or out of sequence?
- Are there steps that are unnecessary?
- Are there steps where errors occur frequently?

EXAMPLE

Identify the problem: The Quality Improvement Team (QIT)² identifies problems through a review of program data, observation of an immunization session, process mapping, and/or discussion amongst the health workers:

- Health workers are not following the recommended steps for communicating with caregivers during the vaccination session
- There are challenges with providing outreach due to lack of transport
- HEWs are not receiving regular supportive supervision from their supervisors
- The HEWs do not have a defaulter tracing mechanism in place
- Penta 1-3 dropout rate (DOR) is high

Process map:



²The multi-disciplinary group of individuals that meets regularly to identify and analyze areas in need of improvement, propose solutions, and test change ideas.

STEP 2 Select one prioritized problem

How to prioritize problems?

Choose one or more of the following options to help prioritize the problem in your woreda/health facility:

1. Describe the background of each problem using the following criteria (see example on right):
 - a. Importance of the problem
 - b. Urgency to find a solution
 - c. Cost
 - d. Ease/ability to make a change
2. Consensus method: the QIT agrees to improve one of the listed gaps
3. Majority vote method: when the QIT members do not collectively agree, put it to a vote and prioritize the problem that receives the most votes.

Note: the prioritized problem should be something the QIT can address themselves (at the local level).

Problem statement development

Once the priority problem is selected, the QIT members discuss and agree upon a clear and concise statement of the problem. This statement should not include any reference to potential causes or solutions. It should include data, if available.

The following questions can help in developing a problem statement:

- What is the problem?
- Timeframe (how long has it existed)?
- What are the effects of this problem?

Prioritize the problem

The QIT prioritizes the problems on a scale of 1 to 5:

Criteria	Importance	Urgency	Cost	Ease of change	Total
Communication to caregivers	5	5	5	4	19
Lack of transport for outreach	5	5	3	3	16
No defaulter tracing mechanism	5	5	5	5	20
Health workers are not receiving supportive supervision	5	5	3	5	18

The QIT selects no defaulter tracing mechanism as the problem to be addressed.

Problem statement

Over the last 6-month period, the Penta 1-Penta 3 dropout rate reached 40% in Taitu Health Center (HC). It is four-fold higher than the national target. As a result, children are missing vaccinations and are not protected against vaccine preventable diseases.

STEP 3 Set an Objective

QI topics should have clear aim statements that clearly state what the QIT is trying to accomplish.

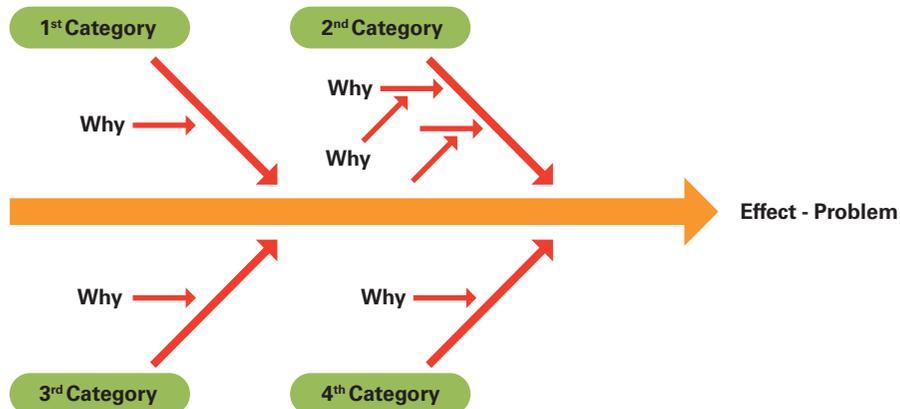
A good objective statement needs to be SMART: Specific, Measureable, Attainable, Relevant, and Time bound.

Example: We, (QIT name), plan to (change you want to make) from (current data point) to (goal data point) by (month and year).

STEP 4 Analyze Root Causes

Root Cause Analysis is an efficient and effective way of understanding a problem. Use one of the following two tools to explore the root causes of a particular problem:

