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Effective Leadership for Quality Improvement in Health Care

A Practical Guide

MAY 2019

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Table of Contents

Acronyms

ANC	Antenatal care
ASSIST	Applying Science to Strengthen and Improve Systems
CHMT	Council Health Management Team
eMTCT	Eliminating mother-to-child transmission
HCI	Health Care Improvement Project
HIV	Human immunodeficiency virus
LMIC	Low- and middle-income countries
MOH	Ministry of Health
NACS	Nutrition assessment, counseling and support
NHSI	National Health Service Institute
OHA	Office of HIV/AIDS
OHS	Office of Health Systems
PDSA	Plan-Do-Study-Act
PEPFAR	United States President's Emergency Plan for AIDS Relief
PMTCT	Prevention of mother-to-child transmission of HIV
PNC	Postnatal care
PNLS	National AIDS Control Program (Burundi)
QI	Quality improvement
RHMT	Regional health management team
SDG	Sustainable Development Goals
UK	United Kingdom
URC	University Research Co., LLC
USAID	United States Agency for International Development

Introduction

Over the last decades, dozens of governments, and hundreds of health facilities and communities in low resource settings have used quality improvement (QI) methods to improve a range of health care processes and outcomes (Massoud, et al., 2018). While there have been numerous successes in improved care and outcomes for a range of health services (USAID ASSIST Project, 2017), it is becoming evident that few countries have institutionalized QI and included these methods into their national programs to date (Gutierrez, Teshome, & Neilson, 2018).

One of the greatest opportunities to improve the quality of health services in low and middle-income countries (LMICs) – and meet global health goals, such as the Sustainable Development Goals (SDGs) and the UNAIDS 95-95-95 goals – is through enhanced leadership. Leadership and country ownership for QI are instrumental in creating the energy, excitement, teamwork, and shared learning needed to design and implement QI at scale from the national to the local levels, and to sustain gains.

Effective Leadership for Quality Improvement in Health Care: A Practical Guide is for those who are leading or want to lead quality improvement activities from design to post-implementation. The guide is oriented to leaders of all levels – community, health facility, district, regional, and national – and is suitable for leaders who want to support improvement focused in all health service areas. The guide builds on existing leadership and quality improvement frameworks.

Why is Leadership in Quality Improvement Important?

Improvement in care is faster when leaders are engaged and where leadership for improvement is explicitly implemented. Leaders are critical for owning and expanding the QI approach and providing the needed energy for implementation and scale up.

Though we are not all born leaders, everyone has the potential to lead improvement. Leaders must be empowered to improve care, to induce others to become leaders, to see the potential of something, honor it, and support others in improving care.

> Leadership is about "Creating an environment that supports individual team members in being maximally effective in achieving those outcomes that are valued by users and their supporters."
>
> *NHS Institute for Innovation and Improvement, 2005*

Leaders are necessary for setting improvement goals and then: 1) equipping staff with methods and skills to reach those goals, 2) building management structures and aligning systems to support improvement, and 3) creating a culture that promotes innovation and problem-solving.

Purpose of Guide

Improvement in care is faster when leaders are engaged and where leadership for improvement is explicitly implemented. Leaders are critical for owning and expanding the QI approach and providing the needed energy for implementation and scale up.

Leaders need these competencies to help:

- Convince others to join their efforts: Good communication skills are needed to explain what changes they are trying to implement and how they think these changes will improve care.
- Couple individual initiative and the ability to collaborate with others.
- Rally a team around a strategy and draw out the best in each team member to fulfill that strategy.
- Balance challenging team members to be better, while at the same time supporting them to do better.
- Motivate others to make improvements.

The guide is developed in a self-study format for continuous learning and includes the following key sections:

- Section 1: Key leadership qualities and attributes
- Section 2: Recommendations for demonstrating key competencies
- Section 3: Leading quality improvement efforts: Case examples for HIV/AIDS service improvement

Basic knowledge of quality improvement principles, methods, and tools are recommended as the guide does not attempt to teach the science of quality improvement. Leaders are advised to use the resources provided in Appendices A-B if they need to enrich their knowledge in quality improvement, methods, and tools. The appendices include:

- Appendix A: A quick reference guide to selected quality improvement principles and tools that can be useful for leaders as they guide, communicate, and scale up improvement work.
- Appendix B: Additional resources to enhance health leaders' knowledge in the area of leadership and quality improvement science.

Methods

In 2018, the USAID ASSIST Project conducted a review of publicly available resources to identify competencies that are needed to effectively lead quality improvement activities. It included leadership competency frameworks, definitions of 'leadership' and 'competencies' in the context of quality improvement, and assessments of current thinking about the role of leadership in health care in resource-constrained settings. The information obtained helped build a foundation in understanding the existing knowledge base on 'leadership' and 'competencies' in health care and needs in leading quality improvement. The findings were reviewed by ASSIST senior staff and supplemented by phone interviews with 30 health leaders of various health systems' levels from Côte d'Ivoire, Mali, Burundi, Tanzania, Kenya, and Uganda. Based on their feedback, a draft framework for leadership qualities was organized around the three clusters (personal qualities, setting direction, and delivering the service) proposed by the National Health Service Institute (NHSI) Leadership Framework (Glasgow City Council, n.d.) (NHS Leadership Academy, 2011). The relevance of the framework was further explored at two in-person workshops held in Abidjan and Dar es Salaam in April 2018 with health care leaders who were responsible for delivering HIV prevention and care services at various health system levels in Côte d'Ivoire, Mali, Burundi, Tanzania, Kenya, and Uganda. The workshop participants gave positive feedback and inputs on the draft framework of the leadership qualities. Following the workshops, key attributes of effective improvement leaders and recommendations on how they can demonstrate them in their day-to-day lives were systematized and presented in the final framework. Lastly, in September 2018, USAID ASSIST conducted a webinar on "Leading health care improvement" where the framework was presented and participants had the opportunity to give additional feedback (USAID ASSIST, 2018).

Section 1: Key Leadership Qualities and Attributes

To lead health care improvement in all health sectors, leaders need to have a set of core competencies – or underlying characteristics or qualities – that enable them to carry out their jobs successfully. While many definitions for competencies to exercise leadership exists, the one that our research found to be the most fitting is:

Competencies to exercise leadership may be thought of as: *"underlying characteristics that lead to superior performance in an individual's job. They include qualities, skills, attributes, and traits that help people to be successful. Competencies go beyond the traditional focus on academic qualifications, technical skills, and experience, providing a framework for assessing and developing deeper-seated personal skills. Competencies are also capable of being developed in people rather than being fixed and immovable."*[1]

This guide summarizes key leadership qualities/competencies around characteristics defined by the NHSI for Innovation and Improvement in the UK and Dr. W. Edwards Deming's System of Profound Knowledge (NHS Leadership Academy, 2011) (Brooks & Monda, 2013).

The leadership qualities in this guide are organized by the NHSI Leadership Framework's three clusters (personal qualities, setting direction and delivering the service) comprising 13 key attributes that improvement leaders can demonstrate in their everyday work **(see Table 1).** These leadership qualities are cross-cutting for all improvement work, including HIV/AIDS care and prevention as well as other health issues, including maternal and child health, malaria, tuberculosis, among others.

Table 1: Key leadership clusters and attributes

Clusters	Key Attributes
Personal Qualities	**Self-belief:** Displaying confidence that you will succeed, and you can overcome obstacles to achieve the best outcomes for service improvement
	Self-awareness: Knowing your strengths and limitations and understanding your own emotions and the impact of your behavior on others in diverse situations
	Self-management: Being able to manage your own emotions and be resilient in a range of complex and demanding situations
	Drive for improvement: Showing deep motivation to improve performance in public services and thereby to make a real difference to others
	Personal integrity: Demonstrating a sense of commitment to openness, honesty, democracy, inclusiveness, loyalty, and high standards in undertaking the leadership role

[1] Glasgow City Council. (n.d.). Leadership Competency Framework. Glasgow, Scotland: Glasgow City Council.

Table 1: Key leadership clusters and attributes *continued*

Clusters	Key Attributes
Setting Direction	**Seizing the future:** Being prepared to take action now to shape and implement a vision for the future development of services **Intellectual flexibility:** Embracing and managing ambiguity and complexity and being open to creativity in leading and developing services **Broad scanning:** Taking the time to gather information from a wide range of sources **Political/contextual astuteness:** Showing an ability to understand diverse interest groups and power bases within the facility and/or community and the dynamic between them **Drive for results:** Displaying a strong commitment to making service performance improvements and a determination to achieve positive service outcomes for the public
Delivering the Service	**Empowering others:** Striving to facilitate others' contributions and to share leadership, nurturing capability and long-term development of others **Effective and strategic influencing:** Being able and prepared to adopt several ways to gain support and influence diverse parties, to secure improvements **Collaborative working:** Demonstrating commitment to working and engaging constructively with internal and external stakeholders

Section 2: Recommendations for Demonstrating Key Competencies

Providing leadership for improvement at all levels is an intricate dynamic between being able to think strategically, having the technical capability and capacity to lead improvement, and modeling and encouraging a culture that supports leadership. Figure 1 outlines these three central components for leadership (Massoud, et al., 2018).

Section 2 provides recommendations on how leaders can practice and develop the key leadership attributes listed in Section 1 in their daily work, taking into consideration the importance of leadership technique, strategy, and culture.

Figure 1: Central components and insights about leadership

Personal Qualities

To be an effective leader for quality improvement, one must "draw upon [one's] values, strengths, and abilities to deliver high standards of service" (NHS Leadership Academy, 2011). The first cluster, "Personal Qualities" consists of five key attributes and accompanying activities that leaders can do to help build a "culture" for managing improvement (see Table 2).

