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CONTRIBUTORS

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## ABBREVIATIONS

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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AIDS</td>
<td>Acquired immunodeficiency virus</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral therapy</td>
</tr>
<tr>
<td>CQUIN</td>
<td>HIV Coverage, Quality, and Impact Network</td>
</tr>
<tr>
<td>EGPAF</td>
<td>Elizabeth Glaser Pediatric AIDS Foundation</td>
</tr>
<tr>
<td>HIV</td>
<td>Human immunodeficiency virus</td>
</tr>
<tr>
<td>LOE</td>
<td>Level of effort</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>PDSA</td>
<td>Plan-Do-Study-Act</td>
</tr>
<tr>
<td>PLHIV</td>
<td>Persons living with HIV</td>
</tr>
<tr>
<td>PrEP</td>
<td>Pre-exposure prophylaxis</td>
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<tr>
<td>QI</td>
<td>Quality improvement</td>
</tr>
<tr>
<td>QI-PM</td>
<td>QI Project Monitoring Application</td>
</tr>
<tr>
<td>SI&amp;E</td>
<td>Strategic Information and Evaluation</td>
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QI TO SUPPORT THE GLOBAL HIV AND AIDS RESPONSE

Quality improvement (QI) is the process of testing and implementing incremental changes that lead to rapid improvements in program performance on key indicators. The ultimate objective is to continuously strengthen the quality of HIV-related care and treatment services offered to recipients, such as persons living with HIV (PLHIV). The Elizabeth Glaser Pediatric AIDS Foundation (EGPAF), an already well-established global leader in the fight against HIV and AIDS, launched its formal QI program in 2007 after two years of prior experience supporting QI activity implementation. Since initiation of the formal program, EGPAF has supported the creation and sustainment of QI programs in twelve countries on the African continent. The Foundation continues to be a key partner and provider of technical assistance to country programs that are united in their mission to fight for an AIDS free generation.

Over its many years of implementation and technical assistance, EGPAF’s QI program has developed robust expertise in operationalizing and implementing QI. This expertise is evident in the activation of QI teams in hundreds of health care facilities in Sub-Saharan Africa and support for thousands of QI projects initiated at the health care facility level. Root cause analyses are one of the many QI activities that EGPAF has instituted across many of the health care facilities and teams it supports. The Foundation was one of the first implementing partners in the global HIV and AIDS response to conduct large-scale root cause analyses that seek to investigate recipients’ experiences during key stages of their care (e.g., keeping appointments at health care facilities, re-entering HIV-related care) so that these insight into care challenges, recipient behaviors and decision-making processes can drive improvement initiatives. Furthermore, EGPAF’s QI program has catalyzed multiple collaborations with Ministries of Health (MOHs) and other national and international stakeholders to provide technical assistance on QI. Subject matter expertise has been solicited by high-level QI leadership forums, including ICAP’s HIV Coverage, Quality, and Impact Network (CQUIN) and the World Health Organization’s Quality of Care Technical Working Group. Moreover, the Foundation is leading digitization and innovation in the QI space. Examples include converting its QI-Project Monitoring (QI-PM) Excel-based tool for monitoring QI progress performance across health care facilities into a digital application, which has been used for monitoring QI projects at the health care facility level across eight countries, which have adopted the digital solution thus far. EZ-QI is the Foundation’s mobile and web-based application for quality assessments, highlighting another example of the Foundation’s work to pioneer the modernization of digital QI. EZ-QI digitizes the process of conducting quality audits and measuring program performance, which is a crucial first step in the quality assurance process so that gaps in quality can be identified and used to inform the improvement activities that QI teams undertake.

The EGPAF QI program has been honed and strengthened through in-depth implementation experience. This document synthesizes the expertise and approach to operationalizing QI. EGPAF’s QI approach is strongly rooted in core QI technical concepts (described in the Overview of EGPAF’s QI Technical Approach section), which the Foundation has operationalized into a four-phase process (described in the Operationalizing QI: A Four-Phase Approach section). This approach can be feasibly implemented by any project or program in the global HIV and AIDS response — even those with limited resources and no prior experience implementing QI — in order to monitor and strengthen the quality of technical and operational services they engage in or offer to beneficiaries affected by HIV.
Use of this Document

This document is intended for programs and teams seeking to start QI programs who have little to no experience in QI. Local implementing partners, international non-governmental organizations, MOHs, and other organizations can refer to this document to learn from EGPAF’s QI approach as they build or strengthen their own QI program. Stakeholders interested in collaborating with EGPAF for technical assistance or new business opportunities should refer to this document to gain a baseline understanding of EGPAF’s QI approach and the value it will add to a project when integrated into a workplan and EGPAF is named as a project stakeholder.

Individuals and teams using this document should familiarize themselves with EGPAF’s QI Technical Approach (see Overview of EGPAF’s QI Technical Approach section) to build familiarity with the basic QI principles from which EGPAF draws. Readers will then be prepared to review the Operationalizing QI section, which breaks down implementation into four-phases. Each phase includes a list of Key Activities that define the main work to be completed during that stage in the implementation process. For each Key Activity, a list of Milestones is included to further operationalize the phase into actionable steps that teams can be sure to complete as they move through the phases. These lists of key activities and milestones are the main accomplishments a program should strive to complete when initiating a QI program; these lists are not exhaustive, and programs may choose to add, omit, or adapt certain activities and milestones based on their context and resources.

1 This document intentionally focuses on the QI process. Contributors acknowledge that quality assurance and performance measurement is a key step in QI that should not be minimized. Therefore, a separate, forthcoming document will be dedicated to guidance on this topic so EGPAF can detail its extensive experience and existing tools.