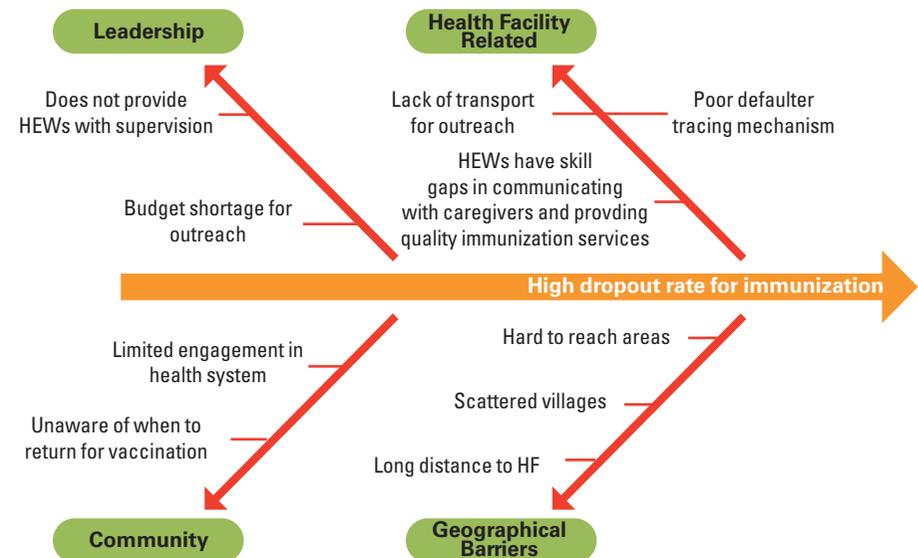
The fishbone diagram is a visualization tool for categorizing the potential causes of a problem in order to identify its root causes. The fishbone to the right analyzes the causes of the problem "high dropout for immunization" with four main categories of potential causes and the specific cause of each main category.



Objective statement

We, Taitu Health Post, plan to inform ALL mothers of when to return for subsequent vaccinations during the immunization session and will establish a defaulter tracing mechanism to determine whether this reduces the Penta 1 to Penta 3 dropout rate from 40% to 10% by March 31, 2011.

Fishbone diagram: Analysis of high dropout rate for immunization in the health facility



The 5 “Why’s” Tool is another QI technique that explores the root causes of a particular problem. It starts by asking why a problem exists. The team uses the answer as the basis for a subsequent “why,” and continues to dig deeper until the root cause is identified.

Describe a problem that is a significant frustration or issue to the group:

Problem Statement: _____

Why does this problem occur? Answer is “A”: _____

Why does “A” occur? Answer is “B”: _____

Why does “B” occur? Answer is “C”: _____

Why does “C” occur? Answer is “D”: _____

Why does “D” occur? Answer is “E”: _____

The 5 “Why’s” Tool

Problem Statement: Children are defaulting on their subsequent immunization doses.

Why are children not returning for their subsequent immunization doses? ?

Parents do not know when to return for follow up doses and are not being reminded by the health system.

Why do the parents not know when to return? ?

Health workers are not providing this information during the first immunization visit AND there is no mechanism to track children who have defaulted.

Why are the health workers not providing this information or tracing defaulters? ?

Health workers are forgetting to provide this information and are not using the community to set up a defaulter tracing mechanism.

Why do health workers forget to provide information to parents on when to return for subsequent visits? ?

They need to build their capacity in communication with caregivers and to establish a defaulter tracing mechanism that engages the community.

Why are health workers not engaging the community? ?

Health workers need to engage community members in the health system and ask for their support in identifying and tracking children who have missed their immunizations

STEP 5 Identify activity/solutions (change ideas)

A change idea (or local solution) is a specific activity or idea that describes what the team will do differently to address a specific problem.

These ideas often come from:

- Experience
- Observations of internal issues
- Hearing about successes achieved elsewhere
- Consulting experts and supervisors
- Creative thinking and invention of new ideas

STEP 6 Test the change using PDSA cycles

The QIT should **list change ideas or activities** that they think will achieve the desired outcome. Once those changes are identified, the team can carry out the Plan Do Study Act cycle (PDSA).

P - Plan

Identify what you think will happen when you implement the change idea. Predict what will happen when the test is carried out. You will measure whether this prediction comes true. Next, develop **an action plan** indicating what needs to be done, who is responsible, and when it should be completed. The details of this plan should include testing the improvements: What data will be collected? How frequently is data collected? Who collects the data? How is data documented? What is the timeline?

Activity/solutions

From the multiple whys and fishbone analysis, the QIT identified the following problems:

- Health workers are not communicating with mothers on when to return for immunizations
- Lack of transport for outreach
- HEWs are not receiving supportive supervision
- No defaulter tracing mechanism

The QIT chooses the following change idea: **to reduce drop out by informing all mothers of when to return for their next immunization and to establish a defaulter tracing mechanism.**

Action Plan

Change Ideas or Activities (What)	Responsible person (Who)	Timeframe (When)	Place (Where)
Create a tickler file system to organize when each child is due for immunizations	HEW	March 1, 2011	Taitu HP
Create a list of children who have defaulted based on tickler file system	HEW	First Monday of each week, in anticipation of immunization session each Wednesday	Taitu HP
Work with community members in the QIT to trace defaulters	HEW and QIT	March 1-31, 2011	Taitu HP catchment area
Vaccinate defaulters; during each immunization session, the HEW will inform the caregiver when to return for the next immunization	HEW	March 1-31, 2011	Outreach, mobile and fixed sites

Prediction: dropout rate will decrease 15% by the end of the first month

D Do (carry out) the plan:

The purpose of this phase is to **implement the action plan**.

