Quality Improvement Coaching Guide for Middle Level Managers

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### Acronyms

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<th>Description</th>
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<td>ART</td>
<td>Anti-Retroviral Therapy</td>
</tr>
<tr>
<td>ASSIST</td>
<td>USAID Applying Science to Strengthen and Improve Systems Project</td>
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<tr>
<td>CHMT</td>
<td>Council Health Management Team</td>
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<tr>
<td>CTC</td>
<td>Care and Treatment Clinic</td>
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<tr>
<td>DMO</td>
<td>District Medical Officer</td>
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<tr>
<td>DED</td>
<td>District Executive Director</td>
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<tr>
<td>DNA-PCR</td>
<td>Deoxyribonucleic Acid- Polymerase Chain Reaction</td>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>HJFMRI</td>
<td>Henry Jackson Foundation Medical Research Institute</td>
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<td>HQPI</td>
<td>HODO Quality and Performance Improvement</td>
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<tr>
<td>HVL</td>
<td>HIV Viral Load</td>
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<tr>
<td>IHI</td>
<td>Institute for Healthcare Improvement</td>
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<tr>
<td>MFI</td>
<td>Model for Improvement</td>
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<td>MoHCDGEC</td>
<td>Ministry of Health Community Development Gender Elderly and Children</td>
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<tr>
<td>PDSA Cycle</td>
<td>Plan Do Study Act Cycle</td>
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<tr>
<td>PEPFAR</td>
<td>President's Emergency Plan for AIDS Relief</td>
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<td>PORALG</td>
<td>President's Office Regional Administration and Local Government</td>
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<tr>
<td>QI</td>
<td>Quality Improvement</td>
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<tr>
<td>QIT</td>
<td>Quality Improvement Team</td>
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<tr>
<td>RCH</td>
<td>Reproductive and Child Health</td>
</tr>
<tr>
<td>RHMT</td>
<td>Regional Health Management Team</td>
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<tr>
<td>SES</td>
<td>Standard Evaluation System</td>
</tr>
<tr>
<td>SMART</td>
<td>Specific Measurable Achievable Realistic and Time bound</td>
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<td>SOP</td>
<td>Standard Operating Procedures</td>
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<tr>
<td>TWG</td>
<td>Technical Working Group</td>
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<td>VL</td>
<td>Viral Load</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Definitions of Terms

**Adult Learning**: The art and science of helping adults to learn, which uses approaches that are goal oriented, problem-based, self-directed, experience based and collaborative. It emphasizes the value of the process of learning rather than the outcome and equality between facilitator and learner.

**Change Package**: An evidence-based set of critical practical process changes that that have been successful at improving an identified process of care.

**Coaching**: The International Coach Federation defines coaching as “partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential.” The coach is not necessarily the subject matter expert of the client’s coaching topic. Coaching can also be defined as a form of development in which a person called a coach supports a learner or client in achieving a specific personal or professional goal by providing training and guidance.

**Common Cause Variation**: Also called natural patterns is variation resulting from factors in a system that may or may not be known, but the final impact they have on your output is predictable and controllable.

**Consulting**: Giving expert advice to people working in a professional or technical field. A consultant is an expert who is called on for professional or technical advice or opinions. They are relied on to understand the problem and present solutions. Unlike coaching, in consulting the answers come from the client.

**Counseling**: A professional guidance of the individual by utilizing psychological methods in helping clients identify goals and potential solutions to problems which cause emotional disorder; seek to improve communication and coping skills; strengthen self-esteem; and promote behavior change and optimal mental health. There is no clear line between coaching and counseling. Counselors are trained to diagnose and help client with emotional problems, the past or dysfunction while the coach’s domain is future oriented – what does the client want? And then coaching the client to get there.

**Flow Chart**: A graphic representation of a series of activities/steps describing a process being studied. It involves mapping out the steps of a process and illustrating their linkages using a flow diagram and relies on the use of symbols to illustrate what happens in each step of the process.

**Learning Platforms**: Mostly virtual sites or applications/software containing information, data, and documents used for learning and sharing of knowledge in order to develop further knowledge and skills.

**Learning Session**: A meeting for selected team members and technical and quality improvement experts to learn key changes in the topic area and quality improvement techniques, and share their successful experiences implementing changes and overcoming obstacles. Teams bring knowledge and materials from these meetings back to their other team members to start making changes.

**Mentoring**: A professional relationship in which an experienced person (mentor) assist another (mentee) in developing specific skills and knowledge that will enhance the less experienced person’s professional and personal growth. The mentor is a subject matter expert, shares their experience while bringing the “mentee” up the ranks.

**Middle Level Managers**: In the Tanzanian health context, these are the members of Regional and Council Health Management Teams including members of technical committees at that level.

**The Model for Improvement**: A framework for developing, testing and implementing changes leading to improvement. It is based on scientific methods and moderates the impulse to take immediate action with the wisdom of careful study. The framework includes three key questions to answer before testing an improvement concept, a process for testing change ideas and the PDSA cycle.

The three key questions are:

1. What are we trying to accomplish? (The aim statement).
2. How will we know if the change is an improvement? What measures of success will we use? (The indicators).

3. What changes can we make that will result in improvement? (The change concepts to be tested).

The PDSA cycle

Plan – the change to be tested or implemented

Do – carry out the test or change

Study – based on the measurable outcomes agreed before starting out, collect data before and after the change and reflect on the impact of the change and what was learned

Act – plan the next change cycle or full implementation

**Plan Do Study and Act Cycle:** The PDSA cycle is a systematic process for gaining valuable learning and knowledge for the continual improvement of a product, process, or service. PDSA is a simple way to enable QI teams to answer the three fundamental questions when they introduce a new activity, using an effective method to learn and assess changes in their own setting.

**Process Analysis:** A method of gaining a deeper understanding of potential problems in a process by conducting a series of steps designed to identify areas for improvement using a flow chart.

**Quality Improvement:** A systematic process of assessing performance of health system and its services, identify gaps and causes, and introducing changes or measures to improve quality and monitoring the impact.

**Quality in Health Care:** The WHO definition of quality of care is “the extent to which health care services provided to individuals and patient populations improve desired health outcomes.” It suggests that a health system should seek to make improvements in nine areas or dimensions of quality which are Technical performance; Effectiveness of care; Efficiency of service delivery; Safety and Access to services. Others include Interpersonal relations; Continuity of services; Physical infrastructure and comfort and Choice of services.

**Root Cause Analysis:** This is a structured way of assisting teams to identify the primary causes of a process or system failure. By knowing the primary causes of an unfavorable outcome (effect) along a chain of causes, teams can design interventions likely to sustainably address the causes.

**Run Chart:** A graph of data over time. Also known as a time series chart. It is a simple and effective tool to help determine whether the changes being made are leading to improvement. Run charts help improvement teams formulate aims by depicting how well or poorly a process is performing, understand the value of a particular change, and begin to distinguish between common and special causes of variation.

**Special Cause Variation:** Also called unusual variation, occurs when something out of the ordinary, not previously observed happens in a process.

**Systematic Evaluation System:** A set of four tools designed to help teams and their coaches to use to facilitate knowledge management processes. The tools include a QI team-level journal, a QI team-level synthesis form, and two databases for indicator data results; one for QI teams and the other for the collaborative level. These tools were created to help support the collaborative learning system by which teams examine which of their changes were most effective and sharing this learning with other teams in the collaborative.
I. INTRODUCTION

Efforts to improve quality of health services in Tanzania can be traced back to independence where “traditional methods” such as training, licensure, and reinforcing adherence to standards have been used with limited efficiency. Introduction and use of modern improvement methods to address complex and recurring performance issues that have multiple causes and require involvement of many stakeholders only started in the last two decades and have shown remarkable successes. [1] To achieve this, building organizational capacity for continuous improvement and ongoing support to improvement teams is key. For instance, in-country experience from implementation of various quality improvement (QI) projects shows that few QI teams manage to translate knowledge obtained from QI training to address quality challenges in their facilities; the majority need support all the way from initiating an improvement effort and afterwards through continuous coaching, mentoring, counseling, and consultation.

A. Coaching in Quality Improvement

QI coaching is an approach to supporting improvements in healthcare facilities that focuses on building organizational capacity for continuous improvement. [2] Coaching in QI consists of supporting individuals and teams involved in improvement efforts to apply their technical knowledge and know-how to improve compliance with the norms, so that processes will run more smoothly and efficiently. The improvement coach aims at supporting QI teams on quarterly basis to unleash their potential by developing their knowledge and skills to achieve group or individual goals.

B. Why Coaching is Important for Middle Level Managers

Middle level managers hold a unique position in the health system serving as a bridge between senior leadership and frontline staff and thus may hold a pivotal function in the implementation of QI interventions. [3] W. Edward Deming in his book ‘Out of Crisis’ predicts that 85% of quality problems are due to lack of effective management and leadership. [4] In this context, coaching by health managers creates a strong potential for knowledge and skills transfer to the frontline health providers.