2 Community engagement is a vital element of the QI process. Information about tools to support community engagement in QI (e.g., EGPAF’s model for enhancing the patient’s voice in QI, client satisfaction surveys), will be included in a forthcoming community engagement and QI resource brief.
Overview of EGPAF’s QI Technical Approach

EGPAF’s QI approach is strongly rooted in core QI principles and technical concepts, which are the foundation to implementing QI. All of the QI program’s work follows four core QI principles: client focus; performance measurement; focus on systems and processes; and team work. The Foundation’s QI approach follows the Plan-Do-Study-Act (PDSA) cycle (Figure 1: The PDSA Cycle), which provides a framework for developing (Plan), testing (Do), analysing (Study), and implementing (Act) changes that a QI team believes will lead to real-world improvement at the health care facility level. Because QI focuses on feasible, incremental, health care facility level changes, it places minimal burden on health care facility teams who implement services. These teams are asked to support the implementation of small changes that will lead to greater efficiency and effectiveness of their technical and operational services.

![The PDSA Cycle](image)

**FIGURE 1: The PDSA Cycle**

As teams progress through the PDSA cycle, EGPAF offers a number of tailored, well-known QI tools to support QI teams; these tools can be used to document the progress and achievements of QI activities. To begin, QI teams identify areas for growth at the health care facility that they wish to address through routine data or quality assessments. Interprofessional teams then perform a root cause analysis aided by a fishbone diagram tool to dissect the underlying materials, processes, and organizational factors contributing to this problem and the suboptimal outcome. After the problems’ root causes are well understood, the team moves to brainstorming solutions. Each solution will be assessed and ranked using a prioritization matrix tool to assess potential impact, cost, and sustainability as part of ranking the solutions based on overall feasibility. After identifying the most practical solution, QI teams are then ready to implement this solution or test this change to determine whether it will contribute to improvement of their desired outcome.

Each health care facility is encouraged to maintain one QI documentation journal per QI project or tested change that is being implemented. It is highly recommended to document their methods and results on a weekly or monthly basis. Teams should also have identified a key performance indicator that they expect the tested change to influence overtime. Quantitative performance on this indicator will be graphed on a run chart that plots the indicator’s result against time in week or months; the run chart can be included within the QI documentation journal or displayed as a poster on the health care facility walls for heightened visibility. Run charts are key to evaluating progress of the QI project over time to determine whether the tested change contributed to improving the problem or assisting to achieve the outcome teams were seeking to change. Data from health care facility level QI projects is also integrated into global data visualization dashboards that use analytics to illustrate how QI projects across health care facilities, districts, and countries are contributing to key indicator performance and strengthening of quality of EGPAF’s services. Continuous QI coaching by MOH colleagues and other QI experts encourages teams to utilize the data that has been shared and apply the information gleaned to programmatic decisions informing improvements.

As changes are tested at the health care facility level, teams are encouraged to share their tested changes and key indicator performance — whether the desired result was successfully achieved or not — with other health care facilities and across the program through the formation of QI Collaboratives. QI Collaboratives are vital platforms that ensure lessons learned and promising practices can be shared across multiple health care facilities, as well as between hub and spoke sites. By fostering inclusive environments where teams feel welcomed to transparently share successes and unpack shortcomings, the impact of QI activities can be broadened beyond the scope of a singular health care facility.

**Operationalizing QI: A Four-Phase Approach**

In order to operationalize the QI approach, EGPAF implements the QI process in four-phases. The *Preparation, Introduction*, and *Maintenance* phases are driven by EGPAF and MOHs, while the *Implementation* phase relies on intensive work at the district and health care facility levels in close coordination with health care providers and health care facility-based QI teams. A summary of the key activities within each phase and the corresponding milestone (i.e., deliverable or output from each key activity) is provided in Table 1 and elaborated on in the following sections.
<table>
<thead>
<tr>
<th>KEY ACTIVITIES</th>
<th>MILESTONES</th>
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<tbody>
<tr>
<td><strong>1. Preparation</strong></td>
<td></td>
</tr>
<tr>
<td>Identify stakeholders and familiarize them with EGPAF’s QI approach</td>
<td>☑  Finalized list of sites selected for the QI activity</td>
</tr>
<tr>
<td>• Selecting sites for QI activities</td>
<td></td>
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<tr>
<td>Define stakeholder roles and communication approaches</td>
<td>☑  Documented list of stakeholder roles and responsibilities pertaining to QI</td>
</tr>
<tr>
<td>Identify key areas for improvement and key performance indicators</td>
<td>☑  Summary of the baseline quality of care assessment results and analysis</td>
</tr>
<tr>
<td>• Baseline quality of care assessment</td>
<td>☑  List of key performance indicators</td>
</tr>
<tr>
<td>• Selecting key performance indicators</td>
<td></td>
</tr>
<tr>
<td>Adopt a QI framework and review existing resources on evidence-informed changes and promising practices</td>
<td>☑  Completed QI framework all stakeholders agree to utilize</td>
</tr>
<tr>
<td>• Developing or adapting a QI framework</td>
<td>☑  List of evidence-based changes and promising practices</td>
</tr>
<tr>
<td>• Research existing knowledge and evidence</td>
<td></td>
</tr>
<tr>
<td>Integrate and align QI goals into program plans and advocate for buy-in from relevant stakeholders</td>
<td>☑  Completed QI plan</td>
</tr>
<tr>
<td>• Develop a QI plan</td>
<td></td>
</tr>
<tr>
<td>Allocate resources for QI activities</td>
<td>☑  Approved budget for QI</td>
</tr>
<tr>
<td>• Allocate budget for QI</td>
<td>☑  Dedicated QI LOE written in the workplan/job description</td>
</tr>
<tr>
<td>• Dedicate level of effort (LOE) for QI</td>
<td></td>
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<tr>
<td><strong>2. Introduction</strong></td>
<td></td>
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<tr>
<td>Establish QI infrastructure within the existing system and develop/adapt QI implementation plans and tools</td>
<td>☑  Finalization of the QI toolkit and training package</td>
</tr>
<tr>
<td>• Development and adaptation of clinical tools</td>
<td>☑  Completion of training for QI coaches</td>
</tr>
<tr>
<td>• Development and adaptation of QI tools</td>
<td>☑  Completion of training of health care providers</td>
</tr>
<tr>
<td>• Compilation of a training package</td>
<td></td>
</tr>
<tr>
<td>• Train QI staff and coaches on key concepts and tools and sensitize health care providers and other health care facility staff on the value of QI</td>
<td></td>
</tr>
<tr>
<td>Begin implementing QI activities</td>
<td>☑  All health care facilities have held at least one QI team meeting</td>
</tr>
<tr>
<td>• Activation of QI teams at each participating health care facility</td>
<td>☑  All district-level stakeholders have been provided a status update</td>
</tr>
<tr>
<td>• District consultations</td>
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### Key Activities