- Implement the list of activities listed on “P” part of PDSA
- Document changes, problems, and unexpected observations
- Check data quality and begin data analysis

S Study the results of implementing the plan:

The aim of this phase is to **review** data, successes and challenges faced during implementation.

- **Analyze and compare** the new data to the baseline data to determine whether an improvement was achieved and whether the measures in the objective were met.
- **Review** run charts or line graphs, if using (see run chart below). **Consider** qualitative data and other information.
- **Summarize and reflect** on what was learned.

Do: Conduct the agreed upon activities and collect chosen data:

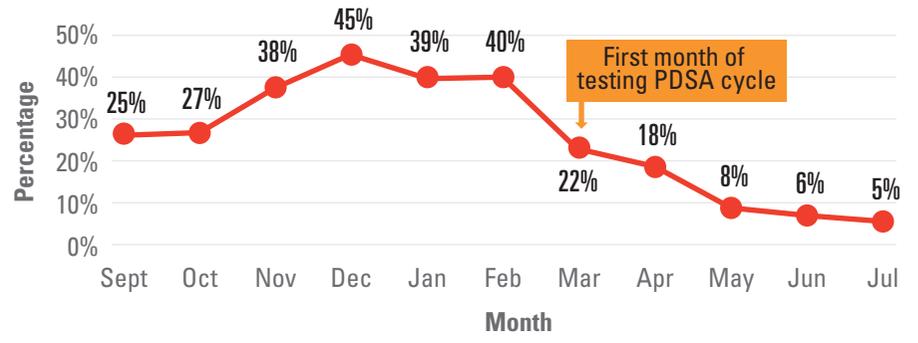
- a. Did Taitu HP establish a tickler file system?
- b. Did Taitu HP use the ticker file system to track children who have defaulted? Look at the number of defaulter children who were identified and received vaccination.
- c. Did HEWs provide information to caregivers on when to return for their child’s next vaccination?

Study: Compare the results with baseline data:

- Results:
 - QIT discussed the idea with their supervisor who helped them create a tickler file system to trace defaulters.
 - Taitu HP used the ticker file system to identify 17 children who defaulted on their immunization during the month of February.
 - Using QIT community members, the 17 defaulter children were identified and brought for immunization services.
 - Taitu HP informed each caregiver when to return for their next vaccination during the immunization session. They recorded on a tally sheet, how many caregivers were told when to return (see tally sheet on the next page).
 - 11 children received penta-3 vaccination, decreasing DOR by 18%

Tally sheet		march 2011	
# infants seen for vaccination		# caregivers informed when to return	
Week 1	###	#	
Week 2	## ##	#	
Week 3	##	#	
Week 4	## ##	## ##	

Run Chart Showing Changes in Penta1-Penta3 Dropout Rate, Taitu HP



STEP 7 Take Action

How will we know that our change idea is working? Look at your data and ask yourself the following questions:

- Did the change idea lead to an improvement?
- Was the improvement significant?
- Did the change produce any unintended effects? Did any other factors affect the outcome?

A Act on the findings – decide:

A change idea (or local solution) is a specific activity or idea that describes what the team will do differently to address a specific problem.

- **Adopt** – Agree to incorporate the change idea into your work if improvements are seen. The QIT should continue to monitor the idea to ensure that improvements are maintained.
- **Adapt** – Modify the change idea or process and test it again; you can also add an additional change idea to strengthen the original idea developed.
- **Abandon** – Stop with the original idea and develop an alternative change idea to test. Start from proposing solutions/change ideas to address the problem.
- **Continue testing** – Further testing on proposed change idea. If the idea looks promising but may need additional time to show results, the QIT can continue the cycle on the same change idea for additional time, starting from the plan-part of the PDSA cycle.

FINAL STEPS Implement and share/scale the idea

Implementing a change means integrating that change into the existing health system. This means updating training, procedures, ensuring resources, etc. to ensure the change idea can continue in the long term.

Act

- Based on analyzing the “study” data, the QIT decided to **continue testing** with the activities for three additional months, and then study again.
- After 3 additional months, they reduced the DOR from 40% to 6% (see run chart below).
- The QIT decided to **adopt** the changes as part of routine activities

Run Chart Showing Changes in Penta1-Penta3 Dropout Rate, Taitu HP



- The QIT documents the process and raises the the QIT documents and shares the experience with the WoHO with the Woreda Health Office during review meetings, supervision visits, or other opportunities to share information and lessons learned.
- The Woreda Health Office takes concrete steps to incorporate local solution into routine processes across health facilities.