In the Tanzanian context, middle level managers are the members of Regional and Council Health Management Teams (RHMTs and CHMTs) including all members of technical committees at regional and council levels. These managers can influence the behavior of frontline staff as they frequently interact with them during administrative and technical supervisions. In this regard they may either act as facilitators or barriers in the implementation of new QI initiatives. [5] Their influence stems from their ability to operationally link senior leadership (both from the Ministry of Health, Community Development, Gender, Elderly, and Children [MoHCDGEC] and President's Office Regional Administration and Local Government [PORALG]) and relevant stakeholders with frontline staff. Thus, they facilitate implementation by removing gaps in information and knowledge as well as advocating for needed resources amongst these two groups. [6]

The RHMTs and CHMTs are better placed to lead QI initiatives at regional and council levels respectively. However, in practice they are pulled to several different directions rendering them ineffective in their central role of coordinating improvement efforts. On the other hand, they are expected to leverage resources and authority for QI implementation as well as broker attention for QI from frontline workers and the regional/district executives. The inadequate attention to these tasks has led to failure to scale up best practices resulting from QI initiatives by Regional and Council executives and poor attention to quality programming by the executives during allocation of resources.

Recognizing the potential that this group of managers has in institutionalizing QI in the health sector against the existing gaps in care, we are proposing to mobilize them to join the improvement movement. The strategy is to empower them with improvement skills and provide them with tools for supporting improvement in terms of the Coaching Guide and Checklist.
C. Purpose of the QI Coaching Guide

This guide was developed to provide a quick reference for QI coaches in terms of roles and responsibilities of a coach; how to organize a coaching session and focus on processes; and tools that coaches must master in order to effectively support quality improvement teams. It will serve as a useful tool for middle level managers assuming coaching roles on top of other tasks assigned to them. The guide provides tips on how to better understand the development of QI teams (QIT) and provide needed support for them to run smoothly. It will also serve as a quick reference (pocket guide) containing simplified ways and methods of understanding different QI concepts but does not attempt to cover the QI training requirements. The guide uses illustrations, inspirational quotes, field experiences, and step-by-step descriptions of how to overcome real-life scenarios encountered during coaching visits.

D. Development of this Coaching Guide

The USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project in Tanzania, through PEPFAR funding, in collaboration with RHMTs, CHMTs and regional implementing partners for Ruvuma, Mbeya, and Songwe regions prepared this simple guide for QI coaches. The process involved systematic documentation of field experiences by coaches; particularly areas where QI coaches encounter difficulties as they provide support to QI teams. Based on this, a checklist was developed to systematically guide QI coaches as they interact with QI teams during initial and coaching subsequent visits. The need to have a coaching guide was strongly felt by all QI coaches to clarify roles and responsibilities of a coach, how to organize a coaching session, and to understand tools and processes that coaches must master in order to effectively support the work of QITs.

Field experiences documented by a team of QI experts from the USAID ASSIST Project and HODO Quality and Performance Improvement (HQPI) Associates as they supported Mbeya, Songwe, and Ruvuma coaches formed the basis for the development of this guide. To consolidate field findings, a thorough literature review was conducted followed by a series of Technical Working Group (TWG) workshops involving RHMT, CHMT, Technical staff from Henry Jackson Foundation Medical Research Institute (HJFMRI) to agree on the outline and contents of the guide.

E. Intended Users of this Guide

This guide is for the middle level managers, including members of health and social welfare technical committees at regional and council levels, some members of the RHMT and CHMT governance committees, technical resource person from different hospitals, and technical staff working with implementing partners.

II. The Quality Improvement Process

The Model for Improvement (MFI) is the most commonly used QI approach in health care that you, as a coach, should be able to explain and demonstrate to QI teams. The MFI was developed by Associates in Process Improvement.

The MFI uses a rapid cycle process called Plan Do Study Act (PDSA) cycles to test the effects of small changes, make them, and ultimately spread the effective changes (Figure 1). The MFI begins by asking three simple questions:

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in improvement?

QITs then introduce and test changes designed to achieve the improvement aims using successive PDSA cycles until they arrive on a change they believe will produce the desired results and is ready for implementation and spread. This process is shown in Figure 1 below.
A coach should be prepared to teach QI teams how to use the MFI, and specifically, how to carry out repetitive and systematic processes for testing and then implementing improvements, the PDSA improvement cycles.

- Your goal will be to instill these as “habits” in your QI teams. Every improvement activity QITs decide to undertake should be an opportunity to encourage them to take a systematic and data-driven approach to implementing, testing, and then sustaining the change.

Shift focus from individuals to processes (an essential part of introducing a culture of quality in QITs).

- QITs often get stuck in finding individuals to blame for less than optimal outcomes, an approach that can produce a punitive and counter-productive work environment.

Use the MFI and the basic tool of PDSA cycles to assist QI teams in making a shift to thinking about their systems and processes and how they can be modified to produce better outcomes.

- Too often QITs go “charging off in all directions” in an enthusiastic effort to improve. But without discipline and the ability to assess the real effects of the improvements, these enthusiastic efforts can yield little in terms of real outcomes.

- The MFI and PDSA cycles are a simple and effective tool for developing the discipline of testing and developing changes among QITs.

- Copies of any PDSA cycles that are underway or completed will enable the QIT to easily review its progress.

Encourage QI teams to go through the discipline of completing the Standard Evaluation System (SES) form which is based on the MFI.

- The mere act of completing the SES form helps reinforce the idea and build the internal discipline and skill of using a systematic process for testing and adopting changes as a routine.

Learn how to introduce the MFI to your QI teams.

- This can be difficult in a team that is enthusiastic about making improvements or where buy-in to improvement efforts is low.

- The enthusiastic QI team may lack patience for systematic improvement work and may have difficulty instituting the discipline needed to use the PDSA process.

- QI teams where buy-in is low may lack the commitment and associated energy needed to engage in a systematic approach to change.

**Use of the Model for Improvement**
• To use the MFI, first you will need to help your team identify their “aims” or goals for improvement. Often this will require you to listen “between the lines” and simplify the discussion for the team.

• Large and ambitious goals are excellent for inspiration and rallying troops, but experience shows that the actual work of improvement can be unexciting and tedious and involve small changes, tested, and then spread, in sequence until the goal is attained.

• Because the MFI and PDSA processes have been taught to QI teams across the country for several years now, you may encounter QI teams that have been exposed to MFI and PDSA approach before. They will need to be skilled in navigating their reactions to processes they may have used with limited success in the past.

• While there can be barriers to getting QI teams to use the MFI and PDSA cycles in their improvement work, it is a “habit” that is very helpful for teams to develop.

• Without some type of systematic approach, improvement work can become chaotic, ineffective, and unlikely to produce desired outcomes.

A. Developing QI Coaches

QI coaches are specially trained individuals who work with health facility teams to make meaningful changes designed to improve patients’ outcomes. [8] A good coach therefore will help improvement teams understand their interferences and support them in working out strategies to overcome the gaps identified. The coach does not focus on solving problems but concentrates on developing problem-solving capacities.

QI coaches develop from those who have received QI training, have acquired deeper knowledge of QI theory and practice, and have undertaken several QI projects. Experience in implementing QI at the facility level gives the coach important insights into operational issues and problems that a particular facility QI team might face. Nevertheless, individuals become good QI coaches as they coach more and more teams where they face new challenges and learn how to overcome them (see Figure 2).

Figure 2: Becoming a QI coach is a process

<table>
<thead>
<tr>
<th>Training on fundamental concepts and principles of QI</th>
<th>Mentoring on how to conduct QI coaching by QI expert</th>
<th>Collaborative peer learning on designing, planning and management of QI process. Coaching with minimum support</th>
<th>Perform QI coaching alone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ataining basic QI knowledge</td>
<td>Initial Skill Development</td>
<td>Advanced Skill Development</td>
<td>Mastery</td>
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Becoming a QI Coaching Master is like a developmental milestone.
B. Responsibilities of a QI Coach

1. Provides QI support in the form of training, facilitation of improvement projects, and ad hoc consultation to QITs.
2. Guides teams in the identification of improvement aims and development of improvement objectives.
3. Advocates for teamwork and results and helps the team address system issues.
4. Visits improvement teams, preferably once a month. Assesses their performance, reviews team SES journals, and provides constructive feedback. Conducts data quality audits for improvement indicators.
5. Help teams to interpret run charts and conduct root cause analysis and process analysis for problematic areas.
6. Helps teams to document QI activities in SES journal and other tools used by teams.
7. Helps QITs to document and scale up best practices.
8. Identifies challenges and implementation barriers to the QI work and helps teams in addressing them as well as advocates for needed resources from higher levels.
9. Organizes learning sessions and prepares teams to present their improvement work with PowerPoint presentations and storyboards.
10. Maintains communication with teams via emails, calls, WhatsApp platforms.
11. Spreads best practices and communicates lessons learned to other teams.

C. Key Skills for Effective Coaching

There are several descriptions, but most authors tend to group key skills in three categories:

1. Understanding QI models, principles, and tools.
2. Ability to organize and plan.
3. Ability to facilitate teamwork through good interpersonal communication and facilitation skills.

These can be further fine-tuned to 4 action skills:

1. Active Listening: Listening, Listening and Listening but keep focus (Figure 3).
2. Asking Discovering Questions: Ask open-ended questions to probe, how to avoid ‘telling’, how to confirm understanding.
4. Acknowledging and Celebrating: through encouragement, support, and motivation.
D. Principles of Coaching

Good coaching is client-focused. Clients for a QI coach are the QIT members. During coaching the coach should observe the following principles:

1. The client is resourceful – aware of the facts, ready to act and has the resource.
2. The coach’s role is to help the client to develop this resourcefulness.
3. The coach addresses the whole person: consider the clients’ past, future, work and personal issues.
4. The client sets the agenda: they feel empowered and motivated and take ownership of the solutions.
5. Coaches and clients are equal partners in learning: relationship is based on trust and respect.
6. Coaching is about change and action.