#### 3. Implementation

**Implement QI at the health care facility level**
- Facility Implementation
  - Health care facility-level QI team meetings
- Ongoing QI data collection and monitoring

**Conduct ongoing performance measurement and monitoring of QI implementation, guided by the PDSA cycle**
- QI collaborative
- QI coaching
  - Appoint QI coaches
- QI learning sessions
  - Exchange visits
  - Ongoing communication

<table>
<thead>
<tr>
<th>Milestones</th>
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<tbody>
<tr>
<td>Initiation of the first QI project at each health care facility</td>
</tr>
<tr>
<td>Documentation of the facility’s first QI project</td>
</tr>
<tr>
<td>Launch of the QI collaborative</td>
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<tr>
<td>Completion of the first round of QI coaching visits and coaching reports</td>
</tr>
<tr>
<td>Completion of the first round of QI learning sessions</td>
</tr>
<tr>
<td>Completion of the first round of QI projects</td>
</tr>
<tr>
<td>Completion of the second round of QI learning sessions</td>
</tr>
<tr>
<td>Completion of the third round of QI learning sessions</td>
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</table>

#### 4. Maintenance, spread, and scale-up

**QI Monitoring and evaluation (M&E)**
- QI data reviews
- Endpoint assessment

<table>
<thead>
<tr>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>QI data midpoint review</td>
</tr>
<tr>
<td>Summary of the endpoint assessment results and analysis</td>
</tr>
<tr>
<td>Presentation to the national QI technical working group and at the national QI conference</td>
</tr>
<tr>
<td>Sharing of results with the CQUIN network</td>
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</table>

**Dissemination of results and lessons learned**

<table>
<thead>
<tr>
<th>Milestones</th>
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<tbody>
<tr>
<td>Completion of Harvest Sessions</td>
</tr>
<tr>
<td>Completion of the change package/harvest report</td>
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</table>

**QI collaborative cycle closeout**

<table>
<thead>
<tr>
<th>Milestones</th>
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</thead>
<tbody>
<tr>
<td>QI awards ceremony</td>
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<tr>
<td>Completion of holding the gains session</td>
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</table>
Phase I: Preparation

**Identify Stakeholders and Familiarize Them with EGPAF’s QI Approach:** Before QI activities are implemented, a strong foundation must be built through close collaboration with stakeholders to ensure that there is an aligned understanding of the QI approach, expected outcomes, and agreement on stakeholder roles. EGPAF works closely with national-, regional-, and district-level stakeholders from the start of the QI process. It is imperative that all parties are familiar with key QI concepts and grasp the value EGPAF’s robust QI approach adds to MOH-supported activities and other ongoing activities.

- **Selecting Sites for QI Activities:** In order to select an initial cohort of sites that will be the key stakeholders in facility-based, QI activities, the QI program should work with the MOH and other in-country stakeholders (e.g., district-level officials) to develop site profiles that ascertain whether the health care facilities meet the initial criteria to be included as QI implementation sites. If necessary, stakeholders may identify non-QI sites to act as comparison sites to obtain validation that implementation of the QI program is making a measurable difference in quality and service improvement. Additionally, programs may consider reducing the number of sites for the QI activity in order to provide more intensive support to each district- and site-level team, especially if resources and bandwidth for QI activities are limited.

- **Finalized List of Sites Selected for the QI Activity (Milestone):** Informed by the site profiles, program’s priorities, and resources available for QI, a list of sites selected to engage in the round of QI activities should be developed.

- **Define Stakeholder Roles and Communication Approaches:** One of the greatest potential threats to initiation and coordination of QI activities is poor communication between stakeholders, such as between the HIV-focused team and quality management team within an organization. To mitigate this threat, the roles of each stakeholder should be defined at the start of the QI activity. Methods to communicate with each stakeholder, such as assigning points of contact responsible for liaising key updates, should also be established early in the QI activity preparation process so that all stakeholders are well engaged and abreast of updates relevant to their role and responsibilities. Defining the stakeholder roles early in the QI process will embolden those assigned leadership positions within the project, increase commitment amongst stakeholders, and ensure diversity of stakeholder perspectives during critical discussions to generate more innovative and practical approaches.

- **Documented List of Stakeholder Roles and Responsibilities Pertaining to QI (Milestone):** Tools such as a Stakeholder Engagement Matrix or the Responsible, Accountable, Consulted, and Informed (RACI) Table can help outline and document the roles of key stakeholders, including the QI team; clinical experts and technical advisors; country director and program managers; and other leadership at the site and system levels.

