Taking Action: STEPS 4 & 5
In Twinning Partnerships for Improvement

For Health Care Facility Managers, Quality Improvement Teams and Institutional Health Partnerships
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AMR  antimicrobial resistance
APIC  Association for Professionals in Infection Control
APPS  African Partnerships for Patient Safety
ASSIST  Applying Science to Strengthen and Improve Systems
Cusp  Comprehensive Unit-based Safety Programme
GLL  Global Learning Laboratory
IHF  International Hospital Federation
IHI  Institute for Healthcare Improvement
IPC  infection prevention and control
IPCHS  integrated people-centred health services
IOM  Institute of Medicine
HSAs  health surveillance assistants
NHS  National Health System
NUH  Nagasaki University Hospital
PDSA  Plan-Do-Study-Act
QI  quality improvement
SBM-R  Standards-Based Management and Recognition
THET  Tropical Health Education Trust
TPI  Twinning Partnerships for Improvement
US  United States of America
UHC  universal health coverage
USAID  United States Agency for International Development
WASH  water, sanitation and hygiene
WISN  workload indicators of staffing needs
WHO  World Health Organization
5S-CQI-TQM  5S-Continuous Quality Improvement – Total Quality Management
The Twinning Partnerships for Improvement (TPI) programme was developed by the World Health Organization (WHO) to strengthen the delivery of health services to build more resilient health systems, with a focus on quality improvement (QI). The TPI approach focuses on the value of institution-to-institution partnerships in catalysing health services improvement.

The hospital-to-hospital model developed by the African Partnerships for Patent Safety (APPS) programme provides the foundation on which TPI
was developed, and this centres on a “doing while learning” partnership model. The approach promotes collaboration, co-development and sharing of both tacit and explicit knowledge, which promotes the replication of successful results.

TPI is designed:

1. to ensure a strong, working inter-institutional partnership;
2. to implement effective improvements;
3. to spread shared learning across local, national and global health systems.

The prototype TPI partnership was launched between Tellewoyan Memorial Hospital in Liberia and Nagasaki University Hospital in Japan in 2016. Learnings from the development and implementation of this partnership will inform future improvement efforts.

Preceding this “Action Planning” document is The TPI Preparation Package which outlines all six steps of the TPI cycle and provides support and guidance for initiating a partnership and prioritizing which areas in service delivery or care need improvement. The TPI Preparation Package provides a practical step-by-step approach for any health institution interested in improving the quality of its health service delivery through a twinning partnership.

**TPI AND QUALITY IMPROVEMENT**

Quality improvement (QI), which can be defined as “the process of creating beneficial change and attaining desired levels of performance”, is both the basis and the output of TPI (1).

TPI is built around a 6-step partnership improvement cycle, which is outlined on page 11. The TPI 6-step cycle is grounded in QI theory. Success of TPI is enhanced when the team understands the principles of QI and is able to assimilate QI principles into the planning and execution of action plans. This document focuses on step 4 (action planning) and 5 (action) of the TPI 6-step cycle and provides key
information related to QI that can support teams in this task. QI examples are included throughout this document from both high- and low-resource settings.

**HOW TO USE THIS RESOURCE**

**Target audience**

Taking Action: Steps 4 & 5 in TPI supports the planning, action, implementation and guidance within partnerships and can be used by any QI team that has identified a quality challenge, specific need, or current gap in service. This publication will support the development of a targeted action plan for intervention and improvement in the health care setting.

**What will you get from this resource?**

This resource combines a foundation in the science of QI with action-oriented approaches and resources. We suggest that users begin as follows:

1. Orient yourself with the TPI approach by reviewing the [TPI Preparation Package](#).
2. Within this document, begin with “Drilling down to action” for action-oriented approaches presented alongside key resources (pages 12-20).
3. Reference “Approaches to QI” for a basic foundation in QI (pages 22-33).
4. Reference “Spotlight cases” for applied examples of QI in African hospital settings (pages 22-33).
5. Review “Lessons Learnt from the Field” for key learnings from QI teams around the world (pages 34-38).
6. Reference the annexes for further detail on QI theory and definitions of frequently used terms (pages 48-52).

**Accessing key resources**

The hyperlinked icon ☝️ that appears throughout the document indicates a key resource. Electronic users can click the blue icon or text for a direct hyperlink to the reference. Users of the printed version can use the author listed in grey to find the full citation in the references on pages 44-47.
What your team is ready for

Teams that are ready to enter Step 4 will already have taken the previous steps laid out in the TPI Preparation Package. These include the establishment of a twinning partnership and identification of team members, review of baseline and situational analyses as part of a needs assessment, identification of gaps in the current structures and processes of care, and identification and agreement on priority areas to be addressed. After this, the team can begin to develop targeted action plans for intervention and improvement in the health care setting.

6-step partnership improvement cycle
A QI team leader or staff member working to implement a specific intervention to improve safety or quality can refer to the steps described in detail below. While specific conditions and resources will vary across settings, this guide is intended to help QI teams think through and plan for major milestones in Steps 4 and 5.

The specific needs of different QI teams may vary widely. It is possible that not all steps will apply to your team, and your team may need to take steps that are not listed in detail here. To allow flexibility, resources are included throughout for further reference.
STEP 4: ACTION PLANNING

Step 4: Action planning. The bulleted actions detailed below provide specific activities that may be applicable to your QI goals. The dual focus of action planning is to build a workable plan of activities and to establish strong personal relationships that will help to sustain a productive partnership. Action planning builds on the situational assessment on quality at the chosen facility (Step 2) and the gap analysis (Step 3) to set the priority areas and actions that the partnership will take.