Things to avoid during coaching

Avoid giving solutions: Help persons being coached improve their own thinking, generate ideas, judgment, and skill so that they can eventually succeed on their own. Such practice will increase buy-in, commitment, and ownership of the ideas and action. By jumping in with the solution, the coach does not support the staff to develop the ability to solve problems on their own; after all, the coach might happen to have outdated facts.

Avoid blame and criticism: This can undermine staff’s self-confidence. [9] Bruce Grimley in his publication The Little Book of Big Coaching Models, described the 7Cs: variables that if addressed, the person being coached will achieve his/her goals. [10] Grimley suggests that good coaching addresses a number of variables that as shown in Figure 4.
Grimley suggests that his 7Cs coaching model will ensure that by the end of the coaching session, the person being coached:

- Is clear about objectives they are working towards;
- Believes that the climate is right to tackle these objectives;
- Has the capability to achieve an effective outcome;
- Is congruent and acts in a manner that is consistent with their feelings;
- Is confident that objectives can be achieved;
- Is ready and committed to contribute towards achieving the objective; and
- Effective communication is a fundamental principle in the improvement process.

**E. Coaching is About Adult Learning**

Many theories of adult learning were conceived by Malcolm Knowles. Adult learning is the art and science of helping adults to learn, which uses approaches that are problem-based, self-directed, experience-based, and collaborative. Generally, adults need to know why they need to learn, learn experientially, approach learning as problem-solving, learn best when the topic is of immediate value to their work, and need internal motivation to learn. Adults learn best when the learning or educational process is interactive and when the existing expertise and experience of the learner is recognized and used as a resource in the training (see **Figure 5**).
F. Coaching Checklist

The QI coaching checklist (see Annex A) has been developed to remind you of the critical areas to be looked at during coaching exercise in systematic and covering all selected indicators. In every coaching visit, make use of the coaching checklist. The checklist is for the coach to use during coaching visit and not for QI teams at facility; do not keep a copy of the checklist at the facility.

G. Preparations before a Coaching Session

Every coaching visit can be carried out and analyzed using the PDSA cycle for internalization of the approach and thoroughness of the process. For every coaching session a coach has to:

**Plan:** Prepare for coaching session - reflect back on the previous session, go through the previous coaching report, get oriented of the situation of the QI team to be visited.

**Do:** Hold coaching session and immediately after

**Study:** Reflect on the coaching session and learn from it.

**Act:** Work on things not done properly, and plan for next coaching session cycle.

For effective coaching, the following steps have to be looked at ahead of the coaching visit.

1. **Planning for the session**

Before any coaching session it is critical that a coach spend time to plan. Planning helps allocate limited resources like staff, materials, and time in a systematic manner.

What to do (note that the following steps are not in chronological order):

- Review previous coaching/learning session/supervision reports and analyze available data and documents to identify team’s strengths, weaknesses, and needs for technical assistance.
- Identify priority sites for coaching and develop a list with movement plan.
- Develop an agenda appropriate to the coaching objectives and activities (e.g., how to conduct process analysis) and expected deliverables for the visit; clearly listing the issues to be addressed (to be explained, discussed, given out and/or collected) based on each site’s situation from the previous coaching/supervision visit reports. Share the agenda with the team in advance.
- Seek approval for the visit if session will take place away from your duty station and make arrangement for needed logistics such as concept note and transport.
- Prepare the documents and materials required for the visit including data collection tools like forms, copies of the SES journals, prior reports, coaching agenda/objectives, protocols, guidelines, training materials, job aids, coaching checklist, etc.
- The coaching checklist should be your working tool.
2. Organizing the coaching team

In some instances, two or more coaches may team up to support a high-volume facility with a big QIT or when a team needs support in different areas of expertise; for instance, when there is a need for coaching in clinical and laboratory areas of expertise, then a clinician and laboratory technician may team up for a coaching visit.

| ✓ Identify a coaching team to be involved in the coaching. |
| ✓ Meet with other coaches who will be part of the exercise to agree on roles and responsibilities of each coach. |
| ✓ Share agenda, objectives and deliverables of the coaching session. |
| ✓ Sort out logistic issues like transport and tools needed. |
| ✓ If coaches are from different working stations, arrange to meet a day before the coaching exercise preferably near or at the site to be supported. |
| ✓ Use that opportunity to touch base with the host. |

3. Communication for the visit

Effective communication before, during, and after coaching sessions is key for productive coaching visits. Effective communication requires selecting an appropriate communication channel to send your message.

| ✓ Agree on and timely communicate on visit date and time with the site to be visited. Consider the day of the week and times of the day—usually the afternoon—when the exercise will not disrupt service delivery activities. |
| ✓ Make use of multiple communication channels while ensuring that communication protocol is observed to avoid misunderstanding. Channels of communication include letters, emails, fax, and telephone calls. |
| ✓ N.B: A telephone call alone is not an official means of informing decisive decisions as it leaves no record that communication has been made. A telephone call is good for following up on what has been communicated through official means of communication (i.e., a letter). |

H. Running the Coaching Session

1. Setting the Coaching Environment

Before the actual coaching, it is important to spend some time establishing a conducive environment.
2. Checking Composition Teamwork and Functionality of a QI team

The most important requirement is not team size, but diversity of team members because improvement work invariably involves work across multiple systems and disciplines within a facility. Therefore, the team should include a diverse group of individuals who have different roles and perspectives on the patient care or other processes under consideration.

Characteristics of an effective team/teamwork

- Include individuals representing all areas of the practice that will be affected by the proposed improvement
- Each team member has clear roles and responsibilities
- Awareness of each other’s needs
- Appreciation and recognition of individual efforts and contribution
- Trusting team climate
- Effective communication among team members
- Meets regularly

Functions of improvement teams

1. Identify and analyze health quality gaps (areas for improvement)
2. Prioritize and set improvement aims/objectives
3. Develop and test small changes that have impact in the improvement process
4. Identify/solicit resources to address the identified gaps
5. Document and perform simple analysis in monitoring improvement over time
6. Share best practices with other improvement teams

What is a non-functional team?

A non-functional team is one that is

- Not meeting regularly
- Has no improvement plan
- Is not monitoring effects of the introduced changes (incomplete PDSA cycle).

“Finding good players is easy. Getting them to play as a team is another story”
- Casey Stengel
Scenario 1: You visit a facility and you find that a QI team is not formed, or it has been formed but it is not functioning well. To assess presence of QI team and its functionality, refer to the coaching checklist. What to do when there is no existing QIT:

✓ Probe the reason for not having a QIT.

✓ Explain to the facility management that it is a requirement to have a QI team (make reference to MoHCDGEC guidelines such as the National Quality Improvement Strategic Plan, Tanzania Quality Improvement Framework and Comprehensive Supportive Supervision Guidelines for policy guidance on QITs formation and composition).

✓ Ask the management to form a QI team; emphasize inclusion of representatives from all departments in the facility.

✓ Guide the management to select team leadership comprised of the chairperson, secretary, and data focal person.

✓ Guide the team in assigning roles and responsibilities to each team member and keep the list of QI team members and assigned responsibilities securely in the facility QI file.

✓ Below are key roles and responsibilities of team leader:
  o Keep the team focused on the aim and objectives
  o Plan and organize team meetings
  o Identify team needs and request additional support
  o Assign responsibilities to team members
  o Liaise with the facility management team
  o Represent team during learning sessions
  o Roles and responsibilities of team secretary
  o Document meeting minutes

✓ Some roles and responsibilities of team members include collecting baseline information, generating ideas of changes, developing implementation plans for changes, implementing changes and monitoring their effect, and providing ideas for the change package during learning sessions, where teams come face-to-face with QI experts and content experts to learn about improvement methods, tools and share their results and learn more about the changes.

✓ Insist that the core function of the QI team is to oversee design, implementation and monitoring of QI interventions at the facility and in order to execute this function the team should meet regularly for planning and gaining feedback of agreed actions.

✓ Support the team in identifying quality gaps, prioritization, analyzing the root cause of the problem, developing, testing changes and monitoring the effects of the change—whether it resulted in improvement or not—and acting accordingly.

✓ Help the team to prepare a meeting schedule for at least 6 months.

✓ Identify needs for additional technical assistance and materials (e.g. find out how many QI team members have attended formal QI training, received QI orientation). Based on identified needs make plans for capacity building and coaching the team in improvement science, methods, and tools during quarterly learning sessions and through subsequent monthly coaching visits.
Scenario 2: You visit a facility that has QIT members who underwent 1 or more QI trainings or have received orientation. You are aware or you have been briefed of a presence of a QIT.