**Identify Key Areas for Improvement and Key Performance Indicators:** To further specify areas that will be targeted for improvement, a baseline assessment of the current state of the targeted services in participating health care facilities and districts should first be conducted in order to inform the service delivery areas and key performance indicators that QI activities should prioritize.

- **Baseline Quality of Care Assessment:** The goal of this baseline quality of care assessment is to collect data on the targeted services and key performance indicators over the past four to six months in order to analyze the current state of the services prior to QI program implementation. Effective assessments should reveal existing strengths and gaps in quality, and quantify services’ current performance. As QI teams undertake QI projects, the baseline assessment is
to be used as a reference point for tracking the project’s progress over time and to ascertain if an improvement is being made by comparing the baseline to the latest result. Results of the baseline assessment will also inform prioritization of key performance indicators the QI Collaborative will focus on. Furthermore, teams should consider ways to digitize their baseline assessment in order to make data collection and storage more efficient than paper-based formats. For example, digital applications can support data collection using mobile devices instead of paper forms; applications, such as EGPAF’s EZ-QI tool on the DHIS2 application, offer offline capabilities permitting users to enter data while offline then synch data when they return to an internet connection, making these apps feasible even for sites with unstable internet connections.

- **Summary of the Baseline Quality of Care Assessment Results and Analysis (Milestone):** The baseline quality of care assessment process must proceed through all stages of developing or adapting the data collection tool, conducting data collection, cleaning data, and finalizing analysis to derive meaning from the results. A completed baseline assessment should include a summary of the results, analysis, and interpretation (e.g., slide set or brief report) that can be shared with sites and other key stakeholders.

- **Selecting Key Performance Indicators:** Service-specific key performance indicators (e.g., advanced HIV disease screening, initiation of antiretroviral therapy (ART)) must be selected to quantitatively measure the progress of QI projects over time. Process indicators should also be identified as part of the root cause analysis and issue prioritization for each site.

- **List of Key Performance Indicators (Milestone):** The final list of key performance indicators should be agreed upon by all key stakeholders and include clear definitions and data sources for each indicator.
Adopt a QI Framework and Review Existing Resources on Evidence-Informed Changes and Promising Practices: Before implementation, QI programs should identify and adopt a strategy that will guide all QI work. This strategy, including the QI framework and how the program will build upon existing evidence, should be well socialized amongst all stakeholders to ensure their shared understanding, agreement, and strong buy-in to these core concepts that will guide the entire QI program and all of its activities.

• Developing or Adapting a QI Framework: All QI programs should be guided by a QI framework, which serves as an overarching strategy. The QI framework should outline the key QI principles the program will utilize, as well as standardized tools that all sites will be encouraged to use for QI data collection, data sharing, and documentation. Individual programs may choose to work with stakeholders to develop their own QI framework or adapt an existing QI framework or strategy (e.g., sections of EGPAF’s Global Program Optimization Strategy) to make it specific to their context.

- Completed QI Framework All Stakeholders Agree to Utilize (Milestone): The final QI framework should be shared with all stakeholders to establish the common language and guidance that will be used for the duration of the QI activity.

• Research Existing Knowledge and Evidence: In order to ensure the QI activities are building upon knowledge and evidence that already exists, a list of evidence-informed changes and promising practices relevant to the topic the QI activities aim to improve should be developed. Teams should search for published literature, issue briefs, presentations of tested changes, and performance of other QI activities to learn from their experience and lessons.

- List of Evidence-informed Changes and Promising Practices (Milestone): Teams should compile the knowledge and evidence they review into a brief list of evidence-informed changes and promising practices that may be feasible in their context. This list can serve as inspiration for further innovation when testing changes in this programmatic area. This approach also prevents replication of practices previously deemed unsuccessful in other contexts and may be unlikely to lead to improvements in the context of interest.

Integrate and Align QI Goals Into Program Plans and Advocate for Buy-in From Relevant Stakeholders: Once QI goals and priorities are informed by the baseline assessment and finalized, they should be synthesized into a planning document to communicate the agreed upon goals, priorities, and timelines with all internal and external stakeholders, including the participating health care facilities.

• Develop a QI Plan: A complete, up-to-date QI plan with the inputs of all participating health care facilities and key stakeholders for the program should be available and organized into sections including the plan’s aims and objectives. The plan should align with the QI framework and overarching strategy, specify which key performance indicators the QI activities will focus on, and include a schedule of which indicators will be the focus of which QI Collaborative cycles (see Phase III: Implementation for more information about QI cycles). Strategies and tools for measuring, monitoring, and documenting performance of the QI activities overtime (e.g., EGPAF’s QI-PM application for QI project monitoring) should also be included.

- Completed QI Plan (Milestone): The final plan should be shared with all relevant stakeholders, including the MOH and health care facilities.
Allocate Resources for QI Activities: Resources to support QI activities, including budget and LOE from knowledgeable staff, should be planned for when the program’s budget and program/project plans are being created. QI resources and LOE can also be included in capacity building, site visit, and supportive supervision standards of procedures or tools. Integrating QI prompts technical teams referencing these materials to collaborate with QI colleagues while leading activities during QI sessions (e.g., QI coaching, QI data collection and review). Activities which do so enhance the value of the overall visit or process.

- **Allocate Budget for QI:** All programs are strongly encouraged to dedicate 1% to 5% of their budget to initiating, sustaining, and/or enhancing QI activities.

  - **Approved Budget for QI (Milestone):** Budgets and resources for QI activities may be included within the project’s “boosting routine activities” or “strengthening routine activities at the site level” budget line. It may also be costed separately, such as on a separate QI budget line. Regardless, teams are suggested to allocate budget, LOE, and resources specifically for QI and not combine the QI resource allocation with that for strategic information and evaluation (SI&E) or with other departments/large programs.