1. Self-belief
2. Self-awareness
3. Self-management
4. Drive for improvement
5. Personal integrity

Table 2: Personal quality leadership attributes

Personal Quality Attributes	How to Demonstrate
Self-belief	1. Take responsibility for your personal development and abilities ▪ Practice and master skills that improve your ability to communicate your vision, mission, direction, and roles ▪ Practice your verbal and nonverbal communication skills 2. Clearly and logically describe key system performance gaps and why improvements are needed and how improvements can be achieved ▪ Take time to discuss with the team and staff to ensure there is consensus and a common understanding of performance gaps and how quality improvement can address those 3. Believe and own your organization's vision ▪ Describe your motivation for the improvement of services ▪ Lead the process of driving agreed actions forward ▪ Address any self-doubts your team might have ▪ Appear confident, but not overly confident 4. Present yourself as a "can do" person ▪ Lead with action to drive the team forward ▪ Identify solutions and resources needed 5. Adhere to the principle, "better results cannot be achieved without changing the system" ▪ Convincingly present the position why change is needed ▪ When challenged, defend your position with evidence 6. Lead team to own the vision and jointly overcome challenges ▪ Refer to your personal relevant experience for confidence to overcome barriers
Self-awareness	1. Exercise judgment about factors that may affect your behavior in various local contexts (organizational, cultural) ▪ Be aware of your own strengths and limitations ▪ Be aware of personal sources of stress, your own emotions and prejudices, and how these can affect your judgment, behavior, and others ▪ Seek out feedback from a variety of sources ▪ Make time for personal reflection
Self-management	1. Remain calm and focused when under pressure or changing circumstances ▪ Make decisions thoughtfully and decisively ▪ Manage the impact of your emotions on your behavior with consideration of how it affects others ▪ Face difficult decisions directly

Table 2: Personal quality leadership attributes *continued*

Personal Quality Attributes	How to Demonstrate
	2. Allow yourself to be accessible and approachable during demanding situations ▪ Maintain an "open door" policy 3. Promote a healthy work/life balance ▪ Set your daily agenda ▪ Delegate and provide clear guidance
Drive for improvement	1. Create a vision for quality and constancy of purpose toward improvement ▪ Show the commitment to improving services ▪ Present achievements as those of the organization, not your personal success 2. Promote a change culture in which all have the responsibility "to do their jobs and improve upon them" ▪ Explain the value of quality improvement for patients, health workers, communities, and organizations ▪ Build staff motivation for quality improvement by jointly reviewing performance data 3. Build your own skills to understand processes of the underlying system of care and how to improve them ▪ Use QI tools (flow diagram, cause and effect diagram) to develop a picture of processes and organize knowledge about potential causes of problems ▪ Regularly review available facility data (e.g., patients' charts, and registers (e.g., pre-ART, pharmacy, laboratory)) to help identify gaps in the processes of care that need to be addressed and to track performance ▪ Focus on the most essential aspect of care and select one improvement at a time ▪ Use available process, output or outcome indicators or develop additional specific ones ▪ Take steps to ensure the quality (i.e., accuracy, reliability, precision, completeness, timeliness, integrity, confidentiality) of facility-level data
Personal integrity	▪ Facilitate an environment that is supportive of the team's and health facility's performance ▪ Uphold personal and organizational ethics and values (e.g., openness, transparency, fairness) ▪ Value, respect, and promote equality and diversity ▪ Take responsibility for failure ▪ Act if ethics and values are compromised 1. Serve as a mentor ▪ Make time to develop skills of team members to carry out improvement ▪ Lead by example to inspire

Setting the Direction

Effective leadership for quality improvement requires that facility managers, district, and national leaders develop a clear and compelling vision or strategy of what they want to improve. They need to have the technical capacity to lead and mentor improvement teams and be able to promote a culture that supports quality care, which is consistent with the values of the health facility and health system. To effectively do this, an improvement leader can demonstrate five key attributes:

1. Seizing the future
2. Intellectual flexibility
3. Broad scanning
4. Political/Contextual astuteness
5. Drive for results

Table 3 describes these attributes and gives recommendations for how facility managers and leaders can demonstrate and practice these attributes in their daily work.

Table 3: Leadership attributes for setting the direction for improvement

Setting Direction Attributes	How to Demonstrate
Seizing the future	1. Develop a strategic perspective that connects with the values that brought people to work in health and social care in the first place ▪ Have a long-term time frame to achieve aims ▪ Develop system-level measurable goals and track progress towards them ▪ Openly discuss and engage your staff to achieve a shared vision ▪ Use data to inform vision and measure progress to drive implementation ▪ Communicate priorities to the staff consistently and frequently 2. See linkages between current and future opportunities ▪ Keep informed of important events/trends (political, economic, technological, human, cultural) that influence current and future opportunities ▪ Describe to the team how smaller improvements contribute to a larger picture of improved services ▪ Build partnerships to achieve goals ▪ Scan for ideas, best practices, and emerging trends that can have an impact on the future 3. Establish a sense of urgency and determine the pace of the improvement initiative ▪ Act consistently ▪ Act quickly and decisively in time sensitive situations ▪ Interact frequently with staff about the improvement strategies and plans
Intellectual flexibility	1. Be able to explain the complex dynamics of a system where effects of interventions are not obvious ▪ Make explanations of something complex in a simple way ▪ Keep everyone informed about improvement activities ▪ Explain interconnected effects between small improvements and a larger context (e.g., system-level improvement) 2. Act as a positive role model for innovation ▪ Question the status quo ▪ Encourage innovation and learning to improve service delivery ▪ Develop creative solutions to transform services and care ▪ Encourage co-workers to look at new challenges even when there is a risk of failure ▪ Support testing and implementation of new ideas ▪ Be able to adapt to the context you're working in ▪ Encourage team members to share their skills and ideas with the team
Broad scanning	1. Gather information from staff at all levels who understand different aspects of the system ▪ Capture good practices within a facility ▪ Hold regular staff meetings ▪ Ask your staff responsible for various processes areas of work that require improvement 2. Be aware of patients' or clients' feedback about services provided ▪ Support periodic assessments (e.g., exit interviews, surveys, meetings with patient support groups, suggestion boxes) to collect patient feedback about their experiences in receiving care in your facility, and to examine issues

Table 3: Leadership attributes for setting the direction for improvement *continued*

Setting Direction Attributes	How to Demonstrate
	3. Be aware of key developments in health and related sectors to align with each sector's priorities ▪ Know sources of information for health and health-related data to inform setting directions ▪ Demonstrate systematic ways of keeping informed through networks 4. Network ▪ Network with colleagues within your organization, communities, private and not-for-profit organizations, health care providers, government officials, professional associations, academic medical institutions, and international stakeholders in the country or region that are focused on improving the same health care services you are 5. Be open to information from various sources to see the "big picture" 6. Strive to be aware of others' preferences, aspirations, and motivations and how you influence others ▪ Understand and appreciate how you operate ▪ Understand the values/principles that are guiding you ▪ Develop the capacity to make observations and critiques of the team
Political/Contextual Astuteness	1. Identify key influencers and involve them in supporting an improvement activity ▪ Work with opinion leaders for their support ▪ Identify unobvious actors/element that can be assets to achieving the aim 2. Identify relevant stakeholders (including religious and community leaders) and actively engage them in planning, design, and implementation of the improvement activity ▪ Consider contextual factors (social, religious, historical, political) ▪ Engage community-based organizations and workers
Drive for results	1. Plan for measurable health impact and make people part of the solution ▪ Set goals that are in line with national targets 2. Articulate quantifiable improvement aims ▪ Emphasize use of scientific evidence 3. Emphasize the importance of a theory of change in the design of an improvement activity ▪ Encourage your team to develop a theory of change to guide their improvement efforts 4. Focus on performance measurement to know what is happening ▪ Develop a data collection plan (how, who, when, what sources?) ▪ Dedicate time to regularly monitor and review data about facility performance ▪ Use and annotate time series charts to review with the team results and improvement cycles ▪ Display services improvement data in the facility where patients can see it 5. Document implementation of the improvement activity and apply learning ▪ Stress the importance of documentation to determine whether patients are receiving the right care ▪ Capture good practices, as well as challenges or things that did not work as expected, and facilitate experiences sharing 6. Take the initiative to solve problems and analyze issues based on results achieved and observations 7. Provide time to regularly discuss successes and failures with the team and communicate results to the facility and the community

Delivering the Service

It is important for leaders to recognize that delivering quality health care cannot be achieved solely through their efforts. The following three key attributes are required:

1. Empowering others
2. Effective and strategic influencing
3. Collaborative working

Table 4 provides recommendations of specific ways leaders can demonstrate these attributes in their daily work.

Table 4: Leadership attributes for delivering improvement services

Delivering the Service Attributes	How to Demonstrate
Empowering others	1. Commit to the importance of teamwork and make it a part of the organizational culture ▪ Request every staff member of your facility to participate in improvement activities ▪ Lead from behind and support the team to lead specific tasks ▪ Assign staff members to an improvement team who are the most knowledgeable about a specific aspect of a selected health care area (e.g., HIV, MNCH, malaria, etc.) to be improved (nurse, data clerk, pharmacist, laboratory technician, peer counselors, outreach workers, etc.) ▪ Assign an improvement team leader to be responsible for the team's performance and delegate roles and responsibilities among improvement team members ▪ Allow staff to use work time to review progress toward achieving set improvement aims (changes tested, results achieved, challenges faced, next action steps identified) ▪ Use available resources to support improvement team's activities ▪ Allocate budget to support staff capacity building for quality improvement through training and supportive supervision ▪ Celebrate successes of the improvement team 2. Encourage the participation of patients in your improvement team ▪ Invite patients to attend improvement team meetings as they bring valuable inputs on their experiences in receiving services in your facility ▪ Identify champions in your team and support them through public recognition, delegating responsibilities, opportunities to present their results and coach other teams, and promotions to positions with larger responsibilities within the facility or system 3. Support a "no-blame" culture where shared responsibility, transparency, accountability, and quality performance data are imperative ▪ Empower others through meetings, assigning clear roles, and sharing information openly ▪ Listen to others to take into account their hesitation, opposition, relevance ▪ Provide clear job descriptions so staff know what is expected of them and their colleagues ▪ Provide feedback in a collaborative and non-punitive manner to build trust which is essential for further change ▪ Recognize team members (staff) in their performance evaluations for participation in the improvement activities and their contributions 4. Create conditions to institutionalize quality improvement within the health facility or a system ▪ Make quality improvement part of the job and as part of workforce retention. This includes developing a facility charter/manual that require staff participation in continual improvement of health services, making quality improvement a requirement in staff job descriptions, supporting staff training in QI and supportive supervision, providing staff with tools needed to measure and improve care, putting QI on the agenda for regular staff meetings, encouraging staff to implement and document Plan-Do-Study-Act (PDSA) iterative improvement cycles, and use annotated time series to demonstrate and interpret improvements in care for patients

Table 4: Leadership attributes for delivering improvement services *continued*

Delivering the Service Attributes	How to Demonstrate
Effective and strategic influencing	1. Use networks to present your activity and results to gain support and create demand ▪ Make use of various communication channels (e.g., community committees, presentations, newsletters, roundtables, meetings, email) to do so 2. Meet with key stakeholders to gain their support of your improvement activity and build partnerships 3. Enhance your communication skills, including vertical (with subordinates and supervisors) and horizontal (with peers in the same position), to effectively resolve conflicts 4. Use subtle influencing tactics, such as framing, mirroring, maintaining eye contact, fluid speech, establishing rapport, and using straightforward points and facts, to assist with achieving the improvement goals of the team
Collaborative working	1. Effectively engage internal and external stakeholders and keep them involved from the planning to design and throughout the implementation of an improvement activity ▪ Establish work plan with stakeholder support and inputs ▪ Keep stakeholders informed of progress and any changes in priorities ▪ Respond to partners and stakeholders' expectations and priorities by implementing effective monitoring, evaluation, and learning system that ensure accurate analysis of performance against targets and timely adaptations to changes.