What to do in facility with a QIT? In this situation assess the performance of the QIT using questions below and provide recommendations as appropriate:

✓ QI team meetings are scheduled, and leadership is present.
✓ QI team has started measurement, data collection, analysis of system/processes and data is collected consistently with no errors.
✓ Testing and implementation continues (e.g., first PDSA has begun).
✓ PDSA cycle is completed according to plan.
✓ PDSA cycle has been completed and the improvement objective is achieved.
✓ Team started to document implementation using the SES journal.
✓ QI indicators are graphically displayed, and the SES journal is updated accordingly.
✓ There is anecdotal evidence of improvement: e.g., 20% of improvement objectives are achieved or each performance indicator is showing 20% improvement.
✓ Improvement results are close to the target.
✓ Monitoring data shows that the improvement has been sustained since the last coaching visit.
✓ Organizational changes have been made to accommodate improvements and make changes permanent.
✓ The leadership is aware of QI activities and can describe current activities.

What to do in place of non-functioning team (Members have never attended any QI training or orientation):

✓ In this case the focus is on developing QI skills across the facility team and promoting facility level leadership to guide the process.
✓ Sensitize the facility leadership in continuous QI, change management concepts, and the role of leadership in effecting changes.
✓ Convene a joint meeting between the facility leadership and the facility staff.
✓ Optimize communication between facility leadership and the QIT who are frontline implementers. Advocate for QIT members to communicate their implementation challenges and needs to the facility leadership.
✓ Briefly introduce the concept of QI and team/teamwork and its advantages.
✓ Engage the facility leadership to form a QIT; emphasize inclusion of representatives from all departments in the facility and help team members clarify roles, tasks, and expectations.
✓ Teach skills for scheduling and running effective QI meetings.
✓ Conduct an initial QI orientation training, including step by step demonstration on how to formulate an objective, process analysis and introducing changes develop a work plan using SES journal (from data collection, drawing the run chart). Give assignment for the team to prepare more work plans on their own.
✓ Explain about the importance of having a team QI file and teach them how to organize minutes of meetings, SES journals for each QI indicator, various forms and checklists, changes implemented by the team (explaining the process), action plans, letters and visit reports from the higher level, monitoring reports from the national or regional levels, presentations made at learning sessions and related reports.
✓ Check-in with leadership regularly and often (in-person, through phone calls and emails) to ensure engagement and support.
Conflict Resolution

I. Conflict Resolution

Conflict resolution is conceptualized as the methods and processes involved in facilitating the peaceful ending of conflict and retribution.

The coach or team leader should resolve group conflicts by actively communicating information about their conflicting motives to the rest of the group (e.g., intentions; reasons for holding certain belief) and by engaging in collective negotiations.

Steps to Conflict Resolution [13]

- Identify the source of the conflict – Give both parties the chance to share their side of story.
- Look beyond the incident – Ask them to look beyond the triggering incident to see the real cause.
- Request solutions – Ask each party to identify how the situation could be changed.

Scenario 3: You visit a facility with QIT that is not meeting, or the team meets but not regularly. To assess if the QIT is meeting and determine effectiveness of the QI meeting, refer to the coaching checklist questions.

What to do:

- Ask and share the challenge with the facility management and explain the purposes for regular QIT meetings with reference to MoHCDGEC guidelines, such as National Supportive Supervision Guideline for Quality Health Services (see below purposes of QI meetings). [11, 12]
- Assist the team in planning for QI meetings and the need for having at least 6 a months’ meeting schedule displayed in every department and on the facility notice board.
- Share a copy of the meeting schedule with facility leadership to help facilitate the meetings to happen.
- Ask the team secretary to prepare for each meeting ahead of time by sharing agenda ahead of the next meeting, specifying venue and time for the meeting.
- Review the agenda at the beginning of each meeting, giving participants a chance to understand all proposed major topics, change them and accept them. Collect additional agenda topics from your participants.
- Ask team leadership to keep the meeting short. One hour is enough for effective regular meetings. Long meetings tend to discourage members to attend subsequent meetings. If the planned time on the agenda is getting out of hand, present it to the group and ask for their input as to a resolution.
- Ask team leaders to stick to the improvement agenda and discourage discussions out of the agreed agenda.
- Provide a guide for writing minutes and keep all the minutes /documentation into the QI file (see Annex C).
• Identify solutions both disputants can support – Point out the merit of various ideas not only for each other’s perspective but in terms of the benefits to the organization.

• Agreement – Develop agreement that works for all.

**Scenario 4:** You visit a facility with a team that has conflicts. What to do:

- Involve facility management on conflict management.
- Collect enough information on the root cause of the conflict.
- Discuss with the facility management and team leader on the existing conflict and involve them in all steps of conflict management.
- Remind the team that every team must go through five stages of team development and storming is the second step. In this step members shows hostility and resist control by the group leader. This step is transient and soon the team will become cool, performing and achieving and cerebrating achievements (**Figure 6**).

**Field Experience: Conflict resolution**

At MB hospital in the Southern Highlands, members of the QIT had a conflict and refused to attend QI meetings and be involved in any QI activities. Complaints were that some members received more privileges when opportunities such as trainings arise. When the ASSIST coach visited the facility, she was informed of the situation by the team lead. She shared the challenge with the hospital management and together they called all the members to a meeting where in open discussion every member of the team freely explained his or her concern. They complained how the facility in-charge favored some staff and was not giving the opportunity to those who are always doing the hard work. After a long discussion it was agreed to introduce a tracking register for training, and every member should be given an opportunity for competency development. After that the team had a cup of coffee together, and they were very happy. Since then the team became very active: data could be collected on time, tested changes were tangible, and there was improvement on agreed QI objectives.

**Figure 6: Stages of team development** (adapted from Bruce Turkman’s Team Development Model 1965)
J. Analyzing Processes of Care

Care provided to patients is in the form of step-by-step processes based on evidence-based guidelines as recommended by professional bodies and regulatory authorities; hence, efforts to improve the quality of care focus on improving and measuring processes.

Processes are sequences of actions designed to transform inputs into outputs. For instance, baking a cake will involve taking various ingredients (inputs) and producing the cake (output) using the recipe (process). Similarly, the steps required to ascertain a client’s HIV viral load will involve a series of processes. There are several methods used to analyze processes.

Process mapping

Process mapping is an exercise to identify, within a diagram, all the steps and decisions in a process. The map shows how things are and what happens, rather than what should happen. Flowcharts/maps can also show people what their jobs are and how they should interact with one another as part of process. Process mapping enables teams to clearly and simply record existing processes, examine them thoroughly, and develop improvements by:

- Eliminating unnecessary tasks
- Clarifying roles within the process
- Reducing delays and duplication
- Reducing the number of staff/steps required in a patient pathway

How to develop a flowchart?

A flowchart is a graphic representation of a series of activities/steps describing a process being studied. It involves mapping out the steps of a process and illustrating their linkages using a flow diagram and relies on the use of symbols (see Figures 7 and 8) to illustrate what happens in each step of the process.

The coach should support the team through the following steps:

1. On a separate piece of paper, the team should list in sequence all the steps/activities as they happen currently for a particular process of care under analysis from ‘Start’ to the ‘End’.
2. In every step, indicate who is responsible for the step and where the step takes place so that everybody in the team is able to see from the chart what their job is and how their work fits in with the work of others in the process.
3. Ask the team to draw a flowchart using symbols in Figure 7. Developing a flowchart stimulates communication among team members and establishes a common understanding about the process.
4. Encourage quiet team members to add their ideas as they may be the ones with the “missing pieces” or the causes that others miss. Encourage them to participate by calling on them directly, “Sister Kombo you have been quiet throughout our discussion. What would you add to this diagram?”
Figure 7: Commonly used symbols for flow charts

![Commonly used symbols for flow charts](image)

Figure 8: Flow chart for a process

![Flow chart for a process](image)

Process visualization through a flowchart helps clarify the process and evaluate quality of interactions.

**NB:** An important rule of thumb when mapping a process is “the person who controls the process controls the pen.” This means the person who actually carries out a particular process is the one who maps that step of the process.

1. Review with the team the draft of the flowchart to see whether the steps are in their logical order, see if everyone is satisfied and if it reflects what they do. Areas that are unclear can be represented with a cloud symbol, to be clarified later.

**NB:** It is common for teams to generate ideas for improvement while developing the flowchart; do not discuss their merits at this time but record them for future discussion.

**How to analyze a flowchart?**

Once the flowchart has been constructed to represent how the process actually works, assist the QI team to examine potential problem areas or areas for improvement using one or more of the following techniques:
1. Examine the overall process: Is the flow logical? Are there fuzzy areas or places where the process leads off to nowhere?

2. Examine each activity symbol: Is this step redundant? Does it add value to the service? Is it problematic? Could errors be prevented in this activity?

3. Examine each decision symbol: Does it represent an activity to see if everything is going well? Is it redundant?

4. Examine each loop that indicates work being redone (rework): Does this rework loop prevent the problem from recurring? Are repairs being made long after the step where the errors originally occurred?

5. Examine each transition where one person finishes his or her part of the process and another person picks it up: Who is involved? What could go wrong? Is the intermediate product or service meeting the needs of the next person in the process?

6. Generate hypotheses about causes and introduce changes to solve the identified problems and facilitate redesigning of a new process.

**How to redesign processes?**

Redesigning processes has two goals: improving performance and increasing efficiency. Once you document the reality of a process, you will need to assist the QI team and other members of a facility to redesign the analyzed process to incorporate desired improvements and then test these changes using the PDSA cycles.