  - **Resources and budget for QI should include:**

    - Costs to print paper-based QI documentation journals, QI tools (e.g., run chart and fishbone diagram posters), and the QI change package if the program and sites desire hard copies.

    - Costs for meetings, including at minimum the QI Collaborative Launch Meeting and culminating Harvest Meeting to develop the QI change package.

    - Budgets should also consider the number of participants planned for each meeting, as well as the frequency of meetings (e.g., at least three Learning Sessions and one Harvest Meeting per Collaborative, one National Review Meeting per quarter with national-level stakeholders). Ideally, these meetings will be conducted in-person with participation from all key stakeholders and sites. In person meetings will likely incur costs for meals/refreshments, transport, and venue reservations.

    - In situations where budgets are very constrained or resources are limited as a project nears close-out, some QI meetings can be transitioned to a virtual format which — while less ideal due to challenges with collaboration and group work in virtual settings — will incur a lesser cost due to fewer resources (e.g., virtual meeting platform and language translation services, if necessary).

- **Dedicate LOE for QI:** Due to the collaborative nature of QI, colleagues from across teams (e.g., SI&E, M&E, technical advisors), are often called upon to support QI and lend their expertise to interprofessional and cross-technical area QI projects. While these colleagues may have primary roles outside of the QI team, LOE for any colleagues supporting QI activities should be defined and planned for during the program/project planning stage. SI&E colleagues are frequently called upon to support QI data collection and analysis, thus the QI focal point and SI&E backstop in particular should work closely together to allocate and plan their staff’s LOE. To ensure dedicated and protected QI support, QI team leads should work with the leads of other teams (e.g., SI&E, M&E, technical advisors) and regularly review country and global

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4 SI&E activities are generally allocated 5% to 10% of a country program’s budget, thus QI activities should be allocated a separate and slightly lesser proportion of the budget.
workloads to reallocate colleagues’ LOE for QI as bandwidth and priorities evolve. Close collaboration across teams to strategically discuss LOE will furthermore serve to increase joint ownership of QI, shared responsibility for quality of care, and co-leadership in fostering a culture of continuous improvement.

- **Dedicated QI LOE Written in the Workplan/Job Description (Milestone):** Documenting the LOE that specific colleagues should be dedicating to QI will protect team members’ time and bandwidth to support QI well. If a new role is created, such as to hire a new SI&E colleague who will also support QI, teams are advised to add QI-specific LOE to the job description so that QI LOE is allocated from the onset. These LOE allocations should be revisited as projects and programs evolve, but documenting a percentage of LOE during the planning stage sets the expectation for strong QI support over the course of the project.

Mont’seng Lesala, 24 years old, was orphaned by the age of 11, and found that she was living with HIV when she became pregnant. Initially, she was devastated and terrified that she, too, would orphan her new baby, but with support from healthcare workers and peers at the Queen II adolescent corner in Lesotho, she enrolled on effective treatment, accessed psychosocial support, and found her hope again. Now she is healthy and completely in love with her son, who was born free of HIV, and together they look forward to a bright and healthy future. Photo by Makopano Letsatsi/EGPAF 2022.
Phase II: Introduction

Establish QI Infrastructure Within the Existing System and Develop/Adapt QI Implementation Plans and Tools

• Development and Adaptation of Clinical Tools: To ensure that QI activities align with rollout of clinical activities, QI and clinical teams should work together to review the clinical tools that will be used to deliver services and ensure that quality of care is kept as a central focus. Integration of QI with clinical activities and tools will also minimize any burden that QI activities place on health care providers.

• Development and Adaptation of QI Tools: A number of tools are needed to effectively implement QI at the health care facility level (e.g., client flow charts, PDSA chart posters, run charts). Teams can choose to adapt tools used by other QI teams or programs if a set of national QI tools set forth by their MOH does not already exist.

• Compilation of a Training Package: All tools to be used by QI teams should be compiled into a well-organized training package, through close coordination between the MOH, EPGAF, and other stakeholders with QI and technical area-specific expertise. For example, Malawi developed an Integrated Advanced HIV Disease QI Training Package for Health Care Providers consisting of content for three-days of advanced HIV disease-specific training, followed by three-days of QI-specific training pertaining to advanced HIV disease. Since the practice of covering advanced HIV disease clinical information and QI principles within the same training session and integrated package of tools proved effective in the Malawi setting, other programs are encouraged to offer trainings and packages of tools that similarly integrate clinical and QI content.

÷ Finalization of the QI Toolkit and Training Package (Milestone): The finalized set of QI tools that the QI teams plan to use should be developed into a QI Toolkit with an accompanying Training Package to orient and refresh colleagues on how to effectively and efficiently utilize these tools. The QI Toolkit and Training Package will serve as a standardized package that can be used across districts to ensure all QI teams and staff are implementing QI activities with fidelity.

÷ Train QI Staff and Coaches on Key Concepts and Tools and Sensitize Health Care Providers and Other Health Care Facility Staff on the Value of QI: All QI team members, health care facility staff, and key stakeholders should have an appreciation for QI’s value of continuously aiming to strengthen the quality of services recipients of care are offered.

÷ Completion of Training for QI Coaches (Milestone): In addition to the training offered to QI teams and health care providers, individuals selected to be district and national QI coaches should receive additional training with supplementary content specific to their coaching role. Stakeholders, including EPGAF, are recommended to collaborate closely with the local MOH coaches/mentors to ensure all coaches are adequately trained on QI and any national QI-related materials that exist (e.g., national quality management framework). Once all coaches have been trained and demonstrate knowledge of QI concepts, as well as strategies for QI coaching, they should be well-prepared to cascade their training down to other health care providers at the district and facility levels.