Section 3: Leading Quality Improvement Efforts: Case Examples for HIV/AIDS Service Improvement

This section presents leadership cases from Burundi, Tanzania, Cote d'Ivoire, and Mozambique to allow readers understand better how the leadership qualities, attributes, and activities described in Section 2 can translate into real-life settings, using HIV/AIDS service improvement as an example. The leaders in these case studies range from national and provincial level leaders (Burundi) to district health leaders (Tanzania), facility leaders (Côte d'Ivoire) and community leaders (Mozambique).

Case 1: The Importance of National and Provincial-level Leadership to Improve PMTCT Services in Burundi[2]

The USAID ASSIST Project started working in Burundi in 2013 through PEPFAR to prevent mother-to-child transmission of HIV (PMTCT). Under ASSIST's predecessor project, the Health Care Improvement Project (HCI), a baseline assessment was conducted in 21 sites in four northern PEPFAR-assisted provinces to identify the strengths and weaknesses of PMTCT services in the country. The assessment found many gaps in service delivery including poor documentation of key PMTCT indicators, low integration of PMTCT services with antenatal care (ANC), low frequency of HIV testing for pregnant women, few sites conducting serologic testing for exposed infants, lack of ART for women and newborns at facilities, and data not being used for quality improvement.

At this time, quality improvement activities were still perceived as project activities that were separate from usual and every-day work. However, two Provincial Directors and the National AIDS Control Program (PNLS) Coordinator valued the use of continuous quality improvement methodology and support-ed creating QI teams, onsite coaching and shared learning. Preliminary results of the quality improvement efforts showed large increases in the proportion of pregnant women tested for HIV during ANC visits from 47% in July 2012 (54 sites) to 91% in September 2013 (64 sites). The initial results helped these leaders to effectively advocate for QI and engage more health providers into quality improvement work. They **took the initiative to solve problems and analyze issues based on the results that had been achieved:** They identified "champions" in peripheral facilities and appointed them as peer coaches. They reorganized their institutional meetings to set a time to **drive for results by focusing on and reviewing performance measures.** In addition, they personally attended all learn-ing sessions and actively commented on the results of the

[2] This case study is based Dr. Maina Boucar's presentation during the webinar on "Leading health care improvement: What leaders need to know to act. Lessons from East and West Africa." USAID ASSIST Project. September 19, 2018. Chevy Chase, MD: University Research Co, LLC (URC)

improvement activities and charted a way forward. Also, **they created conditions to institutionalize quality improvement within their health care system.** For example, the National Coordinator revised the list of indicators to include PMTCT process improvement quality indicators (see Box). He invited ASSIST Project staff to all national HIV meetings, discussions, and strategic planning meetings. In addition, the PNLS requested that all sites report on the same PMTCT indicators.

PMTCT quality indicators Burundi

- Proportion of pregnant women attending ANC visits who access HIV testing and counseling
- Proportion of pregnant women covered by PMTCT services
- Proportion of HIV positive women with known HIV-infection and/or tested positive receiving care and treatment
- Proportion of partners tested for HIV (husbands or partners of enrolled women in PMTCT services)

Case 2: Strengthening District Management to Support Improvement of HIV Medicines and Supplies in Tanzania[3]

This case covers the role district leaders, or Council Health Management Teams (CHMTs), in supporting the implementation of system changes to improve the availability of HIV medicines and supplies in health facilities in Tanzania. CHMTs in Tanzania are responsible for the implementation and evaluation of health services at the district level. District management systems are an important focus for HIV programs because of their above-site leadership role in enabling and supporting the facilities and health workers in their catchment areas to undertake the continuous improvement of HIV services.

In 2012, with funding support from PEPFAR, the USAID HCI Project began a district health management performance improvement intervention in the Lindi Region. The purpose of the intervention was to build the capacity of the region's six CHMTs to more effectively manage and support health care quality improvement in five management functions, one of which was drug supply management. The improvement intervention covered the 207 health facilities the CHMTs supervised across their catchment areas.

Setting Direction: The intervention started with a rapid situational analysis, conducted by HCI, that identified the following challenges to optimal HIV drug supplies: 1) the quantification, forecasting, and ordering of drugs and reagents, 2) the disposal of expired drugs, and 3) the management of stock imbalances between facilities.

To **drive for results,** CHMTs formed improvement teams and defined the responsibilities of team members for tasks in the improvement process. Using data from the situational analysis, the teams decided that the overall aim of their improvement activity was to improve timely receipt and processing of supply orders.

HCI organized a series of learning sessions for the CHMT improvement teams, where teams were oriented to QI and how to follow the PDSA cycle as a way **to plan and test changes in processes or practices that might improve performance.** Also, during the learning session, the regional health management teams (RHMT), CHMTs, and HCI staff jointly developed the following indicators for the CHMTs to use to track their progress on improving supply management: 1) Percent of facilities that submitted supply order on time to the district; and 2) Percent of supply orders which were processed per standard.

To achieve efficient systems for ordering and quantification, **the CHMTs realized that facility-level staff needed to be trained** in forecasting, ordering, and inventory management, especially for antiretroviral drugs. Storage practices needed to reinforce first-in/first-out supply management to ensure that older supplies are used first. They felt that this could be done **through coaching and mentoring** by district supervisors and pharmacy staff, through the **proper use of ledgers** to minimize the risk of accumulating drugs that are close to expiry and **putting in place processes** by which facilities report when they have drugs which are about to expire. CHMTs recommended that the process of destruction of expired drugs be decentralized to the regional level, presuming that if regions are given the power to destroy these drugs, the process will be faster than it is now.

To improve the availability of medicines and supplies in the health facilities, the district management teams focused on the following changes:

- increasing the percent of on-time supply order submissions by providing refresher training in how to fill the requesting and reporting forms;
- assigning a clerk the responsibility for collecting all the reports and orders;
- calling the facilities approximately one week in advance of submission date to remind them of the upcoming deadline and offering support for problems with completing the documents.

Delivering the Service: The RHMT agreed to collate data from all the districts in an Excel database, while the **CHMTs agreed to meet at least once a month** to review their management improvement work; assessing as a group the changes they were implementing; confirming the roles and

[3] This case study is based on: Kiwia M, Foster AA. 2016. Improving the performance of district management teams in the Lindi Region of Tanzania. Technical Report. Published by the USAID ASSIST Project. Bethesda, MD: University Research Co., LLC (URC).

responsibilities of each CHMT member in implementing the changes, studying the results, and planning the next actions. Also, CHMTs started orienting and coaching facilities on how to form their own facility-level improvement teams. They introduced health facilities to the **QI team documentation journal to record improvement objectives, changes that were tested, and track progress.** CHMTs supported facility teams to develop basic competencies in improvement and to apply improvement approaches to management functions that directly impact the performance of health facilities in providing quality health services. This type of **collaborative work between CHMT leaders and health facilities** created a mentorship relationship between the supervisors and the facility staff, improved their working relationship, and improved their understanding of their roles and responsibilities in initiating QI activities.

Results showed that facilities were able to submit their supply orders in a timelier way, increasing on-time submission from 74% of orders in December 2010 to 96% in September 2013. Even more important than timely submission, the other aspect that improved was the ordering of correct supplies. The percentage of supply orders processed by the CHMT within two weeks increased from 85% in December 2010 baseline to 97% in September 2013.

Case 3: Côte d'Ivoire: How Facility Leaders Mobilized Their Teams to Overcome Obstacles to Achieve Better Outcomes for Health Service Improvement for HIV Care[4]

Abobo is one of the most populated districts in Abidjan in Côte d'Ivoire with an HIV prevalence of 2.7% in 2017. The Adobo Sud General Hospital provides care and treatment for a large number of patients living with HIV, but poor facility hygiene and long waiting times have made clients angry and have affected retention in care.

The Head of the Pharmacy Unit and the QI team leader at Abobo Sud General Hospital who **believed in himself and saw himself as a "can-do" person,** decided to take matters into his own hands to address the HIV retention rate. For example, the Head of the Pharmacy Unit initiated HIV counseling for patients at the pharmacy to encourage patients to keep follow-up appointments. However, retention rates did not improve. The USAID ASSIST Project invited him to attend a learning session on quality improvement, where he realized that he needed to take steps to **facilitate an environment that is supportive of his team's performance** by individually encouraging staff to attend QI team meetings and offering a snack at the meetings. He also **talked with team members about QI methodology** to improve their understanding of how to test changes and measure results. He **communicated** the problems he identified to the newly appointed hospital director, who was engaged in the process of improving care in the hospital.

One of the challenges he noticed was that the language spoken by most patients was Bambara, a local language, while most health workers were communicating in French. He, therefore, decided to encourage his team to **own the vision of how to make counseling more responsive to clients.** The team decided to try reinforcing messages in Bambara. He also **greeted each client individually** during the HIV awareness sessions to convey his appreciation. Patients gave positive feedback that they felt more supported.

The District Health Officer also took notice and shared an audio recording of the doctor's patient sensitization sessions with the Ministry of Health's (MOH) staff who commented, "this is exactly the vision of quality of care advocated by the Minister!" Thus, with renewed motivation and the support of the MOH, the doctor encouraged his team to continue in their efforts to bring about quality care and services for the patients. The **retention rate of PLHIV under ART in the hospital increased from 76% to 88% over six months.** The MOH congratulated the hospital for its efforts to improve care for PLHIV, hygiene, and hospitality.

Thanks to the **MOH commitment and his motivation,** the doctor was selected as a member of the technical working group and has participated in the drafting of National Policy for Quality Improvement in Health Care Services as part of its strategy to institutionalize QI within the health system in Côte d'Ivoire.

Case 4: Community and Facility Leadership Contributions to Eliminating Mother-to-Child Transmission at Licilo Health Center, Mozambique[5]

In 2009, Bilene District in Gaza Province, Mozambique had a high prevalence of HIV, with 30% of women and 17% of men infected. In 2013, the USAID ASSIST Project began to provide support for community-level improvement of elimination of mother-to-child transmission of HIV (eMTCT) to the MOH as part of the PEPFAR-funded Partnership for HIV-Free Survival. The activities focused on three health centers and their associated catchment areas, which included 39 communities (bairros).

In these communities, coverage of ANC, postnatal care (PNC), and PMTCT of HIV were low. The goal of the project was to contribute to eMTCT through increased community awareness, improved community-facility linkages, and increased access to services for pregnant women.