When redesigning a process, it is essential to have all key players involved in the process. The frontline staff who are currently or will be implementing the redesigned process will have recommendations and ideas for how to maximize efficiency and effectiveness.

It is rare that a particular process is completely independent of other processes in the facility. In most cases, processes for one activity will overlap or depend on the execution of another activity or process. It is important to identify and consider these dependencies when redesigning, as the effects of redesigning a process can be positive or negative. The Model for Improvement and PDSA will help the QI team identify unforeseen effects of redesigned processes and correct them before taking them to scale.

For redesigned processes to take effect, they often require realigning jobs, changing staff time allocation, roles, and responsibilities which in turn will require changes in procedures, job descriptions, training, and accountability/reporting systems. For this to happen, the facility leadership must be involved from the very beginning of the QI initiative.
**Scenario 5:** You visit a facility and realize that the team is challenged by:

- How to conduct a process analysis to identify gaps in the process?
- How to conduct root cause analysis?
- Uncertain on what change to introduce.
- Managing a change.

A coach is advised to use the following case study on HIV Viral Load (HVL) testing to respond to the above challenges. This is just an example; you can use the same approach for any other situation.

**HVL Testing case study**

Domoda Health Centre in Southern Highlands of Tanzania is providing comprehensive HIV Care and Treatment services including monitoring HIV VL for clients on ART.

**HVL testing process**

1. During clinic days, clinicians work to ascertain clients who are eligible for HVL testing among clients coming to CTC for refills by checking patient files. Eligible clients are counselled about HVL test and its importance and later advised to go to the laboratory within the facility. Upon reaching the laboratory, clients queue outside the lab waiting to be called in. On a first come first served basis, the laboratory technologist calls in one client at a time, fills in the laboratory HVL form and the lab register and labels specimen bottles. Thereafter, the technologist draws HVL whole blood sample from the client and upon completion advises the client they will find their test results at the clinic.

2. Blood samples and patient demographic, treatment information, and patient identification number at the health facility are sent to the district hospital which receives samples from all facilities in the district. The district hospital then sends VL samples to the referral laboratory through a courier system. Test results and patient information for patients from different facilities are then returned back to the District Hospital. The laboratory technologist at the district hospital sorts VL results forms according to facilities and keeps them in secured locker waiting for respective health facilities to come for collection.

3. At the end of every month the laboratory technologist for Domoda travels to the district hospital to collect VL results; upon returning back he records all clients’ HVL test results in the laboratory register; he then takes the HVL results to the CTC data clerk for recording in the VL register and entry into the CTC database.

4. Significant number of clients eligible for HVL are not identified for testing at the clinician room. There is also the problem of sample rejection at hub laboratory. The long turnaround time is another barrier: the median turnaround time, from request of VL testing specimen to return of results to Domoda, is three weeks, two weeks’ delay in result dispatch from laboratory to CTC for entry into CTC database, two weeks’ delay in attaching result to clients, and only high viral load results are recorded in the VL register.

5. The Domoda QI team is determined to improve viral load testing uptake (i.e., the proportion of patients accessing a VL test) as well as reduce the turnaround time for VL test results which is around 45 days.

As a QI coach you are asked to assist/guide the QIT through analyzing the process, identifying gaps, measuring the performance, and introducing changes using the Model for Improvement.

**Figure 9** shows an example of a flow chart which was drawn after listing all the steps the client undergoes in the HIV viral load testing at Domoda Health Centre.
• History, Physical examination
• HVL eligibility assessment
• Prescription

Collect ARV at pharmacy

Home

Delay in HVL sample collection

HVL sample collection at laboratory

Sample processing at HVL zonal lab and result dispatch to hub facility

Sample processing packaging at hub lab and sample transport to HVL zonal lab

Sample processing, package and transportation to hub lab at

HVL sample

Result received at facility lab and documented into Lab HVL register

2 weeks delay in result dispatch to CTC

Result entry into CTC2 database

Attaching results into client’s file

Result documentation into client’s card and HVL

Result given to client

2 weeks delay in attaching result to client’s file

Only high VL results are recorded in the HVL register.
Identify and indicate steps with problems, delays, redundancy using symbols e.g. cloud, delay. In this case study the following are the steps with problems:

- Identification of HVL eligibility at clinician’s room with possibility of missing those eligible.
- Delay in HVL sample collection at laboratory.
- Delay in result dispatch from laboratory to CTC.
- Delay in attaching result to client’s file.
- Only high HVL results are recorded in the HVL register.

**K. How to Conduct Root Cause Analysis of the Identified Problems?**

Root cause analysis is a structured way of assisting teams to identify the primary causes of a process or system failure. By knowing the primary causes of an unfavorable outcome (effect) along a chain of causes, teams can design interventions likely to sustainably address the causes. Two common tools that improvement teams use in performing root cause analysis are Fishbone Diagram and the Five Whys tool.

1. **Fishbone Diagram**

Fishbone diagram (also known as Cause-and-Effect diagram or Ishikawa diagram) is a structured graphic tool that improvement teams may use to analyze causes of unwanted effects or problems to the primary causes (see **Figure 10**).

**Figure 10: Example of a fishbone diagram**
Root cause analysis with fishbone diagram

**Step 1:** Support teams to build consensus on the problem statement and assemble teams to brainstorm on the causes and write down your problem in a box at the edge of right side of the page (the “effect” of the problem situation). Think about the case study above where the problem is few clients are tested for HVL.

**Sept 2:** Draw a straight horizontal line (the spine) from the box to the other end of the page.

**Step 3:** Agree on major categories of causes to be displayed as branches from the horizontal line. The main categories are usually equipment, rules/procedures and policies, staff and people, materials, and environment. In this case study, procedure and staff are the main categories. The effects are:

- Rejected samples
- Delay in result dispatch from laboratory to CTC
- Delay in attaching result to client’s file

**Step 4:** Brainstorm all possible causes of the effect/problem by asking why has this happened? The answer to this question becomes the next question. As the group brainstorms the coach writes causal factors as branch to the relevant main category e.g. Rejected samples, then ask Why the samples are rejected? The answer to this first why will be the branch to main category.

**Step 5:** Continue asking “Why” on the branch causes to get deeper casual factors and place the answers to relevant sub branches until the team has no additional ideas.

**Step 6:** To identify root causes from generated ideas, let the team vote. Each member can suggest the 3 most likely and the coach will tally the frequencies and rank them.

2. The Five Whys Tool

This is another technique used to identify the root cause of a problem. A root cause is one that can explain the effect either directly or through a series of events and if addressed, would remove or reduce the problem. Key steps for this technique are:

**Step 1:** Assemble the team and agree on the cause or problem to be addressed. Using the case study above again, our problem is that too few clients are tested for HVL.

**Step 2:** Brainstorm on the causes by asking the question; ‘Why is this happening’? Using the above case study, the possible answers could be:

- Failure to identify eligible clients for HVL testing when they visit the clinic.
- Delay in result dispatch from laboratory to CTC.
- Delay in attaching result to client’s file.

**Step 3:** Keep asking ‘why’ for each cause until a potential root cause has been identified. Ideally you should have explored deep enough to get to the root cause but sometimes you are there earlier. An example for the failure to identify client at clinician’s room the reason could be: “identification process is tedious”. The third ‘why’ is asking why is the identification process difficult? Answer for this could be clinician is busy given the number of clients to be seen in a day. The fourth ‘why’ could be why is the identification process done by a busy clinician? Answer could be other health providers have no capacity to screen for HVL eligibility. A fifth ‘why’ could be why do other providers have no capacity to screen while screening process is easy and policy is open for other providers to screen? The answer to this could be that they were not informed that other providers apart from clinician are allowed to screen for HVL testing eligibility. By the end of five whys exercise you come into conclusion that the root cause for this problem is providers’ awareness of HVL test screening policy.
L. Introducing and Managing Change

To accomplish a desired goal, rarely one change can get you there, in most cases two or more changes are required. In the HVL case study, the team introduced several changes of which each change has to go through a PDSA cycle.

Cycles involved in improving HVL testing at Domoda HC

**PDSA cycle 1**: The QI team met and introduced a change whereby screening would be done by a triage nurse and before that the nurse should be trained and provided with screening tools. The laboratory technician was asked to accept HVL request forms ordered by the triage nurse. The QIT agreed the triage nurse would conduct the following tasks:

- Check all patients’ files to ascertain HVL eligible clients while conducting triage
- Fill in lab request forms for HVL test for all clients found eligible
- Send eligible clients to the lab for HVL sample collection

After introducing above changes, the Domoda QIT continued to collect data on number of HVL eligible clients receiving HVL testing every month. After 5 months of data collection, the proportion of eligible clients receiving HVL testing only increased from 37% Nov 2017 to 42% by March 2018.

**Redesigned process**

The QIT conducted another round of process analysis as triage nurse continued to identify eligible clients for HVL test and discovered more problematic steps including:

- Clients sent for HVL test have to queue with other clients at laboratory.
- The lab technician did not prioritize HVL eligible clients for immediate sample collection.
- Delays in sample collection resulted in delay to dispatch samples to the hub for sample separation; as a result, most samples were rejected.