Action planning brings partners to a jointly agreed written plan of action. An action plan is grounded in the gap analysis and sets clear short-term and long-term targets for the twinning partnership. In this step, it is also important to focus upon communication, spread, and budget.

01 Hold a team meeting at the partnership facility

- Identify and confirm key team members at the partnership facility
  - Facility leader or manager to endorse the partnership
  - QI team leader with dedicated time for the project
  - Technical/clinical/subject matter expert
  - Measurement and evaluation leader
  - Community/patient representative
  - QI team staff to provide technical and administrative support
- Ensure consensus and common understanding of key definitions
- Outline preparation activities
  - Review activities taken to date on Steps 1 to 3 of the 6-step cycle
- Ensure team is prepared with priority areas

1 For suggested templates, please see the WHO TPI Partnership Preparation Package
already identified
• Assess ground level interest and capacity
• Estimate expected costs in terms of personnel, time and money.

02| Agree on an intervention

• Review evidence for possible interventions, focusing on improved outcomes
  • Seek relevant resources in all relevant literature on the subject area
  • Consult experts on site and at partnership sites
  • Consult with other health workers
• Select intervention with largest benefit, lowest barriers to use, and greatest potential for sustainability
  • Carefully consider how the partnership technical exchange can support the intervention
  • Note sustainability of interventions post-partnership
• Break down interventions into necessary behaviors, structural and procedural changes.

03| Outline implementation activities

• Outline implementation plans
  • Summarize roles and responsibilities for implementing various aspects of the intervention
• Identify local barriers to implementation and design accordingly (see page 35)
  • Engage stakeholders to identify potential concerns
  • Identify needs based on local context
  • Identify potential gains and losses associated with implementation
• Evaluate current communication methods and adapt as needed.
04 Outline roles and ensure capacity

• Estimate expected expenditure
  • Estimate costs/time for team members
  • Estimate costs/time for supplies/equipment
• Estimate amount of inputs and capacity available
• Determine roles and responsibilities of each team member and how they will contribute to the improvement aim
• Ensure protected time and financial support for staff
  • Obtain necessary approval from facility leader to protect time for key staff
  • Designate administrative support person or assistant
• Ensure clear roles are defined for team members in the partnership institution and communicated clearly across the partnership.

05 Outline monitoring and evaluation activities

• Outline monitoring activities
  • Examine hospital epidemiology and existing measures taken by hospital
  • Identify key indicators of success in implementation
  • Identify key methods to collect data
• Outline evaluation activities
  • Identify key outcome indicators
  • Identify key methods to collect evaluation data
• Strive for simplicity in evaluation and monitoring
• Consider benchmarking success from other hospitals in similar contexts.
06 Complete written action plans

- Share preliminary plans; ensure teams in partnership hospitals are in agreement
- Schedule a series of partnership visits with defined objectives, including twinning partner, other partners, country/WHO lead (if applicable)
- Agree on a schedule of partner progress reports².

Outputs:

- Complete written 2-year Partnership Plan
- Complete written 6-month initial short-term action plan

² For examples of progress reports, see the WHO TPI Partnership Preparation Package
STEP 5: ACTION

On completion of the Partnership Plan, partners begin to implement it. The actions in Step 5 are intended to provide action-oriented approaches for seven main activities. Action marks the start of implementing the agreed improvement activities set out in the action plan. By this stage, partners have established and strategized methods of action and have secured communication channels for ongoing partnership action. Reviewing progress every six months will allow corrective measures to be taken if needed. The improvement team should carry out regular and planned monitoring reviews using the indicators previously defined. During action, a method for tracking the budget is advised.

01 | Put Partnership Plan into action with partners

- Ensure continuous consensus regarding action between partners
- Ensure continued alignment with national and sub-national efforts to strengthen quality of health services
- Ensure that partners working within the same facility are continuously aware of improvement activities
  - Align existing improvement efforts already under way at the facility level
- Mark the moment of initial action on both arms of the partnership
  - Choose a date.
02 Manage the implementation of activities

- Set up a regular schedule for QI team to share regular updates on project progress
- Put methods in place to make data regularly visible to staff
- Ensure involvement across the institution, including those staff members not directly involved in the specific improvement intervention
- Ensure regularly scheduled communication across the partnership on progress or upcoming implementation activities.

03 Coach team to implement the QI activities

- Provide facilitation and QI methods training for QI team leader
- Provide mentoring, coaching, on-site QI support using all assets available (local- and partnership-based)
- Build in time for QI knowledge transfer from team leader to team during team meetings, with the intent of creating cohorts of health workers who can act as catalysts and mentors.

04 Implement quality initiatives and test changes

- Implement intervention
- Measure performance through small tests of change PDSA cycles, or other agreed-upon methods

See Spotlight Case “Reducing Hospital-Acquired Infections” for an applied example of knowledge transfer, page 33
• Keep track of progress against the planned activities and budget
• Make adjustments to intervention based on information received, e.g. outcomes and feedback in response to small tests of change
• Document issues that arise in a log, and how they were tackled
• Set up a rapid response mechanism for troubleshooting with partners.

**05 | Assess and refine the interventions**

• Implement a review every six months
  • Develop internal reports
  • Adjust team efforts accordingly
  • Adjust for changes due to staff turnover, need for capacity-building, or need for re-training, or training additional staff
  • Report back to the partnership on issues that arise
• Celebrate small or large victories on both arms of the partnership.

**06 | Share learning and spread changes**

• Continuously refine intervention until it is ready for implementation on a broader scale
• Implement a spread plan, taking careful consideration of sub-national and national contexts
• Spread changes, taking a successful implementation process from pilot and replicating change throughout the organization
  • Identify opportunities to use partnership activities to bring about change in other institutions, encouraging national spread.