÷ Completion of Training of Health Care Providers (Milestone): After QI coaches are trained, health care providers should also be trained on QI activities to support their rollout. Training of health care providers will also increase their buy-in for the QI activities that will be testing changes to improve the effectiveness and efficiency of the clinical activities they perform and operations they rely upon. Integrating a refresher on
clinical content into these QI trainings for health care providers further emphasizes that quality of care is a shared responsibility and not solely the responsibility of the QI team.

**Begin Implementing QI Activities:** With all of the tools made available and all training complete, QI implementation is now ready to begin.

- **Activation of QI Teams at Each Participating Health Care Facility (Milestone):** At each health care facility, an interprofessional QI team should be formed based on a list of permanent members who are well-versed on QI core principles and methods. Ideally, the QI team will also have established a schedule for regular standing meetings. Teams will receive continuous technical support from QI coaches and EGPAF as they transition into full implementation.

  - **All Health Care Facilities Have Held at Least One QI Team Meeting (Milestone):** A health care facility’s QI team is considered activated after completing their meeting designated for discussing QI and the focus of the most recent QI initiative. Some health care facilities may have had QI teams in the past, which became dormant. These teams may not need to be initiated, but they should be reinvigorated in order to undertake the latest QI activity with heightened morale and enthusiasm.

- **District Consultations:** Once the introductory activities have been completed and implementation is in progress, the leadership in each district and health care facility should be contacted and updated on the status of all activities.

  - **All District-Level Stakeholders Have Been Provided a Status Update (Milestone):** The list of district-level stakeholders and process for communicating with them (e.g., quarterly meeting, email notifications) should have been determined during the Preparation phase.

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*Merigoreti Omondi with her son at her home in Shauriyoko Homa Bay, Kenya on July 26, 2021. She is currently being counselled by a mentor mother. Mentor mothers play an important role in supporting mothers living with HIV to attain suppression and take care of their children. EGPAF partners with Homa Bay County MOH to support HIV treatment. Photo taken in Homa Bay, Kenya by Kevin Ouma/EGPAF 2021.*
Phase III: Implementation

Implement QI at the Facility Level Through a Series of Action Periods and Continuous Team Support:

• Health Care Facility Implementation: The health care facility implementation will be guided by a trained facility QI team whose core function is to innovate and put into practice what is planned. This team should meet weekly to discuss implementation challenges and complete the tools that are set to improve care. At least biweekly, health care facilities should compile results from their rapid cycles of learning, which are to be reviewed by QI coaches at the district, regional, provincial, and/or national levels, where appropriate. As the first of many ongoing steps in internalizing their ownership of the project, teams are highly encouraged to follow a bottom-up approach with site and district-level teams doing their own situational analysis and leading development of change ideas to be tested at their health care facilities.

  • Health Care Facility-Level QI Team Meetings: Health care facility-level QI team meetings will be used as a forum to share experiences and allow colleagues from within the same facility to learn from each other. QI teams will be encouraged to cascade their expertise and QI training to other health care facility staff through step-down trainings and representation of all health care facility departments during QI team meetings.

  • Initiation of the First QI Project at Each Health Care Facility (Milestone): To complete their first QI project, a health care facility QI team should have identified a problem, conducted a root causes analysis, identified a feasible solution or change to test, and began implementing that solution or change at the health care facility. Ideally, documentation of the change process will have begun in the QI documentation journal as well.

• Ongoing QI Data Collection and Monitoring: As QI projects progress, there should be regular monitoring and tracking of projects’ progress over time, not only to ensure that projects remain active through their completion, but also to compile and share lessons learned during the implementation process.

  • Documentation of the Health Care Facility’s First QI Project (Milestone): Progress of all QI projects should be documented with comprehensive detail so that another site can learn from the health care facility’s implementation experience. A QI documentation journal should be maintained for every individual QI project at each health care facility; one health care facility team member should be designated to keep each respective journal up-to-date for the duration of the project. For example, if three QI projects are occurring, three QI documentation journals should be maintained, and one health care facility team member should maintain each journal.

QI-PM

To support health care facilities with data collection and QI project monitoring, EGPAF maintains its own Quality Improvement Project Monitoring (QI-PM) application. This application is accessible through a mobile device or web platform and provides a digital interface where QI teams at each health care facility can enter details about their QI project, similar to what they enter in the QI Documentation Journal. On a weekly or monthly basis, teams then update QI-PM with the progress for their project. The application’s in-built features include automatically generated run charts that display results of key indicators over time to track project progress. Health care facility-based QI teams in Malawi successfully utilized the QI-PM application to track all of their QI projects, demonstrating that this application is feasible for QI data collection and project monitoring in EGPAF-supported countries.
Conduct Ongoing Performance Measurement and Monitoring of QI Implementation, Guided by the PDSA-Cycle

QI Collaboratives: QI Collaboratives are a group of sites all working towards a shared goal of improving the quality of services in a specific programmatic area. United QI sites work together to systematically accelerate strengthening of services with fidelity to national and international guidelines; provide support to identify best practices; share lessons learned during the implementation process; and measure the contribution of QI activities to strengthening quality of care. Functioning QI Collaboratives have the potential to also be cost-saving.\(^5\) EGPAF’s QI Collaborative Model (Figure 2) illustrates the key activities a QI Collaborative should undertake at different phases of the QI program process.

Level and Structure: QI Collaboratives can be created at the national level and/or regional level. Regional-level QI collaboratives are still encouraged, even if a national-level QI Collaborative is formed. Sites within the same region are more likely to share a similar context for implementation, finding the lessons and experiences shared by other sites in the collaborative to be more applicable to their setting. Regional-level QI Collaboratives should still aim to include representation from national-level stakeholders in their structure, in addition to the QI coaches and district- and local-level colleagues and site teams who form the bulk of the Collaborative (Figure 3).