Setting Direction: A situational analysis by ASSIST found that communities rarely discussed HIV, and there were cultural barriers that prevented women from getting tested. In addition,

[4] This case study is based Dr. Melly Traore's presentation during the webinar on "Leading health care improvement: What leaders need to know to act. Lessons from East and West Africa." USAID ASSIST Project. September 19, 2018. Chevy Chase, MD: University Research Co, LLC (URC)

[5] This case study is based on USAID ASSIST, 2015. "Community contributions to eliminating mother-to-child transmission at Licilo Health Center, Mozambique." Published by the USAID ASSIST Project. Bethesda, MD: University Research Co., LLC (URC).

few women understood the importance of ANC. ASSIST, together with the MOH and district health department, decided that the best way to increase the numbers of women tested and treated for HIV was to organize community groups to encourage and refer pregnant women to go for ANC at health facilities for reasons other than HIV testing. Once they are at ANC, health care providers would discuss the importance of HIV testing and PMTCT. Specifically, the government asked for the work to be focused on improving the following indicators:

- Percentage of pregnant women who received their first ANC services within the same month of being identified as pregnant in their communities
- Percentage of pregnant women at Licilo Health Center who had their first ANC visit at 10-20 weeks, 21-30 weeks, and 31-40 weeks

Given the sensitive nature and lack of awareness of HIV in the communities, **collaborative working** was key for community leadership to facilitate community awareness, improve community-facility linkages, and increase access to ANC and PMTCT services for pregnant women. The project sensitized community leaders on the goals of the activity, why it was important to get pregnant women into ANC early, what their role as leaders was, and helped community leaders to determine the **pace** of improvement initiatives. **Data** on ANC utilization and HIV testing rates among pregnant women and the importance of PMTCT were used by the leaders to further engage their community members in this eMTCT activity.

Community leaders were **instrumental** in identifying existing community groups such as church groups, leadership groups, women's associations, savings and loan groups, and community health worker groups. They gave an **orientation to each community group** to invite them to participate in helping spread health messages and identify pregnant women. Due to community stigma surrounding HIV, and women's fear of learning their HIV status, the community groups focused on other reasons pregnant women should seek ANC. These included to be tested for anemia and general infections, to receive bed nets, and to learn about what food to eat while pregnant. Each community group member was responsible for identifying pregnant women in their households and networks. When a pregnant woman was found or self-identified in a group, her name was recorded and passed on to the community-level improvement teams, which ASSIST had helped establish.

The community-level improvement teams were responsible for **collecting data** from all community groups, **passing on critical health messages,** and **brainstorming** ways to support and encourage pregnant women to seek ANC at the health center. In addition, they were responsible for **bringing data** from the communities to health committees at the health centers and **discussing challenges and possible solutions** to supporting women. The health committee members would compare the lists of names to their ANC register to determine who had been to their first ANC visit and who had not yet been. Health committee members would share the names of previously-identified women who had not been to ANC with the community committees, who would determine strategies to encourage women to go.

The results were very good. Among the 15 *bairros,* 95 community groups increased the percent of identified pregnant women receiving first ANC in the same month from 36% in March 2014 to 97% in February 2015. In addition, the percentage of women coming to ANC earlier in their pregnancy, at 10-20 weeks, increased from 54% in August 2013 to 73% in August 2014. However, no HIV-exposed infants had tested positive for HIV between September 2014 and March 2015.

Conclusions

Quality is everyone's responsibility, but leadership support for improvement at all levels is essential to successfully improve health care services across all technical areas, including HIV, maternal and child health, malaria, tuberculosis, among others. The degree to which leadership influences whether improvement interventions are successful or not, can be scaled up, institutionalized, and sustained depends on multiple leadership attributes and leaders' ability to implement these attributes in their daily work. An improvement leader must be able to identify and present their vision for improvement of services; lead and support teams to drive for improvement and results; and provide mentorship to guide teams, their staff, and new potential leaders to deliver those improvements. How leaders behave and communicate is a key determinant of not just success, but the culture of improvement. When leaders take the time to understand and improve their leadership competencies, they become increasingly effective in setting direction, delivering quality health services as well as creating a "culture" of quality for improvement teams and stakeholders to feel valued, engaged and empowered.

This framework, developed by numerous global health experts and leaders in improvement, is the first step towards helping leaders improve their basic leadership competencies in QI with the ultimate goal of improving health care outcomes, such as those presented in the HIV case examples.

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Appendix A: A Review of Quality Improvement Principles and Tools

To effectively support quality improvement, leaders from national to local levels need to have basic knowledge and competencies in improvement. Though this guide is written with the assumption that leaders have pre-existing knowledge of improvement, during our interviews with improvement leaders, many requested that the guide include this short review of basic improvement principles and tools. The review provides information and resources to leaders so they can better understand their role in implementing, measuring, communicating, knowledge sharing, and scaling up improvement and establishing systems and processes for generating improvement. Additional resources in quality improvement, resources for practicing methods and tools for improvement, and leadership for improvement are listed in Appendix B.

In specific, **Appendix A** reviews the role of leaders to:

- Develop improvement capability using essential improvement tools
- Measure improvement/present data
- Communicate to a range of stakeholders how a team is implementing improvement
- Encourage knowledge sharing and learning
- Scaling up quality improvement

Develop improvement capability using essential improvement tools

1. Model for Improvement

Testing changes to improve care at the site level is at the heart of improvement. The role of local leaders is to support improvement teams in the continuous process of assessment, improvement, and re-evaluation through the course of an improvement activity. A useful framework for thinking about how to approach making changes in service delivery processes is the Model for Improvement (Figure 2), developed by Associates in Process Improvement Invalid source specified. The Model for Improvement is a simple series of steps for learning about a health care system or set of processes to identify gaps or weaknesses

The model translates into some practical steps by which leaders can support improvement teams, including:

- Identifying a problem by determining what to improve
- Developing improvement aims to know what you are trying to accomplish
- Setting up a team that understands and can address the problems
- Analyzing the issue to understand the problem better
- Developing change ideas by hypothesizing about what changes will improve the problem
- Testing solutions using Plan-Do-Study-Act cycles to test the hypothesized solution to see if it yields improvement

Identifying a Problem by Determining What to Improve

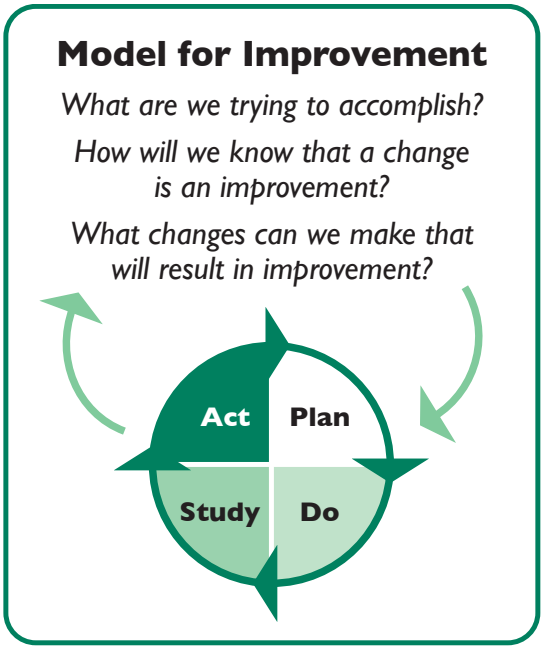
To begin improvement work, all leaders – from national to local levels – must first decide what main priority area to focus on and to see linkages between current and future opportunities. Sometimes a problem area may be based on meeting international goals such as the Sustainable Development Goals, national goals, and/or goals of health care facilities, or stakeholders.

Leaders working on the ground, either at the district level or in health facilities or communities, can then help improvement teams identify gaps in the quality of services by asking, "What is going well? What is not working? What problems or barriers are there?" Gaps can be identified through existing MOH priorities; data that show where need is greatest (e.g., existing reports, assessments, service utilization data, epidemiological data, etc.); and/or priorities recognized by donors and funders, patients, health care staff, communities, and other stakeholders (easily collected data: questionnaires and interviews).

Developing Improvement Aims

To carry out improvement, some leaders – such as district or health facility managers – can support their improvement team to articulate quantifiable improvement aims. As the first task is to establish an improvement aim, leaders can help ensure that improvement aims are both measurable and feasible. Without a

Figure 2: Model for Improvement



clear aim statement, the improvement team will have a difficult time coming to a consensus about what needs to be done to improve, allocating resources needed to accomplish the aim, and measuring whether improvement has occurred.

A good aim statement answers the following questions:

- What outcome or process needs to be improved? Must be able to measure.
- For whom will it improve? Specify the population.
- How much will it improve? Set a target.
- When will it improve? Determine a timeframe.
- What tool, method, resource, or system will we use to make the change?

Examples:

- Increase a proportion from 20% to 60% of HIV-positive pregnant women who are tested for TB in 10 health care facilities in 3 provinces within 12 months
- Increase HIV viral suppression rate by 10% among people receiving ART in 5 clinics over 10 months

Resources to learn more:

Tips and Tools: Aim Statements. USAID ASSIST Project (2017). This resource provides more information about what aim statements are, how to develop improvement aims, examples of improvement aims, and exercises and an answer key to develop improvement aims.

https://www.usaidassist.org/resources/tips-and-tools-improvement-series

Setting Up an Improvement Team that Understands and Can Address the Problems

Having an improvement team at the district health level, health unit, or community is vital to lead improvement work. The main responsibilities of the improvement team are to identify and prioritize gaps in the quality of services, implement changes to address the gaps, review performance data to determine if changes are resolving the gaps, and decide what to improve next. Improvement teams need to meet regularly (such as every week) to plan changes, review results, and decide on next steps.

Local leaders who live and work in the communities or facilities in which changes are made, support teams by either helping organize teams and making sure that team members who represent all steps of a health care process are included, as well as community members. Leaders support the day-to-day improvement team's activities to ensure that tests of changes are implemented, data collected, and team's records are reviewed and maintained. Leaders recognize the importance of coaching improvement teams and identify resources to support it. In addition, leaders are often responsible for providing resources for the team to function, help it to overcome barriers and provide accountability for the team members. They should review the team's progress on a regular basis.

Teams for improvement generally consist of people who are involved in carrying out a health care or social service delivery process in some way. This is because each process consists of inter-dependent steps that are executed by different people. For example, a patient or client who is seeking a health care service in a clinic will be exposed to many different types of personnel – from the receptionist to the nurse, clinician, pharmacy, and later community or patient support systems. Teams consisting of representatives of each health care process – including patients – are much more effective in doing improvement work, than people who are not closely involved. A team at the community level, improving social services for vulnerable families might include representatives of community leaders, schools, police, social services, community groups, faith groups, and patient or client groups.

For example, in the Côte d'Ivoire case study, the QI team consisted of 10 people, which included the head of the pharmacy unit, nurses, midwives, social assistants, and a bio technologist.

It can be confusing who should choose the team members, how many members to include, and the different roles and responsibilities of each member. The resource below provides practical easy-to-read information and practice exercises on why teams are essential for health care improvement and how to form and run an improvement team.

Resources to learn more:

Tips and Tools for Learning Improvement: Improvement Teams. USAID ASSIST Project (2017). This resource explains why teams are important for health care improvement, how to form and run an improvement team, plus provides exercises and an answer key in understanding and forming improvement teams.

https://www.usaidassist.org/resources/tips-and-tools-improvement-series

Analyzing the Issue

Once priority areas for improvement and improvement aims have been chosen, leaders' support to improvement teams in an analysis of the root causes of quality gaps is crucial. This requires leaders to take time to discuss issues with the team, together with the team review quantitative and qualitative data,

and practice using quality improvement tools for gathering and organizing information. A flowchart and cause-and-effect diagram are particularly useful tools. These purposes, among many others, are briefly explained below.

Flowchart

A flowchart is a graphic representation of how a process works, showing, at a minimum, the sequence of steps. A flowchart helps to clarify how things are currently working and how they could be improved. It also helps in understanding the key elements of a process and where one process ends and the next one starts. Developing a flowchart stimulates communication among participants and establishes a common understanding of the process.

Flowcharts can also reveal steps that are redundant or misplaced. Also, flowcharts can be used to identify appropriate team members, to identify who provides inputs or resources to whom, to establish important areas for monitoring or data collection, to identify areas for improvement or increased efficiency, and to generate hypotheses about causes. Flowcharts can also be used to examine processes for the flow of patients, information, materials, clinical care, or combinations of these processes. It is recommended that flowcharts be created through group discussion, as individuals rarely know the entire process and the communication contributes to improvement.

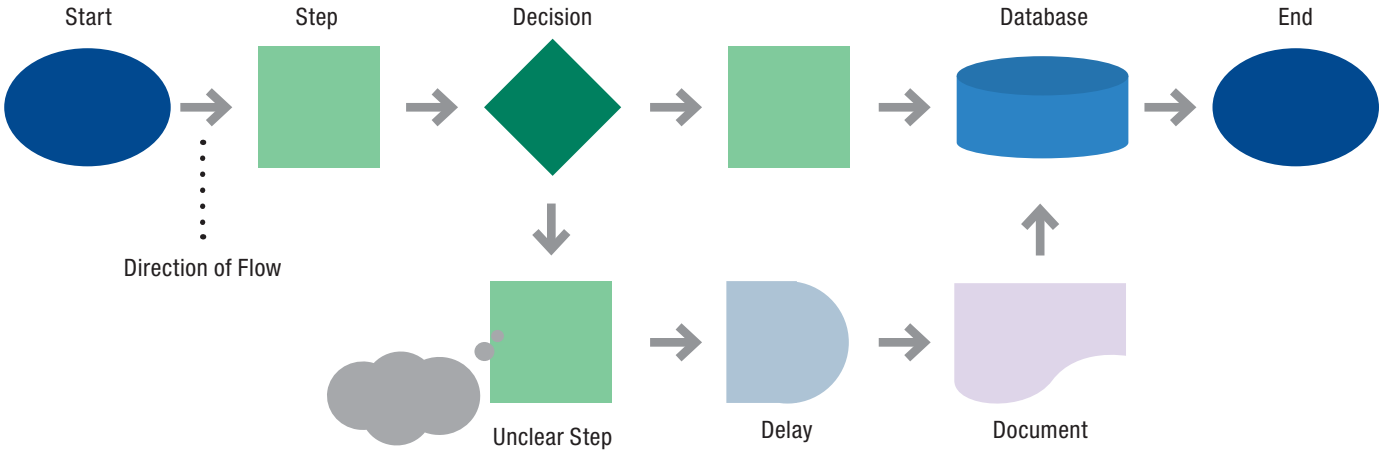
The diagram in **Figure 3** shows the stages of a process as inputs are being transformed into outcomes.

Resources to learn more:

Tips and Tools for Learning Improvement – Flowcharts. Improvement Teams. USAID ASSIST Project (2017). This resource explains what a flowchart is, why flowcharts are important for improvement, and provides practice exercises and an answer key.

https://www.usaidassist.org/resources/tips-and-tools-improvement-series

Figure 3: Flowchart



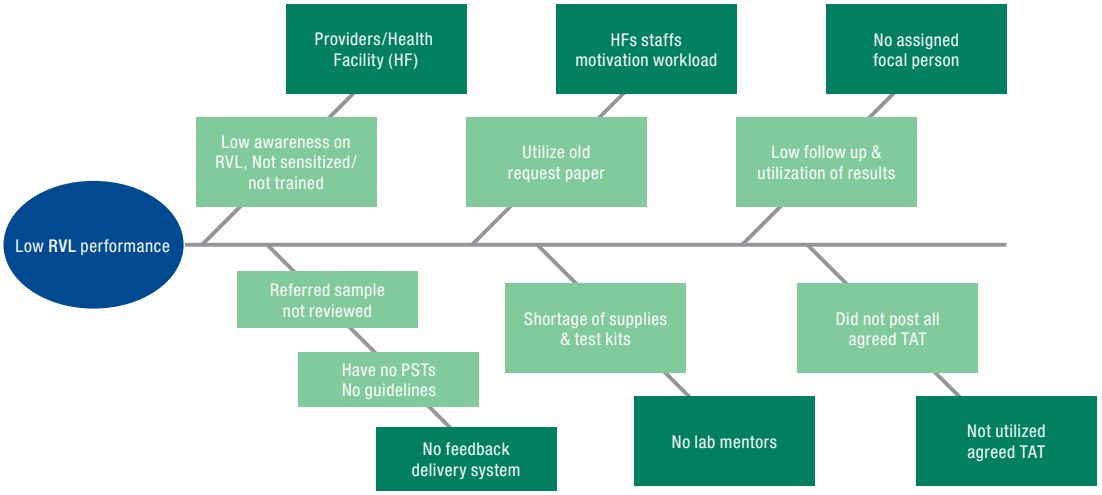
Cause-and-Effect Diagram

Cause-and-effect diagrams (such as a Fishbone diagram), organize a large amount of information by showing links between events and their potential or actual causes and provide a means of generating ideas about why the problem is occurring and possible effects of that cause. They can reflect either causes that block the way to the desired state or helpful factors needed to reach the desired state.

It is important to remember that a cause-and-effect diagram is a structured way of expressing hypotheses about the causes of a problem or about why something is not happening as desired. It cannot replace empirical testing of these hypotheses: it does not tell which is the root cause, but rather possible causes. **Figure 4** shows a Fishbone diagram indicates the probable cause of the low routine viral load performance in Addis Ababa, Ethiopia, 2016.[6]

[6] Sisay A, Bayou B, Tesfaye A (2018) Quality Improvement: A Splendid Driver for Achieving the Third 90 in Addis Ababa, Ethiopia. J AIDS Clin Res 9: 765. doi: 10.4172/2155-6113.1000765

Figure 4: Fishbone diagram indicating the probable cause of routine viral load (RVL) performance, Addis Ababa



Developing Change Ideas

Changes are any possible solutions to problems identified by improvement teams during the process of improving health care. Changes are usually interventions that alter the process of care in some way. For example, a clinic may have a problem that oxytocin, which must be refrigerated, cannot be given to a woman who delivers at night because it is stored in the pharmacy refrigerator and the pharmacy is locked at night. Change ideas to address this problem may be to either give a nurse a key to open the pharmacy when needed or to find a way to keep the medication cool in the labor ward overnight. It is important to remember that not every solution or change will lead to improvement. However, improvement cannot happen without change.

Changes should be something that a team or health facility has not done before, can do tomorrow, that worked somewhere else, and that feels right. Changes should not be something that a team at a health facility has done before, have low impact, or create technical slow-downs.

In the Tanzania case study, for example, to improve the availability of medicines and supplies in the health facilities, the district management teams focused on the following changes:

- Increasing the percent of on-time supply order submissions by providing refresher training in how to fill the Requesting and Reporting forms
- Assigning a clerk the responsibility for collecting all the reports and orders
- Calling the facilities approximately one week in advance of submission date to remind them of the upcoming deadline, and offering support for problems with completing the documents

Other examples of change ideas, for example, to improve linkage to treatment for newly diagnosed persons for persons with HIV could be:

- Same-day ART initiation
- Use expert clients to support with counseling and physical escort to the clinic for ART initiation
- Follow-up after two weeks with phone calls for patients who have opted to go another day for ART initiation
- Registration of new HIV-infected clients in the linkage-to-care register

And for improving adherence to HIV treatment:

- Engage a community health worker to deliver medications to HIV patients who have trouble reaching the facility
- Use peer supporters who can collect medications for patients who live near them and pass them on to those patients.

Resources to learn more:

Tips and Tools for Improvement: Developing Changes. USAID ASSIST Project (2017). This resource explains what are changes in improvement, how to develop changes, how to prioritize changes, as well as exercises, and an answer key in developing changes.

https://www.usaidassist.org/resources/tips-and-tools-improvement-series

Malawi: District Health System Strengthening and Quality Improvement for Service Delivery. Facility-based Innovations Improve Linkage to HIV Treatment and Care. Management Sciences for Health (2018). Technical Brief. Provides background and exercises on what changes in improvement are, how to develop changes, and how to prioritize the changes to implement.

https://www.msh.org/sites/msh.org/files/cdc_-_linkages_brief.pdf

Driver Diagram

In setting directions for improvement teams and supporting teams' efforts in getting results, district or facility level leaders should emphasize the importance of developing the theory of change by teams.

A Driver Diagram is a visual display of a theory of change about what "drives" an improvement aim. It shows the relationship between the aim (or long-term goal), strategic activities that contribute to achieving the aim, measures, and change ideas. Leaders should promote the development and use of the Driver Diagram by their teams as it frames a larger picture of the system that is being improved. It creates a learning structure through testing and continual revision and is extremely useful for participants at different levels who may be involved in only one aspect of the QI initiative, as well as for those only involved at the macro level who do not recognize the role of the processes being prioritized for ground-level work.