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3 For an example of a partnership that confronted failure, see annex 3
07 | Document and disseminate the improvements

- Distill the change stories
- Distill learnings on implementation by developing knowledge products⁴ such as knowledge briefs and action briefs
- Synthesize learning that emerged from each arm of the partnership that benefitted the other arm of the partnership, emphasizing the bidirectional nature of learning
- Disseminate progress reports using appropriate bodies at national, sub-national and local levels, to maintain dialogue and connection to overall national plans.

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Outputs:

- Develop a series of reports outlining action and progress in Partnership Plan
- Conduct mid-term review of implementation activities

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⁴ Visit the WHO Global Learning Laboratory for more information on Knowledge Briefs and to access templates
There are many different approaches to QI that have been used in health care. Building a fundamental understanding of these approaches and learning from applied examples of these approaches may enhance the effectiveness of overall TPI work.

This next section describes six approaches to QI. This list is by no means exhaustive and is intended to provide the user with some of the more commonly used variations in QI approaches.

Each approach is outlined in a simplified format to convey the general concept and, where possible, the ideal circumstances under which QI teams can choose to employ a given approach.
Following the description of each approach, there are one to three Spotlight Cases. Each spotlight case demonstrates an applied example by a QI team in a hospital setting in a low- or middle-income country. A brief description of the example is followed by key factors for success in the QI effort, as identified by the team. All spotlight cases were published in peer reviewed literature and applied a QI approach in a low- or middle-income country.

For further information on QI theory, please see Annex 2 (page 51).

**PDSA CYCLE**

**Ideal for: small, frequent tests of ideas before making larger, system-wide changes**

These small “action tests” help to prove, disprove, and improve upon proposed ideas for improvement, tweaking the process and repeating the cycle with new ideas until the desired improvement is produced on a small scale. Only after a proposed idea leads to the desired improvement does the team move on to test the change on a larger scale (2). Test duration can be three months or less, six months or one year even.

1. **PLAN: Develop a plan to test the change**
   Determine objectives, identify key stakeholders, define measurement tools, develop potential ideas to pilot, and create a plan to test the change. How will the pilot be conducted? What data will be collected? How will data analyses be conducted?

2. **DO: Carry out the test**
   Carry out the test, collect data, and document problems and observations.

3. **STUDY: Observe and learn from the results**
   Periodically analyze data to determine if the changes have contributed to the desired improvements. Develop next steps accordingly; if the change is successful, move on to expand the pilot or develop implementation plans; if the change is not successful, return to the plan stage to determine flaws in design or execution; test new strategies or hypotheses, and continue the cycle.

PDSA cycles can be used in combination with other QI approaches, as exemplified on pages 25 and 27.
4. ACT: Determine what modifications should be made to the test
Determine what changes are to be made, and develop plans for making the improvement on a larger scale (3)(4)(5).

MODEL FOR IMPROVEMENT
The PDSA cycle preceded by three key questions to accelerate improvement

The Institute for Healthcare Improvement (IHI) incorporates the PDSA cycle as part of its Model for Improvement, a tool to accelerate improvement.

Three key questions are initially asked, in any order:

1. What are we trying to accomplish?
   This challenges teams to be very specific about the goal they would like to achieve, including the population concerned, the timeframe and the magnitude of change.

2. How will we know that a change is an improvement?
   This challenges teams to specify the outcomes of interest and what constitutes meaningful change.

3. What change can we make that will result in improvement?
   What is the evidence that an intervention would be practical and feasible in the chosen setting, and that it will be effective?

Teams then enter the PDSA cycle. Results from PDSA cycles feed back to the team and provide additional answers to the three questions, which may result in adjustments.
REDUCING CHILD MORTALITY IN GHANA

A nationwide QI project to accelerate Ghana's achievement of Millennium Development Goal Four (reducing child mortality) employed the Model for Improvement, beginning with developing clear aims, data monitoring, and ideas for improvement, followed by the PDSA cycle. Staff across facilities came together to enable shared learning, and changes that led to the desired improvement were scaled up accordingly (6). Key factors for success included:

- forming a 4-10 member, multidisciplinary, locally selected QI team per facility, led by a midwife in health centres, and by a doctor in hospitals;
- conducting structured learning sessions or workshops every 4-6 months to share process failures, implementation gaps, and prepare PDSA cycles, with the guidance of facilitators;
- providing facilitation and QI methods training for two members of each district and regional health management team as designated “change agents”.

IMPROVING SYSTEM LEVEL PROCESSES IN RURAL RWANDA

An observational study from rural Rwanda used simple QI methods to improve system level processes. In doing so, QI trainings for hospital staff included an explanation of the PDSA cycle alongside current performance gaps. This was followed by a series of cycles of PDSA, with data on the implemented interventions monitored and reviewed daily by the team, as led by a designated QI nurse (7). Key factors for success included:

- designating one local nurse and doctor as QI leads, chosen by the hospital leadership;
- building a QI team consisting of the nurse and doctor lead, hospital nursing director, hospital medical director, and two foreign staff members;
- training both leads in QI, including PDSA;
- developing and conducting a series of PDSA cycles, implementing interventions in a stepwise fashion;
- making measures visible to staff in the staff meeting room;
- reviewing the previous day's data each morning and discussing failures, as led by the QI lead nurse.
IMPROVEMENT COLLABORATIVE APPROACH

The PDSA cycle preceded by three key questions to accelerate improvement

Pioneered by the Institute for Healthcare Improvement (IHI) and supported through widespread adaptation and application by the United States Agency for International Development (USAID), this approach organizes “collaboratives,” to work together for 12-24 months to achieve significant improvements in a specific area of care (8).