The QI team discussed and agreed to collect HVL samples by CTC staff before 10 o’clock. The following changes were thus introduced:

**PDSA cycle 2**: Sample collection at CTC and not at laboratory and sample dispatch on the same day to hub laboratory. The QIT continued to collect data on number of eligible clients receiving HVL testing. After 4 months of data collection, percent of eligible clients receiving HVL testing increased from 42% March 2018 to 45% by June 2018.

**Redesigned process**

The QIT went further to conduct a third round of process analysis meanwhile sorting of clients’ files and HVL sample collection continued at CTC before 10 o’clock and discovered that results were still delayed.

This time, problematic steps included:

- Delay in dispatching HVL results from reference laboratory to CTC.
- Delay in documenting HVL results from reference lab dispatch into clients’ file.

Following process analysis, the QIT redesigned the process flow map to test the following changes:

**PDSA cycle 3**: The Medical Attendant was identified to: track and collect results from reference lab on daily basis and hand them to Data Clerk; and pin results to respective client’s files on daily basis and record all results in the client’s file and HVL register. The Data Clerk will enter each HVL client’s results into the CTC computer database. After four (4) months of change implementation, HVL testing increased from 45% in June 2018 to 77% in October 2018.
The QI team went further to analyze processes of care involved in getting HVL results quickly. This time they realize dispatching of HVL results from reference lab is subject to availability of transport to Domoda; if no vehicle going to Domoda processed results are left stuck for days or even weeks.

**PDSA cycle 4:** After consultations between the Domoda In-Charge and the head of the reference lab, they received approval to have HVL results sent through email immediately after processing. The team was then able to monitor the process of getting HVL results on monthly basis. The turnaround time reduced to around 7 days meanwhile the proportion of clients tested for HVL 6-12 months after ART initiation increased from 77% in October 2018 to 86% in January 2019 (Figure 11).

**Figure 11:** HVL baseline testing 6-12 months after ART initiation in Domoda HC

Next steps

Help QITs and facility staff modify policies and procedures to ensure sustainability of changes:

- Assist the QIT to capture and monitor indicators for externalities of the intervention. The information will provide insight to the changes in policy or procedures that are necessary for the new intervention to succeed.
- Negotiate with leadership for resources needed (e.g., if new data collection tools, additional manpower, new collaboration, etc.) will be necessary.
- Support the QIT to compile learning, arrange a sharing forum, and negotiate with senior leadership to spread the working innovations to other departments and/or facilities.

**M. Performance Monitoring and Data Display**

**What is it?**
Performance monitoring is a process by which an organization monitors important aspects of its programs, systems, and care processes. Performance monitoring deals specifically with performance measures. Performance is measured and compared to improvement objectives (Figure 12).

**Figure 12: Importance of Monitoring Performance**

Data for all indicators should be collected and audited on a monthly basis by each site and transcribed into a table that clearly shows the indicators definitions, numerator and denominator values and the months represented. Monthly performance audits allow QI teams to monitor progress toward improvement goals and make early adjustments to processes and procedures when progress has not occurred. You may have encountered challenges during coaching like wrongly collected data which may be due to team not understanding the definitions of indicators and their requirements, wrong source documents, etc.

**Scenario 6:** You visit a facility and the team has no understanding of indicator definitions, numerator, denominator, or source of data. As a result, the data collected is invalid. To assess if the QIT understands the indicator definition and source of data, refer to the coaching checklist questions.

One of your most important roles as a QI coach in data-driven improvement is supporting teams in preparing and reporting performance. Please remember that much of your early work in setting up performance monitoring systems will focus on getting data and fixing data so they are accurate.

**What to do**
- ✓ Clarify definitions of each indicator together with their respective numerators and denominators.
- ✓ Develop an indicator matrix with definitions of all indicators the team is working on. The matrix should provide definitions of numerators, denominators and data source(s) for each indicator. Ensure a copy of this indicator matrix is embedded in the facility QIT file.
- ✓ Demonstrate how to collect correct indicator data from the right sources while referring to the developed indicator matrix.
- ✓ Review indicator data collected by the QI team (check for missing entries, internal inconsistencies, or out-of-range values) to see if the collected data makes sense and valid. One way to do this is to
manually check the data collection spreadsheets. Look at the data and ask yourself: Is each number plausible? Does the sequence of dates make sense? Do any of the data elements conflict with each other?

✓ If indicator data collection from sources requires many steps, set up report templates or help the team to develop simple Standard Operating Procedures (SOP) with step-by-steps details on how to get into where correct data is. Do not take on the function of extracting and cleaning data for the QIT, this is an essential skill they will need to develop in order to sustain QI work once you leave.

✓ Help the team in plotting indicator data in the time series chart and help with annotations of changes. There are number of computer applications that take raw data to generate compelling graphic displays such as bar graphs, pie charts and run charts; the most commonly used in our setting is Microsoft Excel. As a QI coach you need to be familiar with this program and its capabilities as potential resources for your teams as they build their performance reporting capabilities.

Displaying data

A picture paints a thousand words; this a much-needed attribute when it comes to presenting performance data. Visuals displays allow people to absorb large amounts of data quickly; as such they are extremely effective in reporting performance data. There are several ways of displaying data; commonly used ones include tables, bar graphs, line graphs, and pie charts.

**Table:** Display numbers or words arranged in a grid. Good when exact numbers need to be presented.

**Bar charts:** Shows quantities represented by horizontal or vertical bars and are useful for displaying differences.

**Line graph:** Shows sets of data points plotted over a time period, connected by straight line.

**Scatter graph:** Shows sets of data points plotted over a time period.

**Pie chart:** Shows proportions in relation to a whole, with each wedge representing a percentage of the total. See Figure 13 for examples.

**Figure 13:** Various ways of displaying data

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proj</td>
<td>25</td>
<td>45</td>
<td>60</td>
<td>50</td>
<td>35</td>
<td>65</td>
</tr>
</tbody>
</table>

[See Figure 13 for examples.]
The team should analyze the data for each month to get percentages and plot the data on a line graph (run charts). The graph should include baseline data for at least 4 data points before intervention for comparison.

**Scenario 7:** You visit a facility and find that the team is facing challenges in interpretation of the data plotted in the time series chart (run chart). You will find out their challenges after assessing how well the team has drawn and annotated their run chart (see the coaching checklist).

**What to do:** In supporting the team to overcome these challenges use the notes below to refresh the team’s knowledge on data interpretation.

**Run Charts [15]:** A run chart is a line graph of data plotted over time used for analyzing and understanding variation as a result of introduced changes (see Figure 14). Run charts use the middle value (median) and so apply rules for detecting special cause variation that rely on addressing whether data points are above or below the middle value. The relative distance from the median is not taken into account.

**Figure 14: An example of a run chart [15]**

The steps to follow in constructing a run chart are shown in Figure 15.
Analyzing run charts: Analysis of run charts is based on probability-based rules focused on studying how values fall around the median to objectively infer as to whether observed variation is due to random or special causes. If one (or more) of the rules is met in your run chart, it is a sign that there is non-random variation.

Rules for interpreting run charts: There are four rules that can be applied to a run chart to help determine whether or not the variation within the dataset is due to the random variation typical of performance of that process, or due to non-random variation that is attributable to a change in the process:

1. Rule One – A Shift
A shift on a run chart implies six or more consecutive points either all above or all below the median. Values that fall on the median do not add to nor break a shift. Skip values that fall on the median and continue counting. This rule is based on statistical probability. For example, for an event with two possible outcomes, where each outcome is likely to happen 50% of the time, the probability of the same outcome occurring six times in a row is less than 3 in 1000. Therefore, the change is likely to be attributable to something, and not the result of random variation within a process. Shift is a signal of improvement (Figure 16).

Figure 16: Shift rule [15]

2. Rule Two - Trend

A trend on a run chart is five or more consecutive points all going up or all going down. If the value of two or more successive points is the same, ignore one of the points when counting. Like values do not make or break a trend. Trend is also a signal of improvement (Figure 17).

Figure 17: Trend rule [15]

3. Rule Three - Runs

A run is a series of points in a row on one side of the median. A non-random pattern or signal of change is indicated by too few or too many runs. To determine the number of runs above and below the median, count the number of times the data line crosses the median and add one. Statistically significant change is signaled by too few or too many runs, again calculated using statistical probability (Figure 18).
4. Rule Four – Astronomical Point

This rule aids in detecting unusually large or small numbers. They are characterized by data points that are obviously, or even blatantly different from all or most of the other values, and anyone studying the chart would agree that is unusual. Note that every data set will have a highest and lowest data point, however this does not mean the high and low are astronomical. It is worth understanding the cause if an astronomical point. This will allow you to emulate if it is positive or avoid/address it if it is negative (Figure 19).

The analysis of these curves should be done frequently in order to better understand the changing situation in terms of its results. These are the “Studying” and “Acting” stages in the improvement model. For each situation observed, the team should identify the causes by collecting as much information as possible with contributions from everyone.
With reference to run chart rule 1 above, in the run chart below there in fact seven consecutive points all above the median signaling a shift. In other words, the probability of getting values for HVL results in the trend shown six or more times in a row is unlikely to be by chance but rather likely a result of change(s) introduced to the process (Figure 20).

**Figure 20: Run chart for the HVL testing at Domoda HC**

Data-driven decision making

One of the basic principles of QI is the use of data in the decision-making process. As such, QITs should have reliable systems for data collection and be able to utilize data collected during implementation for decision making and planning. On the other hand, the coach should understand data collection and analysis processes to be able to support QI teams to interpret and use data in monitoring performance and for planning.