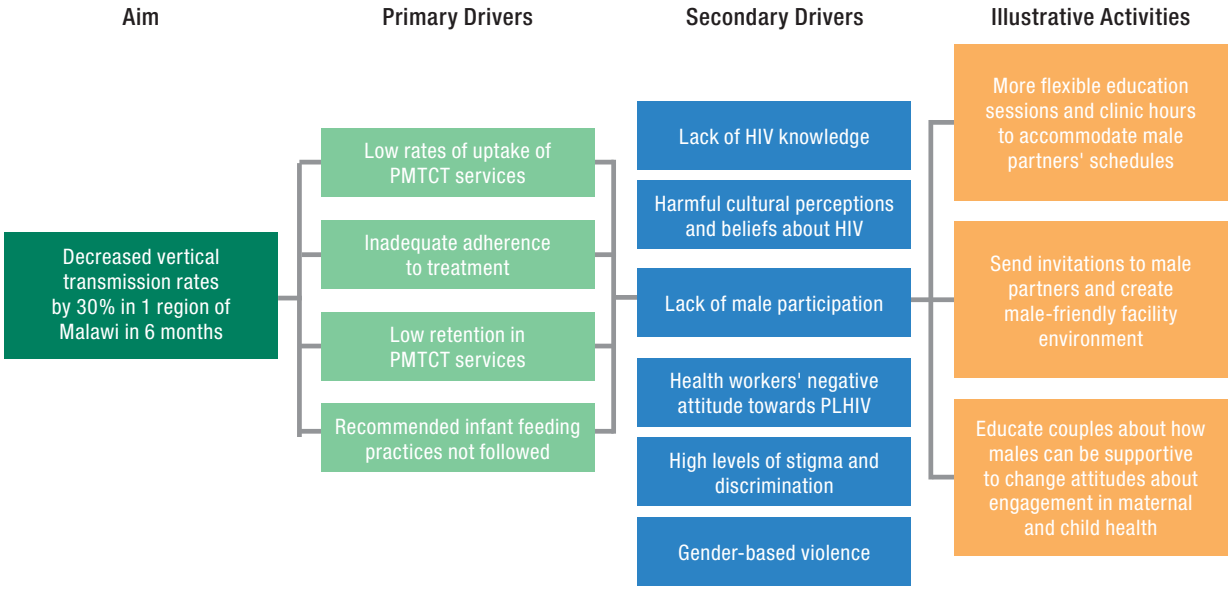
For example, in looking at how one could decrease the vertical HIV transmission rate in Malawi and how to address gender gaps and issues in achieving this outcome, the following aim, primary drivers, secondary drivers, and illustrative activities were developed (Figure 5).

Resources to learn more:

Driver Diagram. Institute for Health Care Improvement (2017). This resource explains what a driver diagram is, provides a video explaining how to use a driver diagram, and provides a PDF to a driver diagram template.

http://www.ihi.org/resources/Pages/Tools/Driver-Diagram.aspx

Figure 5: An example of a driver diagram to address gender gaps to decrease HIV rates[7]



Testing Solutions Using Plan-Do-Study-Act Cycles

An important role of leaders is to set directions and support their team's initiative to achieve the set improvement aims through the implementation of iterative Plan-Do-Study-Act cycles. Leaders should encourage their teams to implement PDSAs as a method of action-oriented learning that helps to guide whether changes in processes of care delivery have led to desired improvements in outputs and outcomes.

Specifically, PDSA cycles help to:

- Increase the degree of belief that the change will result in an improvement
- Inform if one or a combination of changes will lead to the desired improvement
- Assess how much improvement can be expected if the change is implemented
- Decide if the proposed change will work in the actual environment of interest
- Evaluate cost implications and possible side effects of the change
- Give the team a chance to experience the change to minimize resistance upon implementation

[7] USAID ASSIST Global Health Mini University Gender Presentation, 2015 (https://www.usaidassist.org/content/global-health-mini-university-gender-presentation)

PDSA Steps:

1. Plan:
   - State the objective: what change is being tested?
   - Make predictions about what will happen and why
   - Plan to carry out the cycle by responding to Who? What? Where? And When?
   - Define a plan for data collection
2. Do:
   - Carry out the plan
   - Document problems and unexpected observations
   - Begin analysis of the data
3. Study:
   - Complete the analysis of the data
   - Compare data to predictions and summarize learning
4. Act:
   - Are we ready to make a change?
   - Planning for the next cycle?

Measure Improvement/ Present Data

Developing Indicators

Driving improvement requires leaders to appreciate the value of measurements and ensure that teams use quality data to guide improvements. As quality improvement focuses on processes needed to improve, it is important that leaders emphasize to their teams the value of measurements over time and the need to use well-defined indicators that are reflective of improvement aims.

Figure 6 describes a connection between inputs, processes, outputs, and outcomes. Quality improvement focuses on processes needed to improve and require the use of well-defined indicators.

A well-defined indicator:

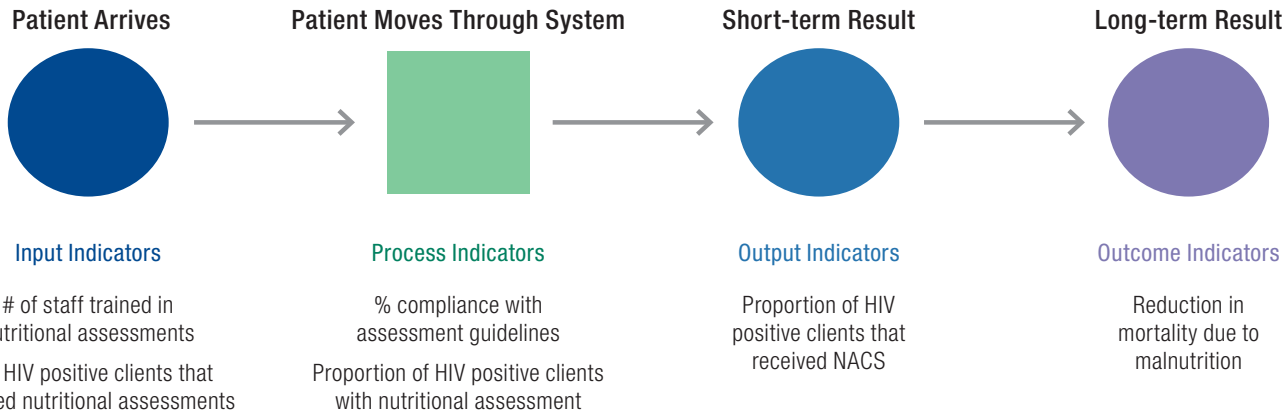
- Identifies a clear description of a numerator and denominator

For example, in the Mozambique case study one of the indicators was:

- Percentage of pregnant women at Licilo Health Center who had their first ANC visit at 10-20 weeks, 21-30 weeks, and 31-40 weeks

Here the *numerator* for pregnant women 10-20 weeks is: Number of pregnant women at Licilo Health Center who had their first ANC visit at 10-20 weeks. The *denominator* is the number of pregnant women at Licilo Health Center who went for ANC visits during their pregnancy.

Figure 6. Types of indicators



Time Series Chart

Time series charts help leaders and teams understand if the changes that are being implemented are leading to a change in improving the quality of care from some initial level to a consistently sustained higher level. They are a simple yet effective tool to track the performance of a process over time and document the story of improvement work.

A time series chart is a line graph which plots the indicator of interest on the Y (vertical) axis and the time interval over which the data are displayed on the X (horizontal) axis, using any interval of time (e.g., minute, hourly, daily, weekly, monthly, quarterly, yearly, etc.). Common types of indicators plotted on the Y-axis are percentages (e.g., percent of patients receiving care according to standards), rates (e.g., case fatality rate), time (e.g., waiting time), quantities (e.g., stock levels), or numbers (e.g., weight).

For the Tanzania case, for example, this is a time series chart that shows the percentage of health facilities that submitted supply orders on time (see Figure 7).

Resources to learn more:

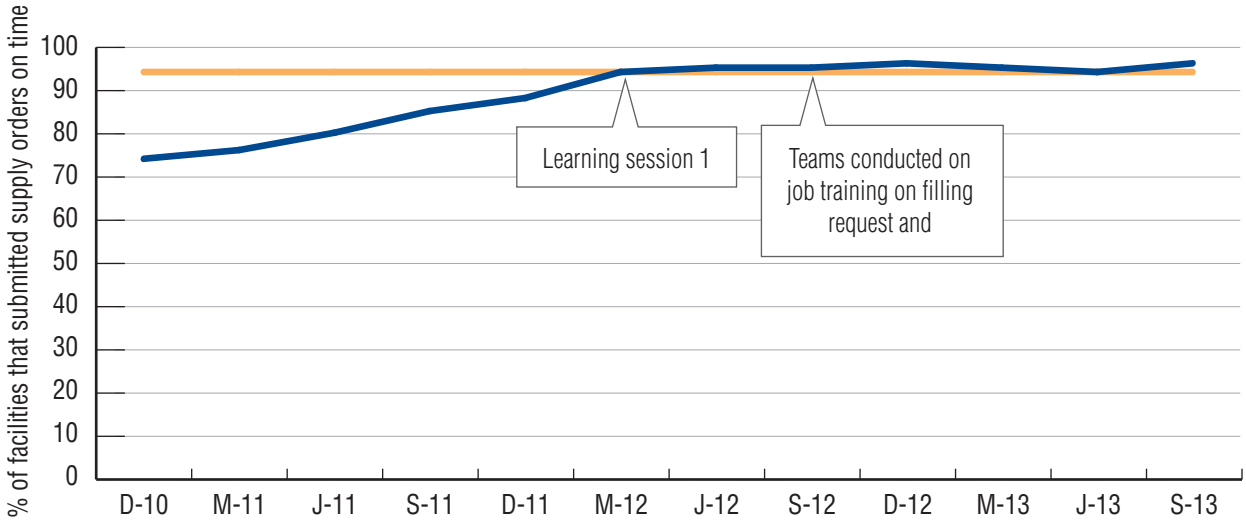
Tips and Tools for Improvement: Time Series Charts. USAID ASSIST Project (2017) Explains what a time series chart is, why it is important, how you create it and provides exercises and an answer key to do so.

https://www.usaidassist.org/resources/tips-and-tools-improvement-series

Tips and Tools: Measurement Variation. USAID ASSIST Project (2017). This resource goes into more detail, and provides exercises, on interpreting time series charts, how to determine if a time series chart shows improvement, and how to analyze a time series chart.

https://www.usaidassist.org/resources/tips-and-tools-improvement-series

Figure 7: Percentage of health care facilities that submitted supply order on time, Lindi Region, Tanzania (Dec 2010-Sept 2013)



	D-10	M-11	J-11	S-11	D-11	M-12	J-12	S-12	D-12	M-13	J-13	S-13
# of facilities that submitted supply orders to the district on time	104	104	111	120	161	176	173	179	174	144	144	162
Total number of facilities submitted supply orders	140	140	138	141	182	187	183	189	181	151	153	169
% of facilities that submitted supply orders on time	74	75	80	85	88	94	95	95	96	95	94	96
Median	94	94	94	94	94	94	94	94	94	94	94	94

Communicate to a Range of Stakeholders How a Team is Implementing Improvement

Using a QI Project Charter

The QI project charter is an important document that leaders can use as an informal agreement or contract to help improvement teams adhere to a common vision, keep them focused on the improvement aim, manage expectations, and ensure that their QI project stays on course. It is also useful for providing the roadmap and purpose of a team's improvement work (See Figure 8 as an example of a Project Charter).

Figure 8: QI Project Charter Template[8]

Project

Project Team

Team Member (list as needed)	Role

Problem

Describe in 2–3 sentences the existing condition you hope to improve (i.e., the gap in quality):

Rationale

Explain in 4–5 sentences why the current system or process needs improvement. Include baseline data and relevant benchmarks, e.g., from the literature

Aim Statement

What outcome, in measurable terms, are you hoping to accomplish? Specify how good, for whom, and by when — i.e., by what exact date:

Measures

Brief descriptions, including:

Outcome (1-2) you ultimately want to affect as a result of this project

Process (2-5) that will inform how they affect the outcome measure

Balancing that will tell you whether you are introducing problems elsewhere in the system

Key Stakeholders

Whose input and support will this project require?

How will you engage these key stakeholders?

How will you incorporate patients' perspectives?

Barriers

What are the major challenges you anticipate? IT? Attitudes? Behaviors? Culture? Time?

How will you overcome these barriers?

Change Ideas

How will you learn more about the process or system you are trying to improve? (e.g., interviews with people within the process, cause, and effect or driver diagrams, etc.)

What ideas do you have for initial tests of change (PDSA cycles)?

Schedule

Key dates (project kickoff, milestones, etc.)

[8] (adopted from the Institute for Healthcare Improvement - http://www.ihi.org/education/IHIOpenSchool/resources/Assets/QIProjectCharter_Worksheet.pdf and the UNC School of Medicine Institute for Healthcare Quality Improvement - https://www.med.unc.edu/ihqi/training/resources-1/improvement-project-charter-template-2/)

Dashboards

Dashboards are a tool that leaders can use to engage improvement teams and stakeholders to take action.

- Dashboards give a quick status update for key measures
- They are a snapshot, not an in-depth analysis
- Regularly seeing the data makes it much easier to respond quickly to areas of concern, or to change courses of action
- Dashboards can be used to highlight successful strategies, to maintain momentum in QI activities, and identify operational deficiencies

Figure 9 shows a color-coded dashboard with quality assessment scores from a VMMC program in Uganda that was used to motivate site improvement teams to work towards moving indicators from red (poor) to green (good) values.

Figure 9: VMMC program performance dashboard for 30 sites, Uganda[9]

	Baseline Feb-May 2013							May-14						
Health Facility	Management Systems	Supplies, Equipment & Environment	Registration Group Education and IEC	Individual counseling & HIV Testing	Male Circumcision Surgical Procedure	Monitoring & Evaluation	Infection Prevention	Management Systems	Supplies, Equipment & Environment	Registration Group Education and IEC	Individual counseling & HIV Testing	Male Circumcision Surgical Procedure	Monitoring & Evaluation	Infection Prevention
1	30	50	0			33		70	83	67	100	91	86	91
2	20	33	0			7	92	80	67	80			87	92
3	40	83	0			14	92	80	83	75			50	100
4	30	50	0			18	82	80	83	100	100	80	93	85
5	20	33	0			14	80	80	83	83	100	100	100	69
6	10	50				7	70	80	67	83	100	80	86	85
7	40	50	50			75	60	90	67	87	83	80	93	67
8	50	50	25			14	77	90	100	83	100	90	86	85
9	60	50	83	39	64	29	92	90	100	100	82	100	100	100
10	20	50	50			0	33	90	100	100	83	100	92	93
11	33	25	0			0		80	80	67	67	80	77	75
12	25	33	2				70	100	83	100	80	83	100	92
13	60	67	75	83	81	14	80	100	83	67	100	100	86	93
14	70	50	25			50	80	100	83	83	100	100	86	92
15	60	33	25			50	90	90	84	84	100	91	86	100
16	30	67	100			14	58.3	100	100	100	100	100	100	100
17	40	83	75	100	100	14	84.6	80	83	100	100	100	86	92
18	70	67	100	67	100	69	75	100	67	100	100	100	100	80
19	40	50	0			21	100	100	83	83	80	97	100	100
20	60	50	0			21	92	100	83	83	83	85	93	85
21	70	50	0			21	77	90	80	83	94	80	75	76
22	80	83	100			93	100	100	100	100	100	94	86	100
23	70	100	100	100	100	93	100	90	100	100	100	100	86	100
24	70	100	100	100	100	93	100	90	83	100	100	100	86	93
25	60	50	100			46	100	90	83	100	100	100	86	93
26	60	33	50			15	76.92	90	83	100	100	91	93	92
27	40	83	75	100	100	75	100	90	100	100	100	91	93	92
28	20	50			78	15	50	90	75	50	94	87	93	90
29	22	67	67		47	29	85	80	83	83	83	80	50	91
30	40	67				38	84.6	90	67	83	100	91	93	82

[9] USAID Applying Science to Strengthen and Improve Systems Project. 2014. USAID ASSIST Project Experience Improving HIV Services. Published by the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project. Bethesda, MD: University Research Co., LLC (URC).

Encourage Knowledge Sharing and Learning

Knowledge sharing and learning is an important part of implementing and sustaining quality improvement work. Depending on your leadership role, you could work directly with health care facilities to ensure documentation of learning, have improvement coaches support the documentation of what is happening at a given site during coaching visits, or use your leadership role to influence your networks beyond the specific facility or community strategically. District leaders, for example, play a key role in facilitating collaboration and knowledge sharing between improvement teams within the district. National leadership is important for collaboration and knowledge sharing across multiple districts, among key influencers, and other stakeholders to gain their support and build partnerships for improvement.

Document learning by improvement teams

Documenting learning may take many forms, but the most basic documentation requirement is that teams have a record of what they have tried, both successfully and unsuccessfully, to test change ideas to improve care. This documentation also serves to help improvement teams communicate their results to others, including what changes yielded improvement, what changes did not, what evidence supports these conclusions, and how to implement the changes. Communication could be verbal, such as sharing results through conversation; visual, such as annotated time series chart; or written, as for example through a case study or entries in a documentation journal.

Document learning by coaches

Another common way to document learning is to have improvement coaches support the documentation of what is happening at a given site during coaching visits. This strategy is especially useful in low-literacy settings where it may be challenging for teams to record what changes they have tested. Two other advantages of involving a coach in documenting team-level improvement work are: 1) it helps the coach to integrate information from multiple teams, and 2) the coach can more easily pass that knowledge to higher levels, so that learning from multiple teams can be consolidated and synthesized for the collaborative improvement effort as a whole.

Resources to learn more:

QI Team Documentation Journal. USAID Health Care Improvement Project. The USAID Health Care Improvement Project developed a generic documentation journal which can be adapted to guide a team in documenting any improvement activity.

https://www.usaidassist.org/resources/qi-team-documentation-journal

Documentation Journal for QI Activities. USAID Health Care Improvement Project. This generic quality improvement team journal has been adopted for national use by the Ministry of Health of Uganda.

https://www.usaidassist.org/resources/documentation-journal-qi-activities

Sharing Learning Across Improvement Teams

A critical task in collaborative improvement is integrating what has been learned across all improvement teams about how to meet the aim of the improvement effort. Such synthesis of learning involves collecting information about the changes each team tested, making judgments about which changes appear to be most closely associated with improvement (taking into account the experience of all teams), and developing guidance that can help others apply that knowledge to improve care elsewhere.

Summarizing and packaging learning

To summarize what has been learned and package it in ways that facilitate scale-up to new places, leaders and organizers of an improvement initiative involving multiple teams need to:

- Maintain an inventory of changes tested by each team or site
- Regularly consolidate and share learning about tested changes across the improvement initiative
- Analyze the consolidated changes in light of results (data) to understand what's working, what's not working, and the key implementation challenges faced by sites, to determine which changes seem to lead to better results
- Package and share learning about effective changes with others

Learning sessions/harvest meetings

Aggregation and analysis of the tested changes are best done on an ongoing basis as learning emerges. This can be accomplished through regular review of learning following coaching visits and during times when representatives from many teams come together, such as at learning sessions. These channels also provide a conduit for disseminating "consolidated learning" so that all teams are learning from the collective experience of the improvement activity.

When an intervention has demonstrated good results, and is ready for scale-up, a dedicated workshop with representatives from the participating sites, coaches, and government officials can be helpful to review the results and consolidated learning to determine the most effective changes to be promoted during scale-up. Such workshops are often called "harvest meetings" because their purpose is to "harvest" the key learning from an improvement activity.

Techniques for integrating and synthesizing knowledge

The field of knowledge management provides many techniques for integrating and synthesizing information which have proven invaluable for use in improvement initiatives. General principles that facilitate synthesis include:

Use small groups to generate new knowledge and insights. We learn and create new ideas through our conversation with others in small groups. A small group is 3-5 members. This is the size that produces the richest and most in-depth thinking. It is large enough to contain diverse views yet small enough for members

to engage with each other. Engaging with each other means asking questions to clarify the meaning another has expressed and challenging as well as building on others' ideas. It is in this give and take of small group conversation that new knowledge is generated.

Use large groups to integrate knowledge. After small groups have been in conversation, their ideas need to be brought together in a large group setting to integrate their insights into the thinking of the whole. In a lengthy meeting, small and large group discussions can be alternated to stimulate knowledge creation and synthesis.

Use time for reflection. Before beginning a discussion or conversation, ask each participant to think silently for a minute about the question or topic under discussion. Giving just a small time for individual reflection increases the quality of each person's contribution. Routinely making time for group reflection—bringing together the collective thinking of a group to make a judgment about key lessons—facilitates the ongoing synthesis of learning.

Integration of knowledge benefits from diversity. Having different perspectives in meetings designed to develop collective knowledge provides a more robust environment for the generation of new knowledge. The greater the diversity of prior knowledge in the room, the more likely it is that new knowledge and insights will be generated.

Resources to learn more:

Techniques that have proven useful for stimulating the synthesis of knowledge among improvement teams, and how to implement those, are listed below.

After Action Review. An After Action Review (AAR) is a brief meeting of team members to reflect on an event or task they have just accomplished. The purpose of the AAR is for the team to learn from its experience in order to take the lessons learned into the next phase of the project or to accomplish the task more effectively the next time it is done. The AAR seeks to help the team develop insights about the event or task and turn that knowledge into action.

https://www.usaidassist.org/resources/after-action-review

Field Trip Around the Room. This is a technique that can be used in a meeting to organize how members of the group discuss several topics and integrate their ideas for how to address them. It uses small group conversation and successive discussions of the same topic by different groups to help to integrate the ideas of the whole group around specific topics and questions.

https://www.usaidassist.org/resources/field-trip-around-room

Knowledge Café. As a process, a Knowledge Café can evoke and make visible the collective intelligence of any group, thus increasing people's capacity for effective action in pursuit of common aims.

https://www.usaidassist.org/resources/knowledge-caf%C3%A9

Resources to learn more continued:

Knowledge Harvest. In the context of a collaborative improvement project, a Harvest Meeting provides the opportunity to consolidate and reflect on the key lessons learned by improvement teams and changes tested that were found to lead to improved outcomes.

https://www.usaidassist.org/resources/knowledge-harvest

1-2-4-All. This is a group process that facilitates conversation in small groups and then brings the small groups together to integrate their ideas around an important question or issue. It can be done on its own or in combination with other group engagement techniques described in the Liberating Structures guide.

https://www.usaidassist.org/resources/1-2-4-all)

Sharing Learning Among Wider Audiences

As a leader in improvement – especially if you are working at the district, regional, and national levels – your role may be to coordinate, collaborate, and share with a wider audience both to guide and persuade on the application of modern improvement methods. You may be asked to present at a conference, technical working groups, or expert consultations to raise the awareness of the value of improvement methods (see Figure 10: Sample QI Poster Template). Or, you may want to work with colleagues to document and share your improvement through articles published in peer-reviewed journals, guidelines, technical reports, case studies, change packages (see section below on "Scaling up Quality Improvement"), or through videos, social media, etc.

Resources to learn more:

K4 Health Research Utilization Toolkit

https://www.k4health.org/toolkits/research-utilization)

Developing and disseminating knowledge products from improvement

https://www.usaidassist.org/content/webinar-developing-and-disseminating-knowledge-products-improvement

Journal Manuscript Development for Global Health

https://globalhealthlearning.org/course/journal-manuscript-development-global-health

Social Media for Health and Development

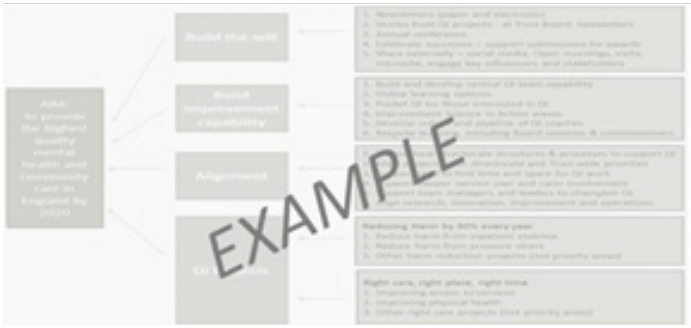
https://globalhealthlearning.org/course/social-media-health-and-development

Figure 10: Sample QI Poster Template[10]

Insert High Quality Team Photo	Insert Project Title Insert Project Team Members, QI Coach & Sponser	Organization's Logo

What is your main achievement with this project? Think of a news paper headline!

Aim	Why is this important to service users and carers?	Tests of Change
What was your aim, and why was this imporatnt to work on?	Also, how have you involved Service Users and carers in the project, Big I or Little i	These are the ideas that your team tested and implemented

Driver Diagram	Data
	*Share your data and stores*

Learning and What Next?

What have you learnt from this Project? Did you see an improvement in your system? How has this impacted your work individually and as a service? Will you use QI to tackle another issue?

Scaling up Quality Improvement

A crucial role of leaders is to make sure that the successes in improving health care are not just limited to the sites where the improvement originally was implemented but is spread, or scaled-up, to the remainder of the district, region, or country. An essential part of this process is for leaders to remember that scaling up improvement is not just a matter of having the leadership skills and strategic insight to do so, but also requires supportive management structures and capacities; clear and open communication; shared learning, collaboration, and support; ownership, engagement, and empowerment; and active partnerships between government and non-government entities working towards a common goal. (Please see resource "Managing Hundreds of Improvement Teams").

When planning to scale up a local improvement that has produced better results than a previous method, and actively disseminate it across a system, leaders must consider the following key questions:

What intervention, idea, or process do we want to spread?
This requires a strong model or practice that has proven itself on a small scale through improved system results as well as a group of leaders committed to spreading this superior model.

The model needs to be developed and packaged for optimal adoption by members of the social system in question. One way to do this is through "quality improvement change packages" or "how-to QI guides" aimed at health workers that will explain how to implement effective changes that can support scale-up and institutionalization of better care.

[10] NHS Foundation Trust (n.d.). London, UK. https://qi.elft.nhs.uk/qi-projects/your-qi-project/documenting-sharing-and-publishing-your-qi-project/

In addition, change packages can be highlighted at national QI conference and through media platforms (see "Additional Resources.")

To whom do we want to spread? By when? This requires leaders to think through the scale dimensions for spread, the timeframe, who will supervise and support the spread, how will the spread be managed (implementation schedule, leadership support, data collection, reporting), and well as government commitments (i.e., Memorandum of Understanding).

How are we going to spread? There are different ways for spread. These include, but are not limited, to the main methods below. More information can be found in "Resources to learn more").

- Natural diffusion (the adoption of an idea or intervention in the absence of a formal dissemination effort)
- Collaborative Model (brings together several teams from independent facilities for structured learning and exchange around shared aims, measures, and goals)
- Extension agents (mobile health care workers or community leaders spread ideas and best practices.
- Emergency mobilization (in crisis)
- Wave sequence (a systematic approach to rapidly spread to a large, nested system in which care is provided at multiple levels)
- Campaign model (evidence-based interventions to b spread within a simple measurement system, broad communications, and distributed field operations)
- Hybrid model

Resources to learn more:

URC has provided TA to develop **numerous change packages** for HIV and TV for QI teams in Uganda, Tanzania, Kenya, Burundi, and Côte d'Ivoire on the following technical areas: PMTCT, laboratory, monitoring and evaluation, adolescent-friendly health services, voluntary medical male circumcision, HIV care and treatment, nutrition, supply chain, tuberculosis, and quality improvement (see link for more information and change packages.

https://mailchi.mp/c5d16727b75d/sustaining-gains-in-hiv-care-388409

Options for Large-scale Spread of Simple, High impact Interventions. Technical Report. USAID Health Care Improvement Project. (2010) Bethesda, MD: University Research Co. LLC (URC). In planning to spread an evidence-based intervention, we must consider three key questions: 1) What are we trying to spread? 2) To whom do we want to spread it, and by when? and 3) How will we spread it? This paper lays out a practical framework for spread that addresses these three questions and then discusses several illustrative approaches for spread and lessons learned from applying them.

https://www.usaidassist.org/resources/options-large-scale-spread-simple-high-impact-interventions

Planning for Scale: A Guide for Designing Large-Scale Improvement Initiatives. Institute for Healthcare Improvement (2008). This paper aims to support those that are planning to take effective health care practices from one setting or isolated environment and to take them to scale across a health care system, region, state, or nation.

http://www.ihi.org/resources/Pages/IHIWhitePapers/PlanningforScaleWhitePaper.aspx

Massoud MR, Kimble LE, Boguslavsky V et al. **Managing hundreds of improvement teams.** F1000Research 2018, 7:1722

https://doi.org/10.12688/f1000research.16099.1

McCannon, Joseph C, Berwick DM, Massoud MR. **The science of large-scale change in global health.** JAMA, 2007, 298(16) 1937-1939

https://pdfs.semanticscholar.org/e818/a0b23f033397e3e60051906813e9e466357d.pdf

Appendix B: Useful Resources

General resources on improvement:

Improving Health Care Quality. Global Health eLearning Center (2015). This course introduces principles, approaches, and methods for improving quality health care.

https://www.globalhealthlearning.org/course/improving-health-care-quality

Improving Health Care eLearning Course. USAID ASSIST Project (2017). This interactive virtual course provides the same curriculum used to orient USAID ASSIST Project headquarters staff and Chief of Parties to improvement. The course is structured to give a broad overview of the science of improvement, going over key principles and methods necessary to understand how improvement projects can be implemented in any setting to make health care better. The course can also be taught as an in-person training using two companion materials, a participant and a facilitator guide.

https://www.usaidassist.org/resources/improving-health-care-elearning-course

USAID ASSIST Toolkits. USAID ASSIST Project (2019). The toolkits "Improvement Methods Toolkit", "Partnership for HIV-Free Survival Learning Platform" and "VMMC CQI and EQA Toolkit" are "mini websites" embedded within the USAID ASSIST website and can also serve as "learning platforms" to bring together tools and insights to support program implementation.

https://www.usaidassist.org/toolkits/all

Resources for practicing methods and tools for improvement:

Tips and Tools for Learning Improvement. USAID ASSIST Project (2017). This is a set of competency-based materials on: Aims for improvement, improvement teams, flowcharts, developing changes, PDSA cycles, measures for improvement, time-series charts, and variation vs. improvement. Each handout in the series is a self-contained, self-directed lesson with numerous competency-based exercises so that learners can practice the basic steps of improvement.

https://www.usaidassist.org/resources/tips-and-tools-improvement-series

Improving Care of Mothers and Babies: A Guide for Improvement Teams. American Academy of Pediatrics and University Research Co., LLC (2016). A guide that describes a simple approach through which health care providers and improvement teams can plan, test, implement, continuously assess, refine, and sustain interventions to improve the care of mothers and babies. The appendix includes practice exercises.

https://www.usaidassist.org/resources/improving-care-of-mothers-and-babies

Implementing a Gap Analysis Framework to Improve Care for Patients on ART: Training Participant Manual. Health Care Improvement Project (2010). A quality improvement training participant manual to develop participants' knowledge and skills in modern health care improvement, including aim-setting, indicator development, process analysis, and developing tests of changes using PDSA cycles for implementing improvement interventions.

https://www.usaidassist.org/resources/implementing-gap-analysis-framework-improve-care-patients-art-training-participant-manua-0

Resources on leadership for quality improvement:

Leading Healthcare Improvement: What Leaders Need to Know. USAID ASSIST Project (2018). This flyer provides an overview of what leaders need to know to lead improvement and describe key attributes and guidance on how to demonstrate those attributes in practice.

https://www.usaidassist.org/sites/default/files/assist_legacy_webinar_leading_health_care_improvement_sep2018_ada.pdf

Improvement Leaders Guide: Leading Improvement. Personal and Organizational Development. NHS Institute for Innovation and Improvement (2005). This guide provides a foundation and basic tools and techniques for leaders to implement quality improvement work.

https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/ILG-3.4-Leading-Improvement.pdf

Leadership Competency Framework (n.d.) Glasgow City Council, Scotland. The document sets out the Glasgow City Council Leadership Competency Framework, which drew on the work of the NHS Leadership Center. It is applicable to leadership roles at any level of service.

http://www.glasgow.gov.uk/CHttpHandler.ashx?id=4082

Leadership Development Program Plus: A Guide for Facilitators. Management Sciences for Health, Inc. (2009). This package is for facilitators to use as they implement the Leadership Development Program Plus (LDP+) – an enhanced version of the Leadership for Development Program first implemented by MSH in 2002.

http://www.msh.org/resources/leadership-development-program-plus-ldp-a-guide-for-facilitators-0

Leading Improvement Effectively: Review of Research. The Health Foundation (2009). This is a review of literature for leaders on different improvement methods, quality systems, and safety interventions. It focuses on how leaders can be more successful in creating quality systems and enabling others to use improvement methods.

https://www.health.org.uk/publications/leading-improvement-effectively

USAID APPLYING SCIENCE TO STRENGTHEN AND IMPROVE SYSTEMS PROJECT

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