Teams of providers from various facilities test changes, use common indicators to measure quality and desired outcomes, and regularly share results across teams through learning sessions. These teams normally work on improving similar objectives.

Confronting staffing issues and turnover of health facility staff
Agyeman-Duah
A PILOT IN UGANDA

In a pilot conducted by USAID ASSIST (United States Agency for International Development, Applying Science to Strengthen and Improve Systems) to improve the quality of voluntary medical male circumcision in Uganda through QI, teams engaged in repeated PDSA cycles. The improvement collaborative approach engaged and enabled shared learning across 30 sites in Uganda (9). Key factors for success included:

- organizing teams of providers to conduct site-level tests of change using PDSA across 30 sites;
- providing intensive, monthly support to development of QI plans, including:
  - Monthly onsite coaching on QI
  - Supporting teams in using baseline data to conduct gap analyses, identify possible solutions, and test changes through a PDSA process;
- scaling up in clinic and recommending to all teams any changes that led to the desired improvement;
- bringing together all teams in collaborative quarterly for peer-to-peer learning sessions to compare results and refine intervention strategies.

QI INITIATIVES IN LESOTHO

A hospital-based QI initiative in Lesotho formed three multidisciplinary QI teams of hospital staff, who repeatedly ran PDSA cycles for their respective QI initiatives: maternity, outpatient, and referral (10). Key factors for success included:

- initiating meetings of senior hospital leaders, managers and clinicians, to discuss interventions to target health systems strengthening, identifying weaknesses;
- hospital leaders nominating multidisciplinary and front-line staff to form QI teams for each initiative;
- QI team members attending a basic QI methods course led by facilitators, using local examples;
- forming a QI steering committee to promote QI ownership by front-line staff, which met monthly and held QI teams accountable;
- facilitators meeting on a monthly basis with each QI team to discuss results, learnings, create new PDSA cycles, and provide tailored QI mentorship, technical assistance and tools.
**SBM-R (STANDARDS-BASED MANAGEMENT AND RECOGNITION)**

**Process for front-line workers**

Taking an approach focused on desired impact on quality, the Jhpiego (formerly Johns Hopkins Program for International Education in Gynecology and Obstetrics) SBM-R approach builds its improvement process around a specific content area, emphasizing a concrete process for front-line workers (11).

The four steps are:

1. Set standards of performance
2. Implement standards through a streamlined methodology
3. Measure progress to guide improvement
4. Reward achievement of the standards.

Key elements of this model include motivation of stakeholders and recognition of achievements, continual measurement, empowerment of clients and communities, and full incorporation of the approach into day-to-day management and provision of health services.
5S-CQI (KAIZEN)-TQM

Ideal for: organizing and standardizing the work environment through a participatory approach

Originally developed for the Japanese industrial manufacturing sector, the 5S-CQI (KAIZEN)-TQM (Total Quality Management) emphasizes organizing and standardizing the work environment through a participatory (bottom-up) problem-solving approach. 5S (Sort, Set, Shine, Standardize and Sustain) is seen as an entry point towards TQM, with no conflict with other QI approaches (14). Following the step-wise approach of PDSA, it begins with training and the formation of QI hospital teams, a situational analysis, identification of target areas for improvement, training of staff in those target areas, conducting activities accordingly and developing standardization of those practices, with potential improvements and repetitions of the cycle (15).
As of 2010, SBM-R was used in approximately 3000 health facilities that trained focused antenatal care providers in all districts of Tanzania (12).

Key factors for success included:

- expanding the SBM-R process to all regional and district level hospitals;
- developing guidelines for recognizing high-achieving hospitals; establishing a team to carry out recognition providing mentoring, coaching and on-site QI support;
- generating community awareness of the importance of infection prevention and control work (13).

A review of empirical studies of 5S applied in hospitals in Senegal, Sri Lanka, Tanzania and beyond found the 5S-CQI (KAIZEN)-TQM approach to be a useful starting point for government-led QI (16). Indeed, the 5S was piloted in six hospitals in Tanzania and found to be a cost-effective, practical approach to supporting QI implementation. The Ministry of Health and Social Welfare adopted its concepts to form a foundation for all QI programmes and scaled the approach up to 48 health facilities (12) (13).

Key factors for success included:

- establishing a hospital-level QI implementation structure;
- providing hospital-level in-house QI training for health staff;
- Ministry of Health and Social Welfare visit to hospitals to support 5S implementation;
- monitoring progress through regular progress report meetings.
TRANSLATING EVIDENCE INTO PRACTICE MODEL

Ideal for implementing large-scale collaborative projects

An approach employed by the Johns Hopkins Armstrong Institute for Patient Safety and Quality focuses on translating research into practice. This model is particularly well suited for the implementation of large-scale collaborative projects, but can also be applied to smaller projects. In larger projects, researchers provide expertise on knowledge that can be generalized as well as providing support for technical development. Local hospital teams perform the adaptive work, tailored to the local setting (17).

In this model, strategy is preceded by envisioning the problem within the larger health care system and constituting collaborative multidisciplinary implementation teams, both centrally and locally.

The four steps are as follows.