Schedule: QI Collaboratives can use the Breakthrough Series Model for implementing QI, which involves multiple three-month cycles; each cycle will consist of a series of activities guided by the PDSA-cycle. During each cycle, the Collaborative and all of its participating health care facilities will focus activities and newly initiated QI projects on strengthening performance on one or two key performance indicators. Every two weeks, health care facilities may be requested to submit progress reports summarizing their status on strengthening the key performance indicators; these progress updates should be synthesized during the Collaboratives’ next meeting as health care facilities unite to determine which tested changes contributed to realized improvement in performance and quality of services.

Launch of the QI Collaborative (Milestone): A QI Collaborative launch meeting should be held to formally introduce the Collaborative and its objectives, scope, tools, and participants. The meeting should engage stakeholders from the national, regional, and district levels. Additionally, implementing partners, leadership from the implementing districts, government department representation, and staff who will serve as QI coaches at the district and national levels should be involved. The meeting will serve to map out the process for the implementation of the Collaborative so all stakeholders have a shared understanding of plans and project expectations.

QI Coaching: Colleagues with a strong understanding of the QI process and who are interested in sharing their knowledge with other sites should be appointed as QI coaches. QI coaches will coordinate mentorship and supervision, as well as facilitate learning sessions for all sites in the QI Collaborative. They will also facilitate development of additional tools that will be required and respond to specific requirements at a health care facility.

Appoint QI Coaches: QI coaches should be named early during the implementation phase so that they can serve as points of contact for sites while the site-level teams are activating QI projects. Coaches can be appointed to support sites within a specific district, region, or province, or coaches can be appointed at the national level, depending on the country context and QI program structure. Before supporting sites,

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QI coaches should be provided with an orientation or refresher training on the key concepts and tools that the QI Collaborative agreed to utilize to ensure consistency of information and knowledge shared across sites.

- **Completion of the First Round of QI Coaching Visits and Coaching Reports (Milestone):**
  The district coaches will conduct monthly health care facility visits to ensure adherence to set objectives, provide supportive supervision, and rectify any data quality issues observed during the meeting. Coaching reports should be written after each round of QI coaching visits to provide updates on each health care facility’s activities and review their progress in comparison to the results of their baseline assessment.

- **QI Learning Sessions:** At the end of each QI cycle, learning sessions should be facilitated to share information, lessons learned, and best practices (Figure 2: EGPAF’s QI Collaborative Model). These sessions should be coordinated — at least quarterly — by key stakeholders, including EGPAF. Learning sessions can be delivered either as in-person workshops or via an online platform, should COVID-19 restrictions or other barriers prevent in-person sessions. At every stage, the national, district, and health care facility leads play a significant role in providing mentorship, supervision, and documentation of best practices to ensure a vibrant collaborative approach. All health care facilities, including those performing well and those with room to strengthen performance, should be invited to engage in the learning sessions and share lessons learned. A culture of continuous improvement and appreciation for transparent should be fostered so that teams feel welcome to share lessons from both their successes and challenges during implementation. As part of a strong QI coaching atmosphere, sites should be reminded that there are no failures in QI implementation, except either the omission of lessons learned or experiences that can help other sites or not attempting to make any change.

- **Completion of the First Round of QI Learning Sessions (Milestone):** The first learning session reviews baseline data on past experience of health care facilities’ QI implementation, reveals anticipated challenges, and identifies gaps in knowledge which the continuing capacity building sessions will focus on.

Márcia Manhique is a 43-year-old mother of three living in the city of Xai-Xai in Gaza, Mozambique. After being diagnosed with HIV, Márcia struggled, but with the support of a mentor mother, her understanding of HIV grew and the stigma she held receded. Marcia is healthy and her husband and all three children are HIV-free. “I conceived my third child with an undetectable viral load, and when I gave birth, it was also undetectable,” says Márcia with a smile. Photo by Felix Felipe/EGPAF 2022.
Completion of the First Round of QI Projects (Milestone): As the first round of QI projects concludes at the end of the first QI cycle, QI coaches should motivate QI health care facility teams to complete their documentation in QI Documentation Journals and the QI-PM application so the methods, results, and lessons learned from this first round of projects can be well preserved.

Completion of the Second Round of QI Learning Sessions (Milestone): The second session will be conducted after health care facility trainings and project initiation. The initial learning takes place in this session and cross-learning begins at this point. Health care facilities share best practices and common challenges, which is an opportunity for the coaches to strengthen team cohesion. Review of both process and outcome measures is crucial at this moment to monitor teams’ alignment and progress towards the overall aim of the project.

Exchange Visits: When travel is feasible, teams from different health care facilities are encouraged to visit other health care facilities implementing QI activities in-person to learn from their approaches. These visits are important elements of the implementation process as they facilitate sharing of promising practices and lessons learned across site teams.

Ongoing Communication: In between learning sessions and formal QI Collaborative meetings, avenues for sites to communicate with one another should be sustained to promote ongoing communication and sharing of best practices and lessons learned as they arise. Virtual platforms (e.g., WhatsApp groups, Microsoft Teams channels) can provide excellent, low-resource platforms for ongoing virtual communication that will promote learning between health care facilities during the time between formal learning sessions.

Completion of the Third Round of QI Learning Sessions (Milestone): About nine months into implementation, a third learning will be conducted, providing another opportunity for documentation of best practices that have arisen. Evidence of change is compiled in preparation for synthesis at the Harvest Meeting.
FIGURE 3: Regional-Level QI Collaborative Architecture Utilized by Cameroon’s Information, Communication, and Technology QI Collaborative in 2020

6 Source: Collaborative ICT Learning Call slides set from EGPAF/Cameroon, June 2020, slide 10.
Phase IV: Maintenance, Spread, and Scale-up

**QI M&E:** In addition to the QI project monitoring activities that occur within each three-month QI Collaborative cycle, additional QI monitoring activities are needed to look across shorter cycles and ensure the QI initiative stays on track to achieve longer term goals and outcomes. QI Data Reviews: QI teams are encouraged to review data from their QI projects at least monthly, if not weekly. Data should be reviewed at the site and district level to determine if the changes that QI projects are testing have led to an improvement.