In the HVL case study, a trend is observed from June – October 2018 signaling a non-random pattern attributable to introduced changes. The next stage will be a decision for the team on whether:

- To adopt the changes and stop working on this issue?
- To adopt the changes and continue testing new changes in addition to the previous ones?
- To abandon the tested changes and try new ones?
- To abandon the tested changes and stop working on this issue or find another approach?

Decision-making will require consensus among team members and all parties involved in the process. Your role as a coach is to enable the team and the team leader to make their own decisions.
III. After Coaching

A. Activities for the Coach after the Coaching Session

- With the team, prepare the wrap-up for the visit (strengths, points to be improved, actions to be carried out and by whom and the outlook) and transcribe them in the template for writing the action plan and keep a record for yourself and for reporting purposes. Go through the coaching checklist and summarize teams’ performance based on strengths and weaknesses identified using the scoring guide (Annex B).

<table>
<thead>
<tr>
<th>№</th>
<th>Identified gap</th>
<th>Action/activity</th>
<th>Responsible person</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

- Address some of the challenges where possible through small group discussions and brainstorming on critical barriers to performance. Some challenges may need to be solved by involving the facility management or even higher levels (e.g., DMO, DED).
- Provide updates on identified knowledge/skill gaps.
- Give feedback to the whole team together with facility management and thank them for their time and participation.
- Give a brief overview of the site’s strengths and areas for Improvement and specify the recommendations for them. Highlight areas that need immediate follow-up and share the action plan for them to keep in the QI file.
- Hold a follow-up meeting after the visit with the coaches who took part in the visit (if there was more than one) to further strengthen their ideas.
- Draft a visit report using the format that was selected.
- Keep communication with teams in between coaching visits to discuss further how follow-up issues and recommendations are implemented. You can do this through a follow-up conference call preferably within 8 to 12 weeks of the visit or of WhatsApp platforms.

B. Empowering QI Teams

An empowered team has the authority and responsibility to make decisions, rather than needing to get approval or instructions from a manager. In an empowered team, each teammate has a voice in the group decision. The team self-organizes around a leader instead of reporting to a manager and may make changes to their project or product at will. Empowered teams often have high morale and may cost the facility less due to not requiring a dedicated manager.

How to Empower Teams [16]

- **Ask for input:** Ask your team to be part of the decision-making process.
- **Ask for their ideas and insights:** Also, ask how you can improve your style to be more effective.
- **Reinforce with positive feedback:** Celebrate the successes and give positive recognition and feedback to team members when they perform well (e.g., rewarding the team), especially when they take on a leadership role and are successful.
- **Develop leaders:** The role of the QI coach is to support the improvement teams in making changes to processes of care and problem-solve any issues that teams cannot fix at their level. To achieve this, delegate tasks to team members and give them authority to make decisions over specific processes. This gives them a sense of value within the organization. Assign tasks to high-performing team members and make them leaders on individual tasks. This will not only help alleviate your own workload, but it also gives your team members an opportunity to shine.

- **Stretch each team member's capabilities:** Find ways to help each team member develop and contribute through using their strengths. Assign tasks that will allow your team members to grow and take on additional responsibilities. This can motivate them because it indicates that you feel they are valuable and competent. Explain the reason for this task being given to them and let them know "what's in it for them."

- **Mentor your team members:** Focus on coaching them to success. Help them achieve not only the team goals, but their personal career goals as well. Find out where they want to be in the next year, or even five years, and give them the tools they need to develop and become successful.

- **Encourage open communication:** Make sure that you clearly communicate goals, objectives and ideas, and encourage your team members to do the same. Establish an environment where team members are comfortable expressing their comments and feel free to test new ideas. Encourage your team members to contribute in brainstorming activities and commend them for their feedback. Communicate with teams on a regular basis to gather learning and push this information back out to the other teams. Communication allows improvement teams to learn from one another and to ensure that teams have a clear understanding of what and how they are going to improve.

- **Build trust to your team:** Encourage facility management to give QIT members the amount of authority they need to complete tasks without checking back with the management on every detail. Encourage QITs to share improvement plans and achievements in facility management meetings.

### C. Documentation and Sharing of Best Practices

Identification of what worked well and what did not work is one of the roles of the QITs; this will only be achieved through ability of the team to analyze the processes, identify changes that bring improvements, and proper documentation of improvement activities done in a period. The key success in sharing of best practices begins with proper and complete documentation of QI activities.

For easy identification of best practices, it is necessary for the coach to support the teams to properly document patient records from the sources of data and compile and document both data and activities implemented in the SES journals provided. Whatever the successes and challenges identified by the team should be shared among the team and with other teams implementing QI. Rationale for sharing is to welcome feedback and advice, gather new ideas, learn different perspectives, and share difficult situations that were successfully managed. During implementation of QI activities, teams may have unknowingly achieved best practices and therefore not documented in their reports.
What to do:

- Review the SES journals together with the QI teams if part A, B, and C are properly and completely filled.
- Check if the list of identified problems in part A if they can be solved by the changes listed in part B.
- Observe if the comments column of part B is properly filled and updated (i.e., if the planned changes were implemented).
- Assist the QIT to appreciate if the implemented changes resulted into improvements (check the graphs).
- Support them on how to write success stories and posters for sharing and to decide if these improvements need to be extended to other departments and later to other facilities using available resources.
- Encourage positive feedback to the team; involvement of management and appreciating the work done during the sharing meetings is very important to motivate the team members.

How to spread:

- Collect all changes that led to improvements.
- Compile them to obtain the change package—an organized presentation of the effective changes which led to improvement.
- Conduct sensitization meeting with key stakeholders (e.g., regional and council administration) to get their buy-in.
- Together with the stakeholders, select regions, councils, and sites for spread.
- Facilitate “knowledge handover,” i.e., meetings between experienced teams and new teams to discuss together how to implement the changes.
- Support them to form QI teams and develop work plans for the implementation of the change package.
### IV. Annexes

#### A. Coaching Checklist

**RHMT/CHMT Quality Improvement (QI) Coaching Checklist**

Facility Name: .................................................. Council: ........................................ Region: ................................................

<table>
<thead>
<tr>
<th>Part A: Admin/Management</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st visit</td>
</tr>
<tr>
<td>1.1: Coaching team Names: Mobile number:</td>
<td></td>
</tr>
<tr>
<td>1.2: Name of facility in-charge seen Mobile number:</td>
<td></td>
</tr>
<tr>
<td>1.3: Name of QI Team lead involved: Mobile Number</td>
<td></td>
</tr>
<tr>
<td>1.4: Total Number of QIT members</td>
<td></td>
</tr>
<tr>
<td>1.5: Number of QIT members Participated</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part B: Revive / Establish active QI team</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEM AND VERIFICATION METHOD</td>
<td>RESPONSES (Circle Y=Yes; P=Partial; N=No)</td>
</tr>
<tr>
<td>2.1: The site has a QI team that</td>
<td>Y. multi-disciplinary QIT</td>
</tr>
</tbody>
</table>
include representatives from all departments (e.g. CTC i/c, RCH i/c, Lab technician, Pharmacy and significant others)

*Ask facility in-charge and verify the list in the QI file*

<table>
<thead>
<tr>
<th>2.2: QI team members have clear roles and responsibilities</th>
<th>Y. All members have assigned roles and responsibilities</th>
<th>P. Few members have assigned roles and responsibilities</th>
<th>N. None has</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ask team lead and verify documentation in the QI file</em></td>
<td>Y. There is assigned member responsible for handling QI data</td>
<td>N. No one assigned</td>
<td></td>
</tr>
<tr>
<td>2.3: QI team has dedicated member responsible for handling QI data</td>
<td>Y. Team has the guide and the</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ask team lead and verify in the file</em></td>
<td>Y. Team has the guide and the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4: The QI team has a guide for</td>
<td>Y. Team has the guide and the</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| writing monthly QI team meetings | Check for the availability of the guide and verify its use in the previous meeting | previous meeting minutes are written according to the guide  
| P. Guide in place but not followed  
| N. No guide |  
| 2.5: The QI team has a compliance file for keeping QI documents such as meeting minutes, SES journals and reports. | Check for the availability of QI file | Y. There is a file  
| N. No file |  
| 2.6: The QI compliance file is well-organized | Check arrangement of the file | Y. Well-arranged file  
| N. Not well arranged |  
| 2.7: The QI compliance file has all SES forms for the agreed indicators | Check for the SES forms and | Y. SES forms in place for all indicators  
| P. SES forms in place but not for all indicators  
| N. No SES forms |  
| | | | | | |
|确认所有已同意的指标是否可用 | ![确认所有已同意的指标是否可用](#)  
|---|---  
|《质量改进团队》在六个月内有会议日程 | Y. 会议日程可用  
N. 会议日程未到位  

**检查会议日程在《质量改进团队》文件中**

|《质量改进团队》每月举行会议并保存会议记录在《质量改进团队》合规文件中 | Y. 有过去的三个月会议的记录  
N. 没有会议和证据

**检查过去的三个月会议记录**

|《质量改进团队》是活跃的（每个季度至少完成一个PDSA改进圆圈） | Y. 活跃的团队，至少完成一个PDSA周期
N. 团队不活跃

**检查PDSA周期在工作计划中的完整性**

<p>| | | | | | |
| | | | | | |</p>
<table>
<thead>
<tr>
<th>2.11: I have communicated progress and results of QI activities to facility leadership including District Technical Committee</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.12: I have encouraged and supported recognition of individual and team performance accomplishments</td>
<td>NA</td>
</tr>
<tr>
<td>2.13: Discussed staff QI training needs with MO i/c and District Technical Committee to improve knowledge and skills in QI for both new employees and continuing staff</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Part C: Indicator performance Monitoring**

**Improvement Objective:**
<table>
<thead>
<tr>
<th>Indicator Name:</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Visit</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Visit</th>
<th>3&lt;sup&gt;rd&lt;/sup&gt; Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Understanding of Objective and Indicator</td>
<td>RESPONSES (Circle Y=yes; P=Partial; N=No)</td>
<td>Y/P/N</td>
<td>Action taken/comment</td>
</tr>
<tr>
<td>3.1.1: The QI team has SMART objective for the improvement area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Check if the objective is SMART</strong></td>
<td>Y: Improvement objective in place and its SMART</td>
<td>Y/P/N</td>
<td>Action taken/comment</td>
</tr>
<tr>
<td></td>
<td>P: Improvement objective in place but not SMART</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N: No improvement objective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1.2: The QI team members understand numerator and denominator definitions</td>
<td>Y: All three understand the definitions</td>
<td>Y/P/N</td>
<td>Action taken/comment</td>
</tr>
<tr>
<td><strong>Ask at least three QIT members for the understanding of numerator and denominator</strong></td>
<td>P: One or two have the understanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N: None has the understanding of the definitions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1.3: The QI team members understand sources of data for numerator and denominator for this indicator</td>
<td>Y: All three understand source of data for the numerator and denominator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask at least three QIT members for the understanding of source of data</td>
<td>P: One or two have the understanding</td>
<td>N: None has the understanding</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>3.1.4: The QI team has up-to-date data for the indicator</td>
<td>Y: Up-to-date data available for the previous three readings</td>
<td>N: No up-to-date data for the previous three readings</td>
<td></td>
</tr>
</tbody>
</table>

**3.2: Process analysis and redesign**

<table>
<thead>
<tr>
<th>3.2.1: The team has conducted detailed analysis of process of care and drawn it on a flip chart and posted it on the wall</th>
<th>Y. All SES journals have flow charts</th>
<th>P. Flow charts available in few SES journals</th>
<th>N. No flow charts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Look for flow chart in the QI file and on the wall</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.2.2: The team has identified redundant processes, gaps and activities that the QI team feels they act as barriers or shortcomings</th>
<th>Y. Team managed to identify gaps in the flow chart for all flow charts</th>
<th>P. Few flow chart gaps identified</th>
<th>N. Failed to identify gaps using the flow chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review flow chart and confirm if they managed to identify gaps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2.3: The QI team has developed changes to be introduced and clearly described where, by who, when changes will be introduced and IF the changes respond to the identified gaps/problems</td>
<td>Changes introduced:</td>
<td>Changes introduced:</td>
<td>Changes introduced:</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Check for the quality of changes introduced in the workplan</strong></td>
<td>Y. Changes introduced clearly indicating how, where, who is responsible, when changes will be introduced and IF the changes respond to the identified gaps/problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P. Changes introduced but not clear</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N. No changes introduced</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.2.4: The QI team has drawn a redesigned process map feasible enough to address identified gaps</th>
<th>Changes introduced:</th>
<th>Changes introduced:</th>
<th>Changes introduced:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Check for redesigned flow chart</strong></td>
<td>Y. Redesigned flow chart available and feasible</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P. Redesigned flow charts available but not feasible</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N. No redesigned flow chart</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.3: Fill in the Standard Evaluation System (SES) form</th>
<th>Changes introduced:</th>
<th>Changes introduced:</th>
<th>Changes introduced:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3.1: The team has filled in all required entries in Parts A, B and C of the SES form</td>
<td>Y. All parts filled</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Check for completeness of filling SES form</strong></td>
<td>P. Few parts filled</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N. None filled</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.3.2: The filled-in SES form is kept securely in the QI compliance file

**Check for availability of required SES forms in the QI file**

<table>
<thead>
<tr>
<th></th>
<th>Y. All SES forms available in the file</th>
<th>P. Few available</th>
<th>N. Not in the file</th>
</tr>
</thead>
</table>

3.3.3: The run chart in the SES form is annotated to show changes introduced and when *(Big shift either positive or negative)*

**Check for annotations**

<table>
<thead>
<tr>
<th></th>
<th>Y. All graphs that need annotation are annotated</th>
<th>P. Few are annotated</th>
<th>N. None annotated</th>
</tr>
</thead>
</table>

3.3.4: QIT studies process performance and takes action, e.g., introduces new changes

**Check for new change/s in part B of SES form**

<table>
<thead>
<tr>
<th></th>
<th>Y. There is evidence of team taking action and introducing new changes</th>
<th>N. No evidence of team taking action</th>
</tr>
</thead>
</table>

**Indicator Data**

**Indicator Name:**

<table>
<thead>
<tr>
<th>Month/quarter</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numerator</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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**Note:** Part C and the indicator data should be filled for each indicator that QI team is monitoring. If the team is working on 3 indicators, then the coach should print three copies of part C one for each indicator.
B. Checklist Scoring Guide

Note: This scoring mechanism is for the purpose of providing feedback to the team and keeping record of teams’ performance only. It is not for grading the teams, comparison for competition and neither should it be used to deny teams resource allocation.

Proposed score
Yes = 2 points
Partial = 1 point
No = 0 Point

Total Score that a team can earn is 50 points

Grading
Poor performance: less than 20 points (<40%)
Average performance: between 21 – 30 points (41% – 60%)
Good performance: between 31 – 45 points (71% - 90%)
Excellent: between 46 – 50 points (>90%)
C. Framework for Writing Meeting Minutes for Quality Improvement Teams

Date: ____________________  Place: ____________________

- Participants/attendees (names, job function, unit work, role in the team)
- Time meeting started:
- Agenda of the meeting
- Discussion points:
- Summary of each discussion point:
- Decisions taken (what needs to be done, when, and by whom?)
- Recommendations made:
- Date and venue of next meeting:
- Draft agenda for next meeting:
- Time meeting ended
- Name and signature of secretary and the chairperson
- Attachments: Other documents discussed or shared during the meeting
D. PDSA Cycle Documentation Form

Please complete this template for each PDSA cycle you undertake.

<table>
<thead>
<tr>
<th>Idea</th>
<th>Describe the idea you are testing: refer to the 3rd fundamental question, &quot;What are we trying to accomplish?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>Plan</td>
<td>What, who, when, where, predictions &amp; data to be collected.</td>
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<tr>
<td>Do</td>
<td>Was the plan executed? Document any unexpected events or problems.</td>
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<tr>
<td>Study</td>
<td>Record, analyse and reflect on the results.</td>
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<tr>
<td>Act</td>
<td>What will you take forward from this cycle? (next step / next PDSA cycle)</td>
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</tbody>
</table>
E. Standard Format for Documentation of Quality Improvement Work

Site Name:

Part A: Planning worksheet

Improvement Objective:

Indicator(s):

Description of Problem:
Briefly describe the problem being addressed and gaps between the current situation and your improvement objective.

Process Analysis:
Which steps in the process of care are currently problematic?
**Part B: Changes Worksheet**

In the table below, please list all the changes you will introduce.

<table>
<thead>
<tr>
<th>Tested Changes:</th>
<th>Planned Start Date:</th>
<th>End Date (if applicable)</th>
<th>Responsible person</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use 1-2 sentences to briefly describe the tested change</td>
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<td>Note here any evidence that the change took place; and potential reasons why it was or was not effective such as key barriers or important enabling factors.</td>
</tr>
</tbody>
</table>
**Part C: Graph:** Describe the indicator(s) you have used, including the value of the numerator and denominator. Annotate your graph based on the time the change was introduced or ended. You may use the change’s number (from the table above) to annotate.

**Name of the indicator:**

**Definition of the numerator:**

**Definition of the denominator:**

<table>
<thead>
<tr>
<th>Indicator Value</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td>Time (Months)</td>
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**Indicator #1 ( )**

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<th>Numerator</th>
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F. Remedial Action Plan Template

<table>
<thead>
<tr>
<th>№</th>
<th>Identified gap</th>
<th>Action/activity</th>
<th>Responsible person</th>
<th>Timeframe</th>
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The audit team should support the facility in developing remedial actions for identified gaps. Remedial actions should be written as an action plan which clearly indicates what needs to be done e.g., change(s) introduced, responsible person, and when it should happen. Keep a copy of action plan in the teams’ counter-book for receiving supervision, mentoring, and coaching feedback.

G. Template for Listing Participants of the Audit Exercise

Region: ............................................................................ Council: .........................................................
Facility: ............................................................................

<table>
<thead>
<tr>
<th>№</th>
<th>Name</th>
<th>Title</th>
<th>Signature</th>
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References


USAID APPLYING SCIENCE TO STRENGTHEN AND IMPROVE SYSTEMS PROJECT

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