1. Summarize the evidence on effective interventions, considering which are likely to have the greatest benefits and also face the least resistance.
2. Identify local barriers to implementation.
3. Measure performance, with careful consideration given to selecting outcome measures, or if not available, process measures that indicate successful implementation.
4. Ensure that all patients receive the interventions. This final step introduces the “four Es” to engage front-line stakeholders and thereby ensure that the intervention is delivered to every patient – engage, educate, execute and evaluate, in a continuous cyclical fashion, including regular assessment of performance.
**Translating Evidence into Practice Model**

**Johns Hopkins Quality and Safety Research Group**

1. **Summarise the evidence**
   - Identify interventions associated with improved outcomes
   - Select interventions with the largest benefit and lowest barriers to use
   - Convert interventions to behaviours

2. **Identify local barriers to implementation**
   - Observe staff performing the interventions
   - "Walk the process to identify defects in each step of implementation"
   - Enlist all stakeholders to share concerns and identify potential gains and losses associated with implementation

3. **Measure performance**
   - Select measures (process or outcome)
   - Develop and pilot test measures
   - Measure baseline performance

4. **Ensure all patients receive the interventions**
   - Implement the “four Es” targeting key stakeholders from front
   - Line staff to executives
     - **Engage**
       - Explain why the interventions are important
     - **Evaluate**
       - Regularly assess for performance measures and unintended consequences
     - **Educate**
       - Share the evidence supporting the interventions
     - **Execute**
       - Design an intervention “toolkit” targeted at barriers, standardisation, independent checks, reminders, and learning from mistakes

**Overall concepts**
- Envision the problem within the larger healthcare system
- Engage collaborative multidisciplinary teams centrally (stages 1.3) and locally (stage 4)
REDUCING HOSPITAL-ACQUIRED INFECTIONS

The Comprehensive Unit-based Safety Programme (CUSP) was developed by the Armstrong Institute as the foundation for a systematic approach which has widely demonstrated its success in reducing hospital-acquired infections across the USA. This validated quality improvement then became one component of a multimodal intervention used to reduce hospital-acquired infections in African hospital settings. Recognizing the success of the CUSP trainings for health care providers, the Armstrong Institute-WHO team launched the first African CUSP training at Kiwoko Hospital, which focused on using multidisciplinary teams to understand the science of safety and identify system-level defects to avoid patient harm. In the future, the staff at Kiwoko Hospital will be able to use CUSP to implement hand hygiene practices and the WHO Surgical Safety Checklist. Key factors for success included:

• the medical director (at Kiwoko Hospital in Uganda) serving as the local champion for the implementation of this tool;
• knowing that this type of training needed to be adapted to fit local context, CUSP adopted local vocabulary in the training materials, for instance;
• extending the standard one-day training to two days, to permit more group learning and dialogue;
• champions such as the medical director and lead nursing staff member at Kiwoko Hospital playing a key role in promoting the CUSP model by directly participating in the training and modeling the approaches described in CUSP, such as empowering staff members to speak up and downplaying the hierarchical culture that separates physicians and staff.
LESSONS LEARNED FROM THE FIELD

The following section outlines some common barriers, as well as key factors for success in QI efforts. The lessons learnt are based in both the literature and applied practice. The three sources are:

1. The above spotlight cases, identified as best practice examples of QI models applied in African settings, also included key lessons learned from their QI teams.

2. A systematic review by Hughes (18) of 50 studies and QI projects in the literature.
3. The Global Learning Laboratory for the purposes of this resource, an email was sent to 520 Global Learning Laboratory members with the question: “What are some common enablers and barriers faced in implementing quality improvement in your setting?” Results were received from 7 different countries which included India, Malawi, Mexico, Nigeria, the United Kingdom, Venezuela, and Zimbabwe. A general consensus from this survey suggests that most drivers of effective quality improvement in health facilities lie not just in the availability of resources, but more importantly in the processes and ecosystems of these improvements.

COMMON BARRIERS TO SUCCESS IN QI

- **Inadequate staffing**
  - Staffing issues (shortage, inadequate training, inadequate supervision, low incentives for work, underperformance, poor attitude)
  - High turnover of health facility staff
  - Conflicting physician schedules; inability to meet with physicians during QI meetings
  - Underestimated time for staff to implement the QI changes.

- **Weak support in human resources and infrastructure**
  - Weak accountability by staff
  - Weak leadership structures
  - Weak data management system of hospital
  - Lack of strategic plan for hospital
  - Skills deficit in management.

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5 The Global Learning Laboratory (GLL) for Quality UHC gathers people from across the globe from various disciplines within a safe space to share knowledge, experiences, and ideas; challenge those ideas; and spark new ways of doing, all with a view to strengthening approaches towards achieving quality care for all people.
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• **Resource scarcity**
  - Lack of time and resources for QI, such as human resources, financial resources and supplies
  - Lack of information technology.

• **Lack of acceptability of staff in QI efforts**
  - Acceptability of new protocols by staff or physicians
  - Insufficient emphasis on the importance of QI
  - Lack of clear expectations for individual roles and contributions to QI efforts
  - Physician disengagement in QI efforts
  - Lack of autonomy and accountability of staff for QI efforts
  - Lack of training of new staff in QI practices
  - Lack of incentives for staff to buy into QI efforts
  - Lack of motivation: poor salaries and working conditions.

**KEY FACTORS FOR SUCCESS IN QI**

The following key factors for success present strategies for addressing these common barriers.

• **Clear commitment from senior leadership**
  - Demonstrating strong support from leadership, including hospital boards
  - Organizational culture focused on quality
  - Incorporating QI into system-wide leadership development, including patient safety, as a key aspect of strategies
  - Reinforcing expectations of quality and safety as an organizational priority
  - Providing visibility to the initiative by serving as visible champions
  - Actively participating in QI efforts, through a regular attendance at meetings, unit walkthroughs

Resource on how to engage stakeholders early
Agyeman-Duah

Developing educational tools understandable by all stakeholders
Agyeman-Duah

Making QI data visible to providers and patients
Kotagal
• Senior leadership receiving feedback from front-line staff
• Change management.

• **Committed support for QI staff**
  • Ensuring adequate financial resources
  • Providing regular on-site coaching, mentoring and support in conducting gap analyses, identifying interventions and developing PDSA cycles, and testing the proposed changes
  • Providing administrative support
  • Ensuring key staff have protected time to be actively involved in QI
  • Presenting incentives for staff of working on QI efforts
  • Ensuring voices and opinions are heard.

• **Buy-in and understanding from all stakeholders**
  • Involving stakeholders early, soliciting feedback, taking into account stakeholder perspectives and getting support for major changes
  • Health care worker engagement
  • Engaging that stakeholders in determining subject choice, objectives Ensuring that stakeholders understand QI and its importance
  • Using educational tools that are simple and easily understood by all stakeholders
  • Making errors visible through regular reports and meetings
  • Making all stakeholders feel responsible for patient safety and quality, including patients and families
  • Making QI data visible to providers and patients
  • Offering continuing education in QI.
• **Motivated QI teams**
  - Ensuring multidisciplinary of teams, ranging from clinical staff to senior managers
  - Ensuring that nurses, physicians and other staff are encouraged to be champions within their departments
  - Ensuring that physicians are actively involved in or leading change; scheduling meetings around physicians
  - Focusing first on easily achievable, locally-relevant improvement projects
  - Staying focused locally, rather than on donor or external priorities
  - Recognition and motivation: celebrating victories large and small in the QI process
  - Ensuring team autonomy and accountability.

• **Dedicated QI team leaders**
  - Designate team leaders with dedicated time for the QI initiative, who
    - share regular updates on project progress
    - train team leaders in QI methods
    - make data visible to staff.

• **Encouraged culture of shared learning**
  - Conducting periodic shared learning sessions across partners to share process failures, implementation gaps and lessons learned
  - Encourage the voicing of observations and concerns throughout the QI process
  - Opening channels of communication across all hierarchical levels.

• **Tools**
  - Monitoring and evaluation tools
  - Information technology.
This document represents a snapshot of useful lessons to inform the development of Twinning Partnerships for Quality Improvement (TPI) at WHO. This snapshot is framed by more than 50 years of knowledge from the science and practice of quality improvement worldwide. However, despite the depth and breadth of accumulated global experience in quality improvement, there are only a few well-documented examples from health care and public health in low-income countries.
But there have been notable successes among the hospitals and health systems that have participated in partnership-based approaches to improvement. These include sustained partnerships, co-developed products and programmes, and spread. It’s become clear that neither technical experts from high-income settings, nor local providers from low-income institutions have sufficient knowledge and know-how to bring about improvements on their own. Strong, trusting, inter-institutional partnerships are needed to co-develop solutions that can succeed and be spread. Linkages with national efforts to enhance quality are particularly pivotal to successful cascading of learning for a maximal impact on health outcomes.

The 6-Step Partnership Improvement Cycle and the TPI Preparation Package provide a practical blueprint for specific actions to initiate and carry out this kind of partnership. This document provides details on Steps 4 and 5. It should be noted, however, that each partnership is different, so adaptation will always be required. Learnings will certainly emerge and so both documents will be improved as we learn and grow.

Quality improvement is still an evolving science and humility is essential for partners on all sides of the TPI. Indeed, successful partnering is rewarding for all those involved. There is much to be learned about how to apply the principles and practices of quality improvement to strengthen the delivery of health services and build resilient health systems in developing countries, yet, lessons also flow back to the so-called developed world. The prototype partnership between Tellewoyan Memorial Hospital (Liberia) and Nagasaki University Hospital (Japan) proved invaluable to inform the design of the TPI initiative. The experiences from this and other efforts will help to refine approaches to quality improvement. These experiences can also inform and be informed by wider efforts on quality, which have become increasingly prominent in the context of a continued advancement of global efforts to achieve universal health coverage.
Resources are limited and continued global learning about quality improvement will depend on the sharing of knowledge, experiences and ideas. Entities such as the WHO Global Learning Laboratory (GLL) for Quality UHC can foster such sharing. When we succeed, we should celebrate those successes, and share the knowledge, experience and ideas. When sometimes we fail, we need to keep resilient until we find a way to succeed – a huge body of learning resides in these initial failures. The words of Benjamin Franklin ring very true here: “Tell me and I forget, teach me and I may remember, involve me and I learn.” That is the power of human interaction that resides in a partnership. And throughout all of our efforts, we must remember to place people at the centre. They are the reason that we do this work.


for Improvement, SBM-R (Standards-Based Management and Recognition), 5S-CQI (KAIZEN)-TQM (Total Quality Management), and the Translating Evidence into Practice Model.


15. Collaborative approach, Model for Improvement, SBM-R (Standards-Based Management and Recognition), 5S- CQI (KAIZEN)-TQM (Total Quality Management), and the Translating Evidence into Practice Model.


ANNEX 1: DEFINITIONS

Accountability: The obligation to report, or give account of one’s actions – for example, to a governing authority through scrutiny, contract, management, regulation and/or to an electorate (19).

African Partnerships for Patient Safety (APPS) programme: The WHO APPS programme is a hospital-to-hospital focused approach that was results-oriented and co-developed by hospital partnerships. Infection prevention and control, safe surgery, waste management and health worker safety were central elements of the African Partnerships’ work providing a common relevant goal that everyone was committed to improving. As a result, substantial
implementation experience and learning have been achieved in this field across the African Region. The APPS approach demonstrated how working in partnership results in more motivated staff, increased commitment to change, strengthened capacity-building, focused drive and a desire to find appropriate solutions that will impact immediately on the quality and safety of patient care. This in turn can be used to strengthen the delivery of health services to communities globally (20).

Clinical effectiveness: The application of the best knowledge, derived from research, clinical experience and patient preferences to achieve optimal processes and outcomes of care for patients (21).

Community partner: Member of a quality improvement team representing a unit of population, often generally geographically defined, that is the locus of basic political and social responsibility and in which everyday social interactions involving all or most of the spectrum of life activities of the people within it takes place (22).

Continuous Improvement: The process of making something better or of getting better (23).

Integrated People-Centred Health Services (IPCHS) framework: The IPCHS Framework calls for a fundamental shift in the way health services are funded, managed and delivered to respond to these challenges. The IPCHS vision is that “All people have equal access to quality health services that are co-produced in a way that meets their life course needs, are coordinated across the continuum of care and are comprehensive, safe, effective, timely, efficient and acceptable; and all carers are motivated, skilled and operate in a supportive environment.” WHO recommends five interwoven strategies that need to be implemented in order to achieve IPCHS. Application of the approach can build robust and resilient health services and are critical for progress towards universal health coverage and fulfilling the Sustainable Development Goals (24).

Partnership: A partnership is a collaborative relationship between two or more parties based on trust, equality and mutual understanding for the achievement of a specified goal. Partnerships involve risks as well as benefits, making shared accountability critical (20).

Patient-centredness: Providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions (25).

Patient safety: The reduction of risk and unnecessary harm associated with health care to an acceptable minimum (26).
Performance: How well a person, team, project, programme, organization, or policy is being implemented against expected results (27).

Quality: Quality has been defined and understood in different ways around the world. Two of the main definitions are below.

- The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (28).
- The totality of characteristics of an entity that bear on its ability to satisfy stated and implied needs (29).

Quality audit: a systematic and independent examination to determine whether quality activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives (1).

Quality assurance: all the planned and systematic activities implemented within the quality system, and demonstrated as needed, to provide adequate confidence that an entity will fulfill requirements for quality (1).

Quality control: A process to evaluate actual performance, compare actual performance with quality goals, and take action on the difference (1).

Quality improvement: A process to create beneficial change and attain unprecedented performance (1).

Quality planning: A process to establish quality goals to develop goods and services that meet customer needs (1).

Stakeholder: An individual, group or organization that has an interest in the organization and delivery of health care (29).
ANNEX 2: QI THEORY

While QI methods are well-tested in high-income settings, an increasing body of literature demonstrates the potential for QI to make important contributions in lower-income settings. QI initiatives at the hospital level are becoming more common in low- and middle-income countries as a strategy for health systems strengthening (8).

A review of published evidence on the effectiveness of QI in resource-limited settings posited that QI may have greater potential in these low-income settings than in higher income settings, by optimizing the use of the limited resources available (30).

The rise of quality improvement

Quality assessment is a stream of work that generally precedes quality improvement. In the 1960s, Donabedian described measuring quality of health care using measures of structure (i.e. the setting of service delivery), process (i.e. the delivery of services) and outcome (i.e. the ultimate results of health care). Further, Donabedian described a series of activities where inputs, processes, and outcomes inform one another (31). Increasingly, QI efforts are using new, innovative models that recognize the interaction between inputs, such as the setting in which care is delivered, and processes, such as how care is delivered. The methods used in quality assessment and other forms of quality measurement are essential elements of the evaluation and review of an intervention to improve quality.

In the 1980s, Juran described three interrelated, managerial processes to attain quality, now known as the Juran Trilogy: quality planning (a process to establish quality goals to develop goods and services that meet customer needs), quality control (a process to evaluate actual performance, compare actual performance with quality goals, and take action on the difference), and quality improvement (a process to create beneficial change and attain unprecedented performance) (1). Allocation of time spent on these processes is likely to vary across hierarchical levels; top managers may spend a majority of their time on planning and improvement, while front-line staff may spend most of their time on quality control. On a broader scale, the Juran Trilogy demonstrates the link between the national and institutional planning process, in which “planners” determine quality targets, and develop processes to address needs and evaluate performance, and “operating forces” go on to execute these processes. One can envision a health care institution as this operating force, with workers at the frontlines acting in congruence with leaders at the national planning level. It is critical to consider the broader
national context, policies, frameworks, and national strategic priorities in planning twinning activities. Juran’s trilogy is also a predecessor to elements of the PDSA cycle, and to the TPI 6-Step Partnership Improvement Cycle.

QI models
The PDSA cycle, originally developed by Walter Shewhart in the 1920s and later modified by W. Edwards Deming for industrial production, is now commonly used by health care organizations to guide QI efforts (32). It is used primarily to execute small, frequent tests of ideas before making larger, system-wide changes. These small “pilot tests” help to prove, disprove, and improve upon proposed ideas, tweaking the process and repeating the cycle with new ideas until the desired improvement is produced on a small scale. Only after a proposed idea leads to the desired improvement does the team move on to test the change on a larger scale (2).

With the rise of QI efforts in health care, increasing numbers of variations or evolutions on the PDSA cycle have been developed and implemented in hospitals in low-resource settings. These include the Improvement Collaborative approach, Model for Improvement, SBM-R (Standards-Based Management and Recognition), 5S- CQI (KAIZEN)-TQM (Total Quality Management), and the Translating Evidence into Practice Model.
ANNEX 3: CASE STUDY – ADJUSTING ACTION WHEN IT’S NOT WORKING

Developing a culture of learning in Malawi

Partnerships work together to identify what works, what doesn’t and what can be learned from this. The Zomba Mental Health Services (Malawi) partnered with the Department of Health Sciences at the University of York and worked together on a project designed to strengthen the system of community mental health care in Zomba District, Malawi. The project aimed to develop the role of local village-based health workers (known as Health Surveillance Assistants - HSAs) through training and support in delivering mental health interventions for the first time. Planning and delivery of the project involved key professionals in Zomba from mental health services and district health offices, as well as discussions with the HSAs.

To collect data, the project manager of Zomba conducted visits to the HSAs village on a monthly basis. This allowed him to capture relevant data and discuss it with them. This process allowed them to engage HSAs in the project as a whole. “It enthused people, kept them motivated and interested, and kept the momentum of the project going.

This wouldn’t have happened if we hadn’t built in face-to-face visits”, admitted the project manager. There were practical difficulties and the data required for monitoring and evaluation was not efficiently collected. The Project Manager of Zomba had planned to capture all data on his laptop on the monthly visits, but this proved too time-consuming. Having realized the data collection system was not working, the team agreed that paper copies of the data would be taken off-site between visits, and that the timescales would have to slip. This affected the progress of the partnership improvements and the colleagues involved agreed to improvise and adjust the action planning.

The project Manager of Zomba believes that learning has been facilitated by the partners having respect for each other’s views and ideas, and making decisions collectively. “The UK partner was very supportive of our new ideas on implementation of the work. This has helped the partnership to work better together for one common goal, evidenced in the successful results. In the process the Malawi partners have gained knowledge and learnt skills, including in relation to good project and financial management, and analysis, interpretation and reporting of data.”

Acknowledging problems allows partners to look for solutions and turn challenges into lessons learnt.

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6 This partnership was supported by Tropical Health and Education Trust (THET)
ANNEX 4: TOOLS AND RESOURCES FOR TAKING ACTION

The tools and resources listed below aim to help in the development and execution of your action plan. The resources are diverse and span, not exclusively, advocacy, business/financial, guidance/policies/standards, templates, toolkits and selected academic publications. These resources are included after careful review of WHO materials. Inclusion of a resource is based on its perceived usefulness and its availability. Inclusion of a resource does not imply endorsement by WHO of any specific organization associated with the resource. Many tools and resources that are applicable in hospitals can be accessed through the WHO website of Hospital of the XXI Century: http://www.who.int/hospitals/en/

### Core resources for Step 4 – Action planning –

The WHO Recovery Toolkit, accessible here, is a library of guidance resources in a single place which can be quickly and easily accessed, to guide action. A key purpose of the Recovery Toolkit is to support countries in the reactivation of health services which may have suffered as a result of an emergency. These services include ongoing programmes such as immunization and vaccinations, maternal and child health services, and those related to noncommunicable diseases. But in addition, and because the Toolkit contains core information needed to achieve functioning national health systems, it also supports countries to implement their national health plans during the recovery phase of a public health emergency.

<table>
<thead>
<tr>
<th>Title</th>
<th>Type of resource</th>
<th>Location</th>
<th>Year of publication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge translation</td>
<td>Translating evidence into practice: a model for large scale knowledge translation</td>
<td><a href="http://www.bmj.com/content/337/bmj.a1714">http://www.bmj.com/content/337/bmj.a1714</a></td>
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<tr>
<td>Planning and implementation</td>
<td>WHO Planning and implementation of District health services</td>
<td><a href="http://www.who.int/management/district/planning_budgeting/PlanningImplementationDHSAFROMd4.pdf?ua=1">http://www.who.int/management/district/planning_budgeting/PlanningImplementationDHSAFROMd4.pdf?ua=1</a></td>
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<tr>
<td>WHO implementation strategy and tools</td>
<td>A guide to the implementation of the WHO Multimodal Hand Hygiene Improvement Strategy</td>
<td><a href="http://apps.who.int/iris/bitstream/10665/70030/1/WHO_IER_PSP_2009.02_eng.pdf?ua=1">http://apps.who.int/iris/bitstream/10665/70030/1/WHO_IER_PSP_2009.02_eng.pdf?ua=1</a></td>
<td>2009</td>
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<tr>
<td>Guidelines on core components of infection prevention and control programmes at the national and acute health care facility level</td>
<td>Evidence-based guideline to support countries as they develop and execute their national antimicrobial resistance (AMR) action plans.</td>
<td><a href="http://apps.who.int/iris/bitstream/10665/251730/1/9789241549929-eng.pdf?ua=1">http://apps.who.int/iris/bitstream/10665/251730/1/9789241549929-eng.pdf?ua=1</a></td>
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### Core resources for improvement

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<tr>
<td>PDSA Cycle (Plan-Do-Study-Act)</td>
<td><a href="https://deming.org/explore/p-d-s-a">Systematic process for gaining valuable learning and knowledge for continual improvement</a></td>
<td>2018</td>
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<tr>
<td>Model for improvement</td>
<td><a href="http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx">The Model for improvement, is a simple, yet powerful tool for accelerating improvement</a></td>
<td>2018</td>
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<tr>
<td>Confronting staffing issues and turnover of health facility staff</td>
<td><a href="https://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-14-1">Understanding the barriers to setting up a health care quality improvement process in resource-limited settings: a situational analysis at the Medical Department of Kamuzu Central Hospital in Lilongwe, Malawi</a></td>
<td>2014</td>
</tr>
<tr>
<td>WHO Multimodal Improvement Strategy</td>
<td><a href="http://www.who.int/infection-prevention/publications/ipc-cc-mis.pdf?ua=1">A one-page visual describing the five-part multimodal strategy to support IPC improvement in an health care facility</a></td>
<td>2017</td>
</tr>
</tbody>
</table>
Agyeman-Duah JN, Theurer A, Munthali C, Alide N, Neuhann F. Understanding the barriers to setting up a healthcare quality improvement process in resource-limited settings: a situational analysis at the Medical Department of Kamuzu Central Hospital in Lilongwe, Malawi. BMC Health Services Research 2014;14(1).


Taking Action: Steps 4 & 5. In Twinning Partnerships For Improvement