- **QI Data Midpoint Review (Milestone):** Midway through the planned duration of the QI activity, data on the key performance indicator results for all sites should be reviewed at the site and district or regional levels. This data review can take the form of a written summary brief or presentation during a QI Collaborative meeting. Results and findings from this data review should be shared with all sites and other stakeholders to inform the trajectory for the second half of the QI activity.

- **Endpoint Assessment:** As the QI Collaborative’s nine-month process concludes, an endpoint assessment should be conducted. The tool used for the baseline assessment can be recycled so that health care facilities report the same data. Results from the endpoint assessment and baseline assessment should then be analyzed and compared to determine if there were overall improvements during the course of the Collaborative.

- **Summary of the Endpoint Assessment Results and Analysis (Milestone):** Similar to the baseline assessment process, the endpoint assessment must be conducted through the stages of developing or adapting the data collection tool, conducting data collection, cleaning data, and then analysing it for the purposes of deriving meaning from the results. A completed endpoint assessment should include a summary of the results, analysis, and documentation of the interpretation (e.g., slide set or brief report), as well as a comparison to the baseline assessment findings. These results should be shared with all sites and all stakeholders, especially the comparison that shows sites’ progress since the baseline assessment.

**Dissemination of Results and Lessons Learned:** Lessons learned from the QI Collaborative and those compiled in the Harvest Report will be shared across districts, EGPAF programs, and on international platforms, as appropriate.

- **Presentation to the National QI Technical Working Group and at the National QI Conference (Milestone):** Results and lessons learned from the QI activities should be shared across districts within countries. Presenting to the National QI Technical Working Group is an example of a dissemination opportunity that allows activities to advance QI within the country, increase awareness of the need to prioritize high-quality services for PLHIV, and increase or sustain national buy-in for the QI initiative. Similarly, if countries hold a National QI Conference, teams should submit and present at least one abstract per QI Collaborative.

- **Sharing of Results with the CQUIN Network (Milestone):** EGPAF-supported country teams will take advantage of CQUIN’s multicountry platforms to share their results and promising practices with other countries within CQUIN, just as the Malawi Advanced HIV Disease QI Collaborative modeled through their presentation at the CQUIN Conference in 2022.

**QI Collaborative Cycle Closeout:** At the end of each three-month QI cycle, the QI Collaborative should complete the learning process by reflecting on the entire cycle and documenting lessons learned that can inform future activities.
• **Completion of Harvest Sessions (Milestone):** In addition to the three QI Collaborative Learning Sessions, a final culminating Harvest Session to compile all lessons learned and reflect on all QI cycles is recommended. The Harvest Session serves to compile all best practices and evidence for change across regions, define improvement, analyse change concepts, and compile recommendations and lessons learned from implementation to subsequently package this evidence for sharing through deliverables including abstracts, storyboards, news briefs, and other existing story telling platforms.

• **Completion of the Change Package/Harvest Report (Milestone):** Deliverables from the Harvest Session should be gathered together into a culminating package and final report, also known as a change package and harvest report. This compilation captures all relevant information about which changes were tested; results of key performance indicators; determinations of which tested changes led to an observable improvement; and a synthesis of lessons learned from the participating QI projects.

**Recognition and Awards for QI Performance:** In order to appreciate QI teams for their leadership and dedication to making changes and continuous improvement, QI teams that have showed outstanding improvement and performance should be praised and awarded in accordance with a QI awards and recognition system. This system should focus on awarding teams that have implemented changes and catalysed notable improvements, instead of only awarding teams that have the highest performance or achievement on key performance indicators. Emphasis on appreciating change and improvement will continuously foster positive morale amongst these pioneers of change.

• **QI Awards Ceremony (Milestone):** Awards can take the form of celebratory events, certificates of achievement distributed at the Harvest Session, or delivery of additional equipment to the health care facility based on the improvement the health care facility demonstrated. For teams that would prefer an objective and systematic approach to identifying QI teams who should be awarded, a point-based scoring tool can be developed or adapted (e.g., Malawi’s QI recognition scoring tool).

**Sustaining the Gains from QI Activities:** Although a QI Collaborative or QI activity may have a formal end-date and project close-out, learnings and experience from the QI activity will ideally continue to benefit the health care facility teams. For example, sites may have participated in a QI Collaborative focused on HIV point-of-care testing for HIV-exposed infants, but after that QI initiative has ended, the site could continue to keep their QI team activated so that they can undertake new QI activities and translate the QI capacity they gained to improve other services, such as increasing same-day initiation of PLHIV on ART or increasing the offer rate of pre-exposure prophylaxis (PrEP) to eligible clients.

• **Completion of Holding the Gains Session (Milestone):** QI programs can choose to facilitate a Holding the Gains Session about six months after the QI activity was formally completed. These meetings serve to determine the sustainability of QI activities and evaluate their lasting impact on health care facility teams. A report summarizing the findings of this meeting is recommended to capture how well the gains from QI activities were sustained over time.

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**Contact Information**

For more information about EGPAF’s QI program, please contact:

- **Ivan Teri**, Associate Director for Program Optimization (iteri@pedaids.org)
- **Nimasha Fernando**, Program Optimization Officer: Documentation, Analysis, and Learning (nfernando@pedaids